

Management of long term conditions

Telehealth solutions for independent living

Key information for health and social care professionals and carers



All the reassurance you need

Tunstall

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Telehealth and long term conditions

"A large number of people in hospital don't need to be there. We need to change the structure of healthcare and focus on managing patients in the community. Technology unlocks quality and value, and is a key enabler in making this change. 20% (£4bn) of the required NHS efficiency gains could be met by using technology, such as telehealth, as a way of managing long term conditions at home. It enables you to take time and geography out of the system and allows the patient to feel 'in charge'."

Jim Easton, National Director for Improvement and Efficiency, Department of Health. Source: Intellect Healthcare Group: Driving efficiencies and improvement in the NHS 25.1.2011

"We think on any one day it might be a third of hospital beds are full of people with more than 3 long term conditions. Now, there's quite a lot of evidence to show that some relatively straightforward interventions, including better management of these patients in the community, can restrict significantly the number of emergency admissions that you would get, for the benefit of the patients and the benefit of the NHS as a whole, enabling you to reduce your bedstock in acute hospitals."

David Nicholson, CE NHS, House of Commons Oral Evidence taken before Public Accounts Committee, 18.1.2011

<http://www.publications.parliament.uk/pa/cm201011/cmselect/cmpubacc/uc741-i/uc741.pdf>

Key statistics for long term conditions

- More than 15.4 million people in England live with a long term condition, and this is expected to rise to 18 million by 2025¹
- The treatment and care of people with long term conditions accounts for 70% of the total health and social care spend in England¹
- 50% of GP consultations relate to a long term condition¹
- 65% of all outpatient appointments relate to a long term condition¹
- 70% of all inpatient bed days relate to a long term condition¹
- There are around 750,000 people living with heart failure in the UK, and every six minutes someone dies of a heart attack.²
- 7.1 million people in England have clinically identified hypertension. It is estimated that the same number again have unidentified hypertension, meaning that over a quarter of the population has the condition³
- 3.2 million people have the lung disease COPD and it is the fifth biggest killer in the UK. It costs the NHS more than £800 million each year⁴
- Every 10 minutes three people are diagnosed with diabetes in the UK. Numbers of people diagnosed have risen from 1.4 million in 1996 to 2.6 million in 2010 and forecasts indicate over 4 million by 2025⁵

Sources

- 1 Improving the health and wellbeing of people with long term conditions – DH report
- 2 British Heart Foundation
- 3 Ten things you need to know about long term conditions, DH report
- 4 Long Term Conditions, DH Report
- 5 Diabetes in the UK 2010: Key statistics on diabetes, Diabetes UK



Policy context

The coalition Government has instigated a number of reforms to the health service, impacting on the way care for those with long term conditions is administered.

- The Government's **White Paper Equity and excellence: liberating the NHS** suggests changes to the way health services in the NHS are managed. The proposals contained in the **Health and Social Care Bill** put patients at the heart of services and include plans to hand the majority of commissioning powers to GPs overseen by a new national NHS Commissioning Board.
- The white paper includes plans for the health service to deliver £20bn of efficiency savings by 2014 through the **Quality, Innovation, Productivity and Prevention (QIPP)** scheme. The document notes that 'the QIPP initiative is identifying how efficiencies can be driven and services redesigned to achieve the twin aims of improved quality and efficiency,' adding that 'work has started on implementing what is required, for example... the use of new technologies for people with long term conditions.'
- The **NHS Operating Framework** for 2011/12 which sets out the national priorities for the health service in the year ahead also identifies QIPP and reduced readmissions as key priorities for the coming year, and identifies the use of digital technology such as telehealth and telecare as a key areas to support delivery of the QIPP agenda.
- The Government's **NHS Outcomes Framework** is the primary driver for improving outcomes in the new health system and is designed to work alongside the Operating Framework. The 2011/12 framework contains five outcome domains including one which identifies reductions in unplanned hospital admissions and bed days of care as well as helping people feel supported to manage their condition as key indicators for assessing whether outcomes for those with long term conditions are improving.
- Allied to these changes is the **Quality and Outcomes Framework (QOF)**, a voluntary annual incentive programme for all GP surgeries in England, aimed at increasing and standardising the quality of care delivered by measuring achievement against evidence-based clinical indicators such as reductions in hospital admissions for people with long term conditions.
- The Government's **Vision for Adult Social Care** seeks to align social care with the proposed healthcare reforms. The better integration of health and social care services is a key part of the reforms and the Government announced new funding for reablement services. The funding for 2011/12 is £150m rising to £300m a year for the following three years.

