Farmacia HOSPITALARIA
Órgano oficial de expresión científica de la Sociedad Española de Farmacia Hospitalaria

EDITORIAL
Bilingual edition English/Spanish

Telepharmacy: Usefulness, implantation and research

Telefarmacia: Utilidad, implantación e investigación

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Received 12 June 2022;
Accepted 20 June 2022.
DOI: 10.7399/fh.13298

How to cite this paper
Margusino-Framiñán L, Monte-Boquet E. Telepharmacy: Usefulness, implantation and research. Farm Hosp. 2022;46(Supl 1):S1-2.

Telepharmacy, defined as pharmacy services delivered remotely, is not a novelty in pharmacy practice. However, its application to outpatient pharmaceutical care has expanded dramatically worldwide as a result of the COVID-19 pandemic. In Spain, Telepharmacy has long been used for inpatient drug therapy monitoring, reporting pharmaceutical interventions to other members of a multidisciplinary team and for other purposes, such as patient information and education. Some experiences have demonstrated that Telepharmacy is useful in medical team coordination or telemonitoring. Likewise, a range of research studies in our country have consistently provided evidence on the positive effects of Telepharmacy on clinical outcomes. More recently, in 2014, the Spanish Society of Hospital Pharmacy conducted the *MAPEX* project[1], where a new pharmaceutical care model was developed based on Capacity, Motivation, and Opportunity (CMO)[2]. The MAPEX project, among other aspects, laid the foundations for the provision of pharmaceutical care through Telepharmacy. Thus, Telepharmacy was already implanted in hospital pharmacies in Spain before the pandemic and was included in strategic pharmaceutical care plans.

The applications of Telepharmacy to healthcare have expanded in the recent years concurrently to the number of patients who benefit from it. This phenomenon is reflected both at institutional level and as an innovative pharmaceutical practice. At institutional level, within the context of the MAPEX project, the SEFH is developing the *Telepharmacy Strategic Plan*[3] to lay the groundwork and establish a framework of reference for the development of Telepharmacy. In this Plan, Telepharmacy is recognized as a complementary tool to pharmacy practice by which pharmaceutical services are delivered to outpatients remotely. In addition, this Plan is aimed at driving a cultural change among hospital pharmacists through their active involvement in Telepharmacy projects. To accomplish these goals, the SEFH has defined four lines of action: Documental Development, Technical Structure, Healthcare Support, and Results/Continuous improvement. These lines are consistent with the SEFH *Positioning Paper on Telepharmacy*[4], on which Telepharmacy is defined and identified as a complementary service to face-to-face pharmaceutical care, with the same quality and safety standards. In this paper, the SEFH urges healthcare administrations, policy-makers, health professional associations, hospital pharmacy directors and patient associations to promote initiatives for an efficient, safe, humanized use of Telepharmacy. At the level of pharmacy practice, a significant number of Hospital Pharmacy Services have established new standard operating procedures based on Telepharmacy, which results are evaluated in research studies.

This *Farmacia Hospitalaria* monograph on Telepharmacy was proposed by the Editorial Board of the journal in the wake of the SEFH's efforts to develop a Telepharmacy strategy. This monograph is intended to present the most effective initiatives undertaken in hospital pharmacy services in Spain, especially at healthcare and research level. This issue includes two reviews, a narrative review and a systematic review. These reviews explore the efficacy of Telepharmacy in pharmacy care and its impact on treatment adherence in patients with Diabetes Mellitus type II, respectively. Viegas *et al.* of the International Pharmaceutical Federation reviewed the advantages of Telepharmacy both, for pharmacists and patients, by which pharmaceutical care services are adapted to patient and professional needs, improve multidisciplinary care and increase the efficiency of healthcare systems. The authors also identified some limitations to the expansion of Telepharmacy at technological, organizational, human and economic level. Company-Bezares *et al.* selected eight studies to assess the influence of m-Health on treatment adherence in patients with DM II. The authors identified behavioural and/or educational models, in line with other Telemedicine-based interventional research studies. Due to the heterogeneity of results and sampling bias, conclusions cannot be drawn about the m-Health strategies with a highest impact on treatment adherence in patients with DM II.

This monograph includes four special articles on initiatives launched by the SEFH in the context of the MAPEX project: three methodological support documents for the implantation of Telepharmacy in Spain; and a study where the results of the ENOPEX project are presented by autonomous com-

munity[5]. The methodological support documents are intended to facilitate and standardize the development of Telepharmacy in hospital pharmacy services. Thus, Morillo-Verdugo *et al.* present the *Guide to Telepharmacy for Patients and Professionals*. This document vertebrates the scopes of application of Telepharmacy and presents it to patients as a complementary tool to face-to-face pharmaceutical care in the Hospital Pharmacy Service. Monte-Boquet *et al.* present the *Model for Patient Prioritization in Telepharmacy* and provide guidelines for the prioritization of candidate patients for inclusion in Telepharmacy plans. Sanmartín-Fenollera describe their *Scoreboard of Indicators in Telepharmacy* for assessing the level of implantation of Telepharmacy and monitoring its development, to facilitate management and decision-making. Finally, Mercadal-Órfila *et al.* report the results of the national multicentric study ENOPEX by autonomous community, where patients exhibited a high level of satisfaction with Telepharmacy during the COVID-19 and reportedly preferred this model to avoid travels. The results of this study will help healthcare providers and decision-makers identify relevant variables for the stratification of candidate patients for inclusion in Telepharmacy programs.

The six original articles document the results of the most recent research studies in the field of Telepharmacy, in terms of health outcomes and level of patient satisfaction. m-Health experiences deserve special mention, as m-Health tools facilitate drug therapy monitoring, enable patient involvement in the design of m-Health applications, and highlight the relevance of digitation to make the development of these technologies possible. In this line, Dios-López *et al.* assess the impact of the use of m-Health technologies by HIV patients, which enable patient information and education, bidirectional communication with healthcare providers, and self-management of the healthcare received. Collado-Borrell *et al.* describe an innovative integrated telehealth model based on an m-Health platform that enables communication with and follow-up of patients, and includes services such as home delivery of medicines. The use of this platform makes it possible to remotely monitor the effectiveness and safety of patient treatment and facilitates continuous communication with a pharmacist. Castro-Balado *et al.* and Lago-Rivero *et al.* provide the results of two m-Health programs integrated in the information system of a regional health system for cancer patients and patients receiving enteral nutrition, respectively. The two studies provide evidence that m-Health facilitates the continuity of healthcare and the follow-up of patients, optimize resource use, and integrates information on electronic medical records. García-Queiruga *et al.* tested a platform for the coordination of hospital pharmacy with primary care, which enables coordinated outpatient drug therapy monitoring, with good results in terms of treatment adherence and perceived quality by patients and healthcare providers. González-Pérez *et al.* present an agile, customizable, dynamic scorecard for the visualization and analysis of clinical and management indicators in Telepharmacy, based on the use of advanced business intelligence technology.

Finally, Morillo-Verdugo *et al.* document a research protocol focused on the use of Telepharmacy for the coordination of the healthcare team (TELÉMACO project). This protocol includes the development of a tool for the coordination of hospital pharmacies and rural pharmacies, which imply patient involvement in the management of their clinical outcomes and assess their experience with a Telepharmacy care model.

In summary, the articles included in this monograph consistently demonstrate the usefulness of Telepharmacy in the provision of telepharmaceutical care, and identify its benefits and drawbacks. This issue includes healthcare support documents for the implantation of Telepharmacy in the Hospital Pharmacy Service and reveals the need for further research studies to better understand its contribution at clinical, economic and patient's perceived quality.

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