

Exploring telemonitoring and self-management by patients with chronic obstructive pulmonary disease: A qualitative study embedded in a randomized controlled trial

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ABSTRACT

Objective: To explore patient and professional views on self-management in the context of telemonitoring in chronic obstructive pulmonary disease (COPD).

Methods: Semi-structured interviews with patients with COPD and healthcare professionals participating in a randomized controlled trial of telemonitoring in Lothian, Scotland, explored experiences of using telemonitoring, and dynamics in patient–practitioner relationships. Transcribed data were analyzed using the Framework approach.

Results: 38 patients (mean age 67.5 years) and 32 professionals provided 70 interviews. Patients considered that telemonitoring empowered self-management by enhancing their understanding of COPD and providing additional justification for their decisions to adjust treatment or seek professional advice. Professionals discussed telemonitoring as promoting compliance with medical advice and encouraged patients to exercise personal responsibility within clinical parameters, but expressed concerns about promoting the sick role and creating dependence on telemonitoring.

Conclusion: Telemonitoring assisted many patients to embrace greater responsibility for their health but the model of service provision remained clinician-centered. A medical model of ‘compliant self-management’ may paradoxically have promoted dependence on professionals.

Practice implications: Patients and professionals shared responsibility for meeting the central objective of prompt management of exacerbations of COPD. Care is needed, however, to minimize the risk in some patients, of telemonitoring increasing dependence on practitioner support.

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1. Introduction

Chronic obstructive pulmonary disease (COPD) is a leading cause of morbidity and mortality [1]. As patient numbers increase and the cost of healthcare provision rises, concern is growing over the sustainability of current, clinician-centered models of care [2]. In line with international developments [3], UK National Health Service (NHS) policy emphasizes patient self-management as a means of redistributing both the responsibility and cost of

healthcare provision for people living with long-term conditions [4–7].

1.1. Defining self-management

The term self-management in a healthcare context is often used to describe processes relating to the acquisition and/or use of knowledge and skills by patients to support their own care. It is also sometimes used as an umbrella descriptor for formalized activities (such as educational programs, person-centered coaching, etc.) designed by healthcare professionals with the intention of preparing patients to assume (greater) responsibility for managing their condition. Whilst philosophically rooted in self-efficacy theory [8], it has been widely interpreted by practitioners as a means of supporting medical compliance with established practice [9,10]. The term is also linked to the patient empowerment agenda

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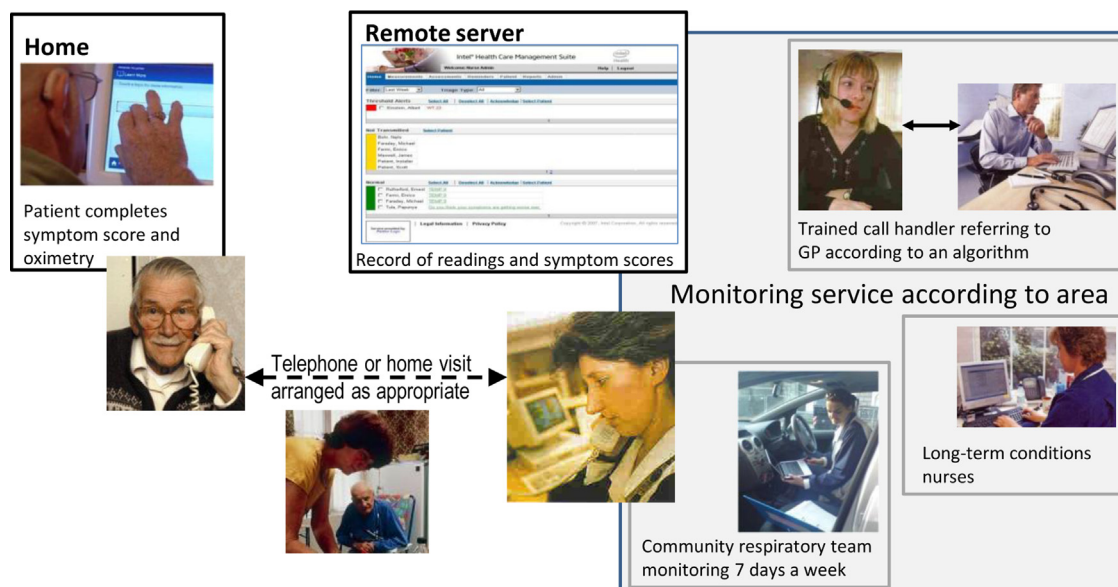


