Kent TeleHealth Evaluative Development Pilot
A study into the management of people with long term conditions
www.kent.gov.uk/telehealth
I am delighted to be writing the foreword to this report on Telehealth. This kind of project is crucial for both social care and health economies to better understand, to be prepared for and to rise to future challenges such as an ageing population. This will mean people living longer with multiple and complex long term conditions in an increasingly difficult financial landscape.

In 2004 the former Chief Executive of Kent County Council, Peter Gilroy, had the ambition and foresight to start an innovative pilot programme that went beyond the traditional boundaries of social care. What Peter created was the Telehealth Pilot, which was about improving ‘quality of life’, supporting independence and giving people the chance to take better control of managing their long term conditions. Funded by Kent County Council and delivered in a unique partnership with health service colleagues from Kent’s GPs and Primary Care Trusts, the Pilot was the largest of its kind in Europe with 250 service users.

It was a huge success and helped health and social care work more closely together. It is fair to say that the benefits are first seen by the patient and the NHS. Kent Adult Social Services do, however, also expect financial benefits through reducing avoidable admissions to residential and nursing care and improved quality of life for carers as the technology supports them. Carers will be provided with a silent and reliable source of reassurance thus reducing stress and anxiety in the longer term. Telehealth technology allows us to support more people for longer at home. In some cases, it has given users a way of staying at home in their final days, which is better for the individual and their carers as well as being better for the sector.

I have been massively encouraged to read some of the feedback from patients and professionals who have been involved in this work. Patients have told us that Telehealth has improved their lives and because of this they are now helping other people. This unique peer group continues to support and spread the word about how Telehealth is changing lives.

The Telehealth pilot has improved the quality of life of the people using it and their carers; it is simply not possible to attach a value to that. It has also achieved long term savings to the cost of care through service and system efficiencies. In the future these efficiencies could give us the chance to help more Kent residents.

Another significant outcome is the partnership between Local Government and the Health Service. Together, we have been taking advantage of the latest technology and digital changes in clinical practice and community care services.

Foreword from Graham Gibbens, Kent County Council Cabinet Member for Adult Social Services
I want to make sure services are based around people and give individuals the chance to take increased responsibility for managing their own life. I am immensely pleased that this pilot has achieved so much and look forward to seeing how it can be used even more in the every day life of people needing help and support.

Graham Gibbens  
Kent County Council Cabinet Member for Adult Social Services  
September 2010
Executive Summary

This innovative and ground breaking pilot commenced in March 2005, following a visit to the USA in June 2004. It was based on an agreement reached between KCC, the PCTs in Kent, general practitioners (GPs) and the VA Puget Sound Healthcare System in the USA. The decision to invest in this area to test the effectiveness of the telehealth technology was in many ways ahead of the government’s policy agenda. The full project rolled out to a total of 250 people between 2005-07, developing different clinical models of care and different frequencies of monitoring. The original intention was that the technology would be available to people with long term conditions (LTCs) aged 65 years and above, although in practice it took in a broader age range.

This highly significant telehealth pilot sought to improve the ‘Quality of Life’; to both empower and improve choice whilst supporting independence. At that time telehealth complemented our existing work with a government initiative on innovation focusing on reducing hospital admissions. This Innovation Forum together with telecare contributed to our 10 year plan – ‘Active Lives,’ of which the underlying theme is to help the people of Kent to live safely and independently in their local communities.

What happened?

At the time of the pilot, people with LTCs were primarily managed by their GP. Community matrons were only just coming into post although the findings and recommendations of the Evercare project had been around for a while.

Originally rollout was planned through a GP practice based model where the GP had overall clinical responsibility, with the day to day monitoring being undertaken by practice nurses or administration staff.

Engagement of the GP community was challenging and participation poor. However, the community matron model was more successful with the matrons engaging with differing levels of enthusiasm which in turn impacted on the GP engagement. Rollout was slow, although GPs clearly saw the potential of the technology. The old argument of having a substantial evidence base before being able to commit was particularly difficult to overcome and therefore the ‘hearts and minds’ part of engagement was one of the most difficult aspects of rollout. This all changed when, in East Kent, two specialist community matrons were employed. Given the nature of their caseload and their focus on the management of complex, multiple LTCs, telehealth was significant in the development of their role. Using this model, rollout in their locality rapidly took off and developed to embrace GPs, consultants and patients and their carers sharing information and reducing time lag for clinical communications and responses. The model later developed its own momentum and was extended across East Kent.

