2021 Report to the General Assembly

Services Provided by Virginia Department of Health Dental Hygienists Pursuant to a "Remote Supervision" Protocol

VDH VIRGINIA DEPARTMENT OF HEALTH
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Executive Summary

The program for Virginia Department of Health (VDH) dental hygienist services provided under a remote supervision protocol was first established in 2009. The evolution of the protocol from pilot to established program is detailed in prior VDH annual reports on the General Assembly's Legislative Information System website.

Legislative changes have enabled VDH dental hygienists to provide preventive dental services without the general or direct supervision of a dentist. The remote supervision model offers an effective alternative method of delivery for safety-net dental program services that increases access for underserved populations and reduces barriers and costs.

This report summarizes the burden of relevant oral disease statewide and documents the services provided by the dental hygienists and dental assistants employed by VDH under the remote supervision protocol that target these needs.

All clinical and school-based services for children were cancelled in FY21 as a result of the COVID-19 pandemic, school closures, and restricted local health district services. However, the remote supervision workforce stepped up as adjunctive staff continuing to contribute to the VDH COVID-19 response efforts in local health districts.

In FY22, school-based and clinic-based services are expected to resume with appropriate protocol modifications. Several assistants to the hygienists resigned during the pandemic as their hours were significantly constrained. Full capacity production will be impacted in the coming school year until replacement recruitment can be completed.

Introduction and Background

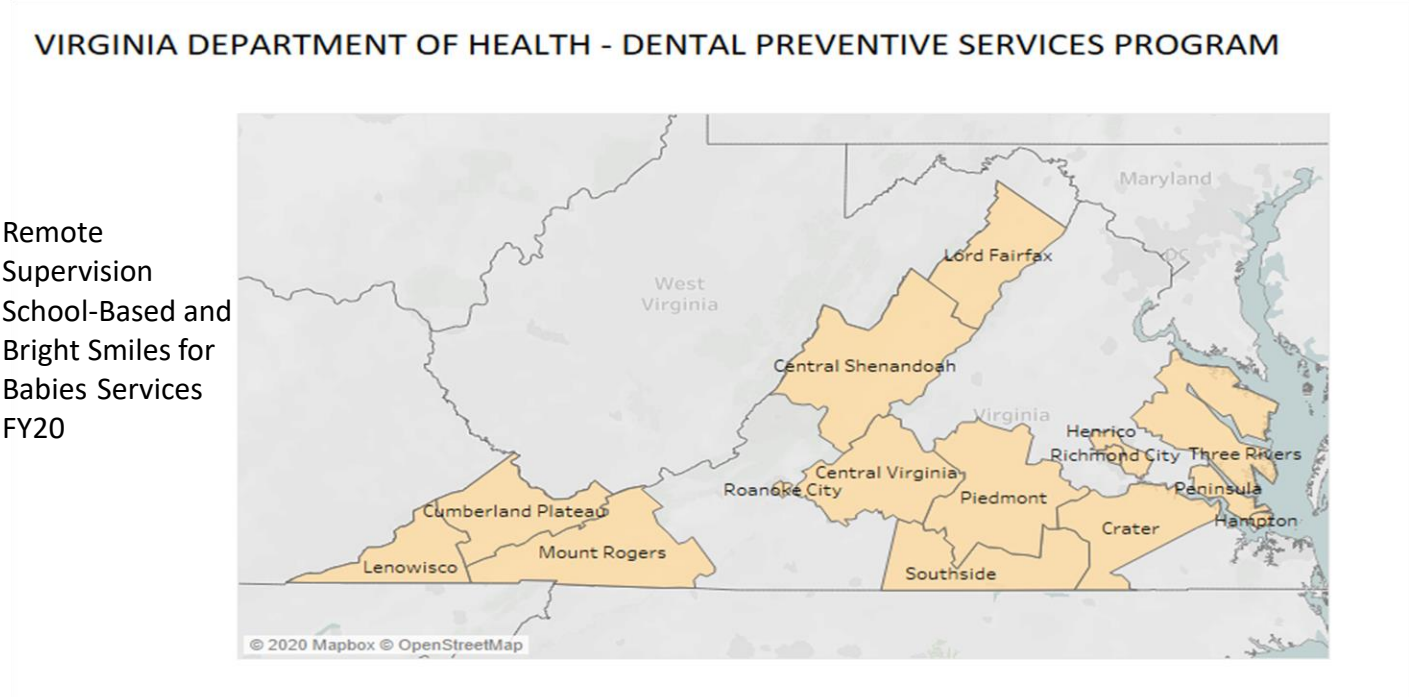
The onset of the COVID-19 Pandemic in March 2020 and its disruption to normal life and VDH clinics resulted in suspension of all clinical services traditionally provided by remote supervision dental hygienists. Unfortunately, with school closures and limited in-person WIC services, many children were unable to receive dental care. However, hygienists, in many cases, were able to reach out to families to keep them engaged with VDH programs in anticipation of a return to school-based services at some point in the future. The remote supervision staff took this opportunity to improve their knowledge and skills through training to prepare programs and materials for future dental projects and to support other local health district activities. Equally important, VDH hygienists and assistants across the Commonwealth were able to contribute their patient care and communication skills in support of COVID-19 response activities that consumed local health districts. In March 2021, VDH Office of Family Health Services (OFHS) management made the decision that clinical hygiene care could not appropriately resume in the current school year and that hygienists would be made available to local health directors as emergency response staff on a temporary, full-time basis. This sorely need additional staff was welcomed enthusiastically by local health districts and, subsequently, hygienists assumed a variety of response support roles in contact tracing, testing, and immunization initiatives across Virginia.

