White Paper
Teledentistry: How Technology Can Facilitate Access To Care

Association of State and Territorial Dental Directors (ASTDD)
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Problem

Significant gaps exist in health status and in access to healthcare for certain populations. Many of these are associated with social determinants of health,[1] those "conditions in the environment in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, function, and quality-of-life outcomes and risks." Disparities in oral health status and access to dental care services in the United States illustrate these gaps, and cannot be separated in considering their impact on overall health and well-being. When gaps in health care and barriers occur, new methods of care delivery such as telehealth technologies including teledentistry should be considered.

Teledentistry is the use of technology (including digital radiographs, digital photos/videos, electronic health records, the Internet, etc.) to facilitate delivery of oral healthcare and oral health education services from a provider in one location to a patient in a physically different location.[2] Telehealth technology has been used only in limited circumstances in dentistry, notably in California and Alaska, and is lagging behind other disciplines as it relates to state practice acts. Using a combination of electronic health records, telecommunications technology, digital videos/imaging, and the Internet, oral health providers can reach populations that do not have regular access to oral health services, effectively enhancing access to appropriate care. Teledentistry literature is still emerging to help states and other entities contemplate teledentistry initiatives.

Issues in access to care.
Insurance. People often believe that gaps and healthcare woes can be solved by insurance. However, private dental insurance offers limited coverage, is often tied to employment, and can be expensive in terms of premiums and non-covered costs. While it serves as an entrée to accessing dental care, dental insurance also can be viewed as an offset to or subsidy of expenses. In states with Medicaid dental benefits, beneficiaries report not being able to find a dental provider who participates in Medicaid; this challenge is often more acute for adults with limited Medicaid coverage. With an average of fewer than 40% of dentists participating in Medicaid across the nation,[3] those with the greatest need (e.g., the poor, disabled, or elderly) continue to go without dental care. Individuals with Medicaid seeking care for dental problems in hospital emergency rooms is increasing;[4] overall, the American healthcare system spent $2 billion in 2015 to address oral health problems in these settings. Hospitals usually are unable to provide definitive care, leaving the underlying problem unaddressed.[5]

Access to dental providers. A contributing factor to the gaps in healthcare, and for certain populations in particular, relates to where dentists practice. Regardless of insurance type, people seeking dental care report difficulties in travel and transportation, particularly in rural areas. The Health Resources and Services Administration (HRSA) reports about 11,000 providers are needed to adequately cover the country's nearly 6,000 dental health professional shortage areas (HPSA) that encompass 58 million people.[6] Dental HPSAs are determined according to geographic areas, population groups, or facilities.[7,8] Inequalities exist among those from minority or rural backgrounds, or those who live with disabilities; the numbers increase significantly for those who fall below the federal poverty line.[9]

Although the number of patients receiving care in private dental practices decreased and the number of patients in Federally Qualified Heath Centers increased significantly from 2006 to 2012, new dentists were more likely to practice in private practices,[10] reportedly because they graduated with significant dental school debt.[11,12]

Teledentistry as a tool to facilitate access to care.
According to the Center for Connected Health Policy (CCHP), "Telehealth technologies can increase access to care, improve quality, decrease costs and gain the most efficient use of the skills of healthcare professionals." [13] More than a specific service, telehealth extends beyond the concept of traditional clinical diagnosis and monitoring delivered by technology, and comprises an extensive range of technologies and strategies to deliver medical, health, and education services virtually, via electronic communication. Yet, CCHP notes that "despite the growing body of evidence reflecting the benefits of telehealth, state and federal policy have not been sufficiently responsive to allow its optimal use." [14]

Teledentistry is underutilized due to several reasons. Legislation regarding the practice of teledentistry and reimbursement for services is limited; legislation that exists tends to be vague. While most states support some form of telemedicine, teledentistry lags behind with only a handful of states offering reimbursement through Medicaid programs in 2018; reimbursement often is limited to synchronous (live video) interactions. Fewer states are reimbursing providers in either medicine or dentistry for "store-and-forward," when the provider stores clinical data in the cloud to be reviewed at a later time.[14]

Care delivered through teledentistry has also faced challenges with reimbursement. In traditional dental delivery systems, the dentist has been the only billing provider. Historically most insurance companies have only credentialed dentists and no other oral health care providers. States looking to expand the types of billable providers may encounter technical and systems challenges when insurance companies attempt to develop billing mechanisms for new provider types.

Another barrier may be the new way in which providers will be interacting with patients and with each other. Providers may lack familiarity/or and confidence with this new virtual method for care delivery and will be required to learn how to use new technology from two different standpoints. First, they must become familiar with digital record collection including the use of intraoral cameras and digital radiographs. Second, they will need to learn how to diagnose using digital records in combination with reports from an offsite team member. In addition, the dental team will need to learn how to communicate when two team members are no longer in the same location, which requires trust and a willingness to give and receive open, honest, and timely feedback when challenges or problems arise. Providers need to be familiar with state legislation and practice acts that will guide what can and can't be done when using teledentistry. This may lead to additional required training, limited billing, or additional paperwork for a state dental board or other state agency (e.g., a Medicaid program). Providers may also need to adapt or change their records system. Another important consideration is the cost of starting and maintaining a program, including purchasing portable equipment and securing and maintaining appropriate IT support.

