Improving Oral Health in Southwest Virginia

Blueprint for Oral Health

August 2021

Methodology

Incorporating input from a broad range of stakeholders in the writing of Southwest Virginia's Oral Health Blueprint was a priority for the Oral Health Coalition. The coalition hosted a summit on September 11, 2020 and September 18, 2020 to bring together (virtually) a diverse group of stakeholders to understand the status of the region's dental health, learn about new and existing programs and discuss ways to improve the region's metrics. Over 200 individuals from across the Commonwealth participated in the two, half-day events. Day one of the event set the stage for the blueprint planning and development process by helping to level-set participants' understanding of the region, it's challenges and resources. Soliciting ideas and feedback from the participants was the focus of day two by engaging them in conversation around three broad topical areas.

1. Future of Oral Health in Rural Communities
    - Why some rural communities are not fluoridating water: What are the risks of not having this included in the water?
    - What does the future of oral health in rural communities look like with Medicaid/Medicare expansion?
    - COVID 19 and changes in best practice for preventing the spread of respiratory disease for dental professionals

Oral Health and Overall Health Implication

- Social Marketing- How can we use social marketing platforms in SWVA to improve access to oral health services and improve oral hygiene behaviors?
- Oral Health and Systemic Disease – Discussion on the connection between oral health and systemic disease to include, diabetes, heart disease and health complications during pregnancy
- Community Models to Improve Oral Health, Access to Care and Workforce Development

2. Oral Health Workforce Capacity
    - Part 1 Recruiting
        - ☐ What has worked in way of recruitment?
        - ☐ What struggles do doctors have finding new associates/employees?
        - ☐ What networking opportunities with professionals or organizations have you utilized to recruit? (eg:Job Fairs) Is there a way to connect with professional schools to recruit new grads?
        - ☐ Marketing/Social media/advertising – what works? Is there something that needs to be created to help facilitate this?
    - Part 2 Public Health Partnerships
        - ☐ **Will anyone want to champion this cause or support it? Could we recruit early volunteers?**
        - ☐ **Loan repayment is available through NIH, US Dept Education, National Health Service Corps, and others…**

After the summit, the various ideas, suggestions, and resources were compiled into categories which the coalition processed into themes for the development of the blueprint that you are reading now. Throughout the development, numerous stakeholders within as well as outside the region provided input to refine the content. The recommendations found within this document are the result of the collaborative work of many individuals who have a passion for the people of Southwest Virginia and want to see the region grow economically and to see it's citizen reach their full potential.

ORAL HEALTH BLUEPRINT PARTNERSHIP

The LENOWISCO Planning District serves the Counties of Lee, Wise, Scott and the City of Norton. The Planning District is directed by a Board of Directors that is comprised of both elected and citizen representatives from each of its member Counties and the City of Norton.

HEALTHY APPALACHIA INSTITUTE
The University of Virginia's College at Wise

The Healthy Appalachia Institute (HAI) at The University of Virginia's College at Wise (UVA Wise) is a collaboration between critical thinkers, scholars, system planners and leaders in government, education, business and healthcare. Through this collaboration, HAI provides policy makers, healthcare systems, educators, the business community and the region's citizens the necessary resources, ideas and strategies to foster a healthier citizenry in Central Appalachia.

Mountain Empire Community College

Mountain Empire Community College is a comprehensive two-year college serving residents of Lee, Scott, Wise, and Dickenson Counties, and the City of Norton. MECC is one of twenty-three colleges in the Virginia Community College System and operates under policies established by the State Board for Community Colleges and the Local Advisory Board. The College is financed primarily with state funds, supplemented by contributions from the local jurisdictions.

UVA WISE

The University of Virginia's College at Wise is a public, four-year residential liberal arts college located in the beautiful mountains of Southwest Virginia. The University of Virginia's College at Wise, a public liberal arts institution, provides students with learning experiences that offer opportunities to develop the insight, competence, sensitivity, and integrity necessary for living enriched lives and for enriching the lives of others. Established in 1954 as a college of The University of Virginia, it is guided by the values of citizenship and altruism.

STATE OF THE REGION

Overview of the Region's Oral Health Status

Like other areas of rural America, persons residing in Southwest Virginia (SWVA) face numerous challenges in maintaining their oral health. Provider shortages, poverty, lack of dental insurance, difficulties accessing care, untreated dental disease, and limited availability of fluoridated water all combine to create formidable barriers to achieving good oral health in the region. **Figure 1** illustrates the complex oral health challenges our nation's rural residents face compared to their urban/non-rural counterparts. As will be detailed later, Southwest Virginia's experience mirrors much of the struggles identified in **Figure 1**.

Figure 1

Oral Health Challenges in Rural America

- When compared to urban residents, citizens of rural areas are less likely to have dental insurance.
- Rural counties have lower dentist-to-population ratios; 29 dentists per 100,000 versus 62 dentists per 100,000 populations in metropolitan areas.
- Adults age 18 to 64 are nearly twice as likely to be edentulous if they are rural residents.
- Rural adults are more likely than non-rural adults to have untreated dental decay (32.6 percent versus 25.7 percent).
- Of the nation's 6,272 Dental Health Professional Shortage Areas, 67.9 percent are in rural areas.

Sources: National Organization of State Offices of Rural Health, Bureau of Health Professions, 2013; Dental Health Professional Shortage Areas, June 30, 2020

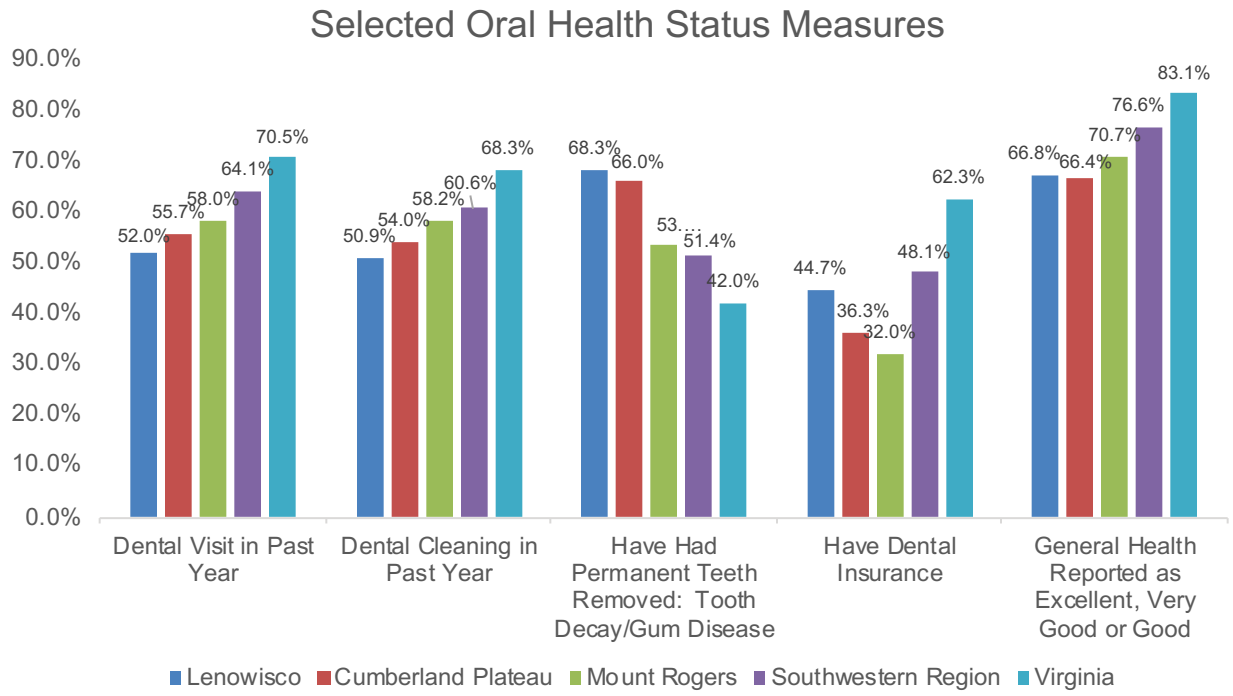
Table 1 identifies some basic oral health status measures for the LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts while also examining the combined Southwest Virginia region and the entire Commonwealth. As illustrated in Table 1, the LENOWISCO, Cumberland Plateau, and Mount Rogers local health districts' scores are less favorable than the combined Southwest Region and Statewide figures for each oral health status measure. Moreover, compared to all other local health districts in the Commonwealth, either LENOWISCO, Cumberland Plateau, or Mount Rogers has the least favorable score of all Districts in the Commonwealth on four of the five oral health status measures: "Dental Visit in Past Year" (LENOWISCO), "Have Had Permanent Teeth Removed: Tooth Loss/Gum Disease" (LENOWISCO), "Have Dental Insurance" (Mount Rogers), and "General Health" (Cumberland Plateau). For the "Dental Cleaning in Past Year" measure, Pittsylvania/Danville (also in the Southwestern Region) scored the lowest (50%), followed by LENOWISCO (50.9%) and Cumberland Plateau (54%).

