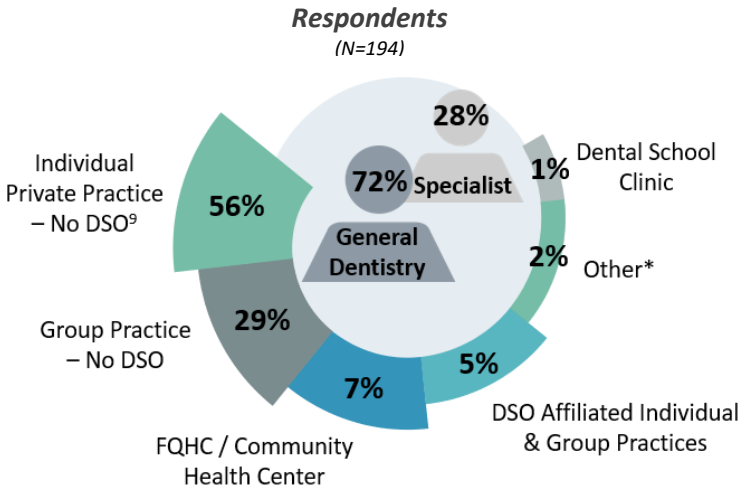
Insights Brief: Use of Health Information Technology Among Dental Practices

Perspectives from Maryland Dentists

Introduction

The Maryland Health Care Commission (MHCC) conducted a review of the use of health information technology (health IT) among 194 dental practices in Maryland. There are roughly 4,160 licensed dentists practicing in the State, representing about 2,447 dental practices.[1] Data was collected from October 2020 through February 2021.[2]



**Other settings not specified.*

The review assessed dentists' adoption of health IT: electronic health records (EHRs),[3] health information exchange (HIE),[4] and teledentistry[5]. The benefits of health IT include decision support, administrative and clinical efficiencies, and increased access to comprehensive patient health information, among other things.[6, 7] When dentists have access to complete and accurate information, patients receive better care.[8]

[1] Number of licensed dentists per the 2020 Board of Dental Licensing database; the estimated number of dental practices is based on an average practice size of 1.7 dentists.
[2] An online questionnaire consisting of 27 questions was distributed with support from the Maryland State Dental Association and local component societies; respondents were not required to answer all questions.
[3] EHRs provide an electronic version of a paper clinical record, and include patient demographics, progress notes, medications, past medical history, and diagnostic information.
[4] HIE is the secure exchange of health information electronically between providers.
[5] Teledentistry (or telehealth) is the use of two-way audio, video, and other forms of telecommunications technology to share medical information.
[6] American Dental Association (ADA), Electronic Health Records. Available at: ada.org/en/member-center/member-benefits/practice-resources/dental-informatics/electronic-health-records.
[7] Shetty V., Yamamoto J., Yale K., Re-architecting Oral Healthcare for the 21st Century, *J Dent,* (2018). Available at: ncbi.nlm.nih.gov/pmc/articles/PMC6020157/.
[8] See n. 6, *Supra*.
[9] A DSO, or Dental Service Organization, offers administrative, financial, technical, marketing, and managerial support to practices. DSO-affiliated dentists and practices may share clinical information systems.

Insights

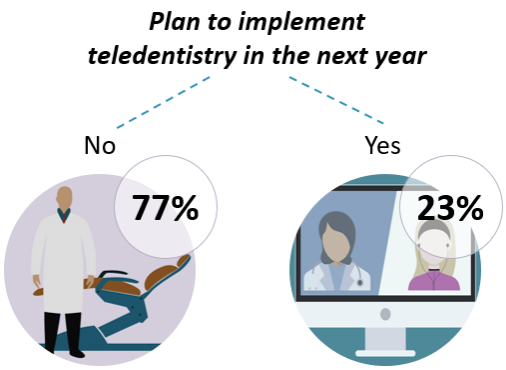
EHRs

For some practices, an EHR helps modernize processes and care delivery.[10] About 88 percent of dentists who participated in the review and use an EHR report that it helps meet practice goals around patient and family engagement, care coordination, and population health tracking. Nearly half (48 percent) offer a patient portal where patients can complete health forms, ask questions, and receive information about medications, treatment summaries, and more. Intake software[11] is less common with only about a quarter (27 percent) of EHR users allowing patients to check in ahead of time on a personal device.

