Improving outcomes for patients with musculoskeletal disease

SBRI Healthcare NHS England competition for development contracts

May 2014

Summary

A new national Small Business Research Initiative (SBRI) Healthcare competition is being launched by NHS England in partnership with the Academic Health Science Networks (AHSNs) to find innovative new products and services. The projects will be selected primarily on their potential value to the health service and on the improved outcomes delivered for patients.

The competition is open to single companies or organisations from the private, public and third sectors who will ultimately be capable of supplying the NHS with the resulting product or service on a commercial basis. The competition will run in two phases:

- Phase 1 is intended to show the technical feasibility of the proposed concept. The development contracts placed will be for a maximum of 6 months and up to £100,000 (inc. VAT) per project
- Phase 2 contracts are intended to develop and evaluate prototypes or demonstration units from the more promising technologies in Phase 1. Only those projects that have completed Phase 1 successfully will be eligible for Phase 2.

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 theme, led by the West Midlands AHSN, focusses on the challenges in improving diagnosis, self-management and prevention of musculoskeletal disorders. Of interest and importance to this theme is the recognition and consideration of co-morbidities associated with diagnosis of a long term condition, in conjunction with supporting personalised care planning for treating not only directly but also non-directly related conditions affecting those patients.

The competition opens on 19 May 2014. The deadline for applications is 1200hrs on 10 July 2014.

Background

Musculoskeletal (MSK) conditions are currently the most common cause of chronic disability. Globally, the number of people suffering from musculoskeletal conditions has increased by 25% over the past decade[1]. The current NHS budget for musculoskeletal disease is £10 billion, the third largest after mental health and cardiac[2].

Each year 20% of the general UK population consult a GP with a musculoskeletal problem. The most commonly reported musculoskeletal conditions include:

- Osteoarthritis
- Inflammatory arthritis (for example rheumatoid arthritis)
- Back pain
- Musculoskeletal injuries (such as occupational and sports injuries and road traffic accidents)
- Crystal arthritis (such as gout)
- Osteoporosis and fragility fractures

[1] http://bjdonline.org
[2] Getting it right first time, improving the Quality of orthopaedic care within the national service in England. **Briggs, 2012**

Although the country's workforce has largely swapped heavy manual labour for sitting in offices, musculoskeletal conditions have been the primary cause of absenteeism for the past five years, and the UK has one of the highest rates in Europe. "Sitting is the new smoking," stated Professor Steve Bevan, Director of the Centre for Workforce Effectiveness at the Work Foundation in a recent BBC article. "The more sedentary you are the worse it is for your health"[3]. According to the Office for National Statistics (ONS). almost 31 million days of work were lost last year in the UK due to back, neck and muscle problems[3]. This is expected to continue increasing with the ageing of our populations.

Musculoskeletal conditions make up 2% of the global disease burden. Osteoarthritis accounts for the largest portion – 52% of the total burden of musculoskeletal conditions in developing countries, and 61% of the total burden of musculoskeletal conditions in industrialised countries. Osteoarthritis is increasing as the world's elderly population grows, and is the sixth leading cause of years lost to disability.

Having a musculoskeletal condition dramatically increases the likelihood of suffering from depression, says the Work Foundation and according to the ONS, depression accounts for the third largest amount of missed work days in the UK - 15 million annually[2]. But changing attitudes could be having an effect. There has been a general reduction in the total number of work-related musculoskeletal conditions and care since 2001, and a series of measures have been introduced to increase awareness of the problem.

In an update to the original 2008 guidance on osteoarthritis, NICE recommends that healthcare professionals offer advice on activity and exercise to all people with clinical osteoarthritis, as well as interventions to lose weight for those who are overweight or obese of people suffering musculoskeletal conditions.

The guidance also includes new recommendations on diagnosing the condition, advice on joint surgery, and on follow-up and review. Complications following orthopaedic surgery are costly to the patient and the NHS. Infection alone in total hip and knee replacements can cost £70,000 per patient to treat yet varies in incidence between NHS providers. If the lowest infection rates could be achieved throughout the NHS, current annual savings would be £200–£300 million. This would allow an extra 40,000–60,000 joint replacements to be undertaken annually at no extra cost and no requirement for potential rationing by commissioners[2].

Each year in the UK over 300,000 people are seen in hospital because of fragility fractures, with the most common sites for these fractures being the spinal vertebrae, hip and wrist[4]. Care of fragility fractures is expensive. Direct medical costs to the UK healthcare economy has been estimated at £1.8 billion in 2000, with the potential to increase to £2.2 billion by 2025 and with most of these costs relating to hip fracture care[5].

