

case study



Sector: Health

Client: Orchard Medical Centre, Bristol

Application: Managing Chronic Heart Failure - telehealth in a GP setting

the challenge

Chronic Heart Failure (CHF) affects 1-2% of the UK population¹ and its symptoms have an enormous effect on the patient's daily life. The ageing demographic profile of the UK and improving medical care means patients are surviving longer following myocardial damage and the prevalence of CHF is rising. The condition accounts for 5% of acute admissions to hospital and 10% of bed occupancy².



NHS

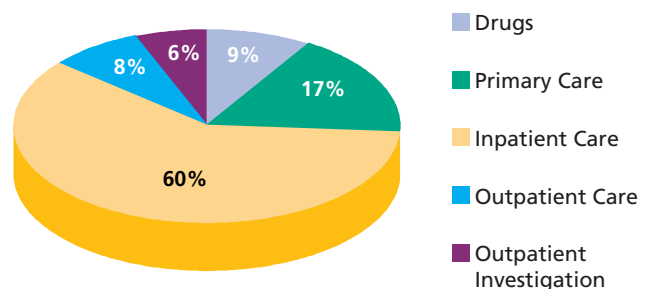
South Gloucestershire



The annual cost to the NHS of Chronic Heart Failure is currently £600 million, which represents 1% of the total NHS budget³. Most of these costs are associated with inpatient care, therefore managing the condition in patient's homes will not only improve their quality of life and in turn lead to improved clinical outcomes, it will also generate significant cost savings. This case study describes the effectiveness of telehealth in enabling Chronic Heart Failure to be managed in the community.



The Cost of Heart Failure in the UK - £600m pa



(11-13 visits per year)

British Heart Foundation, 2002

All the reassurance you need





“Telehealth keeps people where they want to be, and that’s at home with their family. Patient acceptance of telehealth is high; patients are reassured by the regular monitoring, which helps to keep them calm and reduces the risks of exacerbation and of hospital admission.”

Dr Richard Berkley, Clinical Lead on the Telehealth Project

background

The Orchard Medical Centre in Bristol is a general practice serving 13,500 patients, 110 of whom are currently living with Chronic Heart Failure. In March 2007 the practice commenced a project designed to assess the potential for using telehealth equipment in a Primary Care setting. The project was initiated as a joint venture between NHS South Gloucestershire and South Gloucestershire Council Community Care and Housing, with the council funding the equipment via a technology grant and Takeda UK providing the financial support required to implement the pilot.

Significant data already existed which indicated that intervention by means of intensive support for patients with Chronic Heart Failure could bring positive clinical outcomes, such as:

- **Improving** the quality of life for patients with CHF
- **Preventing** hospital admissions for patients with CHF
- **Reducing** the burden on secondary care providers
- **Prolonging** the life of patients with CHF

The decision was therefore made to focus the project on patients with this condition, and evaluate how telehealth could enable practices to provide more preventative support to CHF patients in a community setting, and assess the practicalities and benefits of doing so.



implementation

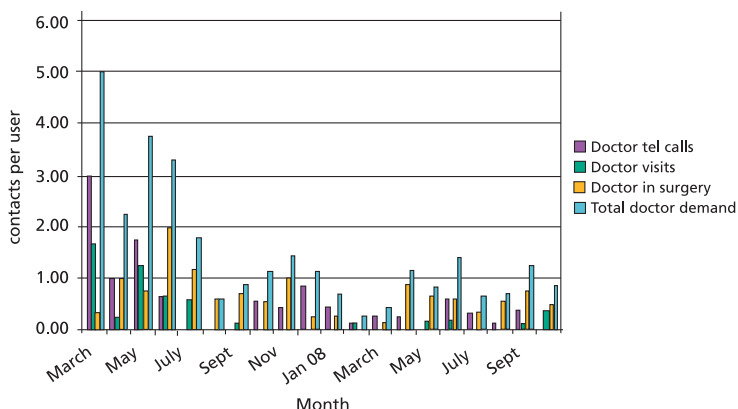
In the planning stages, it was envisaged that patients with CHF who had been recently discharged from hospital would be asked to participate in the project, as it was assumed that these would be presenting the most severe clinical symptoms. However due to the size of the pilot it soon became apparent that the personal knowledge of clinicians was a better guide to choosing patients in the most need in a timely manner, and the project proceeded on this basis.

As the project was the first of its kind for the team, there was a steep learning curve to understand the capability and applications of the equipment and

establish robust processes for deploying the monitors and capturing and responding to the information captured. The team responded with enthusiasm to the challenge and soon introduced flow charts to provide a structure for the project and ensure the nursing team was clear about the most appropriate response to alarms; for example when to alert the on call doctor.

Initially three patients received the equipment, with the remaining four monitors all being deployed in patients’ homes by September 2007.

The impact of telehealth on doctors’ time during the length of the project



The project did not place additional demands on doctors’ time



Pulse Rate and Blood Oxygen



Weighing Scales



Blood Pressure



RTX3370 landline version



RTX3371 GSM/GPRS version

Tunstall offers two telehealth monitors (RTX3370 and RTX 3371) which work with bespoke software to help patients and clinicians manage a range of long-term health conditions such as Chronic Obstructive Pulmonary Disease (COPD), Diabetes, and Hypertension as well as CHF.

