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Title: Telemedicine: Report on evaluation and applications in Andalucia

Agencies AETSA, Agencia de Evaluación de Tecnologías Sanitarias de Andalucía
Luis Montotoo 89, 4a Planta 41071, Sevilla, Spain; tel: +34 95 500 6841, fax: +34 95 500 6845, aetsa@cica.es

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Aim

1. To know the state of the art in telemedicine, with syntheses of evidence on security, efficacy, effectiveness, efficiency, acceptability, and satisfaction regarding different applications of telemedicine.
2. To describe the various applications and services of telemedicine.
3. To identify the progress of projects that have been initiated and are underway in the Andalucian public health system.

The decline in the cost of electronic devices, the development of communication networks in Spain, and the subsequent changes in customs over the past 15 years have promoted a growing interest in these technologies on the part of health systems. Telemedicine technologies are expected to increase accessibility to medical services in villages that may lie in remote areas. Furthermore, they are expected to lead toward centralizing specialized services and facilitate the flow of clinical information in urban areas.We used a systematic review as the methodology for this report, although we were aware of the fact that, given the nature of the studies' results, a quantitative synthesis would not be possible.

Sources of information: reports by other agencies and government organizations, study of reviews, personal contacts, books, specialized written media, MEDLINE, EMBASE, COCHRANE LIBRARY and the Índice Médico Español (Spanish Medical Index).

The results suggest that telematic systems of data and image transmission constitute an important element in health care and administration. A result, the patient-staff relationship and the interrelationships among health professionals are changing. Consequently, in the short term, these technologies should be taken into account when designing healthcare programs and systems. Despite these facts, scientific production as regards telemedicine is not of high quality, and includes an abundance of mere system demonstration, a stage which we consider to be somewhat outdated. The implications of the necessary organizational changes have therefore taken on decisive importance.

Conclusions

1. In general, evidence in telemedicine is poor. Most reports agree on which aspects should be evaluated and how this should be done.
2. It is a safe technology which can improve the management of some types of patients and reduce unnecessary transfers while being suitable for both patients and health professionals.
3. The benefits of data transmission from ambulances to hospitals (or emergency coordinating centers) speed the treatment of patients with acute heart pathology, improving their prognosis.
4. Transmission speed and particularly image quality depend on the communications infrastructure.
5. Some studies have shown that telemedicine is cost effective beyond a certain number of consultations or studies. It will take considerable time before the initial investment can be paid off.
6. The various applications show a high degree of accuracy and concordance in diagnosis, with some controversy in the case of teleradiology.
7. In casualties and emergencies, the benefits of early attention and the impact on prognosis improvement are more important, especially in health systems that provide paramedical outpatient care.
8. Although norms exist to safeguard patients' confidentiality and protect their computerized data, some misgivings exist regarding the security of information circulating on the Internet.
9. Despite the fact that few telemedicine systems are currently used in Andalucia, the situation is favorable, owing to the introduction of the Junta de Andalucía's Corporate Network, the computerization of Health Centers and medical records, and the extensive telecommunication coverage that exists at a regional level.

Written by Dr. Antonio Romero Tabares, AETSA, Spain