State Policy Levers for Addressing Preventive Dental Care Disparities for Rural Children:
Medicaid Reimbursement to Non-Dental Clinicians for Fluoride Varnish and Dental Hygiene Supervision in Primary Care Safety Net Settings

South Carolina Rural Health Research Center
At the Heart of Health Policy

220 Stoneridge Drive, Suite 204 ▪ Columbia, SC 29210 ▪ P: 803-251-6317 ▪ F: 803-251-6399 ▪ http://rhr.sph.sc.edu

State Policy Levers for Addressing Preventive Dental Care Disparities for Rural Children:
Medicaid Reimbursement to Non-Dental Clinicians for Fluoride Varnish and Dental Hygiene Supervision in Primary Care Safety Net Settings

Authors:

Amy Brock Martin, Dr.P.H.

Jessica Bellinger, Ph.D.

Jeff Hatala, Ph.D.

Jordan Mitchell, M.B.A.

Janice C. Probst, Ph.D.

With consultation from Burton Edelstein, D.M.D., M.P.H.

South Carolina Rural Health Research Center

At the Heart of Health Policy

South Carolina Rural Health Research Center
March 2012

RHRC Rural Health Research & Policy Centers

Funded by the Federal Office of Rural Health Policy

www.ruralhealthresearch.org

Funding Acknowledgement:
This report was prepared under Grant Award U1CRH03711
With the Federal Office of Rural Health Policy, Health Resources and Services Administration
Iran Naqvi, D.P.A., Project Officer

Page Left Blank Intentionally

Executive Summary

Children's oral health assumes increasing importance as links between dental health and overall health status are documented. Previous work has found that rural children are less likely to receive preventive dental services or any dental services at all, during the year than are urban children. The children's oral health care safety net can be characterized in terms of the settings in which care is offered, the clinicians who offer it, and the sources of payment. In the report that follows, we examine two questions:

(1) To what degree have states expanded access to and reimbursement of fluoride varnish applications by allowing non-dental clinicians to provide this service? FVA is a valuable preventive service for children. Because nearly all rural counties are dental health professional shortage areas, expanding the type of provider who can offer this service directly affects rural children's health. FVA availability through primary care providers is feasible and has been increasing in the U.S., because FVA is easily tolerated by patients, no preparation to the tooth surface is needed, and it can be delegated to nursing staff. However, providers are unlikely to offer FVA if they cannot be reimbursed for it. We answered this question by surveying state Medicaid Dental Directors (50 states).

(2) To what extent can dental hygienists provide select preventive dental services in primary care safety net settings without supervision or under general, indirect, or public health supervision? In general, dental hygienists practice under the direct supervision of a dentist, that is, the dentist is present in the facility. Given a shortage of dentists in rural areas, the ability of dental hygienists to offer preventive services for children without this direct supervision under certain circumstances is important for extending service availability. We examined this question through a review of 2008 state practice acts (50 states).

Fluoride varnish application

- Two thirds of states (66%, 33 states) reported that their Medicaid programs reimburse non-dental clinicians, as well as dentists, for fluoride varnish applications (FVA) on children's teeth.
    - In most states, Medicaid programs imposed restrictions on reimbursement to non-dental clinicians, such as providing FVA to only children of certain ages (76%, 25 of 33 states) or requiring non-dental clinicians to demonstrate moderate to high-levels of caries risk (58%, 19 of 33 states).
    - Non-dental clinicians in 18 of 33 states could only receive Medicaid reimbursement for FVA if it was provided during an Early Periodic Screening, Diagnosis, and Treatment visit.
- There are two components to FVA reimbursement: materials and application. Thirty-three states reported reimbursing either FQHC or RHC non-dental clinicians for fluoride varnish materials, although most did not authorize payment outside of their All-Inclusive Reimbursement Rate (AIRR).
    - Among those states that provided Medicaid reimbursement to non-dental clinicians in FQHCs (n=24), all but Maryland allowed them to include service application costs in their AIRR.

Practice Acts and Dental Hygienists

- Twenty-two (22) states identified primary care safety net settings in their dental practice acts but did not authorize dental hygiene practice beyond what is allowable in other settings. Said differently, these states acknowledged safety net settings but did not authorize dental hygiene services that would necessarily extend access to the underserved communities to which they provide care, including rural.
- Eight states have special licenses for dental hygienists who provided care in primary care safety net settings.
- Thirteen states used special terms dental hygienists abide by in order to provide certain services without direct supervision of dentists in primary care safety net settings (e.g., Delaware requires supervision by the State Dental Director; North Dakota requires a dentist of record for the patient; Indiana limits services to children).
- Dental hygienists can conduct oral examinations or screenings in eleven states with no supervision in primary care safety net settings. Another 27 states allow for the service under general or public health supervision, including the 15 states that did not distinguish supervision levels by specific tasks.

Table of Contents

Table of Figures

List of Tables

Page Left Blank Intentionally

Introduction

Rural Children and Preventive Dental Care Disparities

Children's oral health assumes increasing importance as links between dental health and overall health status are documented. In a previous analysis using the 2003 National Survey of Children's Health, we found important disparities in access to care among rural children[1]:

- *Failure to receive any dental care:* Rural children were more likely than their urban peers to have received no dental care in the previous year (23.4% versus 22.3%). Across racial/ethnic backgrounds, rural Hispanic children were most at risk for failure to receive any dental care (31.9%).
- *Failure to receive preventive care (refers only to care such as routine examinations, cleanings, sealants, etc.):* Proportionately more rural than urban children received no preventive dental care in the previous year (29.3% versus 27.5%). Again, across all racial/ethnic backgrounds, rural Hispanic children were most likely to go without preventive care (42.0%).

Addressing Preventive Dental Care Disparities: The Rural Dental Safety Net

Given the many factors that inhibit rural children's use of essential preventive dental services, addressing disparities is challenging. The responsibility for overcoming the many system, household, and environmental barriers often rests with the dental safety net. What constitutes the rural dental safety net? As recently published by Dr. Burton Edelstein, Director of the Children's Dental Project, the safety net can be examined at three levels: (a) patient care settings (facilities), (b) individual clinicians, and (c) sources of payment (Medicaid).[2] Dr. Edelstein identified the following as dental safety net settings:

- Federally qualified health centers (FQHCs)
- Community health centers
- Dental schools
- Medicaid dental practices
- Corporate Medicaid practices
- Volunteer free care programs
- Hospital emergency rooms

In the case of access to *preventive* dental services in rural communities, dental safety net membership can be defined to also include rural health clinics and school-based sealant programs. Primary care practices have been recognized as important access points in the healthcare system where vulnerable children, at-risk for caries, can be properly screened and referred for dental care.[3]

Clinicians in the dental safety net include dentists, as well as allied dental professionals (dental hygienists and dental assistants). States may elect, through dental practice acts, to expand scopes of practice for allied dental professionals as a way of expanding access.[2]

The *rural* dental safety net can also include primary care providers such as pediatricians, family physicians, nurse practitioners, physician assistants, school nurses, and other nursing professionals that assist with preventive dental services in primary care settings. Non-dental, primary care providers such as physicians, physician assistants (PAs) and nurse practitioners (NPs) may screen for oral problems and provide limited preventive care, such as fluoride varnish. Applied as a liquid, foam or gel, fluoride varnish reduces the likelihood of caries. Its administration in primary care settings has increased in the US, possibly due to low levels of discomfort or adverse reactions by patients, no preparation to the tooth surface is needed, and it can be delegated to nursing staff.[4] Table 1 illustrates the rural preventive dental safety net settings (facilities) in which providers are likely to be available to offer services. A description of the typical scope of service of each oral health care provider type is provided in Appendix A.

Table 1. Rural Preventive Dental Safety Net Providers and the Settings or Facilities In Which They Could Provide Preventive Dental Care

Rural Safety Net Providers	Rural Preventive Dental Safety Net Settings (Facilities)				
	FQHCs	Free Clinics	Hospital ERs	RHCs	Schools
Dental Professionals					
Dentists	√	√			√
Dental Hygienists	√	√			√
Expanded Duty Dental Assistants	√	√			√
Primary Care Professionals					
Physicians	√	√	√	√	
Midlevel Practitioners, e.g. PAs, NPs	√	√	√	√	
School Nurses					√
Other practice-based nursing staff	√	√	√	√	

The final component of the dental safety net is third party payers. Medicaid is a significant health insurer, with 31% of all children, and 36% of children between the ages of one and five years, enrolled in Medicaid or another form of public coverage in 2008. Thus, Medicaid policies around preventive dental services have important implications for children in moderate to high-risk groups for dental caries, which include those living in rural communities. Participating in Medicaid either as a provider or patient means more than payment of services; reimbursement for care is often tied to standards of care and eligibility criteria. Critical to preventive dental service provision, especially by non-dental clinicians, is Early and Periodic Screening, Diagnosis, and Treatment (EPSDT).

Every child eligible for Medicaid is entitled to dental services via EPSDT. EPSDT is the Medicaid program that provides preventive pediatric services to children identified as categorically needy, such as low-income, Supplemental Security Income recipients, or children receiving foster or adoption assistance.[5,6] Services covered through EPSDT include: screening examinations, comprehensive health assessments, and child immunizations authorized by the CDC Advisory Committee on Immunization Practices (ACIP). Specific to dental services, EPSDT provides for preventive, restorative, and emergency dental care for children by the age of 3, or earlier as needed.[7] At an age established by each state, usually by the first year, a dental referral is required for Medicaid beneficiaries. This dental visit must include an examination by a dentist; a dental hygienist examination will not satisfy this requirement.[5] The impetus for such a

program is the prevalence of dental disease at an early age for at-risk children and to encourage a "dental home" to promote future oral health.[5]

Policy Options to Enhance Rural Dental Preventive Services

States have a number of policy levers available to strengthen the rural dental safety net's ability to provide dental services, a few of which are accounted for in the healthcare reform acts, Patient Protect and Affordable Care Act (P.L. 111-148, or PPACA) and the Health Care and Education Affordability Reconciliation Act of 2010 (P.L. 111-152 or HCEAR). These acts taken together are referred to as the Affordable Care Act (ACA) and address a number of the factors that contribute to oral health disparities, including insurance coverage, education and prevention programs, workforce enhancements, and state public health agency infrastructure development.[8] Enhancing the rural dental safety net's ability to provide preventive services focuses largely on improving access to such services which involves both dental and medical clinicians. State policy options include the following:

- Fluoride varnish application (FVA) by non-dental clinicians such as primary care providers is one strategy for addressing unmet dental needs,[4] especially among rural, underserved children.
- Use of allied dental professionals in non-traditional settings, such as FQHCs, RHCs, public health agencies, and non-profit organizations, can expand availability to dental care, if permitted under the dentist supervision requirements of state practice acts.
- Dental practice act expansion, including relevant policy recommendations, can increase service availability.[10-13]The Institute of Medicine is tasked through PPACA with evaluating demonstration models for alternative dental hygiene practice. [8]
- School-based sealant programs are widely used for arresting caries development in low-income, underserved children.[12, 14-17] At present, it is unclear the degree to which rural children are able to participate in these programs.

