

case study



Sector: Health and Social Care

Client: NHS Blackpool and Blackpool Vitaline

Application: Telehealth – Managing COPD & Heart Disease

the challenge

Managing long-term conditions in the UK is costing the NHS over **£1 billion per year**. Chronic obstructive pulmonary disease (COPD) is one of the **most common** respiratory diseases in the UK and is the fifth biggest killer causing 30,000 deaths a year in England and Wales alone.¹ The **annual cost** to the NHS of treating COPD is around **£818m** and the figure is expected to rise.² Data from the Office of National Statistics showed that another long-term condition, heart disease, kills more people in England and Wales than any other.

It has been predicted that by 2010, **52% (14,210 people)** of the **over 65** population in Blackpool will have a limiting long-term condition³. **2.2%** of this group will have their condition caused by COPD. Early deaths from heart disease and stroke in Blackpool are **112.9 per 100,000** of the population compared to a national rate of **79.1**⁴.

To ensure healthcare resources are used effectively, NHS Trusts across the UK need to look at telehealth to treat and manage long-term conditions in a more timely and preventative manner, and to lessen the burden on primary and acute care providers.



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There were 4 times as many hospital admissions prior to the introduction of telehealth

the project

A telehealth pilot commissioned by NHS Blackpool and delivered by Blackpool Vitaline was created to perform remote vital signs monitoring of patients with long-term conditions that were currently under the case management of Community Matrons.

Vitaline is one of the UK's most advanced monitoring centres that has been **providing reassurance 24 hours a day for over 15 years**. Vitaline offers a range of services designed to keep a number of different client groups, including people with long-term conditions, to live independently in their own homes.

The goals of the telehealth self monitoring project were to:

- **increase** patients' understanding and knowledge of their condition
- **reduce** anxiety
- **increase** confidence and therefore quality of life
- **reduce** usage of services by high intensity users ie. reduce hospital admissions, reduce GP contacts and ambulance call outs

A group of patients with long-term conditions was carefully analysed, measuring the number of hospital admissions per service user, so that an accurate comparison could be made after the telehealth service was implemented. The patients **started using the telehealth service in March 2007** and the **analysis was carried out in July 2008**.

The data gathered from the telehealth monitors was transmitted to the Vitaline monitoring centre where it was assessed by the Vitaline telehealth staff against pre-set parameters. If a patient's condition changed the Community Matrons were alerted and appropriate action taken, such as adjusting medication or prioritising a visit. Even when there were no alerts the Community Matrons received a copy of the information once a week for analysis. This enabled them to look for trends in the data and **intervene early thus preventing the situation from becoming critical**. For example, if a patient's blood pressure was rising constantly, it indicated the possibility that their current dosage of anti-hypertension medication was not having the desired effect so the dosage could be increased accordingly.

the results

Emergency hospital admissions for just 13 patients for the 12 months prior to installation of the telehealth service showed a total of 37 admissions compared to a total of just 9 for the following 12 months after telehealth was implemented. This equates to over **4 times as many admissions to hospital prior to the installation of telehealth equipment** equating to an average of 2.85 admissions per patient prior to the service and only 0.69 admissions with telehealth.

Working on the cost of an emergency admission for a COPD or CHF patient being £2,500 (this covers the ambulance call out and the time spent in hospital) NHS Blackpool saved £70,000 with just 13 patients in 12 months. With an extension to 22 units for 44 patients (6 monthly usage) this would lead to cost savings of £237,600 pa.

For NHS Blackpool this has **significant cost savings** in terms of emergency admissions, ambulance and doctor call-out costs and hospital beds being available for patients who need urgent treatment.

In addition to saving hospital admissions the service also resulted in an **85% reduction in GP visits and a 43% reduction in home visits by Community Matrons**.

