

Managing Chronic Heart Failure - telehealth in a GP setting



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

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.

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.

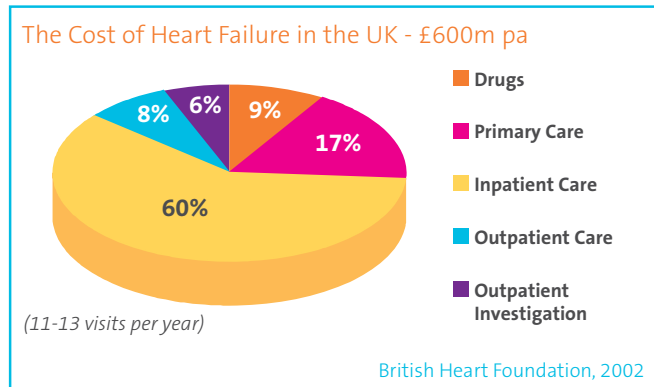
Background

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.



South Gloucestershire

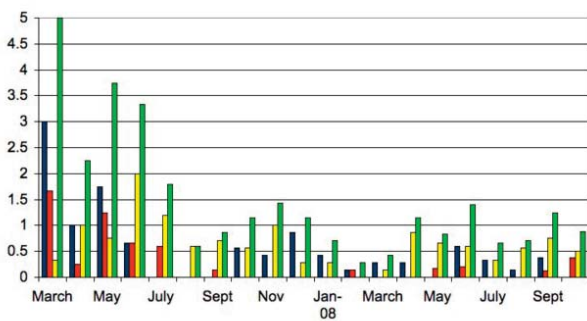


Implementation

Patients were initially selected by individual doctors who recognised the patient as having a more severe or advanced form of illness, with the majority having moderate or severe Left Ventricular Systolic Dysfunction and in class 3 or 4 according to the New York Association breathlessness score.

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 received. 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.

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



The project did not place additional demands on GPs' time

Efficiency gains

Benefits to the Patient

During the telehealth evaluation, patients reported that they were highly satisfied with the telehealth monitoring equipment.

The Orchard Medical Centre doctors and nurses soon noticed that patients actively enjoyed being able to be involved in their care, and became increasingly aware of the readings and how they were feeling.

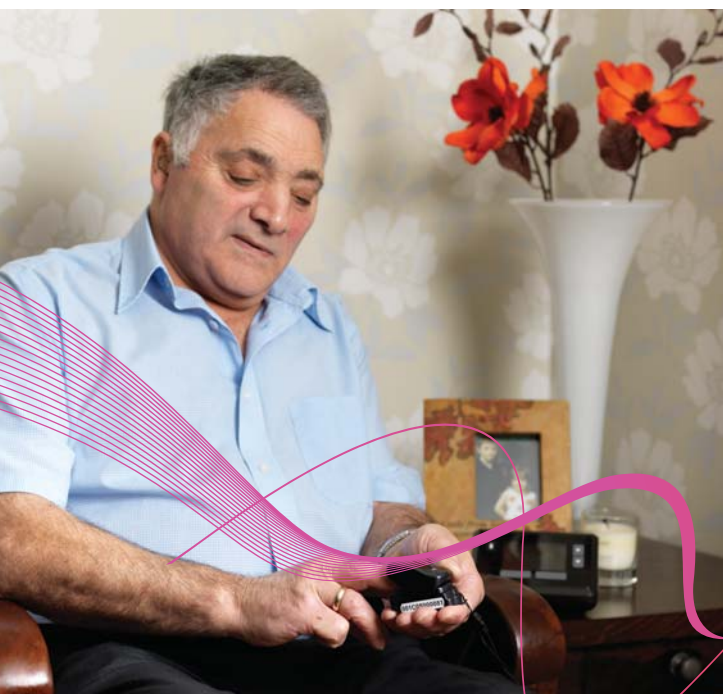
After a while patients were able to tell when things were not right with their readings and would re-test before the nurses contacted them about a potential alert.

Patients have reported an increased sense of confidence that far from making them dependent and worried about their health, has led them to feel more in control and more aware of their condition.

Cost saving benefits to the NHS

The telehealth evaluation is based on 18 Chronic Heart Failure (CHF) patients, analysing their data 12 months before telehealth and 12 months during telehealth. The outcomes are extremely positive and Orchard Medical Centre is looking to extend their telehealth project due to the results.

- Hospital admissions were **reduced by 46%**
- A&E attendances were **reduced by 67%**
- The number of visits to the GP surgery were **reduced by 16%**



“Telehealth is a very acceptable intervention to patients, which doesn't increase workload to GPs in primary care.”

Dr Richard Berkley

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.

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 diuretics 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.

“ 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.

Margaret



my medic



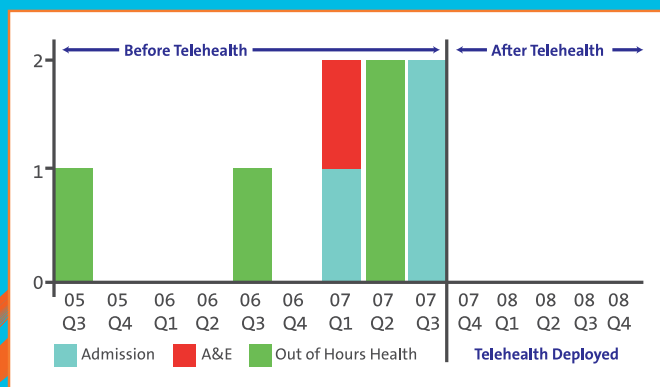
Pulse Oximeter



Weighing Scales



Blood Pressure



Margaret's Emergency Profile before and after telehealth

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.

For further
information please
call 01977 660479

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¹ BMJ 2002

² DOH 2003

³ British Heart Foundation 2002

Summary results

- Hospital admissions were reduced by 46%
- A&E attendances were reduced by 67%
- Patients and clinicians found the equipment straightforward to use
- Medication changes can be easily and safely monitored
- Identify at risk patients early
- 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

Next steps

The project has now undergone a full evaluation which is already showing very positive results to patients, clinicians and the NHS cost saving benefits.

The telehealth project is now entering its second stage where it is hoped more telehealth monitors will be purchased and 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.

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