Home Telehealth for Chronic Disease Management

Technologies

In home telehealth, information and communication technologies are used to link a home-based patient with a remote health care professional. Home telemonitoring and telephone support may facilitate chronic disease management.

Issue

Home telehealth could be used to provide health care services to aging patients with multiple chronic conditions and limited access to services. The clinical benefit and cost-effectiveness compared with usual care for chronic disease management is uncertain.

Methods and Results

A systematic search of studies on home telehealth and diabetes, chronic obstructive pulmonary disease, and congestive heart failure (CHF) yielded 79 clinical, 22 economic, and 81 ethical or legal reports. An environmental scan identified home telehealth programs underway in Canada. Results from the clinical review show that home telehealth is clinically effective and can reduce health services use. Most economic studies found it to be cost saving from a health system perspective. A framework for economic evaluations was developed. Ethical, legal, and psychosocial issues were identified.

Implications for Decision Making

- Home telehealth could improve health measures for some chronic diseases. Compared with usual care, home telemonitoring improved glycemic control in patients with diabetes and reduced mortality in patients with CHF. Home telemonitoring and telephone support reduced health service use for patients with diabetes, CHF, and mixed chronic conditions. In chronic obstructive pulmonary disease, mortality was higher with telephone support than usual care. Health-related quality of life and patient satisfaction did not differ between home telehealth and usual care.

- Uncertainty remains about cost-effectiveness. Most economic studies found that home telehealth is cost saving from a health care system perspective. The studies, however, were of poor quality. A framework for economic evaluations and a sample analysis are provided to help with the evaluation of home telehealth programs.

- More research is needed to measure the impact of home telehealth on clinical and health services use. This will clarify if the lower resource use that is attributed to home telehealth is due to a reduced access to health care services or a reduced need for the services. The costs should be studied at the patient and population levels to allow for comparisons among different sizes of populations.

This summary is based on a comprehensive health technology assessment available from CADTH’s web site (www.cadth.ca): Tran K, Polisena J, Coyle D, Coyle K, Kluge E-H W, Cimon K, McGill S, Noorani H, Palmer K, Scott R. Home telehealth for chronic disease management [Technology report number 113] and Overview of Home Telehealth for Chronic Disease Management [Technology overview number 46].

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