Although tremendous strides have been made in the reduction of tooth decay among many Virginians over the past fifty years, primarily due to community water fluoridation, the decline in disease prevalence and severity has not been distributed uniformly across all segments of the population. Race and socioeconomic disparities continue to be predictors of tooth decay, and geographic considerations affect access to care in many parts of the Commonwealth. Racial and ethnic minorities, persons with low-income, and individuals with special health care needs are all less likely to have access to regular dental care and resources, further compounding the impact of oral disease. The need for creative solutions to dental care access challenges have led to the development of alternative practice models for dental hygienists in the Commonwealth, such as the VDH remote supervision protocol.

In 2009, the Virginia General Assembly passed legislation to revise § 54.1-2722 of the Code of Virginia "License; application; qualifications; practice of dental hygiene" to allow dental hygienists employed by VDH to provide preventive dental services in selected settings without the general or direct supervision of a dentist. This facilitated development of the remote supervision model of care for dental hygienists.

This and subsequent legislative actions expanded the service capabilities of hygienists who had previously been working under more restrictive supervision and improved efficiency in professional oversight. Figure 1 identifies the distribution of VDH remote supervision hygiene services provided across the Commonwealth prior to the COVID-19 pandemic interruption.

Figure 1: Map of VDH Preventive Dental Services in Virginia FY20



Over the past decade, there has been a growing awareness of the social determinants of health in communities. The remote supervision model of bringing preventive oral health services to children beyond dental clinics, to some degree, addresses the challenges of low- income households, limited transportation options, and unequal access to health insurance. These are all recognized community factors that determine access to oral health care.[1] The availability of school-based healthcare centers and services has grown dramatically over this period as well. Increasingly, oral health services are being combined with school-based primary care, as efforts to address health inequities are becoming more comprehensive in scope.[2] All of these initiatives, including the VDH school-based oral health preventive program, have responded to the current public health science confirming children's oral health status is strongly linked to their academic outcomes.[3]