The monitors are used in conjunction with a wide selection of medical devices such as weighing scales, blood pressure monitors, blood glucose monitors and peak flow meters depending on the needs of the patient. The monitor itself is programmed with a series of health related questions, tailored by the patient's health practitioner. Each day at a pre-set time the monitor will prompt the patient to take their vital signs measurements and answer their health questions, and this information is then automatically and securely transmitted for review by the healthcare team, where it can be accessed by authorised staff.

An alert will be raised if the user fails to send data, or if the information received falls outside set parameters. The system will provide alerts on the triage screen and can escalate significant issues as required.

Case Study

Margaret is 60 years old and has severe heart failure. Prior to taking part in the telehealth trial she would often forget to take medication and miss appointments at the surgery which exacerbated her condition and led to regular visits to A&E.

Telehealth has resulted in a dramatic improvement. Margaret has found the equipment easy to use and a source of great reassurance. Because she can see for herself each day the effect of taking medication on her health, her medication compliance is greatly improved and her condition has stabilised as a result.

She has not used out of hours health services at all in the 18 months since the telehealth equipment was introduced.

"The equipment has made me feel much more positive, it reduces anxiety, and therefore I need less doctor and hospital visits. I would feel lost without it now."



Other clinical examples of patient benefit include:

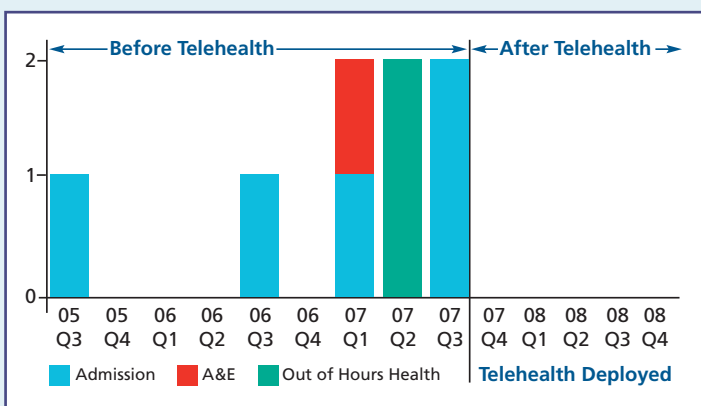
Mr A, 60 yrs - Improved medication compliance, increased attendance at scheduled appointments and a dramatic reduction in emergency care.

Mr B, 60 yrs - Reduced weight gain, improved oxygen saturation, situation stabilised and suspected hospital admission avoided.

Mrs C, 82 yrs - Previously reluctant to 'trouble' doctor, alerts on system facilitated early intervention and confidence to self manage.

Mr D, 82 yrs - Increased weight detected by monitor, high dose diurectics prescribed and effect of treatment monitored by Doctor remotely.

Mrs E, 31 yrs - Poor medication compliance resulting in weight gain and low oxygen saturation remedied by using monitor to show effect of medication.



Margaret's Emergency Profile before and after telehealth

For further information
please call 01977 660206

Left to right: Lisa Haines from
the District Nursing Team
and Sally-Anne Bauer,
Community Matron,
The Orchard Medical Centre



outcomes

The telehealth project has been well received by patients and clinicians alike. Healthcare professionals have found that the effects of any changes made to medication are easy to monitor using the system, and trends such as changes in body weight are more easily and quickly identified, enabling early intervention and averting crisis management. Telehealth has also proved particularly valuable for assisting patients who are reluctant or find it difficult to visit the surgery; their health can be monitored using the system and advice often given over the telephone. Clinicians have also reported that they feel patients have benefitted from an increase in knowledge and confidence to manage their own condition because of telehealth.

All patients found the equipment straightforward to use, and found that it provided a sense of reassurance to them and their families and carers. It also resulted in increased medication compliance, as patients understood the monitor would detect the results of this over time. Far from feeling that the equipment has been intrusive, patients have reported that they feel more in control of their condition and therefore better able to self manage. This, combined with the fact that early clinical intervention has been facilitated, led to patients taking part in the project reporting an improved quality of life.

summary results

- Patients and clinicians found the equipment straightforward to use
- Medication changes can be easily and safely monitored
- Trends are noticed more easily
- Early intervention is facilitated
- All patients reported increased reassurance and improved quality of life
- Medication compliance has increased
- Patients are confident to manage their own condition
- Hospital admissions appear to be reduced for some patients

next steps

The project will now undergo a full evaluation, including quantitative and qualitative measurement of how telehealth has improved the quality of life for patients, and to identify trends in hospital admissions and contact with the surgery.

It is expected that the project will then be rolled out on a wider scale, involving other local practices and working more closely with the local hospital, with a particular emphasis on measuring the reduction in re-admissions.

Sources

- 1 BMJ 2002
- 2 DOH 2003
- 3 British Heart Foundation 2002

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www.tunstallhealth.com

Tunstall is a founder member of the Continua Health Alliance

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