While the available Virginia Department of Health Behavioral Risk Factor Surveillance System (BRFSS) data sets do not break down health district information by various demographics, statewide statistics show clear disparities among various demographic groups on several measures. For example, in terms of permanent teeth removed due to tooth decay/gum disease, Black/Non-Hispanic Virginians have a significantly higher rate (54.1%) than White/Non-Hispanics (40%). Higher rates of "teeth removed" are also seen among lower-income Virginians (59.7% for persons earning $15,000 or less as compared to only 30.6% for persons earning $50,000

or more). Similarly, a much higher percentage of older Virginians report having teeth removed due to tooth decay/gum loss (71.3% for persons age 65 or older versus 10.3% for persons age 18-24; 24.9% for ages 25-34; 36% for ages 35-44; 43.7% for ages 45-54; and 56.5% for ages 55-64). Again, while these demographic breakouts are not available by local health district, similar dynamics likely are occurring in the LENOWISCO, Cumberland Plateau, and Mount Rogers Districts.

Table 1

LENOWISCO, CUmberland Plateau and Mount Rogers Health Districts



Source: Virginia Department of Health, BRFSS Data

Note: The most recent data for LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts for "Dental Visit in Past Year" and "Have Had Permanent Teeth Removed due to Tooth Decay/Gum Disease" was 2016; the most recent data for "General Health;" was 2014; and the most recent data for "Dental Cleaning in Past Year" and "Have Dental Insurance" was 2013. Region and Virginia figures may not include all Counties/Districts due to data limitations.

"Southwestern Region" includes the following Local Health Districts: Alleghany, Central Virginia, Cumberland Plateau, LENOWISCO Mount Rogers, New River, Pittsylvania/Danville, Roanoke City, and West Piedmont.

Several variables drive the less than favorable oral health status indicators illustrated in Table 1. The National Organization of State Offices of Rural Health (NOSORH) identified the following factors that contribute to the oral health problems in rural America:

- ***Geographic isolation**. Rural residents have to travel further to obtain care.*
- ***Lack of adequate transportation**. Public transportation, taxicabs, and other transportation for hire are rarely available in rural counties. Most rural residents rely on a private automobile as their resource, often shared by the entire family.*
- ***Lack of fluoridated community water supplies**. Fluoride, a basic preventative treatment, is unavailable in many rural communities.*
- ***Higher rates of poverty**. Low-income status prevents rural residents from seeking care, purchasing insurance, and investing in their oral health. In addition, rural employers are less likely to offer dental insurance for their employees.*
- ***Large elderly population**. The percentages of rural Americans who are older and sicker are greater than those of urban Americans, and Medicare does not cover dental needs.*
- ***Lower dental insurance rates.** Insurance reimbursement rates (public and private) for dental procedures are lower in rural areas versus urban with costs for providing them being typically higher.*
- ***Provider shortages.** As indicated, the ratio of dentists per 100,000 population in non-metropolitan counties is less than half of what it is in metropolitan counties, and three-quarters of the nation's Dental Health Professional Shortage Areas are in rural America. Many dentists are nearing retirement age—especially in rural areas.*
- ***Difficulty finding providers willing to treat Medicaid patients**. Due to low reimbursement rates, administrative burdens, and a perception of a higher percentage of broken appointments, many dentists simply do not accept Medicaid or Children's Health Insurance Program (CHIP) patients (many of which are in rural America).*

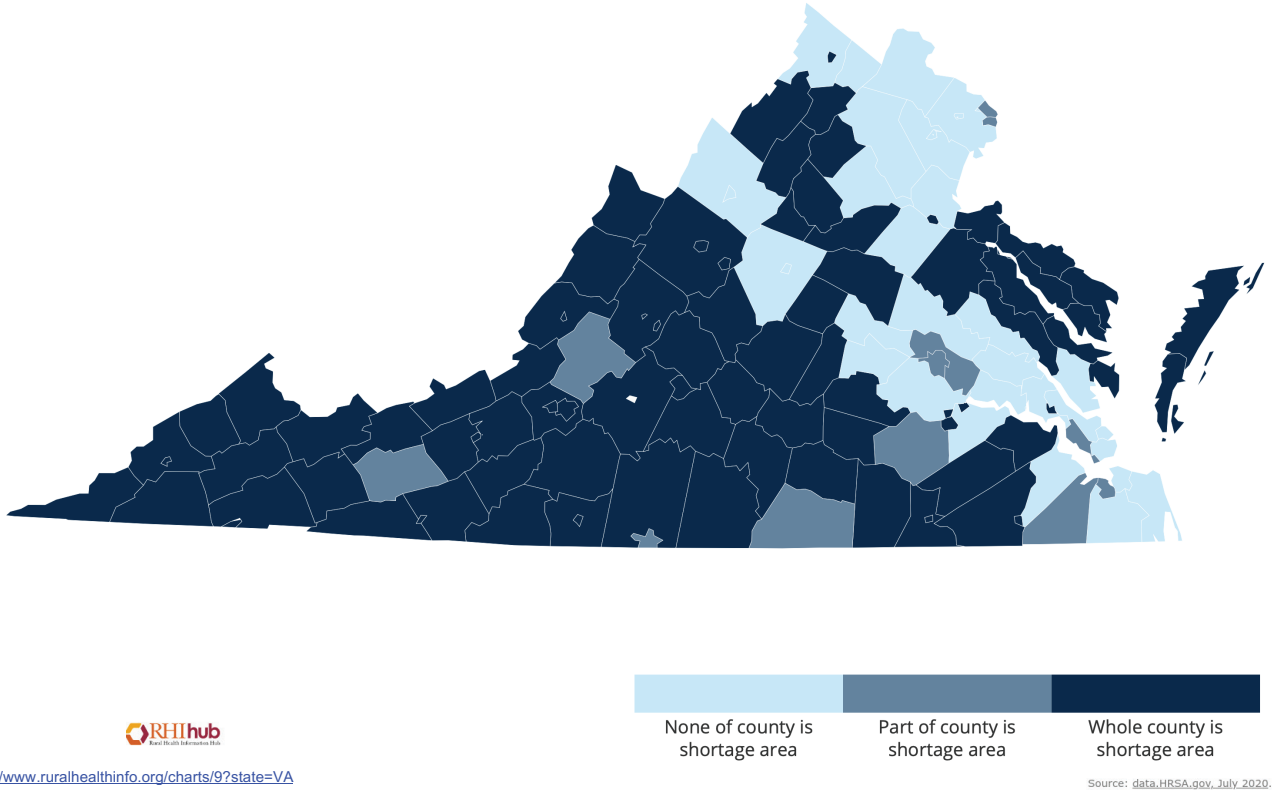
Indubitably, these same factors are influencing the oral health struggles that exist in LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts. Table 1 directly confirms these three districts have "lower dental insurance rates" than the Southwestern Region and the Commonwealth as a whole. However, two critical actions by the Commonwealth will help address this concern. Virginia's decision in 2019 to expand Medicaid coverage to adults at or below 138% of the Federal Poverty Level was a vitally important step forward in improving the overall health of the entire state. Medicaid expansion is especially important in areas like LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts, where a higher percentage of residents live in poverty. According to the Department of Medical Assistance Services' website, more residents of Virginia now have health insurance due to Medicaid expansion. Also, the Commonwealth's recent approval of a comprehensive dental benefit for Medicaid adults will significantly increase the number of persons with dental insurance and will have a profoundly positive impact on the region's oral health status.

