

## **SBRI East - Improving the Health of People with Long-Term Conditions *'Personalisation and Empowerment'***

### **Competition for development contracts**

**February 2011**

### **Summary**

A new SBRI East competition is being launched in the East of England to find ways to help better support the growing number of people with long-term health conditions. It is looking to industry to bring new technological solutions to support the achievement of health priorities in the East of England and increase the possibility of adoption in the NHS. This competition is open to all companies, including those not currently engaged in the health sector.

Increasingly, more people are living with long-term health conditions and quite apart from the personal issues this creates; it poses a significant challenge to the local health service. We are therefore looking to fund the development of ideas that could help alleviate this problem.

Have you got a technology or product idea that could help? Your business may use technology that has previously had nothing to do with the healthcare sector, but could cross over into this area and help us to support people effectively with long-term conditions.

We would like ideas that can be shown to make a difference to the care of people with long-term conditions. The areas that proposals should focus on are:

- Delivery of care closer to home and in the home
- The empowerment of people to take greater control and responsibility of their health and care

SBRI, supported by the Technology Strategy Board, is a cross-government programme for the procurement of technology development projects including the demonstration and evaluation of new technologies. The NHS East of England together with the European Regional Development Fund and the Technology Strategy Board are jointly funding this regional SBRI competition.

All applications need to demonstrate that they will be contributing to carbon reduction. This could be through reduction in energy, travel, waste, water or building design. Innovations that reduce system inefficiency, improve the person's care experience and the clinical outcome whilst promoting financial, environmental and social sustainability are very much welcomed.

Developments will be 100% funded and suppliers for each project will be selected by an open competition process and retain the intellectual property rights (IPR) generated from the project, with certain rights of use retained by the NHS. This competition will be run in only one phase. Several projects, of up to 6 months' duration and £100k, will be funded to prove technical feasibility. While there will be no second phase of the competition, successful projects will be invited to pitch their ideas to an invited audience of venture capitalists and angel investors towards the end of their 6 month project to raise more finance.

## **Background and challenge**

Long-term conditions are those conditions that cannot, at present, be cured, but can be controlled by medication and other therapies. More and more people are living with long-term conditions such as diabetes, coronary heart disease, high blood pressure, chronic obstructive pulmonary disease, neurological conditions, mental health problems, and other conditions which impact significantly on their quality of life and that of their carer or family. Poorly managed conditions can result in a high number of inpatient stays at hospital, extra complications and early death, and have an adverse effect on the individual's health and well-being. To accommodate these challenges any 21<sup>st</sup> century health and social care service will have to make greater use of technology; deliver more personalised care closer to and sometimes in, the home; and make increasing use of people's capacity to care for themselves whilst offering them appropriate support.

### **Human and financial cost**

About 15.4 million and 1.6 million people in England and the East of England respectively live with a long-term condition. This is equivalent to around one in three of the total population - limiting the employment chances and incomes of a significant number of working age adults. The probability of living with a long-term condition increases with age: 17% of those aged under 40 say they have a long-term condition, rising to 60% of those aged 65. Due to the ageing population, it is estimated that the number of people in England with a long-term condition will rise by 23% over the next 25 years.

The Department of Health's best estimate is that the treatment and care of those with long-term conditions accounts for 69% of the total health and social care spending in England, or almost £7 in every £10 spent.

People with long-term conditions are very intensive users of the most expensive healthcare services: 5% of the people, the majority of whom have one or more long-term conditions account for 49% of all inpatient hospital bed days; long-term conditions account for 31% of the population, but use 52% of all GP appointments and 65% of all outpatient appointments. It is estimated that the treatment and care of those with these long-term conditions accounts for 69% of the primary and acute care budget in England.

Social care expenditure is especially focused on those people with long-term conditions. By 2022 the number of disabled older people with informal care (in households) will rise by 39% to 2.4 million.

The number of people in residential care homes will increase by 40% to 280,000. The number of people in nursing homes will increase by 42% to 170,000. Public expenditure on long-term care will rise by 94% to £15.9 billion. Total long-term care expenditure is forecast to rise by 103% to £26.4 billion. This is equivalent to a rise from 1.4% to 1.8% of GDP.

It is estimated that 85% of deaths in the UK are from chronic diseases. Within this, 36% of all deaths are from cardiovascular disease and 7% from chronic respiratory disease<sup>1</sup>. The cost to the UK economy arising from premature deaths due to heart disease, stroke and diabetes is estimated to be £16 billion over the next 10 years.