The challenges of access to oral health care services are complex and multifactorial. Although still gaining acceptance and faced with its own barriers, teledentistry appears to be one of a correspondingly broad array of responses and solutions that can maximize resources and minimize gaps effectively and efficiently. As with any solution, it must be incorporated into the healthcare framework to work alongside other methods of addressing access to oral health care.

Method

While research is still limited, and the modern version of telemedicine as a method of delivering healthcare has been in use since the 1920s, teledentistry has only been used as recently as the mid-1990's.[15,16] Studies are showing positive health results when care has been delivered through telemedicine to treat a variety of chronic health conditions.[17,18] Teledentistry can be used to facilitate the delivery of oral health services to large numbers of patients and can reduce wait times for patients to see specialists.[19,20]

Numerous studies have shown that when conducting exams using digital records, the clinician's findings are just as accurate, if not more so, in diagnosing and determining treatment needs of a patient when compared to traditional, in-person exams. To enable dental hygienists to provide care in an expanded scope under general supervision, stakeholders (e.g., state dental and dental hygiene associations, health care advocates, oral health coalitions) have worked closely with state lawmakers to adapt dental practice acts to expand the scope of dental hygienists. However, curriculum development is still needed (both within schools and in the form of continuing education) to educate oral health providers in delivering care utilizing digital records, and billing all third-party payers for teledentistry encounters.

Even with barriers to implementation, successful teledentistry projects have been developed across the country, including in California, Colorado, and Arizona, and other states. These initiatives have demonstrated that it is possible to facilitate the connection between patient and provider when the two individuals are not in the same location. Keys to success include educating all providers on the use of the technology and procedures and working with key stakeholders (including legislators and insurance companies as well as state dental and dental hygiene associations) to modify practice acts and develop or refine reimbursement mechanisms.

In some states (California, Colorado, Missouri) teledentistry has been used as the foundation to develop the virtual dental home. In this model, dental hygienists go to community sites (e.g., schools, long-term care facilities), provide services within an expanded scope, and transmit digital records to a dentist for review. Researchers in California found that two-thirds of patients in the virtual dental home require only preventive services and do not need to be physically seen by a dentist.[21] The Arizona School of Dentistry & Oral Health and New York University College of Dentistry have incorporated teledentistry into their curricula to increase students' awareness of and comfort levels with providing care using digital records. Other programs using teledentistry, such as the University of Nebraska Medical Center College of Dentistry, work with school-based health centers where there are no dentists. In these situations, medical providers (e.g., physicians, nurses) gather oral health records and submit them to an oral health provider (e.g., pediatric resident, dentist) to review and coordinate care for the patient.

Teledentistry has also been used with dental specialties. In one of the first teledentistry projects in the United States, conducted by the United States Army, soldiers underwent periodontal surgery 120 miles from where they were stationed. Their post-op visit was conducted via teledentistry at the base where they were stationed, eliminating the need to travel 240 miles round trip.[22] In Brazil, referrals to see an oral medicine specialist dropped after teledentistry consultations were implemented. The result was a drastic reduction in wait times to see a specialist from nearly a year to less than a month.[23] Other scenarios are possible but may not have been documented. For example, a general dentist in a rural community might consult via teledentistry with a pediatric dentist about a child needing hospital based operating room care. The use of technology could avoid intermediate visits to the specialist, eliminating concerns about weather, the added costs and inconvenience of travel, and missed work and school.

Several organizations have developed policies supporting teledentistry. The American Student Dental Association adopted a policy to encourage dental schools to incorporate teledentistry into didactic curricula and to use it in clinical settings.[24] The American Dental Association (ADA) developed a comprehensive policy statement on teledentistry that defines key terms, identifies the rights of the patient, and provides statements on reimbursement and other legal considerations.[2] The ADA also has released a guidance document on the use of CDT codes for teledentistry and other billing considerations.[25]

Teledentistry plays a key role in facilitating early intervention and preventive services for patients of all ages. Teledentistry's most practical application is to shift the delivery of preventive and early intervention services from the dental office to the community. Using technology, patient data can be transmitted by a field team member in the community to the dentist in a dental office. In rural areas in particular, this can save time and other expenses for patients who would otherwise travel significant distances to receive those services. The teledentistry model has potential to enhance the productivity and efficiency of the dental practice by more effectively utilizing office space and other resources while also facilitating the ability of all members of the dental team to work at the top of their scopes of practice. Dentists, working as team leaders, can develop treatment plans and supervise the overall care of their patients, whether the patients are physically seen in the dental office/clinic or remotely, via digital records. Even when dental offices are close to community sites, patients may still face barriers in getting to the office.[26] Teledentistry offers a modality that can facilitate delivery of care in a way that meets patient needs as well as those of the provider.

Concluding Statement

Teledentistry has the potential to be part of a paradigm shift in healthcare delivery that can play a key role in mitigating barriers and improving health for populations with traditionally poor access to dental care and oral health services. Training for oral health providers in delivering care utilizing teledentistry technologies, and changes in state dental practice acts and in insurance reimbursement are the more significant adaptations needed to expand its use. ASTDD supports the development of teledentistry as an approach to enhance the delivery of efficient and cost-effective oral health care, allowing providers to overcome traditional barriers to care faced by underserved communities.

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