Scope and Methods of the Present Report

Our study examined two of the state policy options highlighted above: fluoride varnish application by non-dental professionals and the use of allied dental professionals, specifically dental hygienists, in non-traditional settings.

We used two approaches to gather information for our report. To examine the range of providers authorized to perform FVA under Medicaid, we surveyed state Medicaid dental directors and state representatives from the Association of State and Territorial Dental Directors for each of the 50 states. To examine practice acts, we obtained the relevant legislation from all 50 states and conducted a structured analysis of content. The practice act analysis interpretation was reviewed by Dr. Burt Edelstein, Founder and Chair of the Children's Dental Health Project.

Page Left Blank Intentionally

FVA Reimbursement for Non-Dental Clinicians

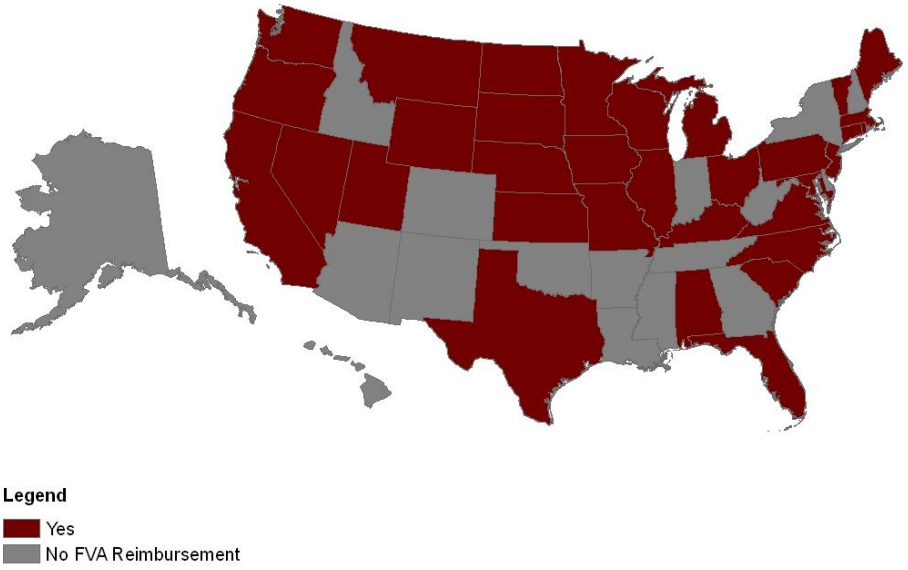
Summary of Findings

Because of the shortage of dentists in rural counties, allowing non-dental clinicians to be reimbursed for services expands access for rural children. Most state Medicaid programs (66%, n=33) provide reimbursement to non-dental clinicians for FVA. Most states that reimburse non-dental clinicians (81.8%, n=27) have criteria for reimbursement including the type of provider, patient criteria, and encounter factors. The majority of states (90.9%, n=30) do not permit FQHCs or RHCs to bill for FVA or related materials outside their AIRR. Lack of reimbursement for materials leaves little incentive among these safety net providers to provide this service.

Medicaid Reimbursement

Because of the shortage of dentists in rural counties, the ability of non-dentist clinicians to obtain reimbursement for providing fluoride varnish application (FVA) is important to access among rural children. Two thirds of states (66%, n=33) reported their Medicaid programs reimburse non-dental clinicians for fluoride varnish applications (FVA) on children's teeth (Figure 1, below).

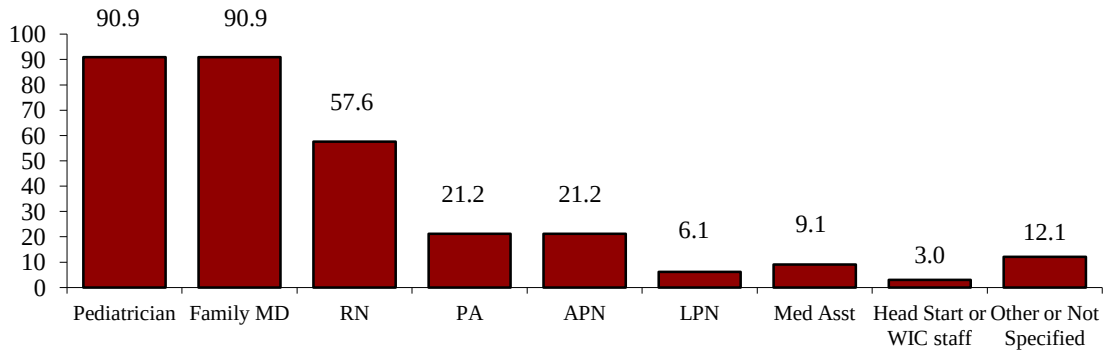
Figure 1. States Where Non-Dental Clinicians Receive Medicaid Reimbursement for FVA (2009)



All states that provided Medicaid reimbursement for FVA, except Alabama, New Jersey and Pennsylvania (which did not identify any eligible non-dental clinicians) reported pediatricians and family/general physicians as eligible providers. More than half (57.6%) the states identified registered nurses and one-fifth (21.2%) physician assistants or advance practice

nurses as eligible for Medicaid reimbursement for FVA (Figure 2, below). One state, Minnesota, identified staff working in Head Start and WIC programs as reimbursable providers.

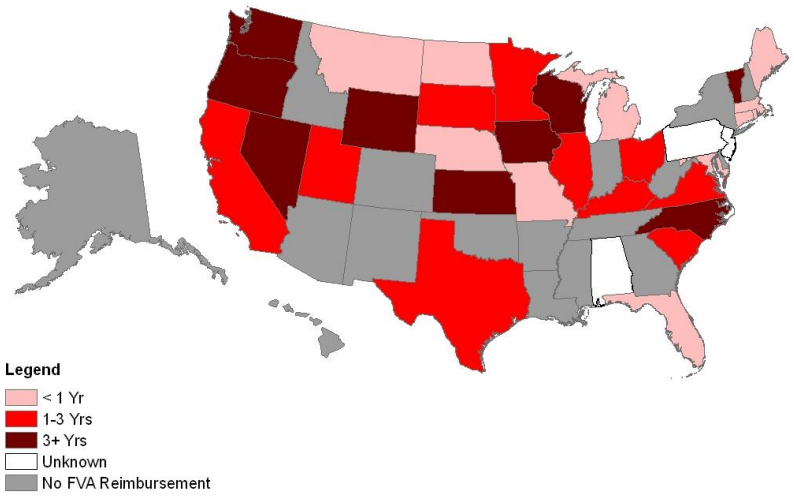
Figure 2. Percent of States with Medicaid Reimbursement for FVA by Type of Eligible Non-Dental Clinician (2009), n=50



Number of Years Reimbursing for Fluoride Varnish

The states were evenly distributed on the length of time their Medicaid programs had been reimbursing non-dental clinicians for FVA. Figure 3 (below) identifies states by the number of years they had the policy in place as of 2009. One third (33.3%) had just begun reimbursement within the year of our survey. Another third (30.3%) had been exercising the policy within the last one to three years with nine (27.3%) remaining states having provided FVA reimbursement to non-dental clinicians for more than three years.

Figure 3. States with Medicaid Reimbursement for FVA to Non-Dental Clinicians by Duration of Policy (2009)



Eligibility Criteria

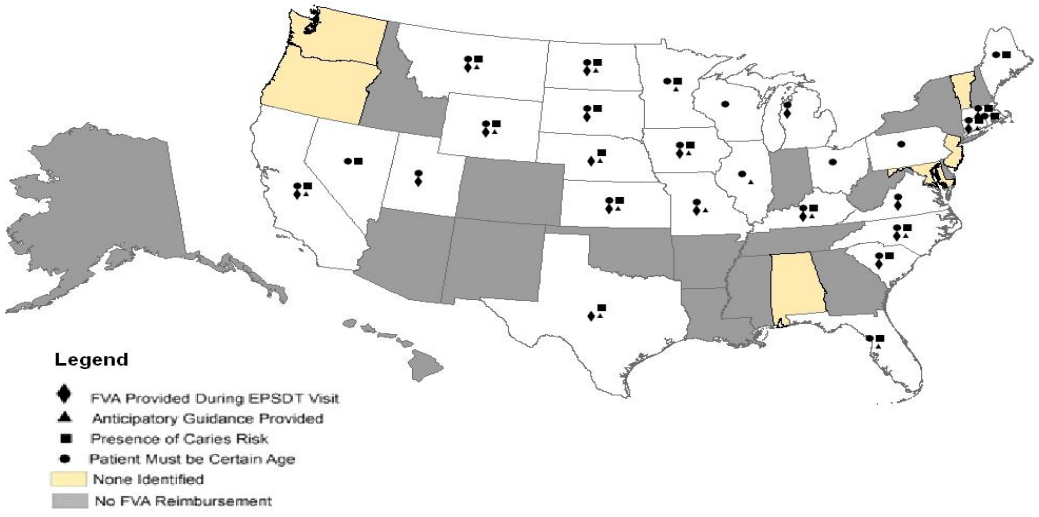
Medicaid reimbursement to non-dental clinicians for FVA came with eligibility criteria tied to either the patient or encounter for most states (Table 2 below). The most common reimbursement eligibility criterion was providing FVA to children of certain ages (75.8%, n=25) followed by the requirement that clinicians demonstrate moderate to high-levels of caries risk (57.6%, n=19).

In addition to criteria related to the eligible child, many states imposed service-level requirements. In fifteen states (45.5%), non-dental clinicians must provide anticipatory guidance for parents on what to expect when their children's teeth are developing in order to receive Medicaid reimbursement. Finally, non-dental clinicians in 18 states (or 54.5% of states with the policy) could only receive Medicaid reimbursement for FVA if it was provided during an EPSDT visit. Figure 4 (below), identifies states based on their eligibility criteria. Supporting details for the map are presented in Appendix C.

Table 2. Percent of States with Program Eligibility Criteria for Medicaid Reimbursement to Non-Dental Clinicians for FVA

Eligibility Criterion	Percent of States with FVA Medicaid Reimbursement Policies (n=33)	Percent of Total States (n=50)
Patient must be of a certain age	75.8%	50.0%
Presence of caries risk	57.6%	38.0%
Provider must give anticipatory guidance	45.5%	30.0%
FVA rendered as a part of an EPSDT visit	54.5%	36.0%
Other eligibility criteria	12.1%	8.0%
None identified	18.2%	12.0%

Figure 4. Distribution of States with Specific Program Eligibility Criteria for Medicaid Reimbursement to Non-Dental Clinicians for FVA (2009)



Three states reported additional Medicaid reimbursement eligibility criteria for non-dental clinicians not depicted in Table 2 or Figure 4. These included:

- special certification for participation in a pilot project (Illinois)
- receipt of new dental restorations within the previous 18 months (Maine)
- assessment and referral provided as a part of FVA (Ohio).