## **Effective healthcare**

Health and social care is most effective when it is centred on the person or family being cared for with services respecting and treating the person as an individual instead of labelling them with a Long-term Condition (“a person with diabetes” instead of “a diabetic”). Continuity of care between GPs, hospitals and social services has been shown to prevent unplanned re-admissions to hospital. It is vital to involve people in the care process, both in the design and the delivery of integrated healthcare services. People may not adhere to treatments they do not understand, or see as relevant or appropriate to their circumstances, and they may not tell their care professionals about this. This problem is particularly acute among older people, for example it is estimated that three quarters of the prescriptions to over 75s are not taken as prescribed. The most successful management of long-term conditions is usually based around the needs of the individual and their family and ensures that interventions are appropriate, well-timed and focussed on supported self care.

Equity and Excellence: Liberating the NHS, a white paper published in July 2010 focuses on the statement ‘no decision about me without me’ and states that “the system will focus on personalised care that reflects individuals’ health and care needs, supports carers and encourages strong joint arrangements and local partnerships”. Specific intentions relating to support of people with long-term conditions are detailed in the consultation papers ‘Greater Choice and Control’ and ‘Information Revolution’. A key component in delivering the intentions is the embedding of personal health planning across the NHS and particularly, amongst people with long term conditions. Whilst progress has been made in implementing personal health planning, this continues to be a national priority and across the East of England.

## **Current developments and challenges**

A number of independent companies have already developed disease management services, including computer-guided telephone consultations with individuals. However, the evidence for the cost-effectiveness of disease management remains limited<sup>2</sup>. Mobile phones are being used to improve nurse-patient communication and monitor health outcomes in chronic disease. Innovative applications of mobile technology are expected to increase over time in community management of cancer, heart disease, asthma and diabetes. These examples are focused however on the contribution of mobile phone technology to healthcare and current developments span a much broader array of technological based solutions.

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<sup>1</sup> Department of Health website: [www.dh.gov.uk](http://www.dh.gov.uk)

<sup>2</sup> King's Fund, [www.kingsfund.org.uk](http://www.kingsfund.org.uk)

Some technology based solutions do not always link to others that are used along an integrated care pathway. The failure to design interoperability between solutions can create a real problem in care delivery and creates confusion for individuals, carers and healthcare professionals. Healthcare staff needs to be able to use a range of different devices to support their patients, and this can be off-putting if disruption to an integrated service arises as a result. Devices need to be simple, capable of linking to complimentary systems and foolproof.

## **Programmes and policy**

Increasingly, the NHS is trying to move services to more local and convenient locations for people, to enable them to live more independently and keep them out of hospital. The ability to move the information with the individuals and across agencies is a crucial factor to ensure that services function well. Where there are initiatives in place which enable better data-capture, these are not always supported by the decision-support systems which would enable the health service to make best use of the data.

Currently the health service is focusing on improving the screening of the population to more effectively identify people with long-term conditions and those at risk. This is in order to put in place preventative strategies and enable more proactive management of conditions through personal health plans which anticipate individual needs. Personal Health Budgets, whereby individuals will be allocated costs (and maybe cash) relating to their care and will be able to purchase their own care, are being piloted nationally. There are now three pilot sites across the East of England which will report their findings in October 2012. Commissioners are to offer structured education programmes to all people having a long-term condition and these are to be provided in a variety of ways to meet individual needs. One example is the Expert Patient Programme (EPP) which trains people to manage their own conditions and will be extended to more people, along with better access to cardiac and pulmonary rehabilitation and other education programmes.

Long-term conditions policy has focused on: **case management, disease management and self-management** alongside a number of related initiatives.

**Case management** - personalised care packages are tailored to the complex needs of those who are at greatest risk of hospital admission and require intensive health and social care support (often led by a community matron or a case manager). This approach has drawn on work in the United States (e.g. Evercare) where private healthcare providers have pioneered case management in order to keep people with long-term conditions out of hospital and keep costs down. Evidence has shown that intensive, ongoing, personalised case management can improve quality of life and health outcomes.

**Disease management** – this involves regular monitoring of how well individuals are sticking to their treatment, and supports people to manage their conditions better themselves. Good management involves identifying needs early and responding promptly with the right care and support. Personalised care planning actively supports this approach.

**Self-management** – this provides help for people with long-term conditions to manage their own conditions, with support from health professionals (this includes patient education supported for example,

by the Expert Patient Programme). Self care is a well proven and highly effective means of improving long-term condition care<sup>3</sup>.

Other key aspects of long-term condition policy include:

**Multidisciplinary teams** - people with long-term conditions, in particular those with a range of complex needs, often require care or support from a range of different professionals and agencies. Bringing these together into multidisciplinary teams is therefore critical as it underpins a co-ordinated, seamless approach to delivery of care and support, avoiding fragmentation, confusion and duplication of effort.

**Self-directed care** - personal budgets and direct payments can improve people's lives, giving them more choice and control over services. They can also give people more purchasing power by bringing different sources of funding and support together in one place.