Commissioning and telehealth

As the healthcare landscape transforms and much of NHS funding becomes controlled by GP-led consortia, telehealth can form a key part of delivering enhanced patient care and budgetary efficiencies in line with the needs of the local community.

Although still setting targets to improve the quality of care delivered, the Government is beginning to fundamentally change its approach to focus on wellbeing and preventative care in primary and community care settings, and encouraging self care. For long term conditions in particular many of these targets cannot be achieved without telehealth being included in care pathways.



Telehealth in a GP setting

The Orchard Medical Centre in Bristol is a general practice serving 13,500 patients, 110 of whom are living with Chronic Heart Failure.

“Our scheme, which has been running for almost 2 years, was established to discover whether telehealth can assist people with significant heart failure at practice level in real primary care. Our audits show that such proactive care for patients with complex clinical conditions can reap many rewards in terms of compliance with medication, self care and confidence which in turn improves quality of life and can reduce hospital admissions. Telehealth complements the care given by clinicians, and will greatly facilitate the ongoing care of people at home, allowing the community matrons to carry a larger case load.”

Dr Richard Berkley, Managing Partner and GPwSI in Heart Failure, The Orchard Medical Centre (Kingswood, South Gloucestershire)



Introducing telehealth

Telehealth definition

Telehealth is the consistent and accurate remote monitoring of a patient's vital signs, health and wellbeing through easy to use monitoring technology.

The technology provides real time information and helps to identify changes to a patient's condition, leading to earlier and better-informed interventions and improved patient outcomes. Telehealth aids medication compliance and improves a patient's understanding of their condition, enhancing self care and improving quality of life. By enabling patients to be cared for at home, telehealth allows clinicians to effectively manage patient care remotely.

All of these factors mean telehealth can free up valuable NHS resources by reducing unplanned hospital admissions, bed days and readmission rates and reducing the number of unnecessary journeys made by care staff.

How does it work?

Telehealth involves providing easy to use equipment to patients in their own homes for monitoring vital signs such as blood pressure, weight, oxygen saturation and ECG. The readings are relayed via the phone line or inbuilt GPRS modem to a monitoring centre where results can be verified and should data exceed pre-set parameters, customised for each patient, a relevant clinician can be alerted.

Each monitor can be customised according to the needs of the individual patient, and can be used to monitor long term conditions such as COPD, Diabetes, Heart Disease, Asthma and Hypertension. Monitors can also be used where a patient has co-morbidity, and provides disease related questions and self-care advice.

"Because my COPD is so acute my sister has been caring for me every day for 3 years, but now I have telehealth and my sister knows that the nurse is looking at me every day, and that they will come if there is a problem. She has now had her first holiday in 3 years!" Mrs R - COPD patient



Empowerment - the patient and family experience

Telehealth means people with long term conditions can manage their illness from the more comfortable and less stressful environment of their own home, resulting in increased satisfaction and improved self care.

Telehealth reduces the anxiety, inconvenience and cost of travelling to appointments, and allows the patient to incorporate their monitoring into their daily routine at a time that suits them and their family. Patients also benefit from increased privacy and dignity.

As the patient feels more closely involved in the monitoring of their condition, so they become better able and more motivated to actively manage it. Should intervention be required, this is detected much earlier than would otherwise be the case, either by the patient themselves, or by an alert being raised on the system.

Quality of life for the carer is also improved, with fewer trips to the GP and hospital, and the security of continuous monitoring. Patients often find that telehealth helps to stabilise their condition, providing peace of mind to both patient and carer.

Telehealth monitoring has also been shown to improve medication compliance, as non-compliance quickly becomes evident, and this too can be addressed much earlier than would often be the case.

Case study

Mr C has a history of left ventricular systolic dysfunction (LVSD), type II diabetes and a history of repeated hospital admissions. On a number of occasions the telehealth monitor identified changes in Mr C's vital signs which prompted visits by a Community Matron who examined him and adjusted his medication accordingly. As a result of telehealth Mr C feels more secure and confident that changes in his health will be identified and that prompt action will be taken.