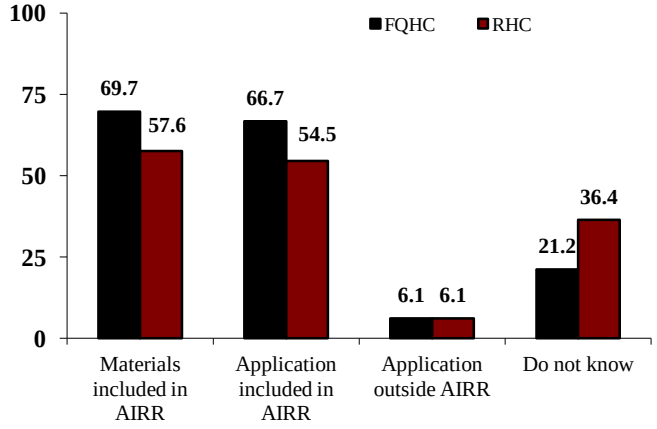
Medicaid Reimbursement for Fluoride Varnish Applications to Non-Dental Clinicians Practicing in Federally Qualified Health Centers and Rural Health Clinics

Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs) are the principal safety net primary care providers in rural America and see a significant proportion of underserved, rural children.

FQHCs and RHCs have a unique Medicaid reimbursement structure, the All-Inclusive Reimbursement Rate (AIRR). This rate takes into consideration the clinician's time in providing a service and the materials used for that service. There are two components to FVA reimbursement, materials (fluoride gel, foam or varnish and sponge or tray) and application. Depending on a state's plan, Medicaid may cover one or both parts for FQHCs and RHCs, allowing them to include these costs when calculating their overall AIRR. It is necessary to amend State Medicaid Health Plans if these providers are to receive reimbursement for FVA outside of their AIRR. A substantial minority of respondents were unsure of reimbursement policies for FVA at FQHCs and RHCs (21.2% and 36.4%, respectively).

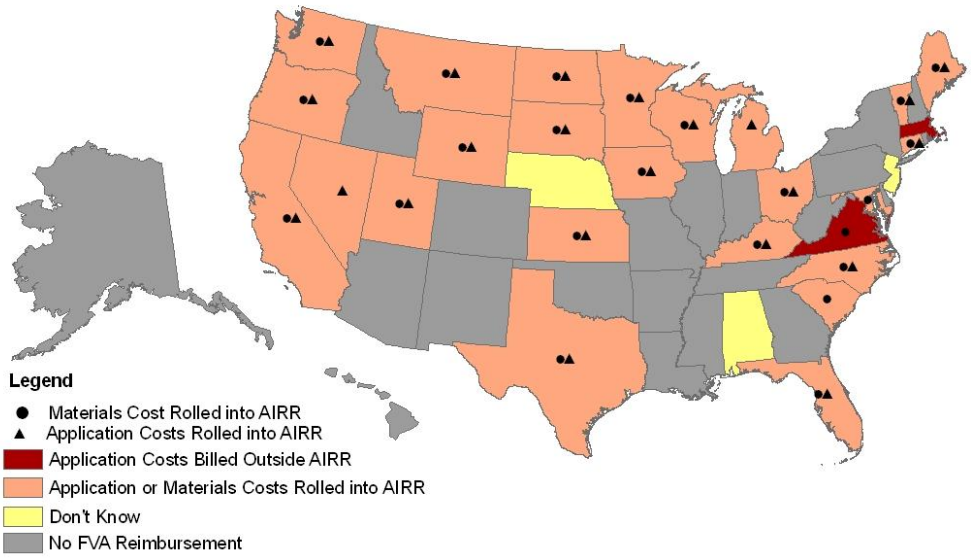
Our survey found that most of the 33 states that provided Medicaid reimbursement to non-dental clinicians (26 states, 78.8%) allowed either FQHCs or RHCs to bill for FVA (Figure 5, at right). Reimbursing non-dental clinicians in these safety net settings for FVA outside of their AIRR was not common. No state reported reimbursing either FQHC or RHC non-dental clinicians for fluoride varnish materials outside of their AIRR. Virginia is the only state that reimbursed non-dental clinicians in both FQHC and RHC settings for the actual application (service). While not reimbursing for fluoride varnish materials outside of their AIRR, Medicaid programs in Massachusetts and Connecticut reimbursed non-dental clinicians in FQHCs and RHCs, respectively, for the application.

Figure 5. Percent of States with Medicaid Reimbursement for FVA to Non-Dental Clinicians in FQHCs and RHCs by Billing Structure



Among those states that provided Medicaid reimbursement to non-dental clinicians in FQHCs (n=24), all but Maryland allowed them to include service application costs in their AIRR. Maryland only allows for the inclusion of fluoride varnish costs. Figure 6 (below) shows individual states' FVA Medicaid reimbursement policies for FQHCs and RHCs.

Figure 6. State Distribution of FQHC Medicaid Reimbursement Status for FVA by Non-Dental Clinicians (2009)



Examples of Innovative Projects

During the course of our surveys of state Medicaid officials, three states volunteered information through an open-ended question on programs or services they offer aimed at improving access to dental care for rural, underserved children (one each from Iowa and Missouri, plus two programs from North Carolina; Appendix D).

- Iowa - I-Smile Dental Home Project
- Missouri – Preventive Services Program (PSP)
- North Carolina – Into the Mouths of Babes (IMB): NC Dental Screening and Varnish Project and
- Carolina Dental Home (extension of Into the Mouths of Babes)

The four project profiles demonstrate how states' dental professionals have partnered with medical professionals and community representatives to address unmet preventive dental needs of underserved children. In the case of the Iowa project, there is a special component for rural providers and their patients.

Page Left Blank Intentionally

State Dental Practice Act Assessments: Improving Access to Dental Hygienists and Volunteer Dentists for FQHCs and Non-Profit Organizations

Summary:

The dental practice acts of only four states, California, Hawaii, Nevada, and South Dakota, specifically provide special licenses under which dental hygiene practice can occur in primary care safety net settings such as FQHCs or community health centers. Another six provide for special conditions under which dental hygiene practice can occur without direct supervision in primary care safety net settings such as FQHCs, other community health clinics, and rural health clinics: Delaware, Iowa, Michigan, Nebraska, North Carolina, and Washington. Some states authorize dental hygienists to provide select preventive dental services with no supervision:

- *Examination or screening (n= 9 states)*
- *Fluoride applications (n=11 states)*
- *Sealant applications (n=7 states)*
- *Oral prophylaxis (n=7 states).*

The majority of rural counties are dental health professions shortage areas, with 4,000 to 5,000 residents, or more, to each dentist. In this context, the use of other dental professionals assumes importance for the oral health of rural children. We examined the 2008 Dental Practice Acts of all 50 states to describe the degree to which dental hygienists can provide certain preventive dental services in primary care safety net settings without supervision or under general, indirect, or public health supervision. The American Dental Hygiene Association (ADHA) routinely monitors supervision regulations and posts this information on its website.[18] However, ADHA reports do not describe service and supervision specifically at primary care safety net settings. We examined supervision levels for oral examinations or screenings, fluoride varnish or topical applications, sealant applications, and oral prophylaxis in primary care safety net settings.

We used a flexible definition of primary care safety net to account for the general language often used in dental practice acts. We included traditional clinical settings such as FQHCs, RHCs, community health centers, migrant and tribal health centers as safety net providers. We also included settings such as public health agencies, non-profit organizations, health departments, public institutions, government entities, and health maintenance organizations.

We excluded free clinics and charitable organizations where dental practice acts required care to be provided without compensation. In nearly every state, licenses and permits for volunteer dentists and dental hygienists authorized this type of charitable work. While such organizations and providers are important in addressing pressing unmet needs, charitable work does not provide long-term solutions to access challenges in rural systems of care. In addition, we excluded volunteer practice act authorizations because this work falls outside of the scope of healthcare reform. Schools were also excluded because sealant programs are the principal hygiene service rendered in these settings.

Special Licenses and Terms of Service

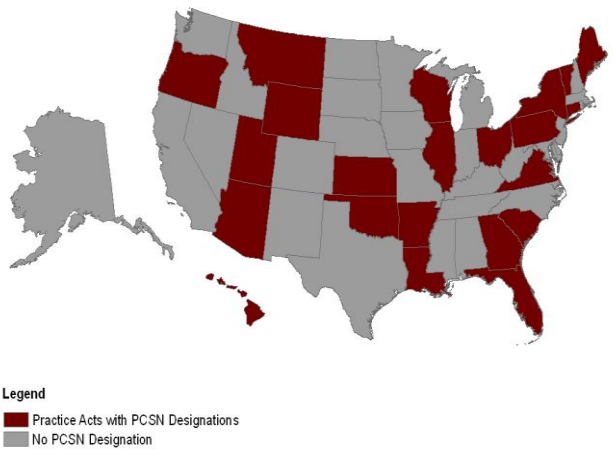
Eight states have special licenses for dental hygienists who provided care in primary care safety net settings (Table 3, below). Half specifically identified primary care, FQHCs, or community health clinics in their practice acts, with the remainder using general terms such as public health or public institutions.

Table 3. States with Special Licenses for Dental Hygienists Providing Services in Primary Care Safety Net Settings

State	***Special License***	***Primary Care Safety Net Settings***
Arizona	Affiliated practice	Public agencies
California	Alternative Practice	Primary care clinics in dental HPSAs
Hawaii	Community Service License	FQHCs and Native Hawaiian health care system
Idaho	Extended Access Oral Health Program	Government agencies
Nevada	Restricted Geographic License	FQHCs and non-profit clinics serving rural, underserved populations
New Mexico	Temporary License for Public Health Practice Collaborative Practice	State institutions, public health clinics, or public health programs None described in practice act
North Carolina	Public Health Hygienist	Public health institutions
South Dakota	Limited Access Dental Hygienist	Public institutions, community clinics, public health programs, and non-profit organizations serving uninsured populations

Thirteen states used special terms dental hygienists abide by in order to provide certain services without direct supervision of dentists in primary care safety net settings (Table 4, next page). As with special licenses, about half specifically mentioned FQHCs, rural clinics or other primary care settings while the others referenced public health or public agencies. It is noteworthy that Nevada and North Carolina are included in both Tables 3 and 4 since they provide two separate mechanisms to assure access to preventive dental services by way of dental hygiene special licenses or terms specifically applied to primary care safety net settings.