Most EHR users report improvements in practice efficiencies (97 percent), dentist-patient engagement (74 percent), and patient care (90 percent).[12] In general, respondents feel satisfied with their EHRs; most (86 percent) are somewhat or very satisfied and would recommend using an EHR to a colleague.

Teledentistry

Virtual visits allow dentists to conduct remote assessments, screenings, and consultations, when appropriate.[13, 14] Thirty dentists conducted a virtual visit during the year while others have no plans to adopt the technology. The hands-on nature of dentistry, in which most treatments require in-person procedures using specialized tools, limits the feasibility of teledentistry.[15]



(n = 150 dentists not using teledentistry)

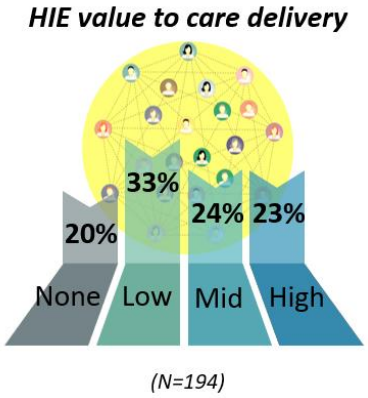
In response to the outbreak of COVID-19 in March 2020, non-emergency and non-urgent procedures were postponed.[16] Total patient volume in Maryland practices was reduced to less than 5 percent of normal.[17] These

[10] Colgate Oral Health Network, Are Oral Health Providers Using Electronic Dental Records? Available at: colgateoralhealthnetwork.com/article/are-oral-health-providers-using-electronic-dental-records.
[11] Patient intake software allows patients to complete a practice's check-in process online before coming into the office.
[12] n=124
[13] Ghai S., Teledentistry during COVID-19 pandemic, *Diabetes Metab Syndr,* (2020). Available at: ncbi.nlm.nih.gov/pmc/articles/PMC7297180/#:~:text=Teledentistry%20can%20be%20incorporated%20into,to%20already%20burdened%20dental%20offices.
[14] Decisions in Dentistry, Teledentistry Amid a Pandemic and Beyond, September 2020. Available at: decisionsindentistry.com/article/teledentistry-amid-pandemic-beyond.
[15] Ontario Academy of General Dentistry, Caring at a Distance: The Current State of Teledentistry, July 2020. Available at: agd.org/constituent/news/2020/07/13/caring-at-a-distance-the-current-state-of-teledentistry.
[16] In March 2020, the Maryland Department of Health issued a directive to postpone all non-emergency or non-urgent procedures. The directive was lifted in May 2020. More information is available at: msda.com/covid-19.php.
[17] ADA, COVID-19: Economic Impact on Dental Practices (Week of April 20 Results). Available at: surveys.ada.org/reports/RC/public/YWRhc3VydmV5cy01ZTlkYjFlMTRlZDkxOTAwMTU4NTU4ZmItVVJfNWlJWDFFU01IdmNDUlVO.

restrictions and the potential for virtual visits to help mitigate spread of COVID-19 led some dentists to use teledentistry to triage patients for in-person services.[18] Twenty-one of the dentists who used teledentistry report being somewhat or very unlikely to continue using teledentistry in the future.

HIE

HIE allows dentists and patients to access and share patient health information electronically. Exchanging electronic health information among providers can improve care coordination, reduce errors, and increase efficiencies.[19] Due to the historically siloed nature of oral health care, HIE is seldom used in dentistry.[20]



Fifty-four percent of dentists who report working in a Federally Qualified Health Center (FQHC) or Community Health Center use HIE (7 of 13), compared to 16 percent in individual or group practices (26 of 174). Eighteen FQHC sites in Maryland are registered to use CRISP[21], the State-Designated HIE.[22] Health IT infrastructures available in these integrated care settings are established to support information sharing across health disciplines.[23]

HIE can be used to help in the identification and prevention of prescription drug misuse. Maryland's Prescription Drug Monitoring Program (PDMP) makes information on controlled dangerous substances (CDS)[24] available to about 3,559 dental prescribers through CRISP's clinical query portal.[25] CDS prescribers are required to check the PDMP for information about prescribed CDS drugs before beginning a new course of treatment with CDS medications.[26]

Limitations

Information was self-reported via an online questionnaire and not audited for accuracy. Limitations related to the response rate (less than 5 percent of licensed dentists) affect the generalizability of

