Improving outcomes with online COPD self-care

In this article...
- How an online system improved COPD patient outcomes
- How self-management creates opportunities for nurses
- A clinical comparing conventional and online approaches

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Mal North is mHealth lead nurse, my mHealth, Chilworth, Hampshire

Abstract

If self-management was implemented properly, the NHS could save an estimated £235m over the next 10 years. An online self-management system for people with chronic obstructive pulmonary disease allows patients to access information whenever they need it. A comparison of conventional and online approaches to COPD self-management showed the online system is more effective in terms of health status and inhaler technique.

The National Institute for Health and Care Excellence recommends that patients with chronic obstructive pulmonary disease are provided with a comprehensive self-management plan (Department of Health, 2010) as part of their care plan. Multifaceted self-management education plans reduce the use of healthcare services and hospital admission, and improve patients’ quality of life (Zwerink et al, 2014).

Self-management plans are usually written plans with an educational booklet that contains all the information a patient with COPD needs to manage their condition.

An alternative approach
During my time in the NHS, it struck me that an online system might work better than a paper-based one by reaching a greater number of patients, reducing wasteful prescribing and costs, while improving compliance and patient outcomes.

The NHS could save an estimated £235m over the next 10 years if self-management was implemented correctly (DH, 2012). As well as this, The NHS Five Year Forward View states that it is would like to see an increasing number of NHS-accredited health apps that patients can use to organise and manage their own health (NHS England, 2014).

I developed myCOPD – an online interactive programme for the self-management of people with COPD – through collaboration with two senior respiratory consultants. The programme uses bespoke widgets, online educational pages and videos showing inhaler techniques, relaxation skills and a “bite-size” exercise programme. It supports self-management principles by improving patient knowledge, skills and confidence, as well as tackling the emotional issues that accompany a long-term condition.

The online system contains exactly the same information as the conventional paper-based self-management system, but in a different format. It has additional benefits, as information can be kept up to date easily and it is easier to provide and access in different languages.

Service development project
Following the award of a Small Business Research Initiative for Healthcare contract, we decided to explore the efficacy of online COPD self-management and compare it with the paper-based system.

We set up a service development project to run over 10 months, involving 36 patients from all socioeconomic backgrounds who had a confirmed COPD diagnosis. Patients were recruited through a requests for volunteers in the local newspaper.

5 key points
1. Patient self-management is a key NHS objective
2. Providing COPD self-management information online allows patients to access it whenever they need to
3. Online monitoring enables a wider reach and may enhance patient concordance
4. Online self-management does not replace contact between nurses and patients
5. An online system allows nurses to monitor patients in real time

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The impact of COPD on patients’ quality of life was measured using a CAT score and their inhaler technique was assessed at the beginning and end of the project to examine whether an online self-management resource could cause the same type of behavioural changes in patients as conventional methods.

Study volunteers required two study visits and followed a three-month programme. Twenty-seven patients were allocated to the online system and nine to written self-management. The written group were allocated by default, as the technology needed to access the online system was not available to them.

Currently, patients with COPD are given an allotted time with their specialist nurse to learn how to use their inhalers correctly and learn some simple exercises. This can take place during clinic, after an admission or during the patient’s annual review.

There were many reasons why this did not work for many of the patients we spoke to. Some, like the patient in our case study (Box 1), could not attend appointments for personal reasons. For others, the clinic supervision, he stopped exercising regularly using the golf – his only physical activity – and described his lifestyle as “sedentary”. At the initial assessment for the pilot study, Mr Green’s COPD assessment tool score (CAT) was 20, which suggested his level of impact of COPD was high. His inhaler technique was assessed as poor, with at least two critical errors in his use of each device. He was told about this poor technique. He was given the website address for myCOPD and a unique access code to enter it. No additional support was given during the three-month programme apart from a phone number to access IT support.

Since he started using myCOPD, Mr Green’s quality of life has improved significantly. After three months’ access to myCOPD, he was reassessed. He had improved his inhaler technique, demonstrating no critical errors when using all three devices. His CAT score had fallen from 20 to 10, suggesting his impact level was now low.

He commented that, as his symptoms had improved, he realised he was less breathless during his normal activities of daily living. He started exercising regularly using the online “bite-sized” pulmonary rehabilitation programme. He had also lost weight and has a healthy BMI.

A nursing perspective
An online approach should not replace nursing contact with patients. Patients using the online system continued to have the same amount of nursing contact – we just replaced the traditional paper-led self-management plan with an online version. It also provides nurses with the tools to monitor their patients in real time.

Next steps
Due to the success of the first service development project, we were recently awarded second-phase funding to complete two clinical trials with Portsmouth Hospital Trust, starting in May 2015 with results due before the end of the year.

This six-month study will recruit 120 patients from all socioeconomic backgrounds in and around Portsmouth following a hospital admission for an exacerbation of their COPD. The first trial will compare online with conventional self-management and the second will look at online versus conventional pulmonary rehabilitation. All other aspects of patient care will remain the same throughout the six months.

Pulmonary rehabilitation is firmly at the centre of interventions for COPD and its provision is recommended by NICE as a key pillar of integrated care (NICE, 2010). Currently, it often provided only in group sessions in outpatient settings.

The clinical trials will be an unblinded to the participants, but the post evaluation will be undertaken by an independent blind assessor who will be unaware of which arm patients were randomised to. It will be interesting to see the outcome of these trials and whether they also benefit patients and nurses.

Mr Green is an 80-year-old retired electrician with moderate COPD, who was first diagnosed with COPD in 1998. He lives with his wife who has Alzheimer’s disease and is her sole carer.

Before his wife’s diagnosis, he attended his annual reviews and enjoyed an active lifestyle, playing golf regularly. Due to his wife’s condition, however, he found it increasingly difficult to attend reviews at his GP surgery and had not attended sessions for the past two years. Additionally, as his wife required increasing supervision, he stopped playing golf – his only physical activity – and described his lifestyle as “sedentary”. At the initial assessment for the pilot study, Mr Green’s COPD assessment tool score (CAT) was 20, which suggested his level of impact of COPD was high.

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