Figure 7: States Whose Practice Acts Identified Primary Care Safety Net Settings as a Part of Traditional Dental Hygiene Practice Settings (2007)



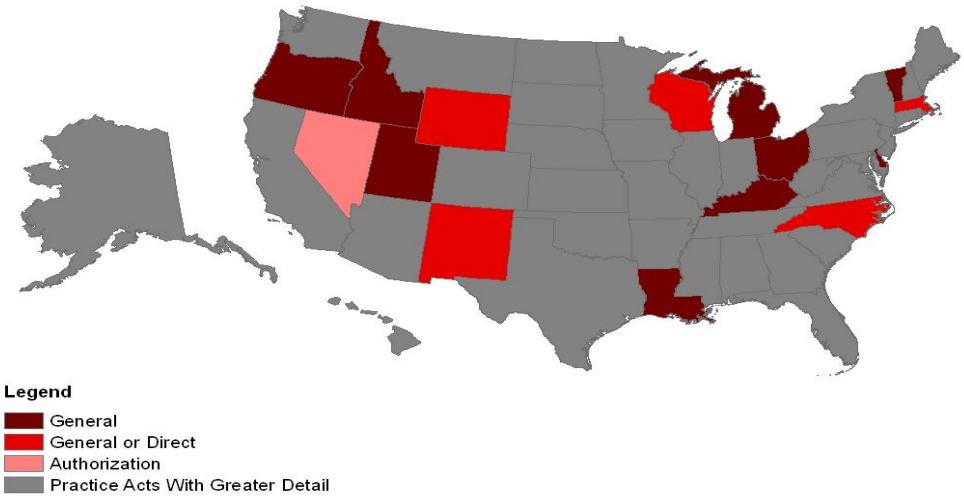
Another 22 states identified primary care safety net settings in their dental practice acts but did not provide for special licenses or delineate unique terms for these settings beyond what the practice acts generally authorized for dental hygiene practice (Figure 7, at left). Arizona and Hawaii identified health care facilities and non-profit health clinics, respectively, as primary care safety net settings that did not require special terms or licenses for dental hygiene practice even though they did require special terms for other primary care safety net settings.

Table 4. States with Special Terms for Dental Hygienists Providing Services in Primary Care Safety Net Settings

State	***Special Terms***	***Primary Care Safety Net Settings***
Delaware	State Dental Director must provide supervision	FQHCs and non-profit organizations
Indiana	Restricted to children	State Department of Health
Iowa	No exam by dentist required prior to hygiene service	FQHCs, nonprofit community health centers, Public health programs
Kentucky	Services are a part of dental health program approved by Dentistry board	Board of health or health district
Maryland	Certified by the State Insurance Commissioner	Health maintenance organization
Michigan	Limited to patients not assigned a dentist	Program for dentally underserved populations in governmental health agency
Mississippi	Employee of Board of Health	State Board of Health
Missouri	Must serve children eligible for medical assistance	Public health settings jointly defined by Health Dept. and Dental Board
Nebraska	Must have authorization from Department of Health and in the conduct of public health-related services	Public health dept or clinic, community health center, rural health clinic, and other public health care programs
Nevada	Requires special public health endorsement	Locations identified by State Dental Health Officer
North Carolina	Experience and training requirements	Rural & community clinics operated by government or non-profits; any other facility in dental HPSA and identified by the Office of Rural Health
North Dakota	Patient has a dentist of record and treatment plan	Public health or institutional settings
Washington	Employment in health care facilities with two years of experience	Public health facilities; community and migrant health centers; and tribal clinics

Fifteen state practice acts (30%) identified supervision levels generally, but not for specific tasks. These states are represented in other maps in this report as SS/TU, supervision specified but tasks unspecified. This ambiguity made it difficult to infer supervision requirements for the specific tasks in which we were interested; therefore, we made no assumptions for these states. All provided some opportunity for general supervision, but five states included terms under which dental hygiene must be practiced under direct supervision. Figure 8 (next page) identifies these states and the supervision requirements their practice acts imposed. Only eight practice acts provided no information on authorizations and supervision levels for dental hygienists in primary care safety net settings: Alabama, Alaska, New Hampshire, Minnesota, Rhode Island, Tennessee, Texas, and West Virginia.

Figure 8: States Whose Practice Acts Specified
Supervision Levels for Dental Hygiene but Not Tasks (2007)



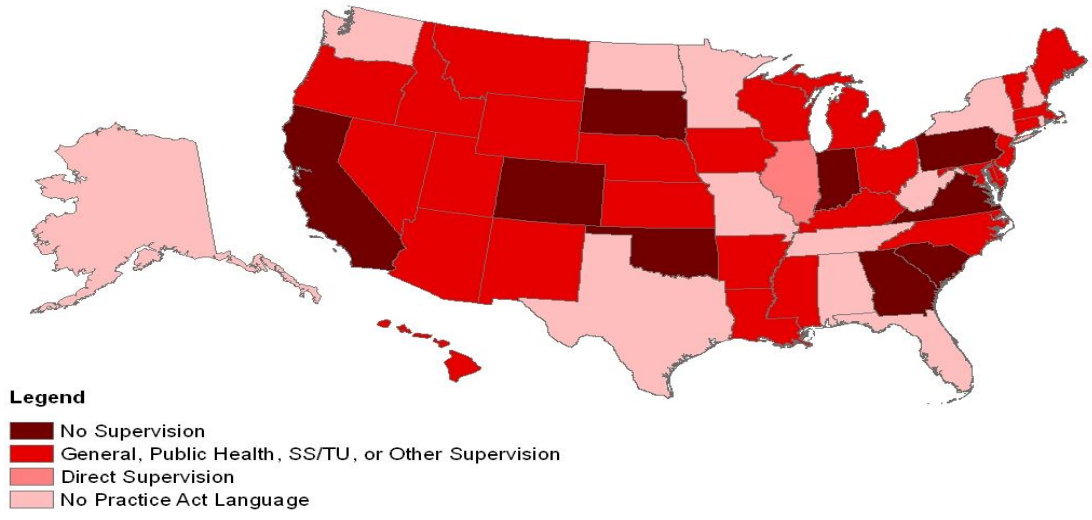
Supervision Levels, by Service

The next sections describe supervision levels required for dental hygienists by specific preventive dental services that they may be authorized to provide. We examined supervision for four tasks: oral examinations or screenings, fluoride applications, sealant applications, and oral prophylaxis.

Oral Examinations or Screenings

While the definitions vary, most practice acts define an oral screening or examination as a visual inspection of the mouth. It may not be a diagnostic service, as many states do not allow dental hygienists to engage in the diagnosis of oral diseases absent an attending dentist.

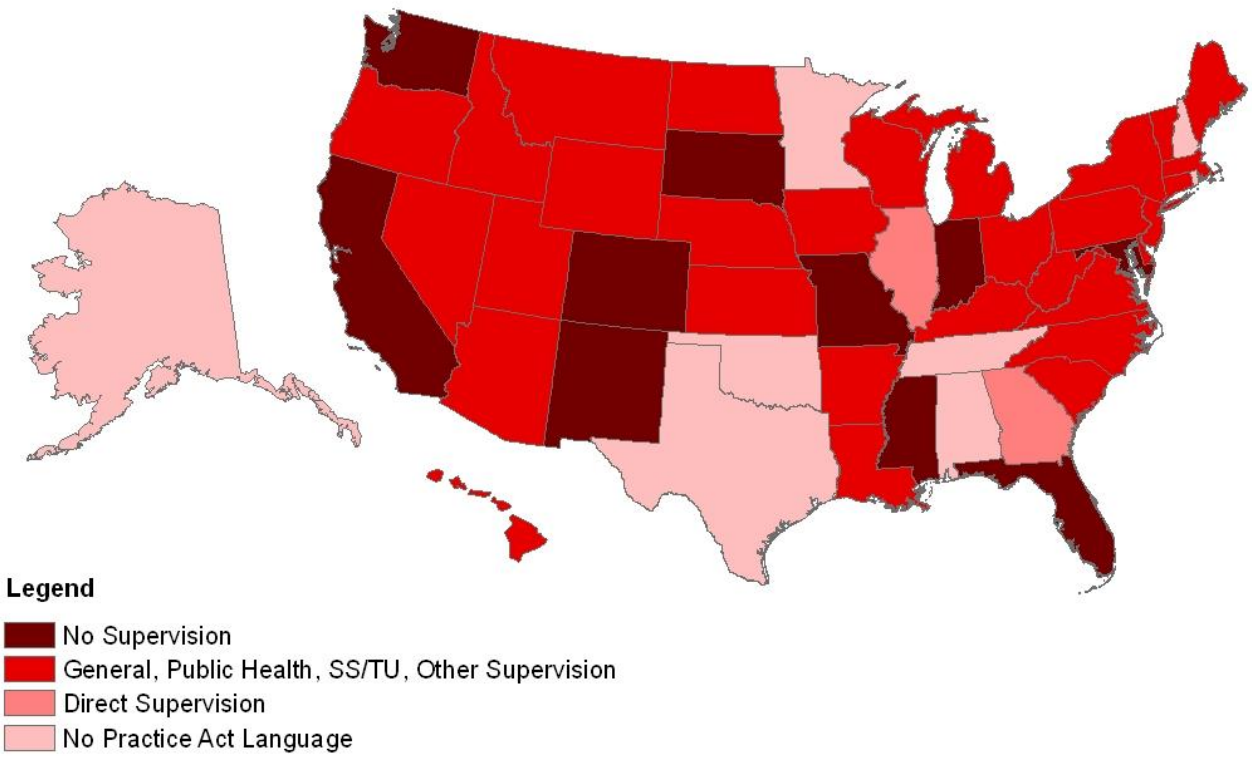
Figure 9: Dental Hygiene Supervision Levels for Oral Examination
or Screening in Primary Care Safety Net Settings by State (2008)



Fluoride Applications

Fluoride can be applied in a variety of ways including varnish, foams, and gels for the purpose of preventing tooth decay. As with oral screening, dental hygienists working in primary care safety net settings can provide fluoride with no supervision in eleven states (Figure 10, below). Thirty-one (62%) allow for it under general, public health or other indirect supervision including the 15 states that did not specify supervision by specific task.

