Patient and provider perspectives on home telecare: preliminary results from a randomized controlled trial

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Summary

A randomized controlled trial of home telecare for the management of acute exacerbations of chronic obstructive pulmonary disease has been undertaken in the north-west of England. A videophone was used that communicates via the ordinary telephone network. The intervention period for each participant was two weeks. Participants in the telecare arm of the trial were asked to complete logbooks to record their experiences of each telecare encounter. A simple, self-completed, 10-item questionnaire was used that consisted of a Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). Fourteen nurses completed 150 logbooks and 22 patients completed 145 logbooks. These results demonstrate significant differences in perception between patients and their health-care providers with regard to telecare encounters across all the domains addressed. Participating patients consistently demonstrated more positive views of the telecare encounters than their health-care providers.

Introduction

There is an abundant literature on the subject of patient satisfaction with telecare,[1,2] and some work describing the perspectives of providers.[3,4] However, there is much less published research that directly compares patient and health-care providers' views of telecare. Work to date has tended to describe patient and health-care providers' views of generic services and has often involved selected patient populations.[5] We have compared patient and provider perspectives on specific telecare encounters based on initial results from a randomized controlled trial (RCT) of home telecare that is being conducted in the UK.

Randomized controlled trial

An RCT of home telecare for the management of acute exacerbations of chronic obstructive pulmonary disease (COPD) has been undertaken in the north-west of England. The home telecare intervention is of short duration (two weeks) and aims to support those suffering from acute exacerbations of COPD at home, reducing the need for hospitalization. This home telecare service is therefore relatively novel, as it focuses on acute rather than chronic care.

A videophone is used that communicates via the ordinary telephone network. The videophone also permits realtime transmission of physiological data, namely blood pressure, pulse rate, pulse oximetry and temperature. The telecare intervention is being compared with a pre-existing home nursing support intervention. Study participants include:

- those who attend the emergency department with an acute exacerbation of their COPD and who would normally merit admission;
- those who have been admitted to hospital with an acute exacerbation of their COPD but are deemed eligible for early discharge with support.

Full details of the trial protocol, including inclusion and exclusion criteria and outcome measures, have been described previously.[6]

Methods

As part of the RCT protocol, information about readmission rates and quality of life is being collected. However, participants in the telecare arm of the trial have

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Table 1 Patient (n=22) and nurse (n=14) perspectives of home telecare encounters

Patient statement	Mean score (95% CI)*	Nurse statement	Mean score (95% CI)*	*P*-value (*t*-test)
I could see the nurse clearly	4.3 (4.0–4.6)	I could see the patient clearly	3.1 (2.7–3.5)	<0.001
I could hear the nurse clearly	4.5 (4.3–4.7)	I could hear the patient clearly	3.6 (3.4–3.8)	<0.001
I felt the TV phone system was a safe way to care for me	4.4 (4.2–4.6)	I felt the videophone was a safe way of caring for the patient	2.6 (2.4–2.8)	<0.001
I felt I could say all I wanted to the nurse	4.5 (4.3–4.7)	I felt I could say all I wanted to the patient	2.8 (2.6–3.0)	<0.001
I felt something important was missing because the nurse was not in the room	2.9 (2.3–3.5)	I felt something important was missing because I was not in the room with the patient	3.7 (3.6–3.8)	<0.009
I felt the nurse could understand my general concerns	4.4 (4.2–4.6)	I felt I could identify the patient's general concerns and problems	2.9 (2.7–3.1)	<0.001
I felt comfortable using the TV phone system	4.4 (4.2–4.6)	The patient seemed comfortable using the videophone system	3.6 (3.4–3.8)	<0.001
I would feel more comfortable seeing the nurse face to face	3.1 (2.6–3.6)	I would feel more comfortable seeing the patient face to face	4.1 (3.9–4.3)	<0.005
I felt that the nurse could understand my medical problems	4.4 (4.1–4.7)	Using the videophone I could get a good idea of the patient's medical problems	2.2 (2.0–2.4)	<0.001
It was easy to measure my own blood pressure, pulse and temperature	4.4 (4.2–4.6)	It was easy to measure the patient's blood pressure, pulse and temperature	3.2 (2.9–3.5)	<0.001

*Five-point Likert scale – 1 (totally disagree) to 5 (totally agree)

also been asked to complete logbooks to record their experiences of each telecare encounter. The nurses providing the service have rated the same consultations in similar logbooks. The logbooks address a range of issues, including basic functioning of the system, for example adequacy of audiovisual elements, but also communication issues, overall acceptability and perceived clinical utility of the telecare service. A simple, self-completed, 10-item questionnaire was used that consisted of a Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). The mean scores per item were calculated for each patient.

