



## **Improving Diagnosis and Treatment Management of Cancer**

**SBRI Healthcare NHS England competition for development contracts**

**September 2013**

## 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 (AHSN's) 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 focusses on the challenges in diagnosing and treating cancer and is jointly led by UCL Partners AHSN and Imperial College Health Partners AHSN.

The competition opens on 16<sup>th</sup> September 2013. The deadline for applications is 1200hrs on 31<sup>st</sup> October 2013.

## Background

According to the World Cancer Research Fund the UK has the 22<sup>nd</sup> highest cancer rate in the World. Over 324,000 people in the UK – approximately one person every two minutes - were diagnosed with cancer in 2010<sup>1</sup>. A population that is increasing and ageing will drive up the number of cases of cancer year on year<sup>2</sup>, and with more than 1 in 3 people set to develop cancer during their lifetime, cancer is now the number one fear for the British public<sup>3</sup>.

The Department of Health recognises that cancer outcomes in the UK are poor when compared with the best outcomes in Europe and aims to save an additional 5,000 lives every year by 2014/15, in order to achieve cancer survival rates at the European average, through its cancer strategy 'Improving Outcomes'<sup>4</sup>. This strategy focuses on issues such as prevention, access to screening and, particularly, early diagnosis as diagnosis of cancer at a later stage is generally agreed to be the single most important reason for the lower survival rates in the UK<sup>4</sup>. There is also recognition of the need to improve the patient experience and quality of life for those living with and beyond cancer.

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<sup>1</sup> Cancer Research UK - Cancer Incidence Statistics

<sup>2</sup> Cancer incidence in the United Kingdom: projections to the year 2030 Br J Cancer (2011) 105, 1795-1803

<sup>3</sup> Cancer Research UK - [http://publications.cancerresearchuk.org/downloads/product/CS\\_KF\\_ALLCANCERS.pdf](http://publications.cancerresearchuk.org/downloads/product/CS_KF_ALLCANCERS.pdf)

<sup>4</sup> Department of Health – Improving outcomes: A strategy for cancer (January 2011)

## Challenges

In order to narrow the “survival gap” and move closer to the best performing countries in Europe; challenges in diagnosing and treating cancer must be addressed. The focus for this competition is on technologies that address those challenges, and so is split into ‘Diagnostic’ and ‘Treatment management’ issues.

### Diagnostic issues:

#### 1. Stratification of cancer:

In 2011, Cancer Research UK began a Stratified Medicine (collaborative) Programme, which aims to establish foundations for a national service that will ensure standardised genetic testing of tumours is available for people with cancer, as a step in making targeted therapies for cancer achievable in the UK<sup>5</sup>.

The first area of focus sits alongside this Stratified Medicine Programme, as the challenge encompasses developing a system for tumour stratification, for identification (by molecular analysis) of sub groups of cancer types for which specifically designed/targeted treatments may be relevant. Some of the challenges such technology innovations could address include, but are not limited to:

- Identifying patients with common molecular subtypes from across the country to form a suitable research base for treatment options
- Provide a single gold standard or reference test for stratification of tumours by molecular type
- A solution to enable patients to have all available data about their condition, molecular subtype and implications
- A facility to enable patients to compare their treatment regime with best practice

#### 2. Early detection of cancer:

One of the key determinants of long term outcome of treatment is the stage at which the cancer first presents. Too high a proportion of cancer patients present unnecessarily late, often to urgent or emergency care because of exacerbation or complication of long standing symptoms. Many of these are found already to have presented to their GP within the preceding six months.

Many early diagnostic tests are surrogate assessments of the risk of cancer being the cause of the presenting symptoms rather than definitive diagnoses of cancer itself. The current standard definitive test is biopsy of the primary tumour – which is invasive and dangerous in frail or sick patients.