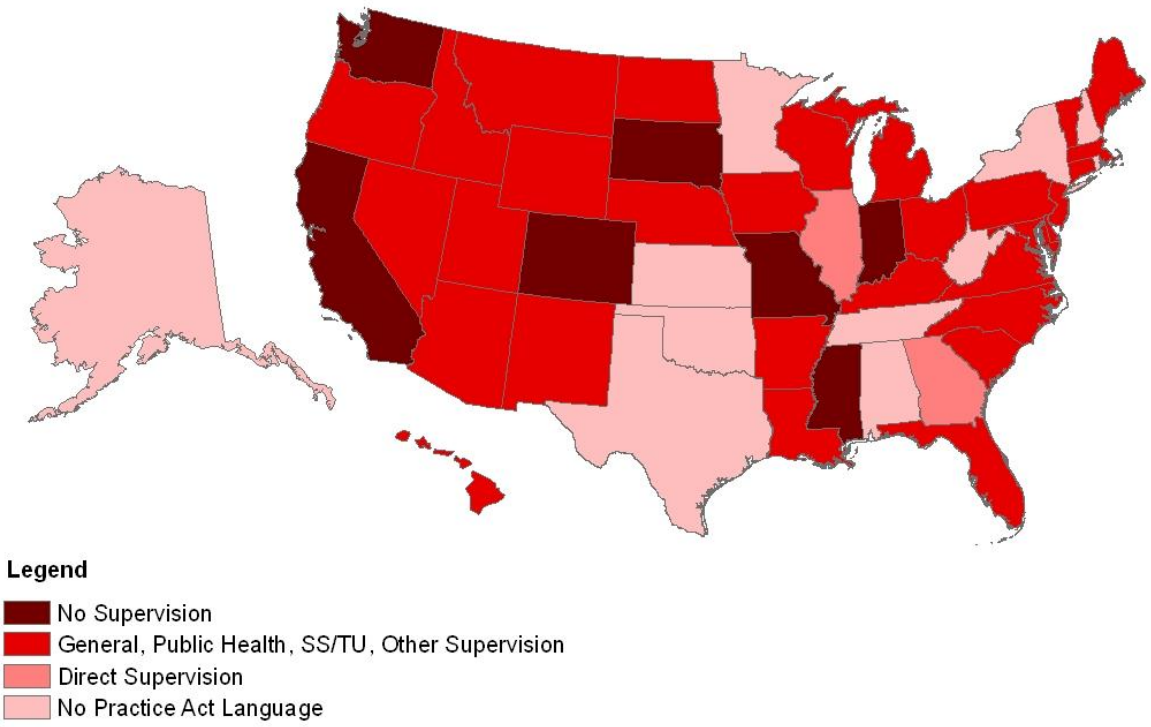
Figure 10: Dental Hygiene Supervision Levels for Fluoride Application in Primary Care Safety Net Settings by State (2008)



Sealant Applications

Sealants are thin, plastic materials that are applied to the rough surfaces of molars[14]. Once applied, dental sealants provide a protective coating that prevents new or existing decay from spreading deeper into teeth.[15] Dental hygienists in seven (14%) states can apply sealants in primary care safety net settings without supervision (Figure 11, below). As with fluoride, 31 (62%) states allow for the service under general, public health or other indirect supervision including the 15 states that did not specify supervision levels for specific tasks.

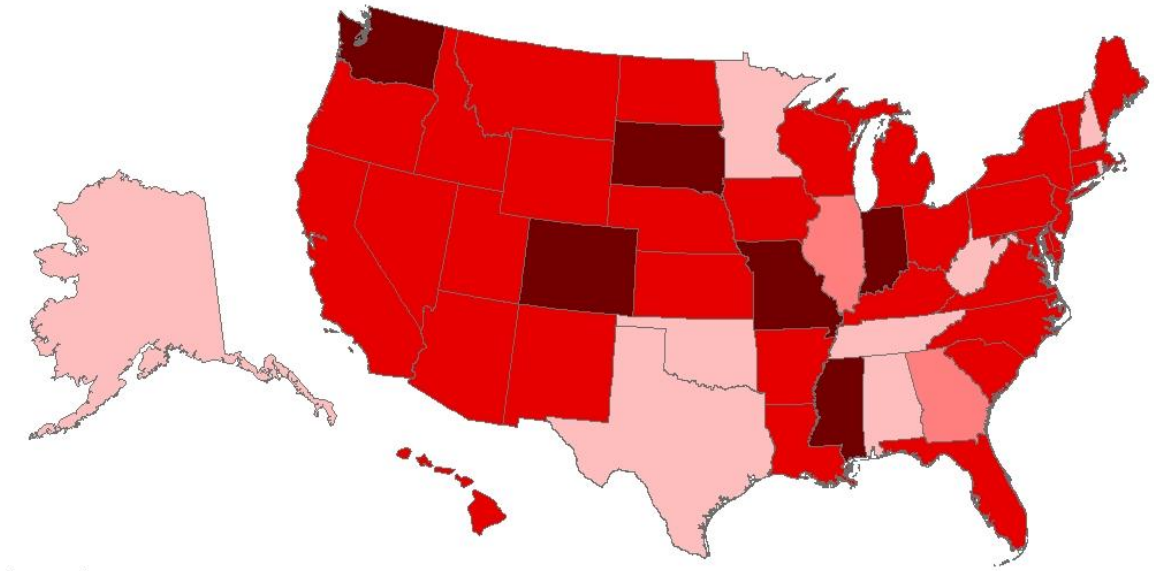
Figure 11: Dental Hygiene Supervision Levels for Sealant Application in Primary Care Safety Net Settings by State (2008)



Oral Prophylaxis

Oral prophylaxis is a service whereby plaque, stains and calculus are removed from teeth. Most states only allow for it to be conducted by dental hygienists and dentists. As with sealants, seven (14%) states allow for dental hygienists to perform oral prophylaxis without supervision in primary care safety net settings. Another 34 (68%) allow for it under general, public health or other indirect supervision (Figure 12, below).

Figure 12: Dental Hygiene Supervision Levels for Oral Prophylaxis in Primary Care Safety Net Settings by State (2008)



Page Left Blank Intentionally

Study Conclusions

Availability of dental professionals continues to be a challenge for rural communities, with no solution for growing the pipeline in the near future. Many states are experimenting with new models of expanded duty dental auxiliaries. The development and assessment of these models are called for in health reform legislation; however, rural children continue to have unmet preventive dental needs while workforce models are explored. Practical, short-term solutions can include providing preventive services through primary care providers or in primary care safety net settings.

Our study examined the degree to which states use two specific policy levers, Medicaid reimbursement of non-dental clinicians for fluoride varnish application and practice act provisions for dental hygienists, which can serve to ameliorate disparities in access to preventive dental services among rural children.

Rural children are more likely than urban children to receive primary care in FQHCs and RHCs; however, there is little financial incentive for these safety net settings to provide FVA to their Medicaid beneficiaries. In most states, FVA is included within the Medicaid AIRR. Allowing safety net providers to bill outside of the AIRR may improve FVA rates, thus decreasing early childhood caries. It was troubling that many Medicaid respondents were unsure of their FVA reimbursement policies. Raising awareness among Medicaid administrators of the value of FVA to their patients, and of the implications of state policies for service receipt, may also increase FVA rates. In addition, only a minority of states allow PAs and NPs to be eligible for Medicaid reimbursement. Given the overrepresentation of PAs and NPs practicing in FQHCs and RHCs, states should take into consideration the degree to which access to FVA is impaired for children receiving primary care in these safety net settings. Allowing FVA reimbursement for PAs and NPs could improve access among rural children, with corresponding reductions in rates of early childhood caries.

With regard to dental hygiene practice in primary care safety net settings, local opportunities and partnerships can be achieved in the absence of practice act revisions. Practice act issues are addressed in healthcare reform, but these changes do not yield short-term results and may not improve access for rural children if a volume-based, fee-for-service model continues. Alternatively, encouraging medical and dental partnerships, in which dental hygiene practice can serve as a bridge between primary care and dentistry, may produce more immediate results, especially for rural children. Using dental hygienists, even when in the employ of private dentists, in partnership with FQHCs to assist in the identification of unmet dental needs and facilitation of linkages to dental homes could improve access to coordinated, integrated medical-dental care.

Page Left Blank Intentionally

Appendixes

Appendix A: Descriptions of Oral Health Professions

Dentists, whether as a Doctor of Dental Medicine (DMD) or a Doctor of Dental Surgery (DDS), receive a terminal (doctoral) degree. According to the Bureau of Labor Statistics, dentists have the following responsibilities:[19]

- diagnosing oral diseases;
- creating treatment plans to maintain or restore oral health;
- interpreting x-rays and diagnostic tests;
- supervising the safe administration of anesthetics;
- monitoring growth and development of the teeth and jaws;
- performing surgical procedures on the teeth, bone and soft tissues of the oral cavity; and
- managing oral trauma and other emergency situations.

In addition to academic preparation, dentists must pass a national written and clinical examination, be licensed to practice in their states, and complete continuing education credits as required by their states.[19] There are nine specialties within dentistry, including pediatric dentistry, endodontics, periodontics, orthodontics, prosthodontics, oral and maxillofacial surgery/pathology/radiology, and dental public health; however, approximately 80 percent of dentists are general practitioners.[20] In addition to recognizing dental specialties, many states authorize special licenses, such as volunteer and public health licenses, which allow dentists to provide care to vulnerable and underserved populations.

Dental hygienists provide preventive services to improve oral health diseases, generally but not always under the supervision of a dentist, and provide oral health education to patients. Dental hygienists must complete an accredited dental hygiene program (either 2-year or 4-year curricula), pass written and clinical licensing exams, and complete continuing education requirements as prescribed by their states.[21] Licensed dental hygienists are typically identified as RDHs or Registered Dental Hygienists.[21]

According to the American Dental Hygiene Association (ADHA), dental hygienists perform the following tasks with varying degrees of supervision:

- conduct oral health care assessments that include the review of patients' health history, dental charting, oral cancer screening, and evaluation of gum disease / health;
- expose, process, and interpret dental radiographs (x-rays);
- remove plaque and calculus (tartar) from above and below the gumline using dental instruments;
- apply cavity-preventive agents such as fluorides and sealants to the teeth;
- administer local anesthetic and / or nitrous oxide analgesia;
- educate patients on proper oral hygiene techniques to maintain healthy teeth and gums;
- counsel patients about plaque control and developing individualized at-home oral hygiene programs;
- administer smoking cessation programs; and
- counsel patients on the importance of good nutrition for maintaining optimal oral health.

There are varying levels of dental supervision identified in state practice acts that prescribe the degree of autonomy for dental hygiene practice. It is important to note that the definitions of these supervision levels, as identified in Table 4, vary depending on the language in the state practice acts. The scope of practice for expanded duty or function dental hygienists vary by state. Use of this practitioner has been advocated by dental hygienists as a way of expanding services.[22] An economic analysis of the level of dental supervision required for public health sealant programs found that reducing the supervision level required could reduce costs and increase the number of patients served through a more efficient use of staff.[23,24]

Table A-1. Definitions of Supervision Levels for Dental Hygienists[23]

Level of Supervision	Definition
General	"A dentist has authorized a dental hygienist to perform procedures but need not be present in the treatment facility during the delivery of care."
Direct	"The dentist must be present in the office while the care is being provided."
Public Health or Indirect	Less restrictive than general supervision and allows for care in public health settings such as schools

Dental hygienists can complete additional education to provide more specialized services and serve as *expanded duty dental hygienists*. Expanded scope dental hygienists, have been allowed to include dental therapy in their scope of practice in some countries, such as New Zealand's pediatric oral health therapist program.[25,26] Momentum for such programs in the United States has been fairly limited, but there is research to examine similar programs for patients enrolled in the Indian Health Service.[27] *Advanced Dental Hygiene Practitioner* (ADHP) is a role advocated by the American Dental Hygienists' Association. A three-state survey (Colorado, Kentucky and North Carolina) found general support for this role among dental hygienists.[23]

Dental assisting training programs are typically 9-11 months in length and dental assistants usually receive a certificate upon completion of these programs. After two years of experience, dental assistants have the opportunity to take a national certification exam to become certified dental assistants. Some states allow "expanded duty" dental assistants, subject to additional licensing, to take on additional duties such as radiological functions.[19] Dental assistants take a more positive position with regard to this expanded role and its potential benefits for expanding care to underserved populations than do dental hygienists.[28]

According to the American Dental Association, typical responsibilities for dental assistants include:

- assisting the dentist during a variety of treatment procedures;
- taking and developing dental radiographs (x-rays);
- asking about the patient's medical history and taking blood pressure and pulse;
- serving as an infection control officer, developing infection control protocol and preparing and sterilizing instruments and equipment;
- helping patients feel comfortable before, during and after dental treatment;
- providing patients with instructions for oral care following surgery or other dental treatment procedures, such as the placement of a restoration (filling);

- teaching patients appropriate oral hygiene strategies to maintain oral health (e.g., toothbrushing, flossing and nutritional counseling);
- taking impressions of patients' teeth for study casts (models of teeth);
- performing office management tasks that often require the use of a personal computer;
- communicating with patients and suppliers (e.g., scheduling appointments, answering the telephone, billing and ordering supplies); and
- helping to provide direct patient care in all dental specialties, including orthodontics, pediatric dentistry, periodontics and oral surgery.[19]

Page Left Blank Intentionally

Appendix B: Technical Notes

Information contained in the current report has two sources: a survey of state Medicaid dental directors (MDDs) and members of the Association of State and Territorial Dental Directors (ASTDD) and a review of state practice acts. Details of each are provided below.