A 2005 MORI survey (for the Department of Health) found that 82% of people having a long-term condition said they already play an active role in their care but they wanted to do more to care for themselves. More than 90% were interested in being more active self carers. More than 75% said that if they had guidance/support from a professional or peer they would feel far more confident about taking care of their own health. More than 50% who had seen a care professional in the previous six months said that they had not often been encouraged to care for themselves.

## Key policy documents

**The NHS White Paper – 'Equity and Excellence: Liberating the NHS'** published in July 2010 sets out the Government's long-term vision for the future of the NHS. The vision builds on the core values and principles of the NHS - a comprehensive service, available to all, free at the point of use, based on need, not ability to pay. [White Paper and Supporting Documents](#)

**'Liberating the NHS: Legislative Framework and Next Steps'** published in December 2010 provides the Government's response to consultation received on The NHS White Paper and further clarifies its future policy. [Link to Documents](#)

**Liberating the NHS: Greater Choice and Control** launched in October 2010 sets out proposals which envisage a presumption of greater choice and control over care and treatment, choice of treatment and healthcare provider. [Greater Choice and Control](#)

**An Information Revolution** launched in October 2010 deals with transforming the way information is accessed, collected, analysed, and used so that people are at the heart of health and adult social care services. [Information Revolution](#)

**NHS Outcomes Framework:** The first NHS outcomes framework published in December 2010 sets out the outcomes and corresponding indicators that will be used to hold the NHS Commissioning Board to account for the outcomes it delivers through commissioning health services from 2012/13. The framework offers an opportunity to understand what an NHS focussed on outcomes means for individuals, organisations and health economies. [NHS Outcomes Framework](#)

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3 Department of Health

**National Service Framework for Long-Term Conditions:** treatment of diabetes, coronary heart disease and mental health in 2000; and long-term conditions in 2004. [Information Leaflet-2005](#)

The **2004 NHS Improvement Plan** acknowledged long-term conditions as a key NHS priority and (in cooperation with the Treasury) a public service agreement for individuals having a **long-term condition** was set. [NHS Improvement Plan-2004](#)

**Improving Care for People with Long-Term Conditions: 'At a Glance' Information Sheets for Healthcare Professionals** published in November 2010 provides a series of information sheets for doctors, nurses, those delivering personal health budgets, allied health professionals, health trainers and anyone supporting individuals with long term conditions. The information sheets cover a range of topics including care planning, care co-ordination, managing need and assessment of risk, motivating people to self care, goal setting and action planning and end of life care. [Information Sheets](#)

The **Quality and Outcome Framework** of the new GP contract is designed to provide financial incentives for doctors to identify, monitor and treat individuals with many common long-term conditions (e.g. diabetes) more effectively.

The **Welfare Reform Bill: Restoring the Welfare System to Make Work Pay** – launched on 17<sup>th</sup> February 2011 by the Department for Work and Pensions. [Bill Documents](#)

The **White Paper - Our health, our care, our say: a new direction for community services** - published in January 2006 focuses very strongly on the role of self care support for people with longer term needs. It includes commitments to provide integrated care plans for those with a **long-term condition** by 2010. [Document Link](#)

**NHS Choices** includes '**Your health, your way - a guide to long-term conditions and self care**'. This covers the 'four pillars' of support for self care (information, tools, skills and support networks) together with healthy lifestyle choices. 'Your health, your way' will provide people with long-term conditions with the information they need about the choices, which should be available to them locally, to enable them to self care in partnership with health and social care professionals. This is about providing information to people on choices they can consider in order to engage fully in discussions about their care. [Information Links](#)

## **Carbon output**

The NHS in England has a current carbon output of 19m tons each year, we estimate that the East of England contributes approximately 2m tons a year. Healthcare related travel contributes 18% to the carbon output of the NHS and this could be dramatically reduced by solutions that allow remote care.

Reducing the carbon output of healthcare will reduce costs in the NHS by: saving energy, reducing taxation relating to carbon taxation or carbon accounts as part of the Climate Change Act, reducing the costs of system inefficiency and waste disposal. We anticipate that the innovations developed through this SBRI programme will aim to reduce carbon output for the treatments they affect by 10%, when fully adopted, by a combination of both direct and indirect factors such as: reduced travel (distance, frequency, and mode), duration of stay as an inpatient, and the carbon-efficient manufacture of devices.

Applicants may wish to be aware of the following important policy documents which can be viewed at <http://www.sdu.nhs.uk>:

- NHS Carbon Reduction Strategy and update
- Fit for the Future
- A Routemap for Sustainable Health

All applications will be expected to demonstrate their impact on carbon reduction and sustainable development. Innovations will need to support models of care that contribute to lowering carbon output from healthcare. This reduction may be achieved through reduced travel (by people with a long-term condition and or healthcare professionals), reduced intensity of treatment, reduced hospitalisation, or reduced use of medical devices.

