

## case study



**Sector:** Managing Long-Term Conditions

**Client:** Sheffield Primary Care Trust

**Application:** Telehealth

### the challenge

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<sup>1</sup>. The annual cost to the NHS of treating COPD is around **£818m<sup>2</sup>** and unless this issue is addressed, the burden will continue to rise.



To ensure healthcare resources are used effectively, NHS Trusts across the UK are looking at alternative models of care to treat and manage cases of COPD.

Sheffield's local population has a high prevalence of COPD. In some areas of the city, **up to 8% of the 550,000 patients** within the PCT have the condition, and in the city centre the figure is **3%, three times higher than the national average**. This is due to regional factors and the area's history of occupational exposure from the steel industry.

With **around 2000 COPD related hospital admissions a year**, the condition placed a heavy burden on healthcare resources in Sheffield. The PCT decided that a more proactive approach was needed to help minimise avoidable COPD admissions.

(1) NHS Direct Health Encyclopaedia - February 2008

(2) National COPD audit (2004)

All the reassurance you need

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*“The COPD nursing team within the hospital have done a fantastic job in ensuring that the patients have access to this service.”*

Ruth Marrison, COPD Co-ordinator, Sheffield Teaching Hospitals

## the project

An assessment of Sheffield's local services indicated that greater support was needed for COPD patients in the community, and telehealth solutions from Tunstall would fulfil this requirement.

To improve healthcare outcomes and reduce dependency upon secondary care, a telehealth pilot was commissioned to monitor patients with COPD within an early discharge scheme in their own homes. The aims were to improve patients' experience of care in the community and reduce the number of unscheduled care admissions. This required greater integration and collaboration between primary and secondary care teams through increased access to secondary care clinicians skilled in advanced COPD care.



## objectives

The telehealth pilot had a number of key objectives which included:

- To support early discharge of patients from hospital
- To reduce both elective and non elective hospital admissions
- To hit key performance indicator targets - reduce A&E figures and discharge patients early
- To support community care with virtual wards
- To reduce possibility of infection by keeping patients out of hospital

## the solution

Telehealth solutions were rolled out to 30 high-risk patients for a duration of five months. The patients were shown how to use the monitor to measure their vital signs including heart rate, weight, blood pressure and oxygen levels. The monitor also asks a series of clinical questions to further determine their current condition.

Once measured, the data is transmitted to central monitors in secondary care and to the public health development respiratory nurses office. The COPD nurse triages her 'virtual ward' against agreed criteria and applies an order of priority to the visitation schedule. This monitoring service is available for patients seven days a week.

The project was carried out by a multi-disciplinary team from primary care and secondary care, however, secondary care clinicians were used for their specialist knowledge around clinical governance and risk. Tunstall provided support and direction with IT for the team as well as product training and ongoing support, so that healthcare staff were comfortable showing patients how to use the equipment.



## the outcome

Outcomes from the pilot have been immensely positive on all fronts. As a result of the pilot telehealth solution, **COPD hospital admissions dramatically decreased by 50%**. This saved the PCT between **£30,000 to £40,000**, allowing them to purchase 15 more monitors. It has been calculated that based on a cost of £2,000 per admission, **saving 50 admissions a month**, could potentially save the PCT **£1,200,000 per year**.

Being able to remotely triage patients helped staff prioritise their visits. During the pilot, **home visits were reduced by 80%**, cutting travel costs and allowing healthcare staff to prioritise their workload, which ensured the most effective use of their time.

Sue Thackray, Deputy Head of Development Nursing for Sheffield PCT, said: *"The PCT has worked very hard to make the telehealth project a success and has had a tremendous amount of support from both clinicians and other parties within primary and secondary care. We have also had a great deal of support from Tunstall, who helped ensure the project ran smoothly."*

The positive outcomes seen by the COPD team, in terms of reduced hospital admissions and improving well-being, have resulted in the community respiratory and heart failure teams also looking to apply telehealth to their area of care provision.

### Key benefits to patients were:

- Earlier discharge from hospital
- Improved confidence and greater reassurance as they know their condition is being closely monitored
- Patients are more aware of their own symptoms and are able to proactively manage them
- Rapid response when a change is detected in their condition
- Fewer unplanned hospital admissions
- Fewer visits to hospital and monitoring at home is less inconvenient

Nursing staff initially saw telehealth as a direct threat to their role, however, since its implementation there has been a complete turn-around in staff attitudes and perception. They now fully accept telehealth and appreciate its use and value in the delivery of day-to-day care.



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## the future

Deploying telehealth on a widespread scale has been one of the most challenging and complex projects for Sheffield PCT to date. However, with the commitment of all team members embracing telehealth, it made a real difference to the provision and outcomes of healthcare in the area.

The journey for Sheffield PCT is only beginning and they are continuing to develop the service. Early indications show telehealth delivers clear benefits to the patient and PCT, and Sheffield are look at making it an integral part of their overall model of care.

## Award winning PCT

Sheffield was recently recognised by the NHS for their successful approach to managing COPD. *“Winning an award run by the NHS is a huge achievement for us and it helps raise the profile of the benefits of telehealth locally, within South Yorkshire and The Humber, and nationally too,”* said Sue Thackray.

*“The award recognises the many benefits telehealth delivers, it endorses our proactive and innovative approach to caring for patients with COPD and meeting the challenge of COPD in the community. It also further strengthens our plans to roll out telehealth across a number of other long-term conditions such as heart failure within the community.”*



Sheffield PCT and Sheffield Teaching Hospitals receive award. From left - right: Sue Thackray, Dawn Weston, Ruth Marrison, Tara Ingle, John Skinner with Presenter Duncan Wood

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Tunstall Healthcare (UK) Ltd, Whitley Lodge, Whitley Bridge, Yorkshire DN14 0HR  
Tel: 01977 661234 Fax: 01977 662450 Email: [enquiries@tunstall.co.uk](mailto:enquiries@tunstall.co.uk)

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