Along with a relatively low percentage of persons who currently have dental insurance, several of the other factors listed by NOSORH (e.g., higher levels of poverty, provider shortages, and lack of available transportation) clearly are in play in these districts as evidenced by: (i) a comparatively low percentage of residents report having a dental visit and/or cleaning in the past year and that their general health is excellent, very good, or good; and (ii) a higher percentage of residents report having had teeth removed due to tooth decay/gum disease. Moreover, Figure 3, which identifies the Dental Health Professional Shortage Areas (DHPSAs) in Virginia, indicates all counties in the LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts are designated as "DHPSAs." In the LENOWISCO and Cumberland Plateau Health Districts, all counties are designated as "Whole county is shortage area." In the Mount Rogers District, all counties, except Wythe County, are designated as "Whole county is

"Part of county is shortage area." Clearly, provider shortages have a major impact on the oral health status of these health districts. Similar provider challenges exist in other rural areas of the Commonwealth, as evidenced by Figure 3, which illustrates many of Virginia's DHPSAs are in rural counties.

Figure 3

Virginia Dental Health Professional Shortage Areas



As previously noted, a full measure of any population's oral health status requires far greater data than were available for this analysis. However, based on the information presented herein, the LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts face significant challenges regarding the oral health status of their respective citizens. While there are variations among the respective localities, overall, the data reveal a number of challenges in each health district and the region as a whole. Similar challenges exist in many rural areas across the Commonwealth and the nation. The Southwest Virginia Oral Health Summit proceedings and the resulting plan for improvement, along with other oral health initiatives across the region and the Commonwealth, provide the framework, focus, and energy to make meaningful and lasting improvements.

Strategy #1
Health Service Delivery

People-centered and integrated health services with a highly educated and innovative workforce to provide dental services

Align existing and future programs with needs and expectations of dental patients in Southwest Virginia.

- Strengthen relationships and communication channels between "safety net" clinics and dental provider training sites.
    * Settings for care: Free Clinics, FQHCs, and Rural Health Clinics
- Build/develop state of the art facility or facilities to support advanced training programs.
- Dental and Medical Collaboration
- Build training and educational programs to produce exceptionally trained dental providers.
    * Identify existing training sites.
    * Identify unique skills amongst differing dental providers at all levels and develop programs to build and reinforce critical skills.
    * Associate workforce strategies that comprise a diverse array that, overall, require short-to-mid-term investment to produce long-term gain.
    * Identify diverse recruitment strategies.
    * Cultivate and advance multi-disciplinary oral health teamwork in the region.

Build a strong channel of telehealth providers to participate in telehealth opportunities.

- Promote telehealth as a viable option to limited specialty and sub-specialty opportunities at all levels.
    * Patient demand for ability to interact with dental service providers through text and or video may make it difficult for payers and regulators to dial back benefit coverage and requirements for use of teledentistry to pre-pandemic levels.
    * The cost of teledentistry equipment can be a heavy burden for the practice to bear. Federal Rural Health Grants can offset the initial cost of implementation.
- Focus on the considerations for teledentistry implementation to include reimbursement and HIPAA compliance.
- Support software, hardware, and operational protocols that are unique to each organization.
- Consider creating a scope of practice environment that supports the use of telehealth and allows allied dental professionals to work in a variety of settings and practice to the full extent of their education and training.
    * Educate the general public about the viability of telehealth for dental services, as well as the variety and scope of procedures provided through this technology.
    * Design a program or curriculum focused on patient and community engagement.

HEALTH SERVICE DELIVERY

I. Settings and Partnerships

Safety Net Clinics

Free Clinics

- Often have restrictions on who can receive services by income, financial or insurance status, where they reside, and other factors.
- Often rely on volunteer staffing (particularly from providers).
- Funded primarily through donations, reluctant to bill patient for services.
- Eligible for grants from DentaQuest, Delta Dental, Virginia Health Care Foundation, and other funding agencies.
- Local free dental clinics in the area:
    * The Health Wagon – Wise, Virginia
    * Healing Hands Free Clinic – Bristol, TN
    * Mel Leamon Free Clinic – Marion, VA
    * Brock Hughes Free Clinic – Wytheville, VA
    * Bland Ministry Center Dental Clinic – Bland, VA

FQHCs (Federally Qualified Health Centers)

- Receive cost-based reimbursement for Medicare Covered services that include routine office visits, preventative services, minor emergencies, home visits, and nursing home services for services provided by a physician, NP, PA, Nurse Mid-wife, LCSW, Clinical Psychologist, and other professional staff.
- The FQHCs in Southwest Virginia with dental services in the past or limited dental services now include Stone Mountain Health Services, Clinch River Health Services, Southwest Virginia Community Health Systems, Bland County Medical Clinic, and Tri-Area Community Health. The FQHCs or federally funded Community Health Centers (CHCs) have been around since the mid-1960s and were started under President Johnson's War on Poverty. They are required to serve all, regardless of the ability to pay by a Sliding Fee Scale. The rate is updated annually by the Federal Poverty Guidelines, and it is based on total family income along with other federal regulations. There is an application process all qualified patients must complete to take advantage of the sliding fee discount. The application is completed in-house by CHC staff and can be done rather quickly. The CHCs are also required to annually conduct Community Needs Assessments and, to the extent possible, address those local needs. Dental services are required and can be delivered directly by the FQHC or through a contracted arrangement with a local dental provider. In the case of Tri-Area Community Health, all patients are referred to area providers for their dental needs. A contract was established to cover the sliding fee patients where Tri-Area pays for the dental services. Other FQHCs arrangements in the area may vary. No additional opportunities for operational dental programs have been offered since the 2015 HRSA Oral Health Grant Expansion Grants, which speaks to an urgent need for funding within the oral health field.

RHC (Rural Health Clinic)

- The other safety-net provider is the Rural Health Clinic (RHC), RHCs also receive cost-based reimbursement under Medicare and Medicaid with differences in the requirements of an FQHC and an RHC. For example, the FQHC must offer a Sliding Fee Scale for qualified indigent patients, but RHCs do not. The co-pay is waived for FQHC Medicare patients on day one (January 1st of each year) for the 20% of the allowed charges for Medicare (patient's responsibility), but not for an RHC. The cost-based cap is higher for an FQHC because of the additional service requirements. The 2021 RHC cost-based rate is capped at $100, compared to the FQHC cap of $176.45.

Teledentistry

What Is Teledentistry?

Teledentistry is a method of delivering oral health care, consultation, and education using digital information and communication technologies such as computers and mobile devices to manage oral health care. It enables clinicians to communicate with patients to provide advice, triage, create a complete record of care, and log images, forms, consents, referrals, and payment. It is not a specific service, and it does not change the provider's scope of practice.