A major risk for the programme was acceptance and usability of the technology by participants and their carers, especially as the target age group was 65+. This risk never materialised, participants embraced the technology enthusiastically, reveling in their new found independence, empowerment and peace of mind with a level of enthusiasm we could never have anticipated. So much so that a group of 21 participants felt so strongly about what telehealth had given them that they wanted to ‘give something back’ and that took the form of a support network who actively support telehealth users by answering questions, troubleshooting with the equipment and helping others to establish a telehealth routine. It is a role they all embrace with passion and pride that defies the fact they have long term, multiple and complex conditions!
**Aims of the pilot**

The original target of the pilot was to replicate the results of the US study in the UK clinical setting and to:

- understand the effectiveness of the support, via telehealth technology, available to participants in enabling them to remain in their own home and to alleviate the burden on carers
- understand if people who use telehealth have reduced hospital admissions and shorter stays when they do, fewer GP and surgery contacts and fewer visits from community nursing teams
- understand if the success of telehealth in the USA could be replicated in the UK and if the technology could be used effectively
- to look at three conditions, Chronic Obstructive Pulmonary Disease (COPD); Coronary Heart Disease (CHD) and Diabetes Mellitus and especially those people who entered hospital frequently.

But in practice we looked at a broader range of outcomes.

The pilot study clearly indicates that:

- telehealth brings peace of mind to patients and carers. Some patients and carers have experienced life changing positive experiences
- telehealth supports independence and empowers people to take better control of their life and manage their conditions
- patients and carers like and embrace the technology, value it highly and want to use it!
- people who use telehealth have fewer hospital admissions and shorter stays when they do, reduced GP contacts and in some cases fewer visits from community nursing teams
- clinicians have more, regular and reliable information about a patient and can take the appropriate action based on that information. Early action (or intervention) has prevented hospital admissions and exacerbations
- telehealth promotes better medicine management by clinicians and patients
- clinicians, through the use of telehealth, are able to manage patients more efficiently and effectively
- monetary savings may be made through reduced unplanned hospital admissions, Accident and Emergency (A&E) visits, nurse/GP home visits and better use of clinician’s time. It is estimated that per patient over a six month period the telehealth intervention saved on average £1,878 per patient in 2006/07. The confidence interval ranged from a saving of £2,718 to a saving of £1,038. This figure is statistically significant at the 0.01 level which means we are 99% confident that the savings fall between these two figures
- a rough extrapolation of the savings to Kent across the three LTCs of COPD; CHD and Diabetes was undertaken using the 2006/07 Hospital Episodes Statistics (HES) data, and with caveats, the annual cost saving in 2006/07 would be of the order of £7,560,000. The range is a cost saving of £10,942,000 to a cost saving of £4,180,000. This figure is statistically significant at the 0.05 level which means we are 95% confident that the savings fall between these two figures
- if the projected cost saving to Kent of £7.5 million for these LTCs could be replicated across the UK it is clear that there are potentially very significant cost savings for both the UK health and social care economies. There are also savings to the general economy when carers can return to work
the use of telehealth technology in conjunction with regular monitoring, in this case by community
matrons with specialist training, produced a reduction both in the number of visits to A&E and in the
number of bed days of care (BDOC) resulting in substantial savings. As a result the quality of life of
those involved showed a considerable improvement, with increased confidence for the individuals and,
equally important, for their carers. This represents a transformational change in quality of life for the
patient or user of the service, and for carers, with consequent savings to the public purse.

The pilot was a huge success and rose to the challenges brought about by significant change in the way
both health and social care worked together. It’s fair to say that the benefits initially accrue to the
patient and the NHS but we also expect financial benefits to be seen in social care through avoidable
admission to residential / nursing care and improved quality of life for carers as the technology supports
them, providing a silent and reliable source of reassurance reducing stress and anxiety and their longer
term impact. Telehealth technology allows us to support more people for longer at home and in some
cases has facilitated users dying at home and that’s better for the individual, better for their carers and
better for the sector.

Participant experiences and outcomes (direct quotes)…..

Participant: Female, 59 years old, Emphysema, Chronic Obstructive Pulmonary Disease (COPD), and
Polymyalgia Rheumatica (PMR).

“Before telehealth (2 years ago) I would visit the doctor’s surgery every 4 to 6 weeks. I was being
admitted into hospital via emergency ambulance 5 or 6 times a year with lung infections, spending 10 to
14 days in hospital, this had a big impact on my family, a very worrying time for us all. Those times are
truly terrifying. Those times are hard for me to even look back on because I really did believe that I was
going to die. It must have been hard for my family as well, seeing their mum, wife fighting for breath.