Mr C said: *"This is a beautiful machine. It's a preventative machine and a real lifesaver. Without it I could end up in hospital but now I can spot possible problems, such as high blood pressure or lack of oxygen, and nip them in the bud before they get any worse and become a real problem."*



Focused care - the clinicians' experience

Telehealth is the consistent and accurate remote monitoring of a patient's vital signs and health and wellbeing. As well as improving care and outcomes for patients, telehealth delivers numerous benefits to healthcare professionals.

- Telehealth allows clinicians to remotely monitor a larger number of patients over a wider geographical location, reducing travelling and allowing face to face care to be targeted where it is most required
- Accurate information is accessible at all times, enabling evidence based decision making and risk assessment, and facilitating early intervention
- Preventative healthcare becomes possible as any indicators of future ill health can be highlighted and managed before more serious clinical intervention is required
- Many hospital admissions and readmissions are avoided, and timely discharge is supported. In a surgical setting, telehealth assists with pre-assessment, for example patients with heart problems can be monitored prior to the operation to ensure they are well enough to undergo surgery
- Clinicians are also reporting better communication with patients as a result of telehealth, as they understand more about their own condition and are happier being monitored at home
- Patients can see for themselves the results of compliance with medication and the effects of their lifestyle on their health, and work with healthcare professionals to achieve the best outcome
- The information provided by telehealth enables a planned, co-ordinated and prioritised approach to care, and can support the integrated delivery of health and social care services in a proactive way

"We really liked that we could have the monitor with the disease questions that we wanted and in our order." Clinician



"It was essential that we have multiple languages available, and to have the ability to record local dialects really helps us to engage our hard to reach communities." Commissioner

Background

NHS North Yorkshire & York (NHS NYY) covers a population base of 794,532, with an estimated 4,000 severe COPD and Heart Failure patients. The Better Health Analysis undertaken by the PCT on data for 08/09 highlighted 6,718 patients were admitted to hospital as an emergency with respiratory conditions or cardiac problems, costing the NHS £12.5m. With non-elective admissions increasing by 5-10% per year, the PCT prioritised the development of care pathways for long term conditions within its 5 year strategic plan.

As an enabler to this work, the PCT is in the process of deploying 2,120 home telehealth systems plus a technical triage service from Tunstall, which will be rolled out across all localities in NYY. This makes NYY the largest telehealth site in the UK.

Method

Following a positive six month small scale pilot, NHS NYY issued a tender for the procurement of a further 2,000 telehealth systems and an intense process of clinical engagement ensued. Working with Tunstall and Ernst & Young, NHS NYY developed a series of new care pathways which included telehealth at appropriate touch points and ensured that enhanced clinical outcomes could be achieved.

The programme is focussing on three main disease areas:

- Chronic Obstructive Pulmonary Disease (COPD)
- Chronic Heart Failure
- Chronic Diabetes

Outcomes

To date the telehealth project has been well received, particularly by patients. Whilst evaluation is still ongoing there are strong indications that the results experienced from Phase 1 are being continued, namely:

- 40% reduction in non-elective hospital admissions
- 28% reduction in A&E attendances

Perhaps even more beneficial than this is the fact that **only 3.2%** of telehealth patients whose readings were received daily required an escalation to a clinician.

Summary achievements

- Performance data shows real acute based activity reductions for patients using telehealth for longer than six months
- Clinical alert rate less than 4% across North Yorkshire
- Community services staff perceive they have reduced travel
- Case managers feel they are better able to prioritise workloads

The programme aims to support delivery of the Quality and Productivity (Q&P) opportunities across the whole health economy and underpins commissioning arrangements for 2011/12 with partner Acute Trusts.

For more information on NHS North Yorkshire and York's telehealth project visit www.nytelehealth.co.uk and see the back page of this document for details on how to receive a DVD about the programme.

Evidence - national and international

National - Whole System Demonstrator sites

Background

The WSDs were set up to explore the exciting possibilities opened up by truly integrated health and social care working supported by telehealth and telecare. Teams in Kent, Newham and Cornwall have been looking at how best to implement telecare and telehealth services, covering 6,000 patients in the world's largest randomised control trial.