Significant legislation was passed in 2020 that defined the teledentistry framework in Virginia. This legislation requires a dentist practicing dentistry to hold an active, unrestricted license in Virginia and places them under the purview of the Virginia Board of Dentistry. Dentists practicing teledentistry are held to the same standards of care as those practicing in a brick-and-mortar setting. Patient visits must be face to face through the establishment of a two-way audiovisual or audio telecommunications technology (synchronous). The Virginia Dental Association is continuing work with the Virginia Legislature to further define scope of practice, reimbursement, and ethics using telehealth technology.

Teledentistry was highlighted as a priority for improving oral health among the population of Southwest Virginia because of its emphasis on using tools and technology that offer significantly different modes of communication and consultation than traditional oral health care delivery. Although teledentistry will never replace hands-on, in person dentistry, there are specific pros and cons to the implementation of teledentistry:

Pros:

- Teledentistry provides patients with secure, one-stop access to a provider without the need to leave home, which can ease multiple burdens on families while offering the provider flexibility and an alternative touchpoint of care.
- Teledentistry has been shown to improve patient outcomes, patient and provider satisfaction, and accessibility to a dentist. Teledentistry is a shift in the dental business model and is focused on performing less costly and complex procedures to an expanded population.
- During the COVID-19 pandemic, teledentistry proved to be an effective way to triage patients and conduct problem-focused evaluations to limit office visits to patients needing urgent or emergency care.
- There are many teledentistry platforms for clinics to choose from to implement. Most systems are HIPAA compliant, integrate with electronic dental records (EDR), can share documents and consents, and have an alert/messaging system.

Cons:

- A moderately high level of technology literacy is required not only for dental health care delivery but also for data security, patient information protection, payments, and HIPAA compliance when using teledentistry modalities.
- Access to broadband internet is a requirement for teledentistry. There are still communities in Southwest Virginia that are underserved with access to affordable, dependable, and reliable internet services.

Considerations for Teledenistry Implementation

Scope of Practice for Allied Oral Health Professionals

Consider creating a scope of practice environment that supports the use of telehealth and allows allied dental professionals to work in a variety of settings and practice to the full extent of their education and training. To increase the acceptance of telehealth and teledentistry, it is imperative allied oral health professionals be allowed to use technology for remote collaboration and supervision. Allow allied oral health professionals with training and education, working under remote supervision, to perform preventive and early intervention procedures at community sites while using telehealth technology for remote collaboration, oversight, and supervision. The Virtual Dental Home System of Care uses telehealth technology that allows the dental hygienist to provide basic dental service and facilitates a link with services provided at the dental office for more complex dental problems.

HIPAA Compliance

The same federal and state considerations that apply for patient privacy and data security apply to the dental office environment. Most telehealth environments use laptops and mobile devices. The most secure systems are those where the data is stored only on a secure server and accessed, but not stored, on a mobile device. If patient data is stored on a mobile device, the best practice would be to encrypt the data so it cannot be accessed.

Payment

Understand payers' benefit policies for telehealth/teledentistry and any specific limitations on covered services. Consider using language such as: "Face to Face contact between a health care provider and a patient is not required for services perform by real-time teledentistry." Create uniformity across Medicaid and commercial payers where procedures paid for when performing in-person visits are also paid for when they are accomplished using teledentistry visits.

Software, Hardware and Operations Protocols:

- Identify what the teledentistry workflow looks like for clinics and the community of patients.
- Identify a communication platform (Zoom, Mouthwatch, Teledentix Communicator) and determine if the platform will integrate into the clinic's current workflow and electronic dental records system.
- Develop process and documentation, forms, consents, agreements for delivering patient care via teledentistry platform.
- Develop a training plan for the professional dental team for teledentistry adoption.
  Define the strategy for achieving optimum dental health outcomes for teledentistry adoption.

- Develop evaluation measures for teledentistry teams and outcome measures for teledentistry adoption.
- Develop a system for digital sharing of information between dental health professionals, such as dentist to dentist, dentist to physician, or dentist to hospital system using telehealth systems of communication.

Patient and Community Engagement

- Communication: Set up a direct communication line for patients to access. Consider a direct phone line and email specifically for teledentistry.
- Direct messaging: Send existing patients' information on scheduling teledentistry appointments and verify teledental appointments.
- Using telehealth for community-engaged dental practice: Community health centers can be an opportunity to expand dental practice. Consider using telehealth systems as a collaboration tool while serving patients in the field. This is a shift for the dental office business model and can serve basic dental needs in the community while meeting complex needs in the office.

Recruitment Strategy

Recruitment Strategy	A: Loan Repayment	B: Grow Your Own	C: Industry Collaborators	D: Professional Programs	E: Multi-disciplinary
Specialty Dentists (limited focused practice - ex: Oral Surgeon, Orthodontist, Endodontist, etc.)	X				X
Pediatric & General Dentists (pediatric specialty included with general dentistry because the patient populations of each closely align, with the additional focus on special needs patients by specialist)	X	X	X		X
Remote Supervision Dental Hygienist (RSDH) (limited focused practice – screen patients, clean teeth, and provide limited services in community settings, with required 90 day referral to dentist – credentialing required)		X	X		X
Dental Hygienist (RDH) (examine patients, clean teeth, and provide dental care - associate's degree or bachelor's degree required)		X	X		X
Expanded Function Dental Assistants (EFDA or DA-II) (specialty trained assistants who can perform non-invasive procedures under supervision of dentist)		X		X	X
Community Dental Health Coordinator (CDHC) (professional focused on community-based prevention, care coordination, and patient navigation in predominately underserved populations)		X	X	X	X
Dental Assistants (CDA, RDA, DA) (dental assistants perform a variety of tasks such as taking xrays, making impressions, infection control, and some office management – requires certificate or job training)		X		X	X
Lab Technicians (skilled technician who works with or under a dentist to produce dental prosthesis: dentures, crowns, veneers, etc.)		X	X	X	X

II. Recruiting and Workforce Development

Workforce strategies comprise a diverse array that, overall, require short-to-mid-term investment to produce long-term gain. Overall, the objectives of workforce strategies are two-fold and interrelated:

- Improve opportunities for patients to dependably and predictably obtain basic care to address their oral health needs.
- Assure that dentistry and all oral health team roles are a viable, sustainable, and desirable profession in SWVA.

Embedded within these objectives is an assumption that optimizing dental teamwork extends both care opportunities to individuals and revenue generated to practices, whether private or community. A number of strategies described in this section require coordination with plans described in other sections, for example, strategies related to Medicaid reimbursement that may require advocating the General Assembly to increase reimbursement rates or educating local practitioners to accept the benefit. It is also important to keep in mind that these strategies should be pursued with an understanding of their dynamic impact on each other, as the success of one strategy may reduce the urgent need for another.

Recruitment Strategies

Loan Repayment

The average student debt for dental students in the United States is approximately $300,000. Combining this with the cost of purchasing a practice or personal living expenses, the amount may drastically exceed this sum. With this in mind, loan repayment programs may be very desirable for new graduates. The federal loan repayment program requires certain parameters be fulfilled (i.e., underserved population, minority focus, lack of providers, etc.). Most of the entire Appalachian region will meet these requirements. Federal loan repayment recipients may serve in a variety of community and private practice settings.

When examining this recruitment strategy, there are two potential outcomes for this particular strategy.

A1: Long-term commitment – Ideally, recruiting a dental professional will lead them to establishing a practice within SWVA. This will directly address and eliminate the access to care issue for patients while providing a primary dental home. This option may be suitable for loan repayment beneficiaries who would be interested in private practice, as well as those interested in serving in community-based, public health settings.

A2: Cycling through 2-3 year rotations – Many loan repayment options are a 1:1 ratio, meaning a work commitment of one year will result in a repayment of one year's worth of tuition. If a provider committed to repaying 2-4 years' worth of tuition before relocating, the clinical facility or local administrators could identify a new recruit to replace this individual. Although the practitioner would constantly be rotating, the access to care problem would be addressed for local patients. This option may benefit from coordination with a community health setting, possibly providing continuity as providers rotated through.

