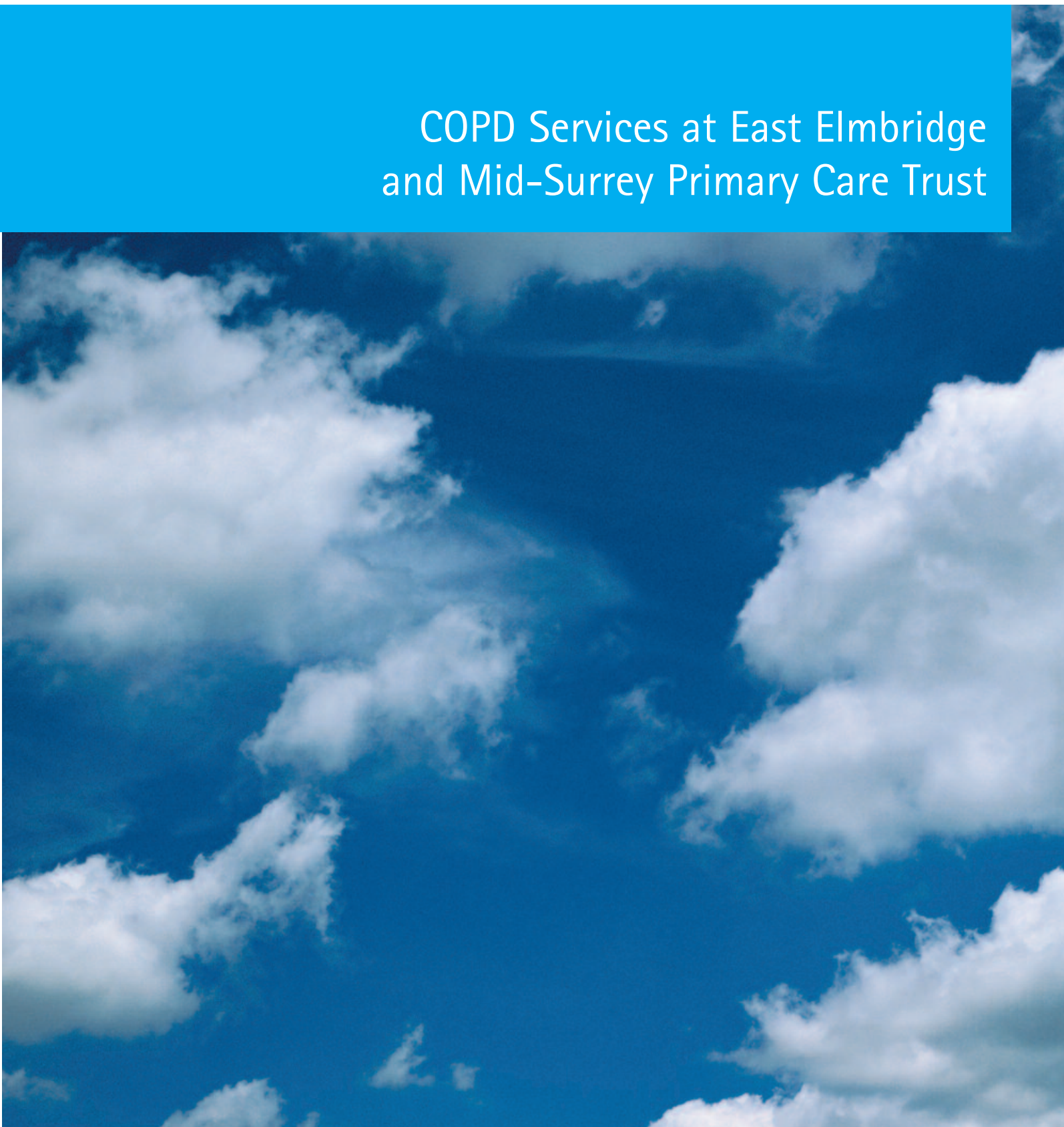




COPD Services at East Elmbridge and Mid-Surrey Primary Care Trust



Excelicare 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 NHS in Scotland and England, it provides support to clinicians in diverse areas of care.

Implementations span complex cancer care across a region-wide network, remote monitoring of COPD patients living at home, to 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 commonest 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 £818 million annually in the UK. The Burden of Lung Disease 2006 Report, published by the British Thoracic Society, recorded that 27,000 people died from COPD in 2004 and 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 redress this deficit of care. The Burden of Lung Disease 2006 Report also announced plans by the Government to develop a National Service Framework to cover COPD and recognised 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, hospitalisations and subsequent quality of life of COPD sufferers. In East Elmbridge, much of this has been achieved through the introduction of AxSys Technology's Excelicare Direct solution which has enabled the remote assessment and monitoring of COPD patients.

Background to Developing COPD Services

With over 30 years experience of 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 over 50 square miles, I built up a case load of over 150 COPD patients with over 70 requiring home visits on a regular basis," comments Julia 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 AxSys Technology."

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 personalised care to patients in the home setting therefore reducing the 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 carers 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 carers were to be taught to recognise changes in condition.

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 recognised as a method of delivering consistent, high quality healthcare resulting in improved outcomes for patients.

AxSys Technology, the organisation behind Excelicare, was set up by experienced doctors who recognised the benefits of the Collaborative Care model in their own clinical practice and realised 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.



"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 this would help to reduce the frequency of home visits during the year," comments Julia 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. Through the use of this computerised 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 AxSys we didn't really know what functionality was required from the system," states Julia Davey. *"But AxSys 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 AxSys 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 it took six months to design and implement. Excelicare now provides a patient-centric, tele-medicine solution for the remote assessment and monitoring of COPD patients and has been set up in such a way so as to ensure that the correct treatment protocols are followed whilst 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 onto Excelicare after an assessment is carried out by a Respiratory Nurse. This effectively becomes the integrated care record for that specific patient containing all their 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 dialled 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 personalised 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 deterioration in the patient's condition.

This alert is automatically sent to the Respiratory Nurse, via a text message, who calls the patient to give advice about what they need to do 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 the desktop where and when required. 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 incurred for patients in 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 hospitalisation by 44% and is helping to maintain lung function and subsequent 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," states Julia Davey. "The introduction of Excelicare has saved lives and cut admissions into hospital. Since starting the Respiratory 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 there. The number of home visits has also been cut so I can now manage my time which means myself and my colleagues 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 practice' and has led to cost savings whilst 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.

The 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," states Julia 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 AxSys Technology to take forward plans to enhance the COPD Service.

"Our on going 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 Modernising 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."