A consortium of universities (led by University College, London) have been evaluating the clinical and cost effectiveness of the WSDs, and the impact on care services. Results are due in Autumn 2011.

www.wsdactionnetwork.org.uk

Expected outcomes

- Improved care coordination of those with complex health and social care needs through use of an integrated health and social care system. To include joint health and social care teams using shared information to benefit systematic chronic disease management programmes
- Strong emphasis on patient education and empowerment, so that people are fully informed about their condition and are better able to self manage
- Telehealth and telecare to improve the health and wellbeing of the individuals and achieve efficiencies in service delivery

International - Cochrane Collaboration Review, 2010 – heart failure

Background

A systematic review evaluating 11 telemonitoring RCTs (2,710 patients) for patients with chronic heart failure concluded that telemonitoring reduced all-cause mortality by 34%.

Telemonitoring was also found to reduce heart failure related hospitalisations by 21% and all-cause hospitalisations by 9%. Several studies showed improved quality of life, reduced healthcare costs and that the technology was acceptable to patients.

www.thecochranelibrary.com

Improvements in prescribing, patient knowledge and self-care, and New York Heart Association functional class were observed.

Conclusion

Structured telephone support and telemonitoring are effective in reducing the risk of all-cause mortality and CHF-related hospitalisations in patients with CHF; they improve quality of life, reduce costs, and evidence prescribing.

Telehealth solutions

myclinic and mymedic telehealth monitors

icp mymedic™, **icp myclinic™** and **icp triagemanager™** telehealth solutions are part of an integrated care platform from Tunstall which is designed to meet the requirements of remote health monitoring as patients' needs change. The overall solution enables the reliable collection and transmission of a patient's vital signs to a monitoring centre where trained staff can perform technical triage and refer alerts to clinicians if required. Data can also be accessed securely at any time by health professionals in order for them to make informed decisions about a patient's health and wellbeing.

Tunstall's **icp mymedic**, **icp mymedic plus** and **icp myclinic** units are designed to be extremely patient-friendly and are compatible with a wide range of medical peripherals. **icp mymedic** and **icp mymedic plus** have been designed for use in a patient's home, with the **icp mymedic** transmitting information via a standard phone line and the **icp mymedic plus** incorporating an inbuilt GPRS modem to transmit data over the mobile phone network.

icp myclinic is a multi-user telehealth solution which enables a group of patients within a common location (extra care facility or residential home for example) to participate in a telehealth programme. Patients have individualised monitoring plans, but share the use of a terminal and medical device peripherals.

All three units work with packages of peripherals and health interviews to provide tailored support to people with long term conditions.



icp
mymedic



icp
mymedic plus



icp
myclinic

Telehealth packages

To provide tailored telehealth support, select between **icp mymedic**, **icp mymedic plus** or **icp myclinic** monitoring device, choose your package and tailor the health interview questions to each patient.

COPD



COPD+



COPD Advanced



CDM



CHF



COPD Package

The core Chronic Obstructive Pulmonary Disease (COPD) package is designed to provide people with early onset of COPD with a health session that will help them to manage and understand their own condition. It measures blood pressure, pulse rate and blood oxygen levels and asks a series of COPD related intelligent symptom questions via the **icp mymedic** unit.

COPD+ Package

Designed for people with more severe COPD and builds upon the core COPD package by offering the same vital signs measurements with the addition of body temperature monitoring.

COPD Advanced Package

Enables a complete COPD health session to be provided by adding peakflow monitoring to the COPD+ package.

Chronic Disease Management (CDM) Package

A general purpose telehealth solution, which can be used for monitoring a range of long term conditions. It measures blood pressure, temperature, blood oxygen levels and weight and an appropriate health interview can be chosen.

Chronic Heart Failure (CHF) Package

The core Chronic Heart Failure package is specifically designed for people with CHF. The package includes blood pressure, pulse rate, blood oxygen and weight monitoring together with CHF related intelligent symptom questions offered by the **mymedic** monitor.

CHF+ Package

Designed to better monitor patients who experience Atrial Fibrillation. It indicates if AF was present at the time of taking the vital sign measurements, or whenever the patient feels an AF event. It includes a blood pressure, pulse oximeter, weighing scales and ECG.

Diabetes

The package for people living with diabetes measures blood pressure, pulse rate and blood oxygen levels. In addition, the **mymedic** unit is compatible with a wide range of glucometers to enable the patient to download their blood glucose measurements to the remote database. Intelligent symptom questions related to diabetes are also included.

