

Case Study:

COPD Services at East Elmbridge and Mid-Surrey Primary Care Trust



PROBLEM:

Declining numbers of physicians, nurses; increased incidence of COPD; lack of chronic disease management.

SOLUTION:

Automated, telephone monitoring system from Excelicare, for personalized care in patient homes.

RESULTS:

Significant improvement in COPD management; reduction in hospitalizations; elevated patient engagement in their own care.

“ The introduction of Excelicare has saved lives and cut admissions into hospitals. Since starting the service in 2001, hospital admission for patients seen at home has fallen by 40%, and the average length of stay in hospital has been reduced to 5.9 days, representing a 26% reduction in bed days. ”

*Julia Davey,
Community Respiratory
Nurse Specialist*

Excelicare, from Health Access Solutions, is a powerful toolset-based application that allows the creation of highly tailored clinical systems to reflect the complex working patterns of clinicians across the healthcare spectrum. It incorporates advanced telecommunication, multi-media and decision-support technologies within a clinician-friendly Electronic Patient Record (EPR) framework. Currently in use in several sites across the National Health Service (NHS) of Scotland and England, Excelicare provides support to clinicians in diverse areas of care.

Implementations span complex cancer care across a region-wide network, remote monitoring of chronic obstructive pulmonary disease (COPD) patients living at home, as well as blood pressure, diabetes and colposcopy clinics, demonstrating its wide and varied scope of use. In December 2005, Excelicare was chosen as the National Generic Clinical System for the NHS in Scotland.

Chronic Obstructive Pulmonary Disease (COPD) is one of the most common respiratory conditions of adults in the developed world. COPD poses an enormous burden to society, both in terms of direct cost to healthcare services and indirect costs to society through loss of productivity. Statistically, in England and Wales, nearly 900,000 people are diagnosed with COPD and recent analysis estimated that the NHS spends \$1.25 billion annually in the UK. The Burden of Lung Disease Report of 2006, published by the British Thoracic Society, recorded that 27,000 people died from COPD in 2004. Additionally, COPD cases also took up more than one million bed days in England.

Despite the high prevalence and enormous cost to healthcare, COPD has received scant attention in comparison to other respiratory conditions. This is likely as COPD is thought of as a self-inflicted disease with few effective treatments. Attitudes are changing within the UK and respiratory physicians are making attempts to address this deficit of care. The Burden of Lung Disease's Report also announced plans

by the Government to develop a National Service Framework to cover COPD, and recognized that chronic ill health and death due to COPD is preventable in most cases.

With the decline in numbers of doctors and experienced nurses, increasing pressure on the acute sector and increasing patient expectation, the issues around chronic disease management have become problematic. This has led to a move towards providing care at home through multi-disciplinary teams supported by the use of innovative technology and communication. But, it has only been through the drive and initiative of Primary Care Trusts (PCTs), such as East Elmbridge and Mid-Surrey, that some regions are now witnessing the reduction in the severity of exacerbations and hospitalizations which has subsequently improved the quality of life of COPD sufferers. In East Elmbridge, much of this has been achieved through the introduction of the Excelicare Direct solution which has enabled remote assessment and monitoring of COPD patients.

Background to Developing COPD Services

With more than 30 years of experience working within cardio thoracic and respiratory disease related illnesses, RGN Community Respiratory Nurse Specialist Julia Davey was very much the driving force behind setting up the COPD services at East Elmbridge and Mid Surrey PCT.

“With a population of 275,000 and a catchment area covering more than 50 square miles, I had built a case load of more than 150 COPD patients with more than 70 requiring home visits on a regular basis,” commented Davey. “There was no technology at this stage and all patient records were paper-based. It was becoming increasingly difficult to monitor patients effectively, simply because of time and lack of up-to-date information on a patient’s condition. We needed a change of approach if we were to improve the standards of service delivery and patient care, so it was fortunate that in 2003 I was introduced to the Excelicare solution.”

Objectives and Requirements

A COPD Community Service was initiated by East Elmbridge & Mid Surrey PCT in 2004. The aim of the service was to provide high quality personalized care to patients in the home setting, therefore reducing over-reliance on secondary care. There

was also a desire to change the emphasis from a reactive, crisis management service to a more pro-active, preventative partnership approach.

With limited resources the service set the objectives to function in the following way:

- People with severe disease were to be seen at home
- Patients and their caregivers were to be fully informed about their disease and given advice on self-management for exacerbations and educated about the use of oxygen and safety precautions
- Patients and caregivers were to be taught to recognize changes in condition

“The key was to promote ‘patient empowerment.’ If patients could be encouraged to take an interest in their own disease and day-to-day care, they would help to reduce the frequency of home visits during the year,” commented Davey. “The service also set itself a goal to reduce patient admissions to hospital. This was all good, but we needed to find a more effective way to monitor patients and maintain contact without having to actually visit them.

“Following some research into technology solutions offering such an approach into chronic disease management, we encountered a system that was being used at Glasgow Royal Infirmary for the home monitoring of patients with Rheumatoid Arthritis. The system they were using was called Excelicare Direct,” said Davey. “Through the use of this computerized telephone monitoring system, healthcare staff could detect any deterioration in the patient’s condition without having to physically see them. It was clear that this fulfilled the criteria required for the COPD patient group.”

Implementation of Excelicare Direct

“When we first met the Excelicare team we didn’t really know what functionality was required by the system,” said Davey. “But the team worked with us right from the beginning. They listened to our requirements and came back with a presentation which was almost spot-on in terms of what we needed. We only spoke with the Excelicare team as we felt there was no need to look at other suppliers as it seemed to be an all encompassing solution.”

