

2019: THE YEAR OF TELEDENTISTRY IN FRANCE?

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Abstract

In France, access to a dentist for elderly people, disabled people or inmates is limited. A person's access to a dentist decreases by 25% when joining a nursing home. A national report mentioned that 85% of residents in nursing homes didn't have access to a dentist in the past year and 42% in the last 5 years. There are fewer data on disabled people, but 48% of people with disabilities have, at least, one important issue related to oral health. Two examples of teledentistry, the e-DENT project from University Hospital of Montpellier and the TEL-E-DENT project from the public Hospital of Guéret, are presented to describe how teledentistry works in France, the current legal framework, remuneration of teledentistry and the pros and cons of teledentistry in France. 2019 will be crucial for the development of teledentistry as a number official decisions will be made that will influence the implementation of this kind of activity.

Keywords: teledentistry; legal framework; remuneration; France

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Introduction

Unfortunately, as in almost all countries in the world, there is no equality of access to healthcare in France.¹ This also a concern in large countries like Russia, Australia and Brazil with large rural areas and dispersed rural populations. There are some areas in France where getting access to a health professional is very difficult, and especially to a dentist. Even in a city it can be difficult to reach a specialist, and still more so when living in a nursing home or a facility for disabled people.² This fits with the first objective of telemedicine in the French law: “fight against insularity and geographical isolation” (Art L.6316-1 of the public health code).

One of the official recommendations from the Ministry of Health for elderly people and disabled people in France is to attend an oral consultation by a dentist when they arrive to the facility, and then an annual oral consultation. Despite this, data show that when joining a nursing home access to a dentist for elderly people decreases by 25%.² A national report showed that 85% of residents in nursing homes did not have access to a dentist in the past year and 42% in the past 5 years.³ For disabled people there are fewer studies, but it is reported that 48 of people with disabilities have, at least,

one important issue related to oral health.³ For prison inmates, there is an official and legal obligation for every new inmate to undergo a medical examination, including an oral consultation. Unfortunately, only 25% of these oral consultations are realised at the national level.⁴

To meet these important needs, some dentists, often in public hospitals, have developed teledentistry projects. Examples being, the e-DENT project from the University Hospital of Montpellier⁵ and the TEL-E-DENT project from the public hospital of Guéret.⁶ These projects allow older adults and/or disabled people and/or inmates⁷ to gain access to an oral telediagnosis.

Since the summer of 2018, the French Dental Association has been working intensively to prepare the legal framework for oral telemedicine. Discussions with the Ministry of Health and with the National Public Health Agency are growing. In addition, they are preparing an official contract for teledentistry activity for the dentist. It is essential for this type of remote medical activity to be covered by an official document that addresses current and potential future issues. This new paradigm of oral health needs to be secured. The Dental Association is highly focused on the new relationships between health professionals and especially with respect to the fundamental

professional issues of confidentiality and privacy. For example, the Internet connection with the server needs to be highly secured within a Virtual Private Network (VPN) with unique identification of the patient and the two health professionals involved.

The aim of this paper is to present the teledentistry system in France using two examples: e-DENT from the University Hospital of Montpellier and TEL-E-DENT from the public hospital of Guéret. The legal framework, for telemedicine and teledentistry, and remuneration of telemedicine in the French health system will be described. After this regulatory part we are going to present how telemedicine in general and teledentistry in particular is paid in the French health system. After that, we will explain how it is working, what are the feedback, pros and cons and we will present what we could imagine for the future.

Legal framework of teledentistry

The legal framework for teledentistry is the same as for telemedicine. France was the second country in the world and the first in the European Union to vote an official national law, in 2009. The official legal article is (L.6316-1 code de la santé publique) and a decree was issued the following year describing more precisely how telemedicine has to be implemented. Five telemedicine acts were included in this document:

- Teleconsultation: remote consultation, by a medical professional, of a patient alone or accompanied by a health professional
- Tele-expertise: one doctor remotely requests the opinion of one or more colleagues based on medical information relating to the treatment of a patient.
- Telemonitoring: a medical professional displays the medical data of a patient remotely. These data could be sent automatically, or by the patient, or by another health professional
- Tele-assistance: a medical professional helps another health professional to realise a prescription or an act.
- Online emergency help

