



Will Teledentistry Improve Access to and Quality of Dentistry?

Teledentistry is a very interesting new area of dentistry that combines the use of electronic health records, recent telecommunication technology, digital imaging, and the internet to connect health care providers with each other or with patients in rural, less accessible, and/or underserved regions.¹ Teledentistry is a part of telemedicine initiated in 1994 as part of a military project in the United States—the US Army’s Total Dental Access project. This program had the aim of improving the care of patients, the education of dentists, and the communication between dentists and dental laboratories,² aims that were successfully accomplished. Today, we can consider teledentistry as an important part of the science of telemedicine and a relevant, timely field for ambitious researchers.

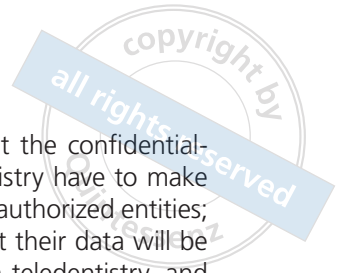
But what is teledentistry exactly, and how does it work? In simple words, teledentistry is a “real-time consultation” through online computer video telecommunication systems between dentists, hygienists, and/or patients in more remote communities and dentists/specialists in larger communities providing advice and supervision. But this is not the only way teledentistry consultations can be provided. These consultations can also be provided through a “store and forward” method.³ While real-time consultation involves videoconferencing between the involved parties, the “store and forward” method includes an exchange of collected clinical information and images forwarded to a specialist for consultation and treatment planning. A third method described in the literature is the “remote monitoring” method, which involves patients that are monitored at a distance while they are either hospital- or home-based.⁴ Hence, teledentistry is multifaceted.

The scope of teledentistry is certainly to improve access to oral health care and its delivery, as well as to reduce total health care costs. These aims have been subject to several research projects in past years, and numerous investigations have proven these specific benefits in different domains of dentistry, such as oral medicine and diagnosis, oral and maxillofacial surgery, orthodontics, periodontics, pediatric and preventive dentistry, and, last but not least, prosthodontics.²

In our domain, prosthodontics, teledentistry can become a very powerful tool in the future; eg, to increase the amount of dental specialist treatments in sparsely populated areas. Specialist treatments can become accessible for the most remote parts of the world. The only prerequisite is a strong and stable high-speed internet connection.

Another interesting benefit of teledentistry is that it not only has the potential to improve the quality of the treatment of patients, it can also serve as an important means to remotely deliver dental education throughout the world—which is truly a strong benefit, as these pandemic times have shown. Online video conferencing, webinars, and online training courses have become a substantial part of dental education since the breakout of COVID-19. An interesting more recent trend are long distance “hands-on” trainings, where participants receive boxes with the required materials and instruments for a certain practical exercise and then watch live online step-by-step demonstrations on how to perform the respective procedure.¹

While these are all the numerous benefits of teledentistry, challenges must be considered as well. One challenge is the increased time needed to perform teledentistry types of consultations.¹ Furthermore, and more importantly, challenges also include ethical and legal issues that teledentistry may have. The electronic transfer of medical histories and records, as well



as clinical images of patients, can raise concerns about the confidentiality of teledentistry. On the one hand, users of teledentistry have to make sure that patient privacy is not compromised through unauthorized entities; on the other hand, patients should be made aware that their data will be transferred electronically to other professionals through teledentistry, and written consent is therefore advisable.

Nevertheless, teledentistry—with its strong benefits of improving the access and delivery of oral health care and its education to anywhere in the world, as well as its potential for the increase of treatment efficiency and the reduction of treatment costs—will become more and more important in the future, and young, upcoming prosthodontic researchers are strongly encouraged to focus on this area.

On behalf of the entire Editorial Board team,

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