Since being on telehealth I have been into hospital twice a year but that has been because of a really
nasty infection that wouldn’t respond to my antibiotics and I have needed intravenous drugs, and 24 hour
oxygen. My last admittance into hospital was only for 36 hours, before that 5 days. I rarely go to the
doctors now I have telehealth. Telehealth means to me - peace of mind, free of anxiety. There are a
number of things that affect my breathing; weather, humidity, flowers, perfume, fresh air, atmosphere in a
room, differences in temperatures in different rooms, so my telehealth machine would let me know that
my problem is not necessarily an infection. My family and friends are grateful for the telehealth machine
as they know they don’t have to worry if I feel off key, we all know what the stats say and if they are
down they know my clinician Jeanette would become involved and deal with the problem, or it’s one of
the above or I’ve over done it the day before.”

Participant: Male, 51 years old, Ischemic heart disease, Parkinson’s, Stroke disease, peripheral vascular
disease, Hypertension.

“Before telehealth I used to spend at least eight to ten months per year as an inpatient in hospitals. My
GP used to visit me at home on a regular basis and district nurses used to come to my home every
other day to take my blood pressure. I was not able to plan my life on my good days, due to having to
stay at home for the medical support team to come and take my blood pressure. At the time of referral, I
had doubts as to how telehealth would help me with my long term conditions.
Since being on telehealth my blood pressure is monitored twice a day, morning and evenings lying down and sitting in my wheelchair. Telehealth gives me peace of mind as I can be assured that when my readings are transferred via telecommunication to the nursing centre, if there were any concerns regarding my blood pressures or blood sugar levels it can be addressed instantly. If my medication needs changing then the Matron can get in contact with my GP or the consultant and the correct medications can be prescribed.

Home visits from GP and district nurses are not so frequent as they used to be prior to being on Telehealth. Most importantly my hospital admissions as an inpatient has reduced, in the last 31 months I have spent ten days as an inpatient compared to eight to ten months per year.

Being on Telehealth has given me full control of my life and my independence. I can plan my day as I wish (go shopping with my carer, do some gardening as and when I am well enough to do so), I can visit my friends locally to where I live. And, above all, telehealth has opened so many doors for me; I am involved with public involvement group with KCC; I am part of Kent Telehealth support network volunteer group. It gives me a chance to help new Telehealth clients with any problems they may have with Telehealth equipment and to communicate and support one another.

And finally I have managed to achieve confidence and self esteem which prior to being on Telehealth I had totally lost it.”

**Conclusion**

This is not simply about doing things better. Telehealth is about transforming the way we work. It is about a shift of power from professionals to the citizen, enabling individuals to understand and manage their known conditions, to become in effect the expert. The technology will undoubtedly change but has the potential to promote an individual’s long term well-being and independence as well as improving individuals and their carers’ quality of life.

Used in a targeted way it can also improve the working lives of staff, is more cost effective and can be seen as another way of supporting effective clinical management in its broadest sense. The data shows that the use of telehealth technology is associated with fewer hospital admissions (A&E visits and bed days of care) along with high patient and carer satisfaction. Most importantly the figures show that the general and physical health of patients increased during the trial period.

Kent has a clear commitment to Advanced Assistive Technologies to improve the quality of life for the citizens of Kent. There are still 179 people from the Kent TeleHealth Evaluative Development Pilot who are currently using this equipment. KCC also undertook the Kent Telecare Pilot which resulted in the implementation of telecare devices in approximately 1000 homes, of which 750 continue to receive telecare support. In addition Kent recruited 2103 participants to the Whole Systems Demonstrator randomised control trial which commenced in 2007 and will complete in September 2010 bringing a total of 3,383 people recruited to use assistive technology through the three pilots.

A GP commented “It is a real example of that much talked of but rarely seen animal ‘Partnership Working’. It has been a pleasure to work with social care and other health partners. The pilot sets a good introduction to the Whole System Demonstrator Programme and I feel lights the way forward.”
An ageing population will have considerable implications for local health and social care service providers. The use of telehealth technology has the potential to produce a key and irreversible shift in how healthcare is delivered and the capacity to assist in delivering a person-centred service to patients and their carers. Clearly future investment decisions will be influenced by findings from this and other studies that point the way to different management of LTCs against the backdrop of challenging economic circumstances.