Teledentistry is an official medical activity which can only be undertaken by a medical professional. In France there are three medical professions, medical doctors, dentists and midwives. Therefore, a medical doctor, a dentist or a midwife has to be involved as the medical professional remotely consulted. The patient could be contacted directly or through the help of a health professional. Patients should have the same rights as in any face-to-face medical activity. They should:

- Consent to the teleconsultation or the tele-expertise
- Know the medical professional who will have access to their medical data
- Be treated in the same way as during the face-to-face activity

Because medical data are used, a specific secured server has to be integrated into the infrastructure and all data have

to be transferred securely between the patient and the medical professional. In France, a specific agreement is required for medical data storage as mentioned in the article L.1111-8 of the public health code.

Telemedicine and teledentistry could be organised live or in an asynchronous way. Currently, teledentistry in France is largely asynchronous tele-expertise that is consultation between two health professionals on patient's medical data. The most important aspects are the organisational issues and cost efficiency.

In France there are no dental hygienists or other oral health professionals but only dentists. Therefore, nurses and caregivers of the nursing homes or disabled people's facilities have to be trained on oral health and teledentistry to record information needed by the "teledentist" for the tele-expertise. Legally, every health professional registered in the public health code could be involved in telemedicine or teledentistry activities but, for organisational reasons, nurses and caregivers have been chosen more frequently. The patients are more confident with professionals who know them and understand their general and cognitive pathologies.

Becoming a teledentist is no different to being a dentist in traditional practice and requires only registration as a dentist by the local dental association to be allowed to practice. Currently, the French Dental Association does not allow dentists to practice only teledentistry. At national level, teledentistry is practised more often in public hospitals than in private practice. The financial aspect is also an important barrier to the development of teledentistry as part of a private practice.

In a tele-expertise process between two dentists: a general practitioner (GP) and a specialist, the GP could ask the specialist for advice and an opinion to improve the patient's quality of care, by referring photographs and/or radiographs. In France, it is very common for a dentist to take a photograph of the patient or a radiograph and send it to a colleague in order to get for advice. Teledentistry could be the same but using an official system and above all respecting the law. It is important for French dentists to understand that they are not allowed to send medical data by simple email or an SMS as they are doing currently doing almost every day, and that showing the patient's face or providing their name as it is forbidden. Before sending a medical data (picture of a patient) the dentist has to ask for patient's consent, explain why they are sending it, who is going to see it and whether there is a cost for the patient.

Financial agreements

The French government in general, and the Ministry of Health in particular, have actively promoted the development of telemedicine to improve equality in access to care and the quality of care all around the country and since the 15th September 2018, telemedicine acts could be reimbursed by the national public health system. Unfortunately, remuneration is currently only for medical doctors and

dentists are excluded. Efforts are underway to allow remuneration of dentists which it is hoped will be approved in 2019.

A traditional oral consultation in a private or public practice in France costs €23 and is paid by the patient or directly by the national public health system. An oral consultation is defined as a time between a patient and a dentist to understand why the patient is coming, make a diagnosis, and treat the pain, the inflammation or the infection. If radiographs, fillings or scalings are needed for example, they are included in the €23 consultation fee. If separate services such as radiographs and fillings are billed, then the consultation cannot be billed.

A medical doctor is paid €12 for a store and forward tele-expertise based check-up. It can be thought that it would be the same price for the dentists. However, an oral tele-expertise is quite specific. First, the nurse assisting the patient needs more time to record all information needed by the dentist than would be needed for a dermatological tele-expertise. It is more time consuming to get an intra-oral video than a photograph of a skin lesion. On the dentist's side it is important to understand that the practitioner will make a diagnosis on each tooth and a general proposal for the medical pathway to be followed, so it could also need more time. It would therefore be fair to propose a specific price for oral tele-expertise and that each professional involved in the act be paid: the nurse and the dentist. A proposition could be: €12 for the dentist (as the medical doctor) and €8 for the nurse. This sharing could be an opportunity to find a way towards a viable and sustainable economic plan.