To help address this there is a need for:

- Products – ‘risk calculators’ - which would enable patients to assess the nature of their symptoms either independently or in conjunction with primary care teams
- Definitive diagnostic tests using blood analysis for circulating tumour cells, which have been demonstrated to be present in significant proportions of cancer patients

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<sup>5</sup> <http://www.cancerresearchuk.org/science/research/how-we-deliver-our-research/others/by-programme/stratified-medicine-programme/>

### 3. Blood test & treatment logistics:

A common problem in outpatient clinics is that the results of blood tests taken in the GP clinic or at the local hospital have not appeared in time to allow the proper planning of treatment regimens – which needs to be done the day prior to the patient's attendance at clinic.

A key clinical issue is the need to have a coherent and complete log of the patient's symptoms and sequential blood test or other results. Such a record is difficult to maintain when tests and assessments are being done in different clinical settings.

Therefore, there is a need for point of care blood tests / an automated system of blood testing which could be used in a GP surgery, pharmacy, or even home. The system would transmit the test results automatically both to the patient and to the relevant clinician or clinic 24 hours ahead of chemotherapy treatment, and would automatically record the results in a central core patient record to which all relevant clinicians would have access.

### **Treatment management issues:**

#### 1. Patient-led coordination of follow up care:

Patient follow up can be fragmented and difficult. This is a common feature of dissatisfaction with regards to patient experience. It can also contribute to risk of deterioration from side effects of treatment.

Thus there is a need for products or systems which enable patients to manage or be fully engaged in their own follow up arrangements, to enter their own symptom state, and to provide access to real time information for all clinicians involved in the patient's care. This would include owning case records and providing access to all relevant clinicians.

#### 2. Moving follow up care out to primary care:

Treatment and follow up of cancer makes significant demands on patients' time. Travelling can be frequent and onerous particularly when patients are feeling unwell through the effects of either the condition or the treatment. This can apply during active treatment but can become more of a problem during maintenance therapy, when patients may wish to make extended trips away. The key clinical issue is the need to have a coherent and complete log of the patient's symptoms and sequential blood test or other results.

The need here is for systems or products that will enable the devolution of management of complex regimes (chemotherapy) to primary care with remote/joint monitoring of side effects and other symptoms, and the assurance of a single comprehensive record of symptoms and test results.

#### 3. Prevention of lost time spent waiting

A common feature of poor patient experience is the amount of time spent waiting – for discharge from the ward when medically fit to leave, for the delayed appointment in the outpatient clinic, for patient transport etc. Such time is deemed lost, unproductive, and frustrating.

Solutions to either reduce the time spent waiting in these various situations, or to make more productive and effective use of that time are required, for example by integrating the 'questionnaire'/survey/review element of the appointment with the time spent 'waiting' in care premises.

Turning wasted time into productive time makes a significant difference to the patient experience. This could be extended such that patients are assisted by their GP or Practice Nurse to use remote systems to enter data about side effects and symptoms remotely prior to attending the clinic. This would assist with treatment regime planning.

## **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 a 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 (incl. VAT) per project. It is envisaged that a competition for Phase 2 Development contracts will be run during 2014.

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](http://www.sbrihealthcare.co.uk).

Briefing events for businesses interested in finding out more about the competition will be held on the 24<sup>th</sup> September (Nottingham), the 30<sup>th</sup> of September (London) and the 2<sup>nd</sup> of October (North West). 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 the 31<sup>st</sup> October 2013.

## Key dates

Competition launch	16th September 2013
Briefing events	24th & 30th Sept, 2nd Oct 2013
Deadline for applications	1200hrs 31st October 2013
Assessment	November 2013
Contracts awarded	February 2014

## More information

For more information on this competition, visit:

[www.sbrihealthcare.co.uk](http://www.sbrihealthcare.co.uk)

For any enquiries e-mail:

[sbrienquiries@hee.co.uk](mailto:sbrienquiries@hee.co.uk)

For more information about the SBRI programme, visit:

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



[www.sbrihealthcare.co.uk](http://www.sbrihealthcare.co.uk)



6

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