Fig. 1. The Lothian telemonitoring service.

in healthcare policy and practice [11,12] which emphasizes the role of the consumer as a partner in, rather than mere recipient of, healthcare. There is however uncertainty among patients and healthcare professionals as to what self-management means in practice: its terminology, applicability and implications [7,13].

1.2. Telemonitoring to support self-management in COPD

Telemonitoring of patients at home is promoted as a cost-effective approach to facilitating patient self-management. It allows clinicians to monitor patients' clinical status remotely, respond with advice on management and thus has the potential to improve care (Fig. 1) [14].

However, it is not clear what impact this has on patients' desire and ability to self-manage. In our pilot study of telemonitoring in COPD [15], professionals perceived a tension between the opportunities for the service to enhance patients' independence through supporting self-management, and its potential to increase the burden of professional work through enabling more direct routes to access and generating new responsibilities for clinicians to respond to telemonitoring readings.

1.3. Current understanding of telemonitoring-supported self-management

Self-management and telemonitoring approaches in COPD have generally been investigated as separate propositions, though promoted as synergistic. Studies investigating self-management approaches in COPD have largely focused on the development and provision of formalized patient education programs, though heterogeneity in the design, delivery and evaluation of such initiatives has resulted in inconsistent outcomes [16–18].

Research on the effectiveness of telemonitoring in COPD has focused primarily on the impact of interventions on hospital admissions and cost-effectiveness, although has also reported on quality of life and patient satisfaction measures [19,20]. Systematic reviews suggest overall benefit in these outcomes [19,20], though it is increasingly recognized that contextual factors affect the implementation and impact of telemonitoring interventions [21]. Whereas a number of studies have indicated that telemonitoring can improve patients' disease knowledge and involvement in their

health management [22–24], others have reported that telemonitoring has not led to improvements in autonomy [25,26].

Recent attention has focused on the philosophical positioning of self-management within telemonitoring services. Schermer argues that there are three degrees of telemonitoring-supported self-management [27] two of which he describes as 'compliant self-management' and a third as 'concordant self-management' (see Table 1). He argues that current forms of telemonitoring merely promote 'compliant self-management'. However, the views of patients and healthcare professionals on issues of compliance and concordance in relation to telemonitoring-supported self-management have yet to be investigated. This study addresses these issues in the context of a large qualitative dataset gathered during the TELESCOT randomized controlled trial of telemonitoring in COPD (described in Fig. 1) [28]. TELESCOT is a program of academic research investigating the clinical and cost-effectiveness of telemonitoring interventions in the management of people living with a range of long-term conditions within Lothian, Scotland (<http://www.telescot.org>). Embedded within the trials, the qualitative studies are designed to provide insight into participants' perceptions of the telemonitoring intervention, facilitators and barriers to implementation and the process by which any effect is exerted. This is an approach that has the potential to be particularly useful in relation to the evaluation of complex interventions [29].

Table 1
Schermer's three degrees of telemetric self-management [27].

Compliant self-management:

the patient as an extension of the professional, undertaking some practical tasks traditionally performed by the healthcare professional, such as the taking of measurements; and
the patient as 'proto-professional', engaged in the interpretation of measurements and involved in follow-up actions in alignment with medical-professional perspectives.

Concordant self-management:

The patient independent of the practitioner, using telemedicine to make decisions and choices outwith the medical frame, and sometimes in contravention of it, in order to achieve overall quality of life or the fulfilment of important life goals or values. Clinical expertise of professionals is integrated with the concerns, priorities and resources of the patient.

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