Telehealth Patient hospital results

Service User	Prior to the installation	After the installation
1	5	1
2	10	3
3	0	3
4	0	0
5	1	0
6	1	0
7	8	1
8	9	1
9	0	0
10	0	0
11	1	0
12	0	0
13	2	0
Total	37	9



One patient said *"I feel privileged to have this equipment. It has helped me no end, I feel safer at home and it stops me going into hospital. I feel I have somebody looking after me all the time."*

benefits for patients

A detailed survey of the patients showed an overwhelming positive appreciation for the telehealth service.

- **80%** of respondents strongly agreed that they had a better understanding of their medical condition and felt they were contributing to the management of their condition.
- **70%** of patients strongly believed the quality of their life had improved.

The survey also showed that patients found the equipment:

- **easy** to use
- would be **happy to continue** with the service after the pilot
- found the **level of support** received from Vitaline and Community Matrons was **very good**.

The most frequent comments from the survey related to patients feeling

- **less** anxious,
- **more in control** of their condition
- and **reassured** by being supported and monitored at home

75% reduction in hospital admissions in 12 months



Case Study - telehealth has enabled Mrs J to stay out of hospital for 2 years



For one patient, Mrs J, the service has enabled her to stay well and at home with **no hospital admissions for heart failure for 2 years**. The patient had been frequently admitted to hospital to receive IV furosemide but was adamant she did not want to be admitted again following an extended stay due to complications that arose during her stay. Her Community Matron found that with frequent monitoring using telehealth equipment she could administer sub-cutaneous furosemide at home. We believe this ground breaking move is the first time this has been done outside a hospital setting.

Mrs J said: *"I have found having telehealth equipment a great benefit. It has helped to stabilise my health and contributed to being looked after at home rather than in hospital"*.

Mrs J's Community Matron said: *"The telehealth service has been great in supporting my patients to self-manage. It reassures them and so reduces their anxiety. This means I get fewer panicked phone calls from patients and can see people when they are really poorly while others are monitoring themselves. The support from Vitaline also really helps as they can phone patients on my behalf to see how they are but will let me know if the patient needs a call."*

For further information
please call 01977 660206



Case Study - telehealth means I'm not in hospital every 2 weeks

For another patient telehealth led to a dramatic decrease in his hospital admissions. A lack of knowledge of his condition led to high anxiety levels, frequent hospital admissions and GP visits. He felt hospital was a safe place to be as he knew he would be closely monitored. The telehealth service, together with support from his Community Matron, increased his understanding and confidence and reduced his anxiety.



He said *"I used to be in hospital every 2 weeks now I hardly go. I don't want to go back to hospital it is better to be at home and I have everything I need at home now"*.

national recognition

Blackpool's telehealth service was shortlisted to the final three for an **Independent Healthcare Award in 2008** and **won the regional round of the Health & Social Care Awards in 2009**. The Community Matron won the 2008 Innovation of the Year Management in Practice award for her pioneering work with Mrs J.

the future

After the success of the telehealth project NHS Blackpool and Vitaline **expanded the service** to provide shorter term support for patients to improve their understanding of their condition and to help them cope. There are plans to expand the service further to facilitate early hospital discharge and to prevent re-admissions.

NHS Blackpool and Vitaline are also discussing the possibility of **using telehealth** in innovative ways to **manage a number of other serious conditions**. These include a short-term solution for patients who were recently diagnosed with **diabetes**, to help them better understand their condition and manage it.

Another area under exploration is for people who have recently been discharged from **hospital after major surgery** who require frequent and then less regular monitoring. Patient's will be **monitored at home** with a telehealth monitor and then monitored at intervals at their local GP.

Margaret Seddon, Vitaline Manager said: *"We are keen to expand the service so that many more people can benefit from it. We are exploring the use of telehealth in obesity management, stroke prevention for people who have had a TIA, INR monitoring and workplace health monitoring for employees who regularly need to visit their GP to check their blood pressure and other vital signs. We are very excited about the future potential of telehealth and the benefits it can bring to both patients and the health service."*

1 NHS Direct Health Encyclopaedia – February 2008

2 National COPD audit (2004)

3 www.poppi.org.uk

4 www.healthprofiles.info

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