### **Related Programmes**

This competition is independent of the Technology Strategy Board's Assisted Living Innovation Platform (ALIP), which is responding to the challenge of the demographic shift – in essence promoting independence by making technology better, cheaper and more desirable. The ALIP aims to significantly advance the technology to meet the demand for independent living from the expected increase in the numbers of people suffering from long term conditions and age-related disability. Projects should seek to complement, and not replicate this activity.

More information on the ALIP can be found at:

[www.innovateuk.org/ourstrategy/innovationplatforms/assistedliving.ashx](http://www.innovateuk.org/ourstrategy/innovationplatforms/assistedliving.ashx). In order to keep up-to-date with the latest information across the programme (including further competitions) please register for free with the group on \_connect: <https://ktn.innovateuk.org/web/assisted-living-innovation-platform-alip/overview>

ALIP has not supported trials of existing technology because this has been addressed by the DH Whole System Demonstrator (WSD). The WSD is the largest randomised control trial of assisted living services. For further information about the WSD see: [www.wsdactionnetwork.org.uk/](http://www.wsdactionnetwork.org.uk/)

### **Application process**

This competition is part of the SBRI programme which aims to bring novel solutions to Government departments' issues by engaging with innovative companies that would not be reached in other ways:

- It enables Government departments and public sector agencies to procure new technologies faster and with managed risk
- It provides vital funding for a critical stage of technology development through demonstration and trial – especially for early-stage companies.

The SBRI scheme is particularly suited to small and medium-sized businesses, as the contracts are of relatively small value and operate on short timescales for Government departments.

It is an opportunity for new companies to engage a public sector customer pre-procurement. The intellectual property rights are retained by the company, with certain rights of use retained by NHS East of England.

The competition is designed to show the technical feasibility of the proposed concept, and the development contracts placed will be for a maximum of 6 months and £100,000 per project. At this stage no further funding is envisaged beyond these 6 month contracts. However, suppliers should state now their goals and outline plan for the next stage of development as an explicit part of the path to full commercial implementation in their proposal.

The application process is run through Health Enterprise East, the NHS Innovation Hub for the East of England. All applications should be made using the application forms which can be downloaded from **[www.hee.org.uk](http://www.hee.org.uk)**.

Please email your forms to [sbri@hee.org.uk](mailto:sbri@hee.org.uk) by 1700hrs on 7<sup>th</sup> April 2011.

Companies will be expected to mobilise rapidly to start the project and payments will be made quarterly in advance against the agreed budget. It is important that projects run concurrently.

## Key dates

Competition launch	28 February 2011
Deadline for applications	7 April 2011
Assessment	May & June 2011
Contracts awarded	July 2011
Feedback provided by	July 2011

## More information

For more information on this competition, visit:

[www.hee.org.uk](http://www.hee.org.uk).

For any enquiries, e-mail:

[enquiries@hee.org.uk](mailto:enquiries@hee.org.uk)

For more information about the SBRI programme, visit:

[www.innovateuk.org/SBRI](http://www.innovateuk.org/SBRI)

For more information about the Technology Strategy Board, visit:

[www.innovateuk.org](http://www.innovateuk.org)

For more information about a sustainable, low carbon NHS, visit:

[www.sdu.nhs.uk](http://www.sdu.nhs.uk)

## References

Blake, Holly *Mobile phone technology in chronic disease management* Nursing Standard 2008; 23 (12): 43-46 (26 November 2008)

Fursse, Joanna, et al. *Early experience in using telemonitoring for the management of chronic disease in primary care* Journal of Telemedicine and Telecare 2008; 14 (3): 122-124

Garcia-Lizana, Francisca and Sarria-Santamera, Antonio, *New technologies for chronic disease management and control: a systematic review*, Journal of Telemedicine and Telecare 2007; 13 (2): 62-68

Healthcare Commission Survey, 2006

Harrison W, Marshall T, Singh D and Tennant R, Department of Public Health and Epidemiology and HSMC University of Birmingham, the effectiveness of healthcare systems in the UK – scoping study, July 2006

Khaww KT, Wareham N, Bingham S, Welch A, Luben R et al, Combined Impact of Health Behaviours and Mortality in Men and Women: The EPIC-Norfolk Prospective Population Study, PLoS Med 5(1):e12, 2008

Richardson, G., et al. *Cost effectiveness of the Expert Patients Programme (EPP) for patients with chronic conditions*, Journal of Epidemiology and Community Health 2008; 62 (4): 361-367 (April 2008)

Whitten, Pamela and Mickus, Maureen, *Home telecare for COPD/CHF patients: outcomes and perceptions*. Journal of Telemedicine and Telecare 2007; 13 (2): 69-73