A study is running in the South of France, conducted by the University Hospital of Montpellier and financially supported by the Ministry of Health to evaluate the medico-economic impact of teledentistry in nursing homes. This innovative study will provide data on the cost of teledentistry in nursing homes and for the development of an economic plan for its implementation.

Current Teledentistry Practices

There are few teledentistry activities in France. Most of them are still on the experimental scale but two sustained programmes can be identified: TEL-E-DENT from the public hospital of Guéret and e-DENT from the university hospital of Montpellier.⁸

All teledentistry projects in France, both pilot projects and sustained activities, have been developed for frail people. As described, the capacity for frail people to get access to a dentist is a real public health issue. That is why the dentists in charge of these projects start with the elderly people, the disabled people or the inmates as they are needs driven.

Based on the legal framework, the technical organisation of a teledentistry activity is very clear and all the projects are similar. The main objective is to realise a remote oral consultation or a remote oral diagnosis and this is done asynchronously, except in a trial at the university hospital of Bordeaux. Consequently, remote oral diagnosis is considered as a tele-expertise to fit with the actual legal framework of telemedicine.

An oral tele-expertise can be defined in four steps (figure 1):

1. Recording: A healthcare giver from the nursing home who has been trained in dentistry and teledentistry has to record medical data, dental history and videos from the patient's mouth. In the e-DENT project the device used is an intra-oral camera using fluorescence and in the Tel-e-Dent project it is an endoscope.
2. Transmission: the files recorded by the caregiver are sent securely to a specific server to be stored in compliance with the law.
3. Analysis: the dentist, identified by the patient, connects to the server and can read the medical data and videos. He/she then analyses all of the information and proposes a diagnosis and a treatment plan and he/she will develop a proposal for a specific medical pathway adapted to the medical status, cognitive issue and oral treatment

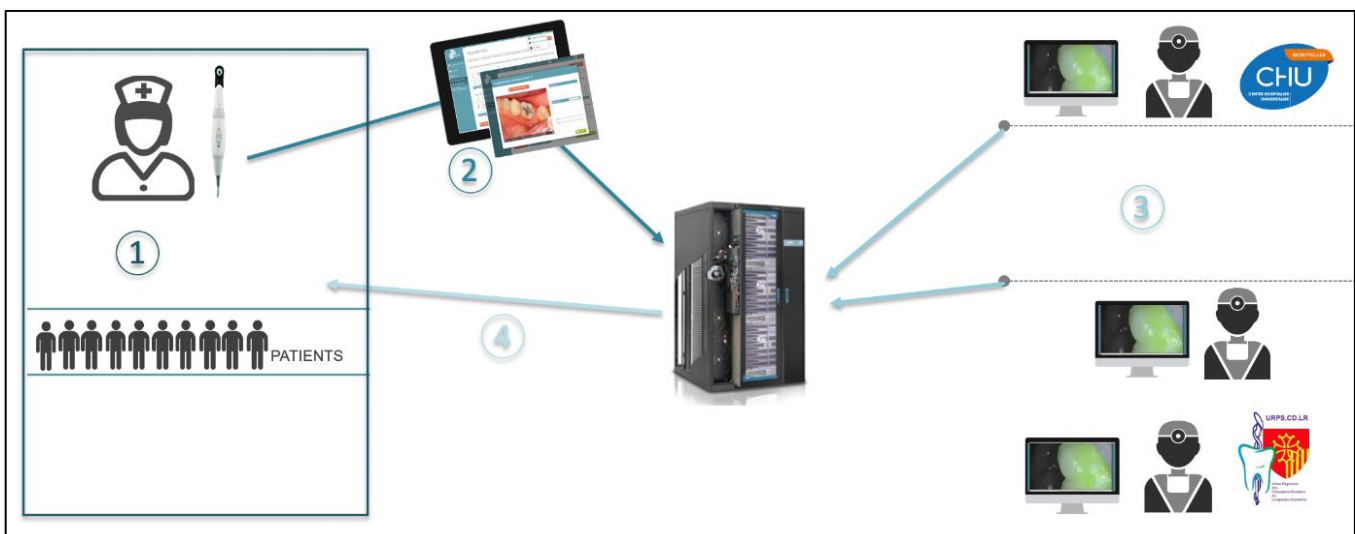


Figure 1. Organisational framework of the e-DENT project.

needed. The dentist can choose between a traditional general practitioner, a specific one or a treatment with general anaesthesia. All information is recorded in a report.