MDD Survey Development and Administration

A 13-item survey was developed and pilot-tested with officials from the South Carolina Department of Health and Environmental Control and the South Carolina Department of Health and Human Services. Institutional Review Board approval was received from the University of South Carolina on January 12, 2009. The instrument was administered electronically on January 16, 2009, with reminders on February 12 and 19. We obtained email addresses for state MDDs and ASTDD members through membership rosters on their professional organizations' websites.

Invitations to participate and a link to the electronic survey were emailed to 142 addresses. We achieved an individual response rate of 45.1% (n=64) with a representation of 39 states (78%). Only 5 email addresses were returned as undeliverable. Of the individuals who responded, 21.9% of them were Medicaid dental directors (MDDs), 42.2% work for the state Medicaid agency but not as the dental director and 35.9% indicated they were ASTDD members. Respondents could be represented in more than one category. Follow-up telephone calls were made to the 11 states that did not respond to the electronic survey. All 11 state representatives participated in the telephone interview so that all 50 states were represented in the survey.

Accompanying the link to the survey was a message that informed respondents about the survey's funding source, Institutional Review Board information, directions and deadline for completing the survey. In addition, respondents were asked if we could contact them to learn more about the specifics of any oral health programs they identified in their survey responses. Brief follow-up telephone interviews were conducted with those who provided an affirmative response.

MDD Survey Content

The survey asked questions about (a) fluoride varnish policies; (b) availability of dental incentives to beneficiaries through Medicaid Managed Care programs; and (c) support of demonstration projects aimed at improving access to care for rural children.

Regarding *fluoride varnish*, respondents were asked the following:

1. Does your state Medicaid program allow non-dental clinicians to apply fluoride varnish to children's teeth?
2. If so, what types of providers are eligible to apply fluoride varnish?
3. How many years has your Medicaid program allowed medical providers to apply fluoride varnish to children's teeth?
4. What are the eligibility criteria for children enrolled in Medicaid to receive fluoride varnish?
5. Are Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs) eligible to bill for the provision of fluoride varnish for children?

6. For billing purposes, how is reimbursement to FQHCs and RHCs for fluoride varnish managed? Are materials and administration costs included in cost-based reimbursement, billed outside of cost-based reimbursement, or not reimbursable?

Finally, survey recipients were asked if their agencies supported demonstration projects for improving access to underserved children in rural areas. An affirmative answer directed respondents to a request for a follow-up telephone interview where they could share additional information about their programs. During the interviews they could answer the following questions:

- What is the goal of the project?
- Who is the target population?
- What services are provided?
- What outcomes have you seen as a result of the project?

Practice Act Assessment

We downloaded the 2007 editions of all 50 state dental practice acts. Treating the legislation as qualitative data, we coded the information using a template and documented the following:

- definition of primary care safety net settings;
- special licenses or permits required for dental hygienists working in primary care safety net settings;
- where licenses or permits were not required, we also described special terms applied to dental hygienists working in the desired settings;
- preventive dental services including oral examinations or screenings, fluoride varnish application, sealant application and oral prophylaxis; and
- levels of supervision for each of the preventive dental services previously identified.

To reduce error, we used three research team members who coded practice act data independently and then engaged in inter-rater reliability activities to ensure any differences of interpretations were reconciled prior to analysis.

Page Left Blank Intentionally

Appendix C: Tables for Figures

Figure 1. States Where Non-Dental Clinicians Receive Medicaid Reimbursement for Fluoride Varnish Application
Figure 2. Percent of States with Medicaid Reimbursement for FVA by Type of Eligible Non-Dental Clinician

State	Fluoride Varnish Reimbursement	*Non-Dental Clinicians Eligible for Fluoride Varnish Reimbursement from Medicaid*								
		Pediatricians	Family or General Practitioners	Registered Nurses	Physician Assistants	Advanced Practice Nurses	LPNs	Medical Assistants	Head Start or WIC Personnel	Other or Not Specified
AK	No									
AL	Yes									Yes
AR	No									
AZ	No									
CA	Yes	Yes	Yes	Yes			Yes	Yes		
CO	No									
CT	Yes	Yes	Yes							
DE	No									
FL	Yes	Yes	Yes							
GA	No									
HI	No									
IA	Yes	Yes	Yes	Yes						
ID	No									
IL	Yes	Yes	Yes	Yes						
IN	No									
KS	Yes	Yes	Yes	Yes						
KY	Yes	Yes	Yes	Yes						
LA	No									
MA	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
MD	Yes	Yes	Yes							
ME	Yes	Yes	Yes	Yes				Yes		
MI	Yes	Yes	Yes	Yes	Yes	Yes				

State	Fluoride Varnish Reimbursement	*Non-Dental Clinicians Eligible for Fluoride Varnish Reimbursement from Medicaid*								
		Pediatricians	Family or General Practitioners	Registered Nurses	Physician Assistants	Advanced Practice Nurses	LPNs	Medical Assistants	Head Start or WIC Personnel	Other or Not Specified
MN	Yes	Yes	Yes	Yes					Yes	
MO	Yes	Yes	Yes			Yes				
MS	No									
MT	Yes	Yes	Yes							
NC	Yes	Yes	Yes							
ND	Yes	Yes	Yes	Yes						
NE	Yes	Yes	Yes							
NH	No									
NJ	Yes									Yes
NM	No									
NV	Yes	Yes	Yes	Yes	Yes					
NY	No									
OH	Yes	Yes	Yes			Yes				Yes
OK	No									
OR	Yes	Yes	Yes	Yes	Yes					
PA	Yes									Yes
RI	Yes	Yes	Yes	Yes	Yes	Yes		Yes		
SC	Yes	Yes	Yes	Yes						
SD	Yes	Yes	Yes							
TN	No									
TX	Yes	Yes	Yes		Yes	Yes				
UT	Yes	Yes	Yes	Yes						
VA	Yes	Yes	Yes	Yes						
VT	Yes	Yes	Yes							
WA	Yes	Yes	Yes	Yes						
WI	Yes	Yes	Yes	Yes	Yes	Yes				
WV	No									
WY	Yes	Yes	Yes	Yes						
Totals	33	30	30	19	7	7	2	3	1	4
% of all states	66%	60%	60%	38%	14%	14%	4%	6%	2%	8%
% of states providing reimbursement for FVA	100%	90.9%	90.9%	57.6%	21.2%	21.2%	6.1%	9.1%	3.0%	12.1%

Figure 3. States with Medicaid Reimbursement for FVA to Non-Dental Clinicians by Duration of Policy				
State	*Duration of Medicaid Reimbursement to Non-Dental Clinicians for FVA*			
	< 1 Yr	1 to 3 Yrs	3+ Yrs	No Response
AK	No Medicaid Reimbursement for FVA			
AL				Yes
AR	No Medicaid Reimbursement for FVA			
AZ	No Medicaid Reimbursement for FVA			
CA		Yes		
CO	No Medicaid Reimbursement for FVA			
CT	Yes			
DE	No Medicaid Reimbursement for FVA			
FL	Yes			
GA	No Medicaid Reimbursement for FVA			
HI	No Medicaid Reimbursement for FVA			
IA			Yes	
ID	No Medicaid Reimbursement for FVA			
IL		Yes		
IN	No Medicaid Reimbursement for FVA			
KS			Yes	
KY		Yes		
LA	No Medicaid Reimbursement for FVA			
MA	Yes			
MD	Yes			
ME	Yes			
MI	Yes			
MN		Yes		
MO	Yes			
MS	No Medicaid Reimbursement for FVA			
MT	Yes			
NC			Yes	
ND	Yes			
NE	Yes			
NH	No Medicaid Reimbursement for FVA			
NJ				Yes
NM	No Medicaid Reimbursement for FVA			
NV			Yes	
NY	No Medicaid Reimbursement for FVA			
OH		Yes		
OK	No Medicaid Reimbursement for FVA			
OR			Yes	
PA				Yes

Figure 3 cont'd. States with Medicaid Reimbursement for FVA to Non-Dental Clinicians by Duration of Policy				
State	*Duration of Medicaid Reimbursement to Non-Dental Clinicians for FVA*			
	< 1 Yr	1 to 3 Yrs	3+ Yrs	No Response
RI	Yes			
SC		Yes		
SD		Yes		
TN	No Medicaid Reimbursement for FVA			
TX		Yes		
UT		Yes		
VA		Yes		
VT			Yes	
WA			Yes	
WI			Yes	
WV	No Medicaid Reimbursement for FVA			
WY			Yes	
Totals	11	10	9	3
% of all states	22.0%	20.0%	18.0%	6.0%
% of states providing reimbursement	33.3%	30.3%	27.3%	9.1%