Results

Fourteen nurses completed 150 logbooks and 22 patients completed 145 logbooks. Twelve of the participating patients were women (55%) and 10 were men (46%). The mean age of participating patients was 71 years (SD 8). The mean scores per question are shown in Table 1.

Discussion

These results demonstrate significant differences in perception between patients and their health-care providers with regard to telecare encounters across all the domains addressed. Participating patients consistently demonstrated more positive views of the telecare encounters than their health-care providers. This was even true of what might be considered relatively basic and uncontroversial issues, such as the audiovisual quality.

The health-care providers were more concerned about the negative effects of telecare consultations on communication and appeared to demonstrate greater 'discomfort' when using the telecare system. With regard to the accuracy of assessment of a patient's medical problems, the patients believed that nurses could understand their problems quite well when using the telecare system, while in contrast the nurses were far less confident about this aspect of the telecare encounters. These findings accord with previous telecare research that has shown positive patient reactions to telecare encounters[1] and a rather less enthusiastic response from health-care providers.[5]

There are two important limitations to the present study. First, the total number of participants is relatively small. Second, we do not fully understand the underlying reasons for the responses provided by participants. There are several possible explanations. For example, our results may simply reflect the fact that traditionally patients are more acquiescent and offer positive responses to satisfaction surveys, while studies of professional views of the introduction of new technologies usually report more conservative responses. It is also possible that those patients who got as far as using the telecare system in practice may have been those with a relatively positive orientation to new technology. Further enquiry is needed to confirm or refute such assumptions.

The preliminary data obtained in the present study identify, but do not explain, a marked difference of opinion between patients and service providers about the utility and acceptability of the home telecare consultations. We believe that rigorous exploration of the reasons underlying the apparent differences in perspective is now merited. In addition, further investigation of these issues is required with larger sample sizes across a range of telecare contexts. Such research is necessary in order to enhance understanding of barriers to telecare implementation and to help identify which telecare initiatives are most likely to be successful when introduced into routine service delivery.

Acknowledgements: We thank the ACTRITE nurses for their help with the study. We are also grateful to the NHS Modernisation Fund, the Mersey Primary Care R&D Consortium and Astra Zeneca for their financial support.

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Videoconferences for rural physicians' continuing health education

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Summary
The University of Alberta uses videoconferencing to link physicians in interactive continuing health education. We examined evaluations of 29 videoconferences for rural practitioners during the programme year September 2003–May 2004. The evaluation form, completed by participants following the presentation, used both quantitative and qualitative methods of data collection. The average attendance for the videoconference sessions was 40 people. A total of 593 evaluations were collected (response rate 51%). The audience were very satisfied with the programme and felt that the sessions were relevant to their practice. The interactive discussion component was rated very highly. Most respondents stated that they would change their practice based on the information discussed. It is clear from our survey that videoconferencing is useful in overcoming the barriers of distance and that small physician numbers create a positive environment for adult learning.

Introduction

Canadian medical colleges have embraced adult learning principles[1] for continuing health education (CHE). However, small interactive group learning, although relatively easy to arrange in urban areas, is impractical in rural areas. At the University of Alberta, the videoconference programme links physicians from communities that are miles apart in interactive CHE. Videoconferenced presentations have been reported in the literature to be effective as a method of meeting educational demands.[2–4]

In western Canada, weekly videoconferences are broadcast in the middle of the day to subscribing hospitals all over the province of Alberta, as well as to areas of British Columbia and several remote locations in the Yukon Territory. These videoconferences feature a presentation and an opportunity for facilitated discussion between the sites. The audience comprises physicians and/or nurses and allied health professionals.

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Methods

We examined evaluations of 29 videoconferences for rural practitioners during the programme year September 2003 to May 2004. The evaluation form, completed by participants following the presentation, used both quantitative and qualitative methods of data collection. Participants were asked to rate the following seven items on a Likert scale, with response categories ranging from 1 (strongly disagree) to 5 (strongly agree):

(1) The material presented was relevant to my practice.
(2) The presentation was well organized.