The system went live in September 2004 and took six months to design and implement. The COPD Excelicare system now provides a patient-centric, tele-medicine solution for the remote assessment and monitoring of COPD patients. It has been

designed in such a way to ensure that the correct treatment protocols are followed while documenting the clinical care pathway for each patient.

Before the system was rolled out, it was piloted with 10 patients, which enabled any necessary adjustments to be made. Excelicare was well received and was subsequently made available to the remainder of patients that required monitoring. Of the 150 COPD patients now registered, over 80 have access to Excelicare within their home.

How the System is Working

All patients are registered into Excelicare after an assessment is carried out by a respiratory nurse. This effectively becomes the integrated care record for that specific patient containing all personal details and medical history. Patients can then be monitored at home by placing a call to the system as and when necessary, or if their symptoms change. Having dialed a dedicated number, the patient is asked to enter their secure PIN and date of birth. This identifies them to Excelicare Direct and opens their individual patient record. The system welcomes the patient by name and delivers a personalized questionnaire script over the telephone relating to their signs and symptoms. The patient responds by pressing the appropriate touch tone keys, as requested by the script. All responses are recorded into forms in the individual's patient record as Excelicare has the power to interpret patient responses. After the call, a report is created and Excelicare generates an alert if it has detected any deterioration in the patient's condition.

This alert is automatically sent to a respiratory nurse, via a text message, who calls the patient to give advice or decide if it is necessary to make a home visit or request the patient to visit the clinic. After an incident, nurses enter their clinical notes directly into Excelicare and clear the alert.

Management of the care process via the system means that patient notes are available on a desktop where and when required. The Excelicare Report Manager is used regularly as it provides a constant record of what stage the patient is at in their treatment plan. This facility also enables data collection on system usage, demographics, patient call compliance and outcomes analysis, as well as reports for clinical audit and governance.



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Results and Benefits

Excelicare Direct has empowered patients by allowing them to be more actively involved in their own care, and has minimized the inconvenience, cost and time formerly incurred by patients having to travel to clinics for assessment and treatment. Results published by the Community Respiratory Service have demonstrated that Excelicare has enabled the service to change emphasis from 'crisis management' to a proactive 'preventative partnership.' It has also reduced the severity of exacerbations and hospitalization by 44%, is helping to maintain lung function and, subsequently, quality of life.

“The crux has been to keep patients at home and improve the standards of care they receive. The response time for answering an alert is now 15 minutes,” stated Davey. “The introduction of Excelicare has saved lives and cut admissions into hospitals. Since starting the service in 2001, hospital admission for patients seen at home has fallen by 40%, and the average length of stay in hospital has been reduced to 5.9 days, representing a 26% reduction in bed days. Our target is to save 20% of admissions every month, and we are pretty much always at that target.”

The number of home visits has also been cut so I can now manage my time, meaning my colleagues and I are able to manage more patients.”

There is no doubt that by introducing patient-centric telemedicine there has been substantial improvement in healthcare delivery by supporting intermediate care. By having an electronic patient record, it has been possible to implement and monitor ‘best practices,’ and has led to cost savings while maintaining clinical effectiveness. The benefits to clinicians are that it allows close, accurate monitoring of patients without increasing the load on clinics, and has improved the overall outcome of treatments.

Key highlights include:

- Approximately 80% of all consultations are now made by phone or e-mail
- The system supports integrated care and enables establishment of clinical networks
- Quality data can be entered from any site
- Reduction in the duplication of effort
- Care can be delivered anywhere and referrals by email can now be made
- More patients can be managed without having to increase the number of staff

The Future

“Excelicare Direct is easily transferable to other disease areas and I believe this is the future of modern medicine, especially for the management of chronic disease. I also think it is important to encourage nurses to embrace the use of technology to help them continue to improve standards of patient care and drive change,” stated Davey. “There is so much more than could be achieved and I am pleased to say that discussions have taken place with the Acute Trust, GP Practices and Patient Groups such as Breathe Easy, the British Lung Foundation and the Excelicare team to take plans forward to enhance the COPD Service.

“Our ongoing target is to remove all patients out of acute and into primary care through administering treatment at home. It’s about moving care into the community. We are currently working on a project in association with the Modernizing Healthcare Partnership to set up a COPD network. Nurses are going to have to learn new skills if the Electronic Health Record is to fulfill its promise so we need to ensure that the network contains the kind of information that will support nursing practice and improve patient care. I believe Excelicare can go a long way in helping us towards this goal,” said Davey.

A fundamental aspect of improving the delivery of patient care is the facilitation of multidisciplinary collaboration and the effective sharing of information. The Collaborative Care model, which also involves patients in their own self-care, is widely recognized in Scotland and the UK as a method of delivering consistent, high quality healthcare resulting in improved outcomes for patients. Health Access Solutions, the organization behind Excelicare, was developed by professionals who recognized the benefits of the Collaborative Care model in clinical practice, and realized that a flexible communication-oriented clinical information system would be a key element in its successful delivery. The provision of smart tools to deliver the right information at the right time and place to the right people was felt to be as important as the face-to-face encounter in the traditional healthcare model.

Excelicare was conceived as a solution for Collaborative Care and its underlying architecture has been designed to support this new mode of healthcare delivery. It is also underpinned by standards in data management and has the ability to integrate effectively with existing healthcare IT systems.

Contact Health Access Solutions

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