Burden of Dental Disease among Children

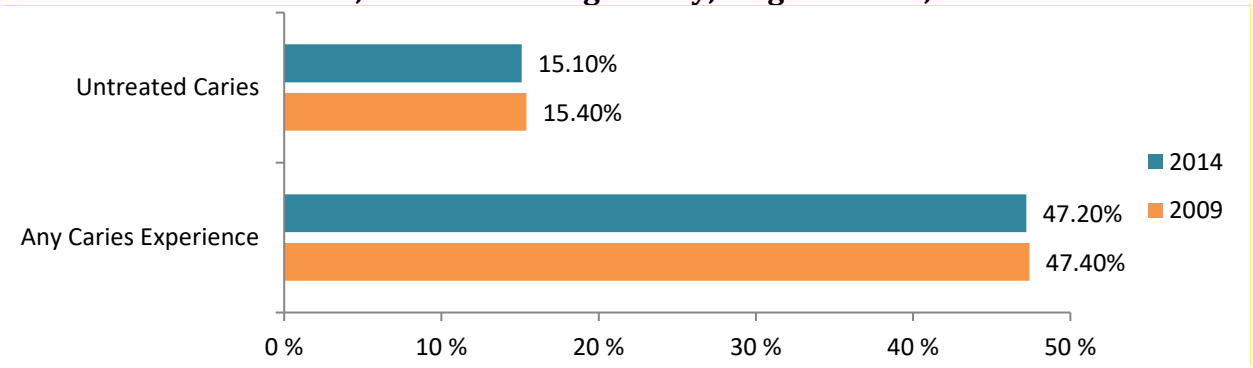
Tooth decay is estimated to be five times more common than asthma and seven times more common than hay fever in children. Dental issues among children have been demonstrated to contribute significantly to lost school and activity time,[4] and lack of dental insurance and access

[1] Chazin S and Glover J. A Community Framework for Addressing Social Determinants of Oral Health for Low-Income Populations. Technical Assistance Brief. *Center for Healthcare Strategies, Inc*. Jan. 2017.
[2] Love H, Schlitt J, Soleimanpour S, Panchal N and Behr C. Twenty Years of School Based Health Care Growth and Expansion. *Health Affairs,* May 2019*:* 755-764.
[3]Hereno C, Lyu L, Wehby G. Children's Oral Health and Academic Performance: Evidence of a Persisting relationship Over the Last Decade in the United States. *The Journal of Pediatrics*, June 2019, vol. 209:183-189.
[4] Gift H, Reisine S, Larach D. The social impact of dental problems and visits. *Am J Public Health*. 1992; 82(12):1663–1668.

to care complicate dental treatment for those most at risk. Nationally, 28% of children aged 3-5 years were estimated to have some dental caries experience in the 2011-2012 time period, according to data from the National Health and Nutrition Examination Survey (NHANES).[5] For children aged 6-9 years, the prevalence of dental caries was 57.7%, and for adolescents 13-15 years, the prevalence of caries experience was 53.4%.

Virginia monitors children's oral disease through the Virginia Basic Screening Survey (BSS). Findings from the 2009 and 2014 BSS on the prevalence of untreated caries and dental caries experience are presented in Figure 2.

Figure 2: Prevalence of Untreated Caries and Any Caries Experience among 3rd Graders, Basic Screening Survey, Virginia 2009, 2014



The prevalence of caries varies by region, ethnicity, and race. In 2014, Southwest Virginia residents and Black, non-Hispanic children had the highest rate of untreated caries.

According to the BSS, most 3rd graders in Virginia in 2009 and 2014 had no obvious dental problems requiring care. Only a very small percentage (1.1%) needed urgent (within 24 hours) dental care in 2009 and this remained relatively unchanged in 2014 (0.9%). It is important to note that when the presence of insurance is considered, an uninsured 3rd grade child is not only less likely to have sealants, but is also more likely to have at least one tooth with untreated decay, than an insured child.

Remotely supervised dental hygienists also provide special dental programs for Head Start enrollees and support them in accessing care. Survey results indicate that 90% of Head Start children were covered by dental insurance in 2018 but only 53% of the children had seen a dentist by age one. Even at this young age, 32% of the children had experienced dental decay and almost 20% of the children had active, untreated decay.

[5] US Department of Health and Human Services. Oral health. *Healthy people 2020*. Available at: http://www.healthypeople.gov/2020/. Accessed August 30, 2013.