Figure 4. Distribution of States with Specific Program Eligibility Criteria for Medicaid Reimbursement to Non-Dental Clinicians for FVA						
State	*Eligibility Criteria for FVA*					
	Patient must be of a certain age	Presence of caries risk	Anticipatory guidance provided	Service rendered as a part of an EPSDT visit	Other eligibility criteria	None identified
AK	No Medicaid Reimbursement for FVA					
AL						Yes
AR	No Medicaid Reimbursement for FVA					
AZ	No Medicaid Reimbursement for FVA					
CA	Yes	Yes	Yes	Yes		
CO	No Medicaid Reimbursement for FVA					
CT	Yes	Yes	Yes	Yes		
DE	No Medicaid Reimbursement for FVA					
FL	Yes	Yes	Yes			
GA	No Medicaid Reimbursement for FVA					
HI	No Medicaid Reimbursement for FVA					
IA	Yes	Yes	Yes	Yes		
ID	No Medicaid Reimbursement for FVA					
IL	Yes		Yes		Yes	
IN	No Medicaid Reimbursement for FVA					
KS	Yes	Yes	Yes	Yes		
KY	Yes	Yes	Yes	Yes		
LA	No Medicaid Reimbursement for FVA					
MA	Yes	Yes		Yes		
MD						Yes
ME	Yes	Yes			Yes	
MI	Yes			Yes		
MN	Yes	Yes	Yes			
MO	Yes		Yes	Yes		
MS	No Medicaid Reimbursement for FVA					
MT	Yes	Yes	Yes	Yes		
NC	Yes	Yes	Yes	Yes		
ND	Yes	Yes	Yes	Yes		
NE		Yes	Yes	Yes		
NH	No Medicaid Reimbursement for FVA					
NJ						Yes
NM	No Medicaid Reimbursement for FVA					
NV	Yes	Yes				
NY	No Medicaid Reimbursement for FVA					
OH	Yes				Yes	

Figure 4 cont'd. Distribution of States with Specific Program Eligibility Criteria for Medicaid Reimbursement to Non-Dental Clinicians for FVA						
State	*Eligibility Criteria for FVA*					
	Patient must be of a certain age	Presence of caries risk	Anticipatory guidance provided	Service rendered as a part of an EPSDT visit	Other eligibility criteria	None identified
OK	No Medicaid Reimbursement for FVA					
OR						Yes
PA	Yes					
RI	Yes	Yes				
SC	Yes	Yes		Yes		
SD	Yes	Yes		Yes		
TN	No Medicaid Reimbursement for FVA					
TX		Yes	Yes	Yes	Yes	
UT	Yes			Yes		
VA	Yes			Yes		
VT						Yes
WA						Yes
WI	Yes					
WV	No Medicaid Reimbursement for FVA					
WY	Yes	Yes	Yes	Yes		
Total	25	19	15	18	4	6
% of all states	50.0%	38.0%	30.0%	36.0%	8.0%	12.0%
% of states providing reimbursement	75.8%	57.6%	45.5%	54.5%	12.1%	18.2%

Figure 5. State Distribution of FQHC and RHC Medicaid Reimbursement Status for FVA by Non-Dental Clinicians							
STATE	FQHCs			RHCs			
	Materials costs rolled into cost-based reimbursement	Application costs rolled into cost-based reimbursement	Application costs billed OUTSIDE cost-based reimbursement	Materials costs rolled into cost-based reimbursement	Application costs rolled into cost-based reimbursement	Application costs billed OUTSIDE cost-based reimbursement	Don't know
AK	No Medicaid Reimbursement for FVA						
AL							Neither
AR	No Medicaid Reimbursement for FVA						
AZ	No Medicaid Reimbursement for FVA						
CA	Yes	Yes		Yes	Yes		
CO	No Medicaid Reimbursement for FVA						
CT	Yes	Yes				Yes	
DE	No Medicaid Reimbursement for FVA						
FL	Yes	Yes		Yes	Yes		
GA	No Medicaid Reimbursement for FVA						
HI	No Medicaid Reimbursement for FVA						
IA	Yes	Yes					RHC
ID	No Medicaid Reimbursement for FVA						
IL							Neither
IN	No Medicaid Reimbursement for FVA						
KS	Yes	Yes		Yes	Yes		
KY	Yes	Yes		Yes	Yes		
LA	No Medicaid Reimbursement for FVA						
MA			Yes				RHC
MD	Yes						RHC
ME	Yes	Yes		Yes	Yes		
MI		Yes			Yes		
MN	Yes	Yes		Yes	Yes		
MO							Neither

MS	No Medicaid Reimbursement for FVA						
MT	Yes	Yes		Yes	Yes		
NC	Yes	Yes		Yes	Yes		
ND	Yes	Yes		Yes	Yes		
NE							Neither
NH	No Medicaid Reimbursement for FVA						
NJ							Neither
NM	Medicaid Reimbursement for FVA						
NV		Yes					RHC
NY	No Medicaid Reimbursement for FVA						
OH	Yes	Yes					RHC
OK	No Medicaid Reimbursement for FVA						
OR	Yes	Yes		Yes	Yes		
PA							Neither
RI							Neither
SC	Yes			Yes			
SD	Yes	Yes		Yes	Yes		
TN	No Medicaid Reimbursement for FVA						
TX	Yes	Yes		Yes	Yes		
UT	Yes	Yes		Yes	Yes		
VA	Yes		Yes	Yes		Yes	
VT	Yes	Yes		Yes	Yes		
WA	Yes	Yes		Yes	Yes		
WI	Yes	Yes		Yes	Yes		
WV	No Medicaid Reimbursement for FVA						
WY	Yes	Yes		Yes	Yes		
Total	23	22	2	19	18	2	12
% of all states	46.0%	44.0%	4.0%	38.0%	36.0%	4.0%	24.0%
% of states with reimbursement	69.7%	66.7%	6.1%	57.6%	54.5%	6.1%	36.4%

The table below supports Figures 6 through 11.

Note: "NR" is not referenced in the practice act.

State	Primary Care Safety Net Settings	Special license title or terms	Examination or screening	Fluoride	Sealants	Oral prophylaxis	Services not specified
Alabama	*No practice act language*						
Alaska	*No practice act language*						
Arizona	Public agencies	Affiliated practice	None	None	Board makes rules	General	
	Health care facilities	None stated	General	General	General	General	
Arkansas	Community health centers	None stated	General	General	General	General	
	Government sponsored dental facilities						
California	Primary care clinics in dental HPSAs	Alternative Practice	None	None	None	General	
	None designated	None stated	None	None	None	General	
Colorado	None designated	None stated	None	None	None	None	
Connecticut	Community health center	None stated	General	General	General	General	
Delaware	FQHCs and Nonprofit organizations	State Dental Director provides supervision					General
Florida	Public health programs, community health centers, county health departments	None stated	Not stated	None	General	General	
Georgia	Clinics and public health programs	None stated	None	Direct	Direct	Direct	
Hawaii	Non-profit health clinic	None stated	General or Direct	General or Direct	General or Direct	General or Direct	
	FQHCs and Native Hawaiian health care system	Community Service License	General or Direct	General or Direct	General or Direct	General or Direct	
Idaho	Government agency, tribal clinic, migrant health center	Extended Access Oral Health Care Program					General
Illinois	Public clinic	None stated	Direct	Direct	Direct	Direct	

State	Primary Care Safety Net Settings	Special license title or terms	Examination or screening	Fluoride	Sealants	Oral prophylaxis	Services not specified
Indiana	State Dept of Health	Restricted to children	None	None	None	None	
Iowa	FQHCs, nonprofit community health centers, and public health programs	No exam by dentist required prior to hygiene service	Public Health	Public Health	Public Health	Public Health	
Kansas	Local health dept.	None stated	General	General	NR	General	
Kentucky	Board of health or health district	Services are a part of dental health program approved by Dentistry board					General
Louisiana	Public institution	None stated					General
Maine	Medical facilities	None stated	Public Health	Public Health	Public Health	Public Health	
Maryland	Health maintenance organization	Certified by the State Insurance Commissioner	General	None	General	General	
Massachusetts	None stated	None stated					General or Direct
Michigan	Program for dentally underserved populations in gov't health agency	Limited to patients not assigned a dentist					General or Direct
Minnesota	*No practice act language*						
Mississippi	State Board of Health	Employee	General	None	None	None	
Missouri	Public health settings jointly defined by Health Dept. and Dental Board	Serve children eligible for medical assistance	NR	None	None	None	
Montana	FQHCs, federally funded community health centers, migrant health care centers, Public health clinics	None stated	Public Health	Public Health	Public Health	Public Health	

State	Primary Care Safety Net Settings	Special license title or terms	Examination or screening	Fluoride	Sealants	Oral prophylaxis	Services not specified
Nebraska	Public health dept or clinic, community health center, rural health clinic, other public health care programs	Authorization from Department of Health and in the conduct of public health-related services	Authorization (Public Health)	Authorization (Public Health)	Authorization (Public Health)	Authorization (Public Health)	
Nevada*	FQHCs and nonprofit clinics	Restricted geographic license for rural, underserved populations					Authorization
	Locations identified by State Dental Health Officer	Special public health endorsement					Authorization
New Hampshire	*No practice act language*						
New Jersey	None stated	None stated	General	General	General	General	
New Mexico**	None stated	Collaborative Practice	None	None	Prohibited	None	
	State institution, public health clinic or public health program	Temporary license for public health practice					General
New York	Public institution	None stated	NR	General	NR	General	

State	Primary Care Safety Net Settings	Special license title or terms	Examination or screening	Fluoride	Sealants	Oral prophylaxis	Services not specified
North Carolina	Rural & community clinics operated by governments or non-profits; any other facility in dental HPSA and identified by the Office of Rural Health	Experience and training requirements	NR	General	NR	General	
	Public Health institutions	Public Health Dental Hygienist					General or Direct
North Dakota	Public health or institutional settings	Patient has a dentist of record and treatment plan.	NR	General (Authorized)	General (Authorized)	General (Authorized)	
Ohio	Health district	None					General
Oklahoma	Federal, state or local public health facility; or a private health facility	None stated	None	NR	NR	NR	
Oregon	Public institution, health care facility or health maintenance organizations	None stated					General
Pennsylvania	Public health agencies	None stated	None	General	General	General	
Rhode Island	*No practice act language*						
South Carolina	Rural and community clinics; governmental health facilities	None stated	None	General	General	General	
South Dakota	Public institutions, community clinics, public health programs, non-profits serving uninsured	Limited Access Dental Hygienist	None	None	None	None	
Tennessee	*No practice act language*						
Texas	*No practice act language*						

State	Primary Care Safety Net Settings	Special license title or terms	Examination or screening	Fluoride	Sealants	Oral prophylaxis	Services not specified
Utah	Public health agency	None stated					General
Vermont	Public or private institutions	None stated					General
Virginia	None stated	None stated	None	General	General	General	
Washington	Public health facilities; community and migrant health centers; and tribal clinics	Employment in health care facilities; 2-years experience	NR	None	None	None	
West Virginia	*No practice act language*						
Wisconsin	Health Department	None					General or Direct
Wyoming	Public or private institution	None					General or Direct

*Nevada offers Restricted Geographic and Low Income Licenses for dentists. The former has terms similar for the DH but general supervision for the latter.