[18] Oral Health Workforce Research Center, Teledentistry in a Post-COVID-19 World: Assessing Adoption, Integration, and Policy. Available at: oralhealthworkforce.org/current-projects/teledentistry-in-a-post-covid-19-world-assessing-adoption-integration-and-policy.
[19] Simon L., Obadan-Udoh E., Yansane A., et. al., Improving Oral–Systemic Healthcare through the Interoperability of Electronic Medical and Dental Records: An Exploratory Study, *Appl Clin Informatics* (May 2019). Available at: ncbi.nlm.nih.gov/pmc/articles/PMC6541474.
[20] National Academy of Medicine, Integration of Oral Health and Primary Care: Communication, Coordination and Referral, October 2018. Available at: nam.edu/integration-of-oral-health-and-primary-care-communication-coordination-and-referral.
[21] The Chesapeake Regional Information System for our Patients (CRISP) serves as Maryland's State-Designated HIE. More information is available at: mhcc.maryland.gov/mhcc/pages/hit/hit_hie/hit_hie.aspx.
[22] Information on providers connected to CRISP is available at: crisphealth.org/about-crisp/connected-providers.
[23] CareQuest Institute for Oral Health, Oral Health Value-Based Care, The Federally Qualified Health Center Story. Available at: carequest.org/system/files/CareQuest-Institute-Oral-Health-Value-Based-Care-FCHC-Story-White-Paper.pdf.
[24] More information is available at: health.maryland.gov/ocsa/Pages/CDS-Application.aspx.
[25] CRISP hosts Maryland's PDMP. More information about the PDMP is available at: crisphealth.org/applications/prescription-drug-monitoring-program-pdmp.
[26] More about the PDMP use mandate is available at: health.maryland.gov/pdmp/Pages/pdmp-use-mandate-information.aspx.

review findings. Sampling of licensed dentists did not occur as the questionnaire was distributed via professional association mailing lists. Respondents may have a higher baseline level of knowledge and interest in health IT related to their peers.

Conclusion

Implementing health IT advances practice efficiencies and care delivery.[27] The value proposition of health IT is unique to each practice and associated with factors such as cost/benefit ratios, usability, and provider needs for patient information.[28, 29] Diffusion of EHRs will continue to occur organically in part as professional training continues to focus on the use of electronic information management tools.[30] Patient demand for virtual visits will be a driver to teledentistry adoption.[31] Challenges related to reimbursement and liability coverage will likely hinder diffusion.[32] Broad participation in HIE is not anticipated until coordination between dental and medical systems is prioritized by the health care industry as a whole.[33, 34] Over the next year, MHCC will continue to work with the Maryland State Dental Association and its component societies to increase dentists' awareness of health IT.

For More Information

Please contact Christine Karayinopulos at christine.karayinopulos@maryland.gov or visit MHCC's website at mhcc.maryland.gov/mhcc/Pages/hit/hit/hit.aspx.

[27] See n. 7, *Supra*.
[28] Acharya A., Schroeder D., Schwei K., Chyou P.H., Update on Electronic Dental Record and Clinical Computing Adoption Among Dental Practices in the United States, *Clinical Medicine & Research*, (December 2017). Available at: ncbi.nlm.nih.gov/pmc/articles/PMC5849439.
[29] Association of State and Territorial Dental Directors, Teledentistry: How Technology Can Facilitate Access To Care, March 2019. Available at: astdd.org/docs/teledentistry-how-technology-can-facilitate-access-to-care-3-4-19.pdf?mc_cid=0264c941a6&mc_eid=22c41b3f06.
[30] Ford D., Making eHealth Relevant to the Practice of Dentistry: A Proposed Strategy, *Journal California Dental Association* (2018). Available at: cda.org/Portals/0/journal/journal_052018.pdf.
[31] mHealth Intelligence, 78% of Patients Likely to Use Virtual Dental Care, Survey Finds, October 2019. Available at: mhealthintelligence.com/news/78-of-patients-likely-to-use-virtual-dental-care-survey-finds.
[32] DentaQuest Partnership for Oral Health Advancement, Expanding Oral Health: Teledentistry, August 2019. Available at: carequest.org/system/files/DQ_Whitepaper_Teledentistry%20%289.19%29.pdf.
[33] See n. 19, *Supra*.
[34] See n. 7, *Supra*.