Oral Health Services Provided by VDH through Remote Supervision

Dental Sealants

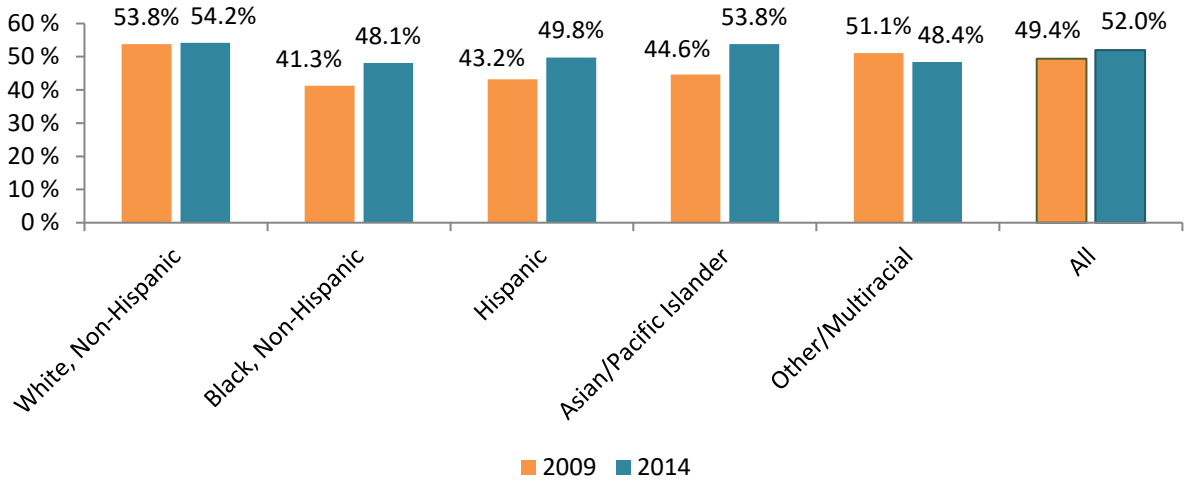
A dental sealant is most commonly an acrylic resin or resin hybrid coating typically applied to the chewing surfaces of the back teeth (molars) to prevent the initiation and progression of dental caries by forming a barrier to plaque and bacteria. Sealants are effective in reducing tooth decay, with a Centers for Disease Control reported median decrease of 60%.[6]

VDH currently monitors the following Healthy People 2030 objective on dental sealants:

- **OH-10** **Increase the proportion of children and adolescents who have received dental sealants on 1 or more of their primary or permanent molar teeth**

Sealant prevalence is tracked by VDH through the BSS. Virginia 2009 and 2014 BSS data on dental sealant prevalence by race and ethnicity are presented in Figure 3. There was a slight improvement noted in 2014 over 2009 for sealant prevalence on "All" children.

Figure 3: Prevalence of Dental Sealants on Permanent Molars, 3rd Graders, Basic Screening Survey, Virginia 2009, 2014



Topical Fluorides and Varnishes

Topical fluorides (gels, varnishes, pastes, and mouth rinse) are interventions proven effective in reducing the risk of dental decay. In a 2013 systematic review of dental literature, the authors attributed a 43% reduction in decayed, missing, and filled tooth surfaces to the use of fluoride

[6] Centers for Disease Control and Prevention. Promoting Oral health: Interventions for Preventing Dental Caries, Oral and Pharyngeal Cancers, and Sports-Related Craniofacial Injuries—A Report on Recommendations of the Task Force on Community Preventive Services. MMWR Recommendations and Reports 2001; 50(RR-21):1-13.

varnish alone.[7] Fluoride varnishes are a topical fluoride delivery vehicle that instantly "stick" to tooth surfaces where applied, which eliminates the risk of significant patient ingestion. This facilitates the use of topical fluorides on infants and children of all ages in a variety of settings.