The initial investments required by this strategy are short-to-mid-term, with expected maintenance being mid-to-long-term. This strategy may benefit from collaborating with dental schools and established externship sites (see Professional Programs below), for example, to advertise opportunities.

“Grow Your Own”

Working with local school boards and community colleges, career coaching can highlight the dental field as a viable pathway or option for area students. By cultivating local professionals, the likelihood that they will return or commit to the region will be greater. Also, placing greater emphasis on the dental field as another branch of medicine may draw attention to this occupational choice. This strategy could also closely align with STEM programming in primary, middle, and high schools. Career flexibility and potential for growth should also be highlighted for students.

Collaborating with Other Industries

While recruitment projects or other economic development opportunities are pursued for Southwest Virginia, for example, tourism or natural resources, include dentistry within this scope. Examples of sub-strategies may include:

- Integrating oral health and dental care coordination into workplace wellness programs.
- Studying economic impact of industry on dental provider revenue opportunities to advocate for new recruitment efforts.
- Adapting current publications promoting Southwest Virginia to appeal to new professional recruits.

Professional Programs

This strategy considers how existing or forthcoming professional programs may best b e leveraged to pipeline providers into the region.

D1. Partner with existing dental schools to strengthen and broaden Community Based Dental Education externship opportunities in the region and pipeline graduate placements. This strategy requires coordination with CBDE partner sites, including community health centers, extended care facilities, and public schools. This strategy is mid-term.

D2. Optimize existing local training programs across the entire dental team. There are existing programs for Dental Assisting at Mountain Empire Community College or Dental Hygiene at both East Tennessee State University (BSDH) or Wytheville Community College (ASDH). Working with these institutions to expand local training programs to include more specialized curriculums such as expanded function dental assistants or remote supervision dental hygienists. Specialized skills such as teledentistry could broaden care in community settings and attract more dentists by demonstrating capacity to staff full dental teams. This strategy is mid-term.

D3. Develop a dental lab technician professional program. A dental lab technician program could reflect the region’s history and pride in craft and technical skills, produce the high-quality prostheses needed by so many local adults, and generate revenue by servicing dentists in the region. This strategy is mid-to-long-term.

Advancing Multi-Disciplinary Oral Health Teamwork in the Region

In the last decade, Virginia has approved changes to dental service delivery that simultaneously expand patient care opportunities and leverage service efficiencies that support dental practice revenue generation and provider satisfaction by fostering opportunities for all dental team members to practice to the top of their license. Integrating these opportunities into dental service delivery in far Southwest Virginia can support population health goals and the revenue generation necessary to maintain a vibrant oral health service delivery community across the region. The strategies to achieve these goals are diverse, context-specific, and limited by practice law. They may include:

E1. Foster the placement of multi-disciplinary dental team members in existing and new dental practices in the region. For example, bolstering the use of CDHCs and DA-IIs in both community and private practice settings or RSDHs in community settings. This strategy may begin in the short term by educating and encouraging local practitioners to opportunities to utilize team-based approaches.

E2. Cultivate relationships between local dental providers, local medical professionals, and, where appropriate, extra-regional dental specialists to facilitate oral health care coordination. For example, collaborating on the introduction of RSDHs into extended care facilities to address the oral needs of people living with disabilities or elderly populations. For another example, acquainting local pediatricians and OB-GYNs with oral health screenings and referrals to address vulnerable patient groups' caries management needs. This strategy may begin in the short term by educating local practitioners on opportunities to utilize team-based approaches.

Strategy #2
Raising Awareness

Build an engaged setting for patient and provider public health awareness

Educate the region by incorporating existing materials to raise awareness for dental health.

- Evidence-based educational materials could be provided by organizations such as the Virginia Cooperative Extension, Virginia Department of Health, Mountain Empire Community College Department of Health Sciences, or the Healthy Appalachia Institute and distributed to food banks, faith-based organizations, and local health coalitions.
- Identify any barriers that exist like access to care, supporting other community organizations.
- Identify opportunities that can be built upon for future awareness campaigns.

Focused dental provider awareness.

- Provider training on dental health benefits with expanded offerings now with Medicaid dental benefits, by fostering understanding about what oral health services are allowable under current dental licensure.
- Improve cooperation with key awareness initiatives in regards to dental health.
- Encourage conversations with patients about systemic health issues in regards to overall health and well-being.

Focused non-dental provider awareness.

- Improve the understanding and integration of dental healthcare and medical healthcare.
    - Identify the communication gaps between the two healthcare entities at the local level, specifically dental emergencies.
    - Identify required referral process and network as well as what oral health education, screenings, and preventive care strategies exist.
    - Improve direct relationship between oral health and medical illness (including medication side-effects) as well as promote dental telehealth and its application in medical healthcare.

RAISING AWARENESS

Patient Public Health Awareness

Local Resources

Food banks use handouts about dental health or various health initiatives to include tobacco and vaping information. Evidence-based educational materials could be provided by organizations such as the Virginia Cooperative Extension, Virginia Department of Health, Mountain Empire Community College Department of Health Sciences, or the Healthy Appalachia Institute and distributed to food banks, faith-based organizations, and local health coalitions.

Reach underserved populations with educational information to benefit overall oral health, provide information on how to make small dietary changes that have positive impacts on oral health, provide resources and information about cessation programs.

Work with local food banks to determine barriers for providing healthy foods and drinks to community members utilizing food bank resources. To better understand the barriers for food distribution centers to deliver healthy foods to their clients, local health coalitions, students at the local universities, and other interested community groups could conduct interviews or small focus groups with food banks and other food distribution sites. Once barriers have been determined, appropriate interventions can be implemented. There may be opportunities to work with local farmer's markets, other agriculture producers, or non-profit groups to include Appalachian Sustainable Development to deliver excess fresh produce to local food banks.

Provide healthy food and drink options so that participants have the resources to adopt healthier habits.

Secondary provider evidence-based training on dental health or certain initiatives, i.e., Community Program RNs, SNAP/WIC Coordinators, school nurses, daycare facilities staff, Virginia Cooperative Extension programs (FCS and 4H).

Increased community awareness about the importance of good oral hygiene practices.

Improved community advocacy for oral health policies.

Encourage dental health professionals to serve on local wellness and advisory committees.

The COVID-19 pandemic has increased community awareness of virtual communications through platforms such as WebEx and Zoom. The use of these technologies could be leveraged to allow dentists, primary care physicians, and other medical providers to join coalitions, school boards, and wellness meetings while minimizing the impact on a busy schedule. Increased participation of primary care providers in local community groups could influence adoption of positive public health behaviors and increase clinical and community collaborations.

Improve integration of oral health, nutrition, and public health uptake by schools, community groups, and other local organizations.

Awareness Surrounding Medicare/Medicaid Dental Benefits

Beginning July 1, 2021, Virginia's nationally recognized Smiles For Children (SFC) program will expand to provide comprehensive dental coverage for adults in full-benefit Medicaid-covered groups. The new dental coverage for adults will focus on overall oral health, prevention, and restoration and will be similar to the coverage currently available to pregnant women. The program name will remain SFC with a new tagline,"Improving Dental Care for Children and Adults." Dental coverage will continue for children and pregnant women.

It is important to note that dental coverage is not included for members with limited Medicaid benefits, including members in Plan First, Qualified Medicare Beneficiaries, Special Low-income Medicare Beneficiaries, Qualified Individuals, or Qualified Disabled Working Individuals.

Enhanced dental benefits offered by Managed Care Organizations ended June 30, 2021. Effective July 1, 2021, dental benefits under SMC for adults, 21 years of age, in full-benefit covered groups includes:

- X-rays and examinations
- Cleanings
- Fillings
- Root canals
- Gum related treatment
- Dentures
- Tooth extractions and other oral surgeries
- Other appropriate general services such as anesthesia.