Challenge

The key challenges for which application of new tools and technologies are sought encompass three themes; Care models with greater emphasis on digital technology, reducing the incidence of post-operative infection and improving post-operative pain relief, and fall prevention and protection.

1. Care models with a greater emphasis on the innovative use of digital technology to support self-management, and early detection and intervention. This could include but is not limited to:
    a. The provision of a virtual community to provide condition related support

[3] BBC Article - http://www.bbc.co.uk/news/business-26338889
[4] NICE publishes guideline on assessing risk of fragility fracture in adults. http://www.nice.org.uk/newsroom/pressreleases/NICEPublishesGuidelineOnAssessingRiskOfFragilityFractureInAdults.jsp
[5] British Orthopaedic Association (2007). The care of patients with fragility fracture.

b. The ability to conduct self-assessment and stratification to personalised self-management programmes or referral
c. The use of smart technology to enable home based rehabilitation programmes
d. Tools for self-management
e. Tools to support consultations with health care professionals
f. Tools to enhance the uptake of NICE recommendations in clinical practice

2. Development of technical advances to support the reduction in the incidence of post-operative infection and improving post-operative pain relief to reduce complications and enhance recovery and early discharge

3. Fall prevention and protection for patients with trauma and fragility fractures to be able to identify those at risk and to then mitigate the risk using innovative technologies

Scope

All areas of the health economy, primary, secondary, community and social care are the focus for this call with a desire to provide more patient focussed self-management tools that can feed into the health system when required.

Key policy documents

NICE Clinical Guidelines for the care and management of osteoarthritis in adults: This guidance updates and replaces NICE clinical guideline 59 (published February 2008). It offers evidence-based advice on the care of adults with osteoarthritis.

http://guidance.nice.org.uk/CG177

Getting it right first time, improving the Quality of orthopaedic care within the national service in England. Briggs, 2012: By appropriate referral with closer working between the primary and secondary sector, getting it right first time, using evidence based treatments and gold standard prostheses, reducing complications, and by coupling this with different modes of working, the quality of care for patients can be significantly improved leading to greater patient satisfaction and outcomes and reduced litigation costs. This will also deliver significant annual savings to the NHS and reduce waiting times.

http://www.gettingitrightfirsttime.com/downloads/BriggsReportA4_FIN.pdf

NHS Outcomes Framework: First published in December 2010 the framework offers an opportunity to understand what an NHS focussed on outcomes means for individuals, organisations and health economies. An update was published in November 2012.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213055/121109-NHS-Outcomes-Framework-2013-14.pdf

Innovation Health and Wealth, published by the Department of Health in December 2011 which sets out a delivery agenda for spreading innovation at pace and scale throughout the NHS. Updated in December 2012 - **Creating Change: innovation, health and wealth one year on**

www.gov.uk/government/publications/creating-change-innovation-health-and-wealth-one-year-on

Application process

This competition is part of the Small Business Research Initiative (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 in public sector customer pre-procurement. The intellectual property rights are retained by the company, with certain rights of use retained by the NHS and Department of Health.

The competition is designed to show the technical feasibility of the proposed concept, and the Phase 1 feasibility contracts placed will be for a maximum of 6 months and up to £100,000 (**inc. VAT**) per project. It is envisaged that a competition for Phase 2 Development contracts will be run during 2015.

The application process is managed on behalf of NHS England by the Eastern Academic Health Science Network through its delivery agent Health Enterprise East. All applications should be made using the application forms which can be accessed through the website www.sbrihealthcare.co.uk.

Briefing events for businesses interested in finding out more about the competition will be held on 03 June (Birmingham) and 09 June (Daresbury, Cheshire). Please check the website for confirmation of venues and to register attendance.

Please complete your forms using the online application process and submit them by 1200hrs on 10 July 2014.

Key dates

Competition launch	19 May 2014
Briefing events	03 and 09 June 2014
Deadline for applications	Noon 10 July 2014
Assessment	August – September 2014
Contracts awarded	October 2014

More information

For more information on this competition, visit:
www.sbrihealthcare.co.uk

For any enquiries e-mail:
sbrienquiries@hee.co.uk

For more information about the SBRI programme, visit:
www.innovateuk.org/SBRI

www.sbrihealthcare.co.uk

The SBRI Healthcare programme is directed by the Eastern Academic Health Science Network on behalf of NHS England and managed by Health Enterprise East.