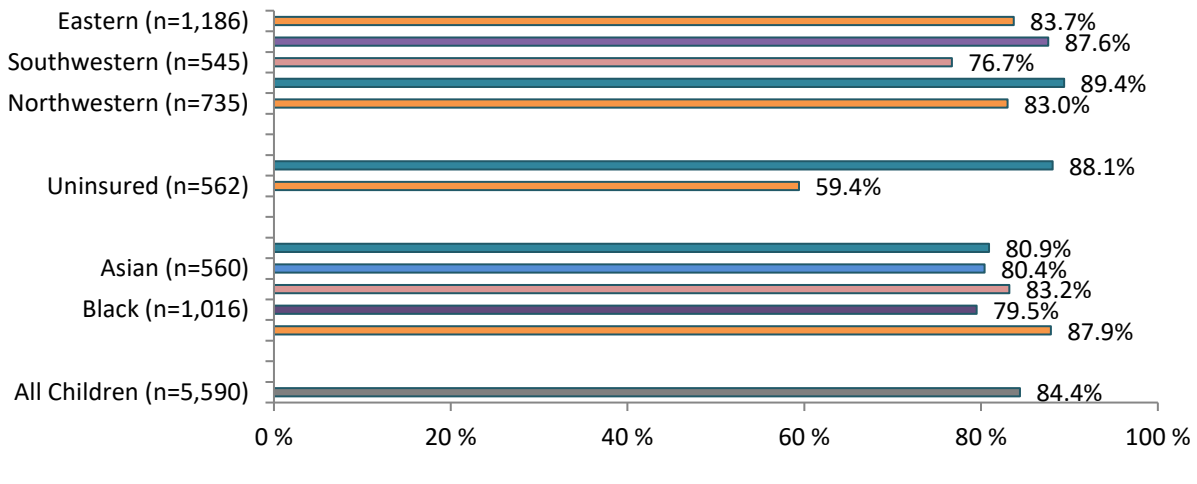
Dental Visits

Dental visits are an important component of good oral health. Routine preventive dental visits, particularly, provide opportunities for oral health education, professional cleaning, fluoride applications, and oral cancer screenings. Delivery models for school-based preventive services significantly reduce many of the typical barriers to accessing preventive care visits that some families face.[8] VDH tracks the Healthy People 2030 related objective for preventive services visits:

- **OH-9: Increase the proportion of low income youth who have a preventive dental visit**

A summary of dental visit status in the past year is provided in Figure 4. The most notable population characteristic associated with whether a child had a dental visit in the past year was dental insurance status. In 2014, 88% of insured children reported a visit in the past year versus 59% for those identifying themselves as uninsured.

Figure 4: Prevalence of Dental Visit in Past Year by Selected Demographic Characteristics, 3rd Grade Children, Basic Screening Survey, 2014



[7] Marinho VCC, Worthington HV, Walsh T, Clarkson JE. 2013 Fluoride varnishes for preventing dental caries in children and adolescents. Cochrane Summaries. July 2013.Available at http://summaries.cochrane.org/CD002279/fluoride-varnishes-for-preventing-dental-caries-in-children-and-adolescents

[8] Gooch, B et al. 2009. Preventing Dental Caries through school based dental sealant programs. JADA. 140;11:1356-65. November 2009. Available at http://jada.ada.org/article/S0002-8177(14)64584-0/fulltext

Program Production and Impact on Oral Health

School-based Preventive Services

VDH remote supervision hygienists provide preventive care visits in a school-based setting to deliver dental assessment, sealants, fluoride varnish applications, oral health education and prophylaxis (cleaning). Children in qualified schools who do not have a dental home are referred to area dental providers.

Over the life of the program to date, even when adjustments in counting metrics are considered, the number of participating children has trended significantly upwards until service was impacted by the pandemic. There were no recorded school-based clinical services by VDH hygienists in FY21. Historic VDH school-based services production is summarized in Table 1.

Table 1: School-based Program Summary Data Provided under Remote Supervision, All Grades FY16– FY21

Year	Number of Participating Health Districts	Number of Participating School Divisions	Number of Children Screened for Sealants or Varnish	Number of Children Referred for Treatment	Number of Children Sealed	Number of Teeth Sealed	Number of Teeth Sealed per Child (average)	Fluoride Varnishes Applied
FY16	12	31	4363*	1386	2583	8328	3.2	6272
FY17	12	34	4123	1519	2863	8635	3.0	8851
FY18	15	38	7864**	2031	2518	7081	2.8	7090
FY19	14	37	8380	1774	2274	6684	2.9	7179
FY20	13	35	6191	1995	1861	5484	2.9	5490
FY21	**In FY21, all clinical services were suspended due to the COVID-19 pandemic.**							