DentaQuest is the Medicaid dental benefits administrator (DBA) for the SFC program. They administer the dental coverage and benefits for all Medicaid and FAMIS covered members, including those enrolled in both managed care, FFS, and members with special needs.

Source: DMAS-Announcement_-Implementation-of-Adult-Dental-Services-Effective-July-1-2021.pdf

Patients seeking dental care must be aware if the dentist they choose participates in Medicaid. DentaQuest has provided a specific website directory to locate dentists participating in Smiles for Children and other dental plans by zip code. This directory is a tool to be used by patients, parents, health professionals, social workers, and anyone looking for a dentist. The goal of the directory is to facilitate access and referral of individuals with special health needs. The website is: https://dentaquest.com/state-plans/regions/virginia/member-page/find-a-dentist/.

Dentists who wish to enroll with DentaQuest must be credentialed and contracted before treating members under the Smiles for Children and Adults program. To be credentialed, the office must submit a completed credentialing application to DentaQuest. Enrollment documents can be found at www.dentaquest.com > Dentists > State > Dentist Page.

Dental Provider Awareness

The Virginia Department of Health Dental Health Program offers the Bright Smiles for Babies, Fluoride Varnish Online Program Training, and the special needs dentistry virtual CE course, “You Can Do It,” for medical and dental professionals working with individuals with special health care needs and very young children.

The Bright Smiles for Babies, Fluoride Varnish Online Program Training provides the opportunity for non-dental health care professionals to apply and bill Medicaid for fluoride varnish application. In Virginia, this includes physicians, physician assistants, pediatric and family nurse practitioners and nurses (RN and LPN), and recent legislation passed this year allows medical assistants to apply fluoride varnish. Medicaid providers are reimbursed for the procedure for a total of six applications from the age of six months up to the third birthday. The frequency of application is approximately every six months and should be accompanied by age-appropriate preventive services as outlined in the Bright Futures/American Academy of Pediatrics Recommendations for Preventive Pediatric Health Care. The procedure will not be reimbursed on the medical side on or after the child’s third birthday.

The Virginia Department of Health Dental Health Program has revised the Bright Smiles for Babies (BSB), Fluoride Varnish Program online training effective December 1, 2020. This new training takes approximately one hour, with additional time to review the attached resources on your own. This comprehensive course covers the benefits of the program, how to start a program, and the details of the actual oral screenings and fluoride varnish application, including links to video demonstrations. The course will provide all information and instruction needed for physicians, physician assistants, nurse practitioners, nurses (RN & LPN), medical assistants, dentists, dental hygienists, and dental assistants to competently provide BSB services after completion of the online course. All of the resources are printable and provided electronically with the online training.

The online course is located on the Virginia Department of Health (VDH) TRAIN system. TRAIN stands for TrainingFinder Real-time Affiliate Integrated Network, which is a learning resource for public health professionals. You can set up a TRAIN account at https://www.train.org /virginia/welcome. Each individual must complete a simple registration on TRAIN; then, they can access the course with ID# 1094208 and complete the training at their convenience.

The Dental Health Program offers training for medical and dental providers and staff working with individuals with special health care needs and very young children, titled "You Can Do It." This virtual CE course is the beginning of three cohorts, with five two-hour sessions each. Sessions 2-5 build upon the information presented in previous sessions within the same cohort. However, each session is a standalone course with unique information and reported separately. This also allows participants unable to attend a particular session to make up the corresponding session within another cohort. The sponsors for these courses include VDH, Virginia Health Catalyst, Virginia Dental Association Foundation, and VCU School of Dentistry Pediatric Dental Department.

Medical and Dental Integration

Entering the 21st Century Dr. David Satcher, U.S. Surgeon General declared dental disease a "silent epidemic".[1] This was despite the persistence of separating out medical healthcare and dental healthcare, while in reality they both remain inseparable.[2,3] Oral health directly affects overall health and quality of life.[4] Former Surgeon General C. Everett Koop is widely quoted for saying, "You're not healthy without good oral health."[5]

One means for raising oral healthcare awareness is through the integration of dental healthcare and medical healthcare. This integration could begin within an internal medicine residency training program by developing a longitudinal office-based curriculum, "Dentistry for the General Internist," in an attempt to establish better interprofessional bidirectional communications between dental healthcare and medical healthcare. The curriculum would be utilized to improve the physicians/medical providers understanding of how to identify and prevent oral disease while recognizing their medical-legal limitations.[6,7]

In subsequent training years, continued and ongoing training of this curriculum would occur after the "lead trainer" medicine resident physician "champion" is identified. The lead resident trainer will provide an ongoing monthly training session to other resident physicians in medicine and family practice as well as interested practicing physicians/providers in our area. This model curriculum could be expanded to develop other lead trainer opportunities as they are identified. Within a few short years, an entire network of young practicing physicians would be unremittingly enhancing the awareness for better oral healthcare in Southwest Virginia.

Training will focus on the physician's understanding of:

- Communication gaps between the two healthcare entities and solution them at the local level
- Required referral process and network ("who to call and when to call them")

- Identify existing oral health education, screenings, and preventive care strategies
- What oral health education, screenings, preventive care strategies exist
- Medical-legal and scope of practice for general internist and other medical providers (medical-legal and interprofessional concerns)
- Dental emergencies
- Direct relationship between oral health and medical illness (including medication side-effects)
- Dental telehealth and its application in medical healthcare
- Financial solutions within Center for Medicare & Medicaid Services

Goals

- Improve communication between medical and dental healthcare professionals
- Improve professional communication between physicians (medical providers) and their patients
- Increase the number of physicians/providers with integrated healthcare knowledge
- Recognize and appreciate patient healthcare requirements

Outcomes

- Lessen the healthcare disparities seen in community (lack of services, distance to services, quality of services)
- Increase the interprofessional and collegial communication between healthcare workers
- Establish a referral network trackable by electronic health records
- Fully Integrate medical and dental healthcare

Strategy #3
Advocacy in coordination with statewide partners

Enhance the region

Strengthen the region's public perception and trust in public water fluoridation

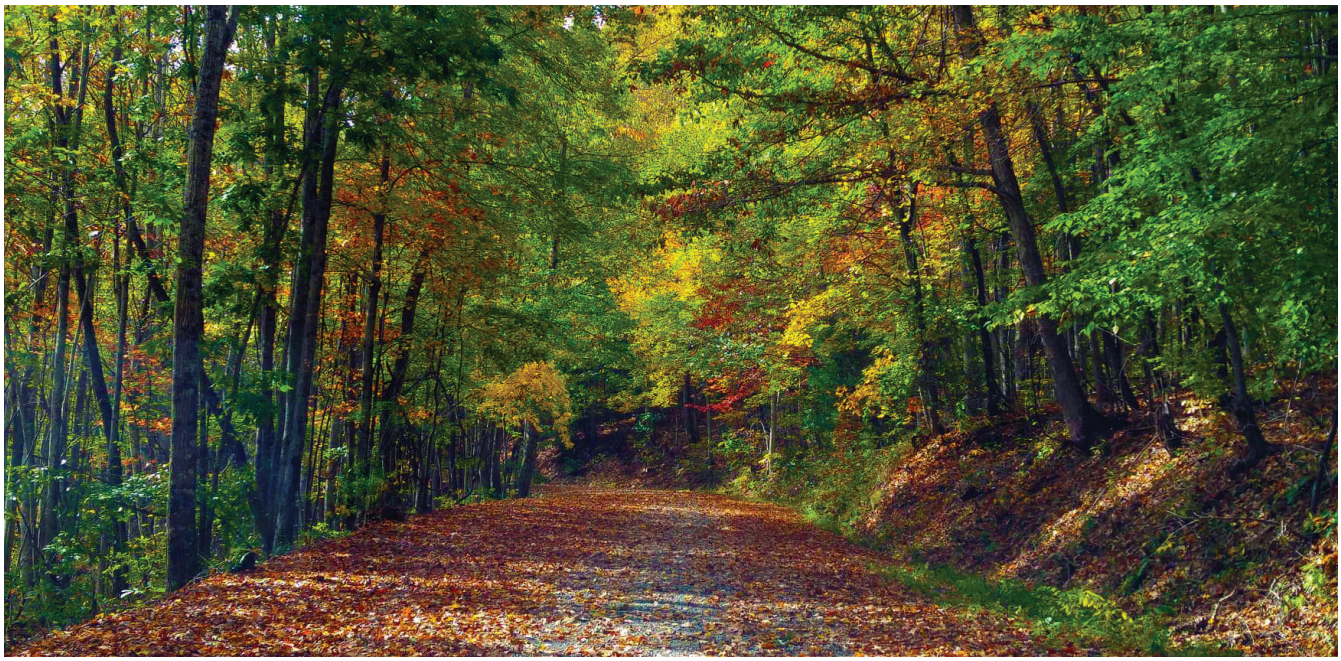
- Improve public water fluoridation and campaigning to preserve fluoridation at local level.
- Develop a Water Equity Taskforce to determine access to clean water or need to expand city/county water.

