

Editorial

Pros and Cons of Telemedicine in the Management of Patients with Chronic Respiratory Diseases[☆]



Ventajas e inconvenientes de la telemedicina en el manejo de pacientes con enfermedades crónicas respiratorias

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In recent years there has been a growing interest in telemedicine and its applications in respiratory medicine.

Although most studies have been performed in patients with chronic obstructive pulmonary disease, telemedicine in other conditions, such as asthma and lung transplantation, has also been explored. Results have been very promising, not only from a clinical point of view¹ (fewer admissions and visits to the emergency room, tele-hospitalization programs, etc.), but also logistically, in terms of e-consultations in smoking cessation programs or the follow-up of compliance in the treatment of tuberculosis, polysomnography with telemonitoring,² or telespirometry.³ One of the most interesting areas is home-based telemonitoring, whereby different parameters, such as spirometry, vital signs, pulse oximetry, telemonitored respiratory sounds,⁴ podometry, etc., are measured remotely in the patient's home and can contribute to the early detection of clinical worsening. Other more ambitious programs in patients with lateral amyotrophic sclerosis have managed to remotely monitor ventilator graphics and modify parameters accordingly, resulting in fewer admissions with no impact on clinical outcomes.⁵

Telemedicine has consistently led to reductions in the number of admissions and visits to the emergency room, while the costs of this intervention are covered by savings generated from reductions in unnecessary hospital visits. Telemedicine, moreover, improves communication between healthcare professionals (HP) and new roles are being defined for “telemedicine specialists”. These are advantages that impact not only on the patient and the caregiver, but also on the HP and healthcare payers.

However, despite the potential advantages, uptake has been slow and several obstacles have been encountered. To understand

why, we must analyze telemedicine programs from the perspective of each of the stakeholders.

Roig and Saigi⁶ list 4 factors necessary for a successful telemedicine program:

- (1) a clearly established objective, designed to respond to the perceived needs of the HPs in a defined setting. We know that one of the reasons telemedicine programs have not become widespread is the failure to adapt the strategy to the particular needs of each setting, producing clashes between organizational aspects, internal relationship models, and sector-specific networks of interest;
- (2) a leader, defined as a professional with mid-to-long-term vision and clinical experience to be able to detect needs and opportunities for improvement;
- (3) external partnerships; and
- (4) a project that is sustainable beyond the pilot study.

Very few studies have evaluated the disadvantages of telemedicine from the perspective of HPs, although they all agree that overwork is the main obstacle.

Clearly, much of the enormous daily data output generated by telemedicine programs is not necessarily clinically significant, and if not correctly classified can result in a heavy workload. For this reason, it is essential to form multidisciplinary groups with well-defined roles. Jódar-Sánchez et al.⁷ found that a screening switchboard, manned by nurses trained in telemedicine programs, resolved most alerts received, and only 2% of cases required evaluation by a physician. Other drawbacks, in the opinion of HPs, were lack of planning, insufficient training in the devices and technological problems.

An important point to take into consideration is telemedicine as a specialty field. This not only defines new professional profiles such as the nurse manager or the health coach, but would also allow HPs to devote part of their working day to telemedicine, instead of “doing it when they've got a moment”. The “got a moment” scenario

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is the one most likely to generate a negative response to these new technologies.

Patients, on the other hand, refer to problems with the use of devices and concerns about the confidentiality of data submitted. The recently published Valcrónica study⁸ found that users did not wish to participate because they were unwilling to assume the obligations involved in the program, they doubted whether they would be able to use the devices, and they had misgivings about the program itself. The main reason for discontinuing the study was the patient's anxiety about taking the measurements incorrectly, or the caregiver's general misgivings about the program.

We must bear in mind that the majority of potential users are elderly individuals with multiple comorbidities who are unfamiliar with new technologies. Although advanced age and concomitant disease burden do not seem to limit participation in a telemedicine program, these features should be taken into account and the most user-friendly devices must be selected, excessively complicated protocols should be avoided and patients must not be expected to invest significant amounts of time. Training patients and caregivers to correctly record the measurements has been associated with improved adherence to telemedicine programs.

Another aspect to remember is cultural bias. Some patients, particularly the elderly, prefer a conventional face-to-face visit rather than a virtual visit, although both have been shown to be equally effective.

From a provider's point of view, telemedicine is an opportunity to recoup costs and optimize human and professional resources. Several studies have been published demonstrating the cost-effectiveness of these programs,⁹ but no data are available on other administrative aspects, and our information is derived from the personal opinion of managers.

An interesting project, "The Hospital of the Future" (available on the website http://clubgertech.unavarra.es/public/hospital_futuro_libro.pdf), discusses the opinions of healthcare managers on telemedicine and its use in the future. All participants agree that telemedicine can improve the efficiency and efficacy of medical care by generating alternatives to routine hospitalization, and welcome the opportunity to develop technological platforms that can meet the need for health information and provision of chronic care. Dr Luis Carretero makes an interesting point on public-private

sector collaboration agreements when he suggests that the latter has some responsibility for renewing and maintaining technologies. Dr Javier Colás, meanwhile, believes that technological innovation is essential in the treatment of chronic diseases, and describes the 3 keystones of this approach as: (1) the patient can be actively involved; (2) different healthcare levels can be integrated in a single system that can stratify the risk of the patient population, and (3) care is transferred to the patient's home.

In conclusion, a growing body of evidence supports telemedicine, although we still have to overcome resistance to change from both patients and HPs. Education, training in the use of medical devices, well-structured programs with defined roles, and longer studies that confirm the economic sustainability and duration of the protective effect in patients are key elements in the future implementation of telemedicine.

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