Coagulation

The coagulation package provides intelligent questions alongside a coagulation meter to enable the patient to measure their own Prothrombin Time (PT) and International Normalised Ratio (INR).

icp triagemanager

icp triagemanager is the software solution which provides technical triage for patient data received from **myclinic** and **mymedic** units. Patients' readings exceeding parameters set by clinicians will raise an alert on the screen which can then be verified by monitoring centre personnel and forwarded to the relevant clinician for action if required.

icp triagemanager triages the health interview data by severity and prioritises care delivery through colour coding each patient to enable quick identification of patients most in need of attention, and flagging up incomplete or missing readings.

Health professionals with relevant access permissions can also securely view patient data remotely at any time to identify trends over time and keep in touch with patients' status

CHF+



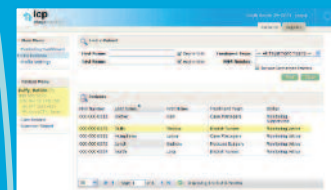
Diabetes



Coagulation



icp triagemanager



Introducing telecare

Where telehealth provides a means of monitoring a patient's vital signs, telecare offers a way of monitoring risks to a person's wellbeing 24 hours a day.

Unobtrusive sensors are placed around the home which automatically raise an alert if they detect a possible problem such as smoke, gas, flood or fall. The sensors are wireless and easily installed and removed, making it easy to ensure the right level of support is in place as the users' needs change over time.

Telecare sensors are remotely monitored on a 24 hour basis and when triggered they will raise a local audible alarm to warn the user. They will also automatically raise an alert with a monitoring centre, carer or family member who can respond appropriately. Using telecare, situations

such as people with dementia inadvertently creating fire risks or frail older people leaving their bed at night and failing to return safely can be managed without necessarily resorting to residential care.

Many people with long term conditions will have additional health related concerns, such as epilepsy or diabetes for example. Using appropriate telehealth and telecare solutions in conjunction can provide comprehensive support, and facilitate the integration of health and social care services to patients in the community.

Telehealthcare solutions can aid assessment for care packages, support effective reablement as well as providing ongoing risk management and support whether preventative, or as part of a greater package of care.



Useful links

Department of Health – Managing Long Term Conditions –

this website contains comprehensive information on long term conditions policy

www.dh.gov.uk/en/Healthcare/Longtermconditions

The National Institute for Clinical Excellence (NICE)

www.nice.org.uk

For information on public sector purchases of telehealthcare solutions and services

www.buyingsolutions.co.uk

Healthcare without walls: Delivering telehealth at scale

www.2020health.org/2020health/research/telehealth

World Health Organisation

www.who.int

Tunstall's Telehealth Online Resource Centre

This unique resource is part of Tunstall's website and is for telehealth customers to share information, best practice, guidelines, telehealth related documentation and policy procedures.

The Resource Centre includes:

- Standard templates
- Case studies
- FAQ section
- Engineer support
- IT section
- Reference sites
- Duplicate booklets
- Returns procedure



If you would like to gain access to this unique resource or require more information about telehealth solutions visit

www.tunstall.co.uk/customer-support

or call 01977 660370

Tunstall's Telehealthcare Training Tool

Tunstall's telehealthcare training tool (TTT) supports professionals working in telecare and telehealth services to enhance and refresh their knowledge. It provides a flexible and practical learning experience that guides you through a number of assessment scenarios based on risks to independence. The result being that you will gain the knowledge, experience and confidence to prescribe a range of telehealthcare solutions which will enable the client to remain living independently within their own home.

If you would like to access the TTT or would like further information visit www.telehealthcaretrainingtool.co.uk or call 01977 660370.



About Tunstall

Tunstall is the leading provider of telehealthcare solutions, with over 2.5 million users globally. Tunstall's solutions support older people and those with long term needs, to live independently, by effectively managing their health and wellbeing. Tunstall provides technology, expertise and advice to millions of people enabling them to lead independent more fulfilling lives.

For more information on how telehealthcare can improve quality of life for people in your community visit www.tunstall.co.uk or call **01977 660479**.

Tunstall has worked with NHS North Yorkshire and York to develop a film about their telehealth programme, as described on page 9 of this brochure. The DVD describes the benefits of telehealth to patients and clinicians, explaining how the system works in practice and the impact it's had on people's everyday lives.

For your copy call **01977 660479** or email enquiries@tunstall.co.uk



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