Using technology to support patients with Chronic Obstructive Pulmonary Disease

Overview

7,800

lives saved annually by improved self-management

Chronic Obstructive Pulmonary Disease (COPD) is the name for a collection of lung diseases including chronic bronchitis, emphysema and chronic obstructive airways disease. The Strategy for Services for COPD in England (DH 2011) aims to ensure that everyone diagnosed with COPD receives equitable, responsive, high-quality and effective health and social care services.

One of the objectives of the strategy is to support people with a diagnosis of COPD to self-manage, so that the individual lives the life they choose, while working with healthcare professionals to ensure that they receive the information and care they need. If the guidelines are followed across the NHS then an estimated 7,800 lives could be saved annually.

The use of Telehealth, and the application of telecommunications to support patients with long term conditions (LTC), are becoming more evident in supporting communication between clinicians and patients about condition management and the improvement of the care provided. This project applies such a technology to COPD.

Project Aims and Methods

COPD Monitor is a technology which automatically calls patients at pre-determined intervals (usually twice a week), and uses patient responses to pre-set questions to evaluate their state of health.

Patients record their symptoms by responding to a series of questions using the telephone key pad. Using this data, the COPD Monitor will automatically alert the clinician if a patient's state of health has deteriorated beyond a given threshold using a clinician developed algorithm.

Message Dynamics Ltd built the complete IVR and system administration modules required to run the COPD Monitor. The service was initially piloted on 10 patients by the COPD Team of Heatherwood and Wexham Park Hospital / Berkshire Health Care Foundation Trust.

COPD Monitor became fully operational on 1 September 2011, and 36 patients were recruited into this evaluation, which ran from September 2011 to June 2012.

All patients recruited to the study were asked to complete the Hospital Anxiety and Depression (HAD) questionnaire, the COPD Assessment Test (CAT), and The Chronic Respiratory Questionnaire (CRQ), as well as a Patient Experience questionnaire.

Findings

The evaluation found that the COPD Monitor system was well received by both patients and healthcare professionals. It contributed to patients' self-management, therefore improving treatment adherence, resulting in decreased visits to hospital and to the patient's GP. The system expanded the clinical capacity of staff, by allowing them to focus on the most at-risk COPD patients, helping to improve the quality of life of these patients, as well as preventing the development of complications.

The use of the COPD Monitor delivered estimated savings of £1,572 per patient per annum. The marginal costs of the COPD Monitor, once the system has been set up, are estimated to be £26 per patient per year.

The main savings were in the following areas:

- Admission avoidance.
- Fewer patient visits to Accident and Emergency departments.
- Fewer patient visits to GP surgeries.
- Time saved on home visits by clinical staff.
- Savings on clinical staff travelling time and mileage costs.

The use of the COPD Monitor delivered estimated net savings of

£1,546

per patient per annum

Recommendation

This project reports a small scale study into the use of COPD Monitor across a nine month period in a single site. While the project shows promising outcomes in terms of both improved outcomes for patients and reduced costs, further work is necessary to demonstrate the benefits when scaled up across the full service. In particular, the need for investment in the infrastructure of the COPD Team to increase the resources for the triage of all alerts, to ensure patient safety and to give a proactive and timely response to the patient, needs to be explored in future work.

Working with Thames Valley Health Knowledge Team

This evaluation was led by the Knowledge Team, and supported by funding from NHS South of England. COPD Monitor was developed by Message Dynamics Ltd for Heatherwood and Wexham Park Hospitals NHS Foundation Trust. The project evaluation was carried out by Firas Sarhan, CETAL, Bucks New University. We can help you by:

- **Evaluating new service improvements.**
- **Assisting with the introduction of technology to support new models of care.**
- **Sending you a copy of the full evaluation report for COPD Monitor.**

Thames Valley Health Knowledge Team

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Thames Valley Health KNOWLEDGE TEAM
Steering good ideas through to good practice