



Title	Systematic Review of the Effects of Home Telemonitoring in the Context of Diabetes, Pulmonary Diseases, and Cardiovascular Diseases
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Aim

To determine the effects associated with home telemonitoring in light of studies on 3 main categories of diseases and their associations: diabetes (types 1, 2, and gestational), pulmonary diseases (asthma and chronic obstructive pulmonary disease), and cardiovascular diseases (heart failure and hypertension) and explore the conditions for success in this care delivery method.

Conclusions and results

Analysis of the 119 identified studies on home telemonitoring reveals that the effects of this care delivery method are, in general, highly encouraging, especially at the clinical, behavioral, and structural levels. In general, telemonitoring is clinically effective in patients with diabetes, hypertension, or asthma and allows for a better understanding of the patient's health, better control of symptoms, greater compliance with pharmacotherapy, and greater patient empowerment. It also leads to a reduction in demand for health care, with 50% of the studies reporting a significant decrease in service consumption. The other half of the studies report that both modalities (telemonitoring and conventional home follow-up) are equivalent in this regard. The analysis also identified 3 main categories of conditions for successful implementation of telemonitoring: 1) those associated with the patients in question, 2) those associated with the technological devices used, and 3) those associated with the organization of a home telemonitoring program. The highly encouraging results observed at all levels, together with demographic changes, the prevalence of chronic diseases, and the anticipated shortage of nurses in Québec warrant a gradual implementation of home telemonitoring for all healthcare services provided to the chronically ill. However, the success of such projects depends on adopting a holistic view and proactively managing the various issues and risks involved, since the technological devices provided to the patients cannot, alone, guarantee that the desired effects will be achieved.

Only by meeting all conditions listed in the report can the likelihood of observing these positive effects be significantly increased.

Methods

The systematic review covers January 1966 to December 2007 and concerns the clinical, behavioral, structural, and economic effects associated with home telemonitoring and its main conditions for success. MEDLINE (PubMed interface), The Cochrane Library, and the INAHTA (International Network of Agencies for Health Technology Assessment) database were consulted, and the Copernic and Google search engines were queried.

Further research/reviews required

Given the paucity of evidence and the ambiguity of the results obtained thus far, no firm conclusions can be drawn regarding the economic viability of home telemonitoring. More thorough and more rigorous economic studies are therefore recommended.