Expand information to dental providers about reimbursement and care coordination

- Inventory available specialty and sub-specialty billing procedures for distribution.
- Advocate for higher reimbursement rates from Virginia Medicaid.

Continue efforts to support improvement the reliability of broadband connectivity.

- Monitor improvement reliability of network connectivity in underserved areas.
  * Lack of ubiquitous, affordable, reliable broadband has had an ongoing impact on the region.
  * Better connectivity would provide an opportunity for new providers to enter the marketplace and allow existing providers to expand operations, with teledentistry being the most obvious opportunity.
  * Consumer connectivity via the internet is an enabler for remote health monitoring, wearable tech, and wide array of other preventive measures.
- Develop a regional plan to monitor all broadband expansion in Planning Districts 1, 2, & 3.



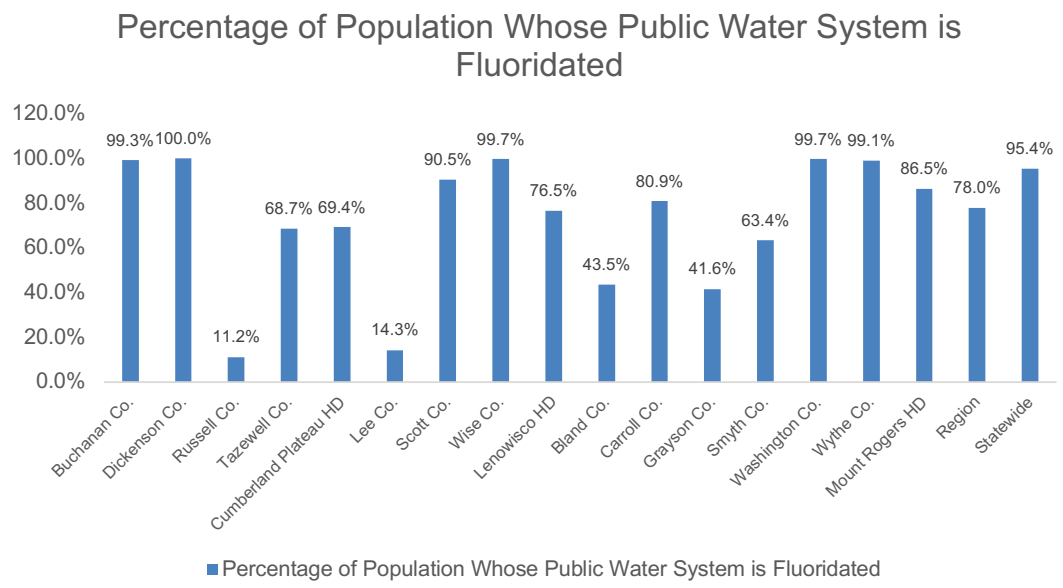
ADVOCACY IN COORDINATION WITH STATEWIDE PARTNERS

Public Water Fluoridation

Another factor identified by NOSORH contributing to oral health challenges in rural areas is the limited availability of fluoridated water. Many research studies have proven the safety and benefits of fluoridated water. For 75 years, people in the United States have been drinking water with adjusted fluoride, a naturally occurring mineral in water, and enjoying the benefits of better dental health. Drinking fluoridated water keeps teeth strong and reduces cavities (also called tooth decay) by about 25% in children and adults (Centers for Disease Control and Prevention). Across the Region that is comprised of the LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts, the percentage of the population whose public water systems provide fluoridated water (78%) is lower than the statewide average of 95.4%. However, as seen in Table 2, the percentage of the population whose public water systems provide fluoridated water varies significantly among the 13 counties and ranges from a high of 99-100% in the counties of Buchanan, Dickenson, Wise, Washington, and Wythe to a low of 11.2% in Russell County and 14.3% in Lee County.

Table 2

Availability of Fluoridated Water



Note: "Region" includes all 13 counties in the LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts

Source: Analysis of Virginia Health Catalyst data on Virginia Public Water Systems; Centers for Disease Control and Prevention, December 2019 Monthly Summary Report

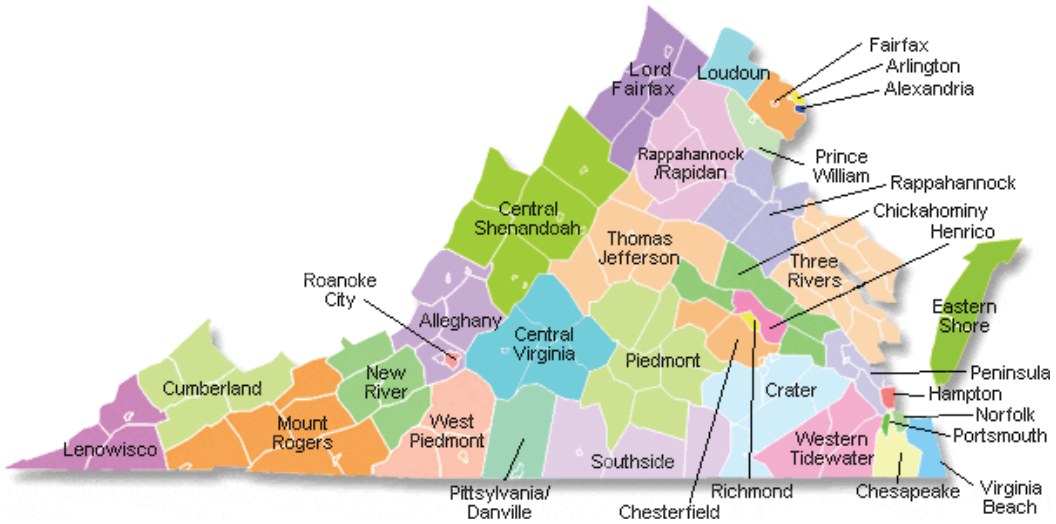
There are two important caveats regarding the availability of fluoridated water. Firstly, the fact that fluoridated water is "available" to the residents of a locality does not necessarily equate to the "consumption" of fluoridated water. Alternatives such as bottled water and other types of beverages (e.g., soft drinks, juices, etc.) are also consumed and may limit the amount of fluoridated water consumed. Secondly, some residents get their water from sources other than public water systems, such as private wells. This is particularly true in rural areas. In sum, when considering the issue of fluoridated water, it is important to recognize the available data reflect the percentage of the population in a given area whose public water system provides fluoridated water as opposed to the percentage of the "total" population that has access to and/or drinks fluoridated water.