** In order to maintain consistency with other reporting obligations, beginning in FY16, "Number of Children Screened for Sealants and Varnish" represents a count of unique individuals only. Previously some children may have been screened twice during the data collection period.*

***In FY18, number of children screened included any child receiving a screening service in the school year regardless of prior program participation.*

Bright Smiles for Babies Preventive Services

In addition to preventive services offered through schools, VDH dental hygienists practicing under remote supervision in the Bright Smiles for Babies (BSB) Program provide services through WIC clinics, Head Start, Care Connection for Children medical specialty clinics, and some unique settings where young children are provided other services. This affords opportunities to provide preventive and educational services and fluoride varnish, when appropriate, to low-income children and their parents and to children with special health care needs. Although services as described in this report are categorized primarily by age of recipients as "School-based" or "Bright Smiles for Babies" programs, the same area VDH hygienists are providing services in both settings.

An added benefit of engaging WIC-enrolled pregnant women through BSB activities is the opportunity to inform and educate them regarding the value of utilizing their limited dental care

benefit available through Medicaid and FAMIS for the duration of their pregnancy. This outreach will be expanded going forward to promote the newly available Medicaid dental benefit available to adults.

Additionally, as an extension of the BSB Program, some VDH dental hygienists provide oral health preventive services to individuals with special health care needs in medical specialty clinics and in some Head Start settings. The remote hygienists are also actively expanding the integration of oral care into non-dental settings by training physicians and nurses across the Commonwealth to provide BSB Program services during well-child visits. There were no recorded BSB clinical services by VDH hygienists in FY21. Historic BSB services production is summarized in Table 2.

Table 2: Services Provided through "Bright Smiles for Babies" Fluoride Varnish Program, by VDH Dental Hygienists, FY16 - FY21

Year	Number of Health Districts	Number of Children Screened	Fluoride Varnishes Applied	Number of Children Referred to a Dental Home
FY16	16	7074	6692	3613
FY17	16	6649	5602	2840
FY18	13	4861	4420	1885
FY19	14	2988	2728	1562
FY20	13	2171	1915	1053
FY21	**In FY21, all clinical services were suspended due to the COVID-19 pandemic.**			

Combined Preventive Services Impact

On average over the years, the remote supervision hygienist workforce provides clinical services annually with a market value exceeding $2 million.[9] Service value calculations, as determined by Current Dental Terminology Codes from the American Dental Association (ADA), include oral screenings (D0190) and assessments (D0191), dental sealants (D1351), education (D1330), topical fluoride varnish applications (D1206), and child (D1120) and adult (D1110, >age 12) prophylaxis services.

Dental hygienists historically provide dental health education to a variety of customers in group programs across the Commonwealth as well, which are difficult to value specifically. Teacher, parent, and student education sessions are conducted in many schools to increase knowledge of the dental preventive services program, to motivate participation in the school-based programs, and to stress the importance of accessing preventive services in the community when available. Other venues included WIC clinics, school programs such as Head Start, and professional

[9]American Dental Association (ADA) Health Policy Institute. 2018 Survey of Dental Fees.

trainings for nurses and other health providers. Virtually all of these community activities were suspended in FY21.

Summary and Future Plans

The remote supervision program, in its current iteration, reflects the successful transition from VDH dental clinical services as the primary focus to dental preventive services as a more cost effective and sustainable effort to improve long term oral health trends across the Commonwealth.

As the program matures, the lessons learned and best practices identified are informing a continually improving model for the remote hygienists' role in the community. In 2018, VDH conducted a school staff satisfaction survey in participating schools. All school nurses and principals agreed that they would recommend the program to other schools, and the need for greater promotion of the program and enhanced efforts to improve child participation were consistently emphasized. This will be particularly critical in FY22, as the programs will be restarting after being suspended for over a year. Clinical services in the field have also been impacted by multiple resignations and retirements in the dental assistant workforce due to their reduced clinical work hours during the pandemic. VDH is actively addressing these challenges and will be working with local school divisions to implement clinical services compliant with current guidance for dental settings from the CDC and the Virginia Dental Association.

In FY22, VDH will focus on the safe return of services to schools, recruiting to complete clinical teams, and promoting programs to re-establish equitable access to dental preventive services for the target populations.