4. Return of information: the report is sent back to the nursing home through the secured system and the medical staff is informed and can then explain to the patient if he needs to go to the dentist or not.

With this organisation, teledentistry is clearly used as a public health tool integrated in a global medical pathway.

Successes and failures

These two projects have been running for more than three years and more than 4,000 patients have been diagnosed through them. Feedback from patients, caregivers, dentists and stakeholders given during these activities, has provided a good view of the pros and cons of teledentistry in France.⁹

Because an appointment with a dentist is stressful, the patients who benefited from a telediagnosis have been very happy to use the system. They mentioned that it was less stressful and saved time and energy. For the nurses or caregivers involved in the activity, they see it as being very useful because they are aware of the unmet need for oral health in their facilities. They also reported that they felt that they were a “super” nurse or caregiver thanks to the specific role in the organisation the system gave them, as well as the real impact they were having on the patient health. For the dentists, the feedback is about the easiness in realising a telediagnosis. Even if they are sometimes not able to be sure of the diagnosis, teledentistry is very useful to make a first filter. On the other hand, they also mentioned that teledentistry is a good cooperation tool as they can contact directly the patient, his/her family or the staff in case of any emergency. They feel that they are a member of the medical staff of the connected facilities and they appreciate that.

Feedback has also mentioned that some difficult patients accept the teledentistry system more readily than regular face-to-face consultation. As they are in their own room or in a well-known location and also as they and people who are using the device know each other very well, the acceptance of teledentistry is made easier. Teledentistry is a tool that needs to be integrated in the regular organisation of the patient’s medical pathway and which improves organisation and cooperation between several healthcare givers.

Not all patients have accepted teledentistry. Some patients cannot accept having a device in their mouth. It could be because of a cognitive issue as they don’t understand that they have to open the mouth, or because they are in a permanent opposition with the treatment. Sometimes they don’t want to be screened through a teledentistry system or they don’t want to know about their oral status because they have no pain, or they think that they will have to pay for the future treatments.

Even if the caregivers involved in the teledentistry process are trained before starting any operation, they do not always succeed in doing it correctly. Recording an intra-oral

video is not technically difficult, but it is completely new for the caregiver. In most of the cases, it is the first device they have to put in a patient’s mouth. That is why they are sometimes not able to record a usable video.

Future of teledentistry

The next step will be the official reimbursement of oral tele-expertise by the national public health agency and/or the private insurance companies. When this happens, oral tele-expertise projects will expand all over the country and all nursing homes, disabled facilities and prisons could possibly have access to a teledentistry system.

Tele-expertise between two dentists will also develop. Nowadays, it is common for a dentist to send a text message or an email to a colleague in order to get an advice on a diagnosis, or a treatment plan and nearly all dentists do so. This type of exchange is illegal in France because of the non-protection of the medical data. An official secured web platform could be created to make legal this kind of exchange legally compliant.

The National Dental Association is concerned about the quality of the images. It is crucial that telediagnosis has to be at least equivalent to a face-to-face diagnosis realised in the same conditions i.e. in the nursing home without a dental chair. That is why it seems necessary to use a specific device and not a smartphone-type device to operate teledentistry.

In the future, artificial intelligence (AI) will help dentists and caregivers to record and analyse data.

Conclusion

Teledentistry has to be considered as a public health tool able to improve access to care. The main objective is not to replace dentists but to help them in the organisation of the patient’s medical pathway. The actions of the French Dental Association helped by two major projects should convince the national health system to officially recognise teledentistry and develop this needed activity to improve access to care for frail people. A lot of work is still needed but we are at an important point of the future of teledentistry in France. 2019 will be the year of teledentistry!

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