Southwest Virginia encompasses a large geographic area of the Commonwealth; this document focuses on the LENOWISCO, Cumberland Plateau, and Mount Rogers Planning Districts (PDs 1, 2, and 3). These Planning Districts' boundaries correspond with the LENOWISCO, Cumberland Plateau, and Mount Rogers Health Districts. Figure 2 identifies the location of these three districts and the localities which comprise each.

There are several different measures and indicators to gauge the oral health status of a particular region or population. Unfortunately, most of the available measures are more "process" or "administrative" in nature as opposed to a scientific measure of clinical "wellness." However, these types of measures provide at least a basic understanding of the oral health status and challenges that exist. The Virginia Department of Health collects the most recent data regarding oral health status by local health district through the Behavioral Risk Factor Surveillance System (BRFSS). (The BRFSS is a national system of health-related telephone surveys that collect data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. See Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention https://www.cdc.gov/brfss/).

Figure 2

Virginia's Local Health Districts*



* The boundaries of Virginia's LENOWISCO, Cumberland Plateau, and Mount Rogers Local Health Districts correspond with the LENOWISCO, Cumberland Plateau, and Mount Rogers Planning Districts.

** LENOWISCO Health District/Planning District includes the Counties of Lee, Scott, and Wise; the Towns of Jonesville, Pennington Gap, St. Charles, Clinchport, Duffield, Dungannon, Gate City, Weber City, Nickelsville, Appalachia, Big Stone Gap, Coeburn, Pound, St. Paul, and Wise ; and the City of Norton. The Cumberland Plateau Health District/Planning District includes the Counties of Buchanan, Dickenson, Russell, and Tazewell. The Mount Rogers Health District/Planning District includes the Counties of Bland, Carroll, Grayson, Smyth, Washington and Wythe, and the Cities of Bristol and Galax.

Sources: Virginia Planning District Commission; Virginia Department of Health

Reimbursement and Care Coordination

The FQHC covered services exclude radiology, EKGs and Holter Monitors, and pharmacy, but these services can be billed to regular Medicare Part-B, Part-D, or Advantage Plans. Congress first started the FQHC provider status in 1993, and it has changed some throughout the years. The most significant change was in 2017 when the Medicare Cost-Based Rate went to a Federal PPS (Prospective Payment System) rate with a significant increase in the cost-based rate. Once the rate is set, it increases annually with the Medicare Cost Index (typically 3.5% per year). The change with the Medicare PPS Rate also included the option that the FQHC would be reimbursed at the PPS rate or their actual charge for the service by their current fee schedule, whichever is lower. This forced most FQHCs to look at their fee schedule to assure they were appropriate for their geographic area by the National Physician Fee Schedule that is set by relative values of the cost associated with the procedure by current CPT codes and geographic state and regional adjustments.

Medicaid typically accepts the Medicare-approved PPS rate as their standard of payment. They also have conversion allowances for the not covered services in the Medicare payments. These include radiology, in-patient hospital care, OB and prenatal care, and dental services.

We now know the Virginia Medicaid expansion did not happen until 2019, but the demand for services in the area continued, especially among Medicaid-covered children. However, a publication from PEW Charities *The State of Children's Dental Health: Making Coverage Matter* – Virginia (March 23, 2011) noted that in 2009 only 45.7% of Medicaid-covered children in Virginia received dental care. That means 54.3% of Medicaid enrolled children never saw a dental provider. In the Southwest Virginia region, that may be due to the shortage of dentists, but most likely, it is due to the low reimbursement rate by Virginia Medicaid.

The same PEW report noted that the median retail of the dentist's fee rate was reimbursed at 59.4% by Virginia Medicaid. How many offices could stay in business if they discounted their services at 40.6%? This rate has not increased, and Virginia has not increased their reimbursement in over 16 years (on or about 2004). In analyzing the local demand, we can use one local program as a service model. The U.S. Department of Labor operates the Job Corps Program across the nation, including several locations in Southwest Virginia. SVCHS negotiated a contract with the Marion, Virginia Training Program for $90,000 per year for their students. This provided for two half-days per month for general cleaning and exams.

Status of Infrastructure and Connectivity in PDC's 1, 2, and 3

The rural parts of Southwest Virginia are largely underserved, with some areas completely unserved, by broadband providers. The low population density in the region and the highly challenging geography (i.e., the Appalachian Mountain range) make it unlikely that the region's leaders will be able to rely on the private sector to solve this problem. If there were a market-based business case, the investor-owned service providers would already be serving.

With few exceptions, the Incumbent Local Exchange Carriers' traditional copper and cable networks are insufficient to meet the region's current and future bandwidth needs. Due to the financial impracticality of deploying current technology networks, most incumbent local exchange carriers have neglected to extend, upgrade, or expand their networks in the region. Others have built middle-mile fiber along the main corridors ghrough public and private investment funds but generally without a last-mile solution.

This lack of ubiquitous, affordable, reliable broadband has had an ongoing impact on the region. In many areas covered in this study, populations are declining. Communities are having difficulties retaining youth. Economies

are stagnant and lacking the means to grow. Residents are frustrated and, in some cases, indignant about the lack of broadband and wireless. Students are falling behind. Small businesses cannot compete. Larger businesses are moving out of the region. Not all of these maladies are caused by a lack of sufficient broadband services, but it is certainly a contributing factor.[8]

Impact on Oral Health

Better connectivity would provide an opportunity for new providers to enter the marketplace and allow existing providers to expand operations with teledentistry being the most obvious opportunity. Although extensive teledentistry regulations currently exist in Virginia, the regulations allow dental hygienists who practice under remote supervision in off-site locations to have easy access to a supervising dentist. Additionally, dental assistants are able to work without the onsite presence of a dentist if a dental hygienist supervises .[9]

Connectivity, in general, is playing a crucial role in a number of industries, including health care. An expanding category in the Internet of Things (IoT) or the Internet of *Health* Things is oral care. Consumer connectivity via the internet is an enabler for remote health monitoring, wearable tech, and heart rate tracking, which is now embedded (and expected by health-seeking consumers) in wristbands.

Of course, oral health goes well beyond teeth and toothbrushes. Oral care is a pillar of overall health and self-care, with medical evidence growing and connecting the dots between a healthy mouth and risks for heart disease, diabetes, disabilities, and socioeconomic status. For example, people with mild periodontal disease are twice as likely to suffer a stroke.[10]

BLUEPRINT PLANNING & WRITING TEAM

Dr. Jody Bentley, DO, FACOI — Internal Medicine Residency Director, Norton Community Hospital, Ballad Health

Nora Blankenbecler, MBA, RHIA – Program Director, Health Information Management & Mountain Empire Rural Health Network, Mountain Empire Community College

Shannon Blevins – Vice Chancellor, Administration, Government Relations and Strategic Initiatives, The University of Virginia's College at Wise

Dr. Emily Bowen, DDS – Dental Assistant Program Director, Mountain Empire Community College, Center for Workforce & Innovation of Appalachia

Howard Chapman — Director of Programs and Development, Tri-Area Community Health

Rebecca Crockett – Deputy Director, LENOWISCO Planning District Commission

Derek Hubbard – Director, Office of Economic Development and Strategic Initiatives, The University of Virginia's College at Wise

Dr. Carole Pratt, DDS — Special Policy Advisor to the Commissioner of the Virginia Department of Health

Dr. Sarah Raskin, PhD, MPH – Assistant Professor, iCubed Initiative, Oral Health Core L. Douglas Wilder School of Government and Public Affairs, Virginia Commonwealth University

Glen 'Skip' Skinner – Principal Consultant, Blue Ridge Advisory Services Group

Mary Jo Stallard – Program Support Technician, Office of Economic Development and Strategic Initiatives, The University of Virginia's College at Wise

Emily Pomfrey Wells — Research Program Manager, Office of Economic Development and Strategic Initiatives, The University of Virginia's College at Wise

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