**New Mexico offers a temporary license for dentists in clinical practice in underserved areas or state institutions.

Appendix D: Examples of Innovative Projects Aimed at Improving Oral Health Disparities for Children, Including Rural Children

IOWA – I-Smile Dental Home Project

Program Goal

As a part of Medicaid reform in 2005, IowaCare legislation mandated children aged 12 years and younger "shall have a designated dental home and shall be provided with the dental screenings and preventive care identified in the oral health standards under the early and periodic screening, diagnostic, and treatment program." (http://www.ismiledentalhome.iowa.gov/)

I-Smile Dental Home Project was developed by the Iowa Department of Human Services partnered with the Iowa Department of Public Health, the Iowa Dental Association, the Iowa Dental Hygienists' Association, Delta Dental of Iowa, and the University of Iowa, College of Dentistry as a practical solution for the legislative mandate. Its implementation began in 2006. Goals, as posted on their website, include:

- improving dental support system for families,
- improving the dental Medicaid program,
- implementing recruitment and retention strategies for underserved areas, and
- integrating dental services into rural and critical access hospitals.

Target Population
Children enrolled in Medicaid and aged 12 years and younger

Services Provided
Dental hygienists serve as coordinators whose principal roles are to:

- develop oral health partnerships,
- establish referral systems,
- provide healthcare professionals with training on oral screenings and risk assessments, and
- develop oral health protocols with program partners.

In addition to their coordination roles, the hygienists can use 20% of their time to conduct screenings, risk assessments and apply fluoride varnish in anticipation of a referral to a dental home.

Program Funding

Funding for the program is provided through the state Medicaid program, general state appropriations, and Title V funding from the Health Resources and Services Administration.

Website

http://www.ismiledentalhome.iowa.gov/

Contact person
Sara Schlievert
1-866-SMILE-15

MISSOURI – Preventive Services Program (PSP)

Program Goal

Through the use of an oral health toolkit, community volunteers are mobilized to engage in oral health prevention activities for the state's children. Partnerships with schools, childcare facilities, dental professionals, healthcare providers and businesses are encouraged.

Target Population

Children of all ages through high school

Services Provided

A team of 5 part-time dental hygienists serve as oral health consultants to communities. They provide the necessary technical assistance to communities for program implementation, which includes:

- annual **screening** by dental professionals for children, which generates timely oral health surveillance data;
- oral health **education** through the use of downloadable power point slides and daily hygiene instruction for all school-aged children;
- biannual **fluoride varnish** applications initially provided on the day of the screening with a 4-6 month follow-up application; and
- **referral** for children identified through the screenings with early or urgent treatment needs.

Program Funding

The program is implemented by volunteers at the local level. The dental hygienists supporting communities were initially funded by a Centers for Disease Control and Prevention oral health cooperative agreement but are now funded by the state's Maternal and Child Health Block Grant.

Website

www.mohealthysmiles.com

Contact person

Bonnie Branson
1-800-891-7415

NORTH CAROLINA – Into the Mouths of Babes (IMB): NC Dental Screening and Varnish Project

Program Goal

The goal of IMB is to reduce early childhood caries rates. As stated on the website, IMB achieves this by training "medical providers to deliver preventive oral health services to high-risk children from the time of tooth eruption until the third birthday, including oral screening, parent/caregiver education and fluoride varnish application."

Target Population

Children at risk for early childhood caries aged three years and younger

Services Provided

Training to medical providers is given, of which physicians can acquire American Medical Association continuing medical education credit. Their training includes the technical aspects of oral health preventive care, as well as education on billing Medicaid for the services. After their training is complete, their pediatric patients can receive:

- oral assessments;
- comprehensive oral health education for their parents; and
- fluoride varnish applications.

Program Funding

Funding for the programmatic aspects of IMB has come from a variety of sources including the Centers for Disease Control and Prevention, the Center for Medicare and Medicaid Services, the Health Resources and Services Administration (HRSA), HRSA State Oral Health Collaborative Systems, and HRSA Targeted State Maternal and Child Health Oral Health Service Systems Grant Program. The trio of services in IMB is reimbursable through North Carolina Medicaid contingent upon terms such as demonstration of training and patient eligibility.

Website

http://www.ncdhhs.gov/dph/oralhealth/partners/IMB.htm

Contact person

Kelly Close

(919) 707-5485

NORTH CAROLINA – Carolina Dental Home (extension of Into the Mouths of Babes)

Program Goal

The purpose of Carolina Dental Home is to increase access to dental care and enabling services.

Target Population

Pre-school aged children enrolled in Medicaid, includes those aged 6 months to 5 years. The majority is seen by the providers of the "Into the Mouths of Babes" program.

Services Provided

Through a partnership between physicians and dentists, young children benefit from the following:

- Primary care providers use risk assessment tools to determine who is at risk of early childhood caries.
- Risk-based referrals are made to dentists.
- Care coordination is provided, usually through managed care staff.
- Enabling services such as transportation are a part of the care coordination services.

Program Funding

Funding has come from the Health Resources and Services Administration (HRSA).

Website

http://www.ncdhhs.gov/dph/oralhealth/partners/CarolinaDentalHome.htm

Contact person

Kelly Close

(919) 707-5485

Appendix E: References

1. Martin AB, Wang E, Probst JC, Hale N, Johnson AO. (2008). *Dental Health and Access to Care Among Rural Children: A National and State Portrait*. Prepared under Grant Award No 6 UIC RH 03711-01-00 with the Federal Office of Rural Health Policy, Health Resources and Services Administration.

2. Edelstein B. (2010). The dental safety net, its workforce, and policy recommendations for its enhancement. Journal of Public Health Dentistry. 70;S32-S39.

3. Dela Cruz CG, Rozier RG, Slade G. (2004). Dental screening and referral of young children by pediatric primary care providers. Pediatrics. 114(5):e642-52.

4. Lewis C, Lynch H, Richardson L. (2005). Fluoride varnish use in primary care: what do providers think? *Pediatrics*. 115;e69-e76.

5. The Commonwealth Fund. (2005). EPSDT: An Overview. Retrieved from http://www.commonwealthfund.org/usr_doc/893_EPSDT_overview.pdf on January 15, 2010.

6. Centers for Medicare and Medicaid Services. (2004). Guide to Children's Dental Care in Medicaid. Retrieved from http://www.cms.gov/MedicaidEarlyPeriodicScrn/downloads/EPSDTDentalGuide.pdf on January 15, 2010.

7. United States General Accounting Office. (2003). Medicaid and SCHIP: States use varying approaches to monitor children's access to care. Retrieved from http://www.gao.gov/new.items/d03222.pdf on January 20, 2010.

8. Association of State and Territorial Dental Directors. Health Care Reform Policy Statement Association of State and Territorial Dental Directors (ASTDD) Retrieved from http://www.astdd.org/docs/Health_Care_Reform_Policy_Statement_January_25_2011.pdf on August 13, 2011.

9. Deinard A. (2011) Caries Prevention Reimbursement Table. Conducted on behalf of the American Academy of Pediatrics, Medicaid/CHIP Dental Association, and National Academy of State Health Policy. Retrieved from http://www.aap.org/oralhealth/docs/OHReimbursementChart.pdf on August 13, 2011.

10. Institute of Medicine. (2008). Workshop Summary of The U.S. Oral Health Workforce in the Coming Decade. National Academies Press, 500 Fifth Street, NW, Washington, D.C. 20001.

11. American Dental Hygiene Association. (2010). States Which Directly Reimburse Dental Hygienists for Services under the Medicaid Program. Retrieved from http://www.adha.org/governmental_affairs/downloads/medicaid.pdf on August 13, 2011.

12. Scherrer CR, Griffin PM, Swann JL. (2007). Public health sealant delivery programs: optimal delivery and the cost of practice acts. Med Decis Making. 27(6):762-71.

13. American Dental Hygiene Assocation. (2011). Sealant Application – Settings and Supervision Level by State. Retrieved from http://www.adha.org/governmental_affairs/downloads/sealant.pdf on August 13, 2011.

14. Oong EM, Griffin SO, Kohn WG, Gooch BF, Caufield PW. The effect of dental sealants on bacteria levels in caries lesions: a review of the evidence. *J Am Dent Assoc*. 2008 Mar;139(3):271-8.

15. National Institute of Dental and Craniofacial Research. *Seal out tooth decay: A booklet for parents.* NIH Publication No. 06-489. April 2006. Available at http://www.nidcr.nih.gov/HealthInformation/DiseasesAndConditions/Sealants/SealOutToothDecay.htm. Retrieved on March 12, 2008.

16. Beauchamp, Caufield, Crall, Donly, Feigal, Gooch, Ismail, Kohn, Siegal, Simonsen. *Evidence-based clinical recommendations for the use of pit-and-fissure sealants*. A report of the American Dental Association Council on Scientific Affairs. Journal of the American Dental Association. March 2008. Vol. 139; 257-268.

17. Gooch BF, Griffin SO, Gray SK, Kohn WG, Rozier RG, Siegal M, Fontana M, Brunson D, Carter N, Curtis DK, Donly KJ, Haering H, Hill LF, Hinson HP, Kumar J, Lampiris L, Mallatt M, Meyer DM, Miller WR, Sanzi-Schaedel SM, Simonsen R, Truman Bl, Zero DT. (2009). Preventing dental caries through school-based sealant programs: updated recommendations and reviews of evidence. J Am Dent Assoc. 140(11):1356-65.

18. American Dental Hygiene Association. (2011). Dental Hygiene Practice Act Overview: Permitted Functions and Supervision Levels by State. Retrieved from http://www.adha.org/governmental_affairs/downloads/fiftyone.pdf on August 30, 2011.

19. U.S. Bureau of Labor Statistics. Occupational Outlook Handbook, 2010-11 Edition. Retrieved from http://www.bls.gov/oco/ocos072.htm on May 5, 2010.

20. U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*.Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

21. American Dental Hygiene Association. Retrieved at http://www.adha.org/profissues/access_to_care.htm on September 1, 2009.

22. Krause D, Mosca N, Livingston M. Maximizing the dental workforce: implications for a rural state. *J Dental Hygiene*. 2003 Fall;77(4):253-61.

23. Lambert D, George M, Curran A, Lee J, Shugars D. Practicing dental hygienists' attitudes toward the advanced dental hygiene practitioner: A pilot study. *J Dental Hygiene* 2009; 83 (3): 117 – 125.

24. Mitchell TV, Gadbury-Amyot CC, Overman PR, Peters R. The impact of Kansas House Bill 2724: Perceptions of Kansas Dental Hygienists and Dental Assistants. *J Dental Hygiene* 2003; 77 (4): 223 – 244.

25. Nash, D. A. Developing and deploying a new member of the dental team: a pediatric oral health therapist. *J Public Health Dent.* 2005. 65(1): 48-55.

26. Nash, D. Expanding dental hygiene to include dental therapy: improving access to care for children. *J Dent Hyg*iene. 2009. 83(1): 36-44.

27. Nash, DA and Nagel NJ.Confronting oral health disparities among American Indian/Alaska Native children: the pediatric oral health therapist. *Am J Public Health* 2005. 95(8): 1325-9.

28. Mitchell TV, Gadbury-Amyot CC, Overman PR, Peters R. The impact of Kansas House Bill 2724: Perceptions of Kansas Dental Hygienists and Dental Assistants. *J Dental Hygiene* 2003; 77 (4): 223 – 244.