Improving efficiency and experience of outpatient services through better remote management of health and well-being

SBRI Healthcare NHS England competition for development contracts

October 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 (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 outpatients services.

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 and its delivery partners 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.

The competition opens on 20th October 2014. The deadline for applications is 1200hrs on 9th December 2014.

Background

Outpatient departments see more patients each year than any other hospital department and so the performance of outpatient services has a major impact on the public's perception of the overall quality, responsiveness and efficiency of the health service [1].This competition theme focuses on the challenges of reforming NHS outpatient services.

Outpatient activity in the UK is growing, since 2005 the number of appointments in England has risen by 40%[2], to over 75 million outpatient attendances in 2012/13[3] First appointments accounted for 30% of all attendances and from Q1 2013/14 to Q1 2014/15 first attendances at consultant outpatient clinics increased by 6% to over 4 million[4]. Following first attendances, almost 70% of patients required a follow up appointment. Over a third of all outpatient appointments are for just four consultant specialities; Allied Health Professional Episodes, Trauma & Orthopaedics, Ophthalmology and Nursing Episodes. Consultant number growth is limited by the financial constraints faced by the NHS and so, in general, it is becoming harder for professionals to see every patient at the set intervals they have traditionally employed i.e. 3- or 6-month or annual follow up. In addition, many consultations simply confirm a patient's recovery is as desired and no new interventions are required. In these cases the value of a face-to-face consultation has

[1] http://archive.audit-commission.gov.uk/auditcommission/subwebs/publications/studies/studyPDF/3021.pdf
[2] www.nuffieldtrust.org.uk/data-and-charts/outpatient-appointments-uk
[3] http://www.hscic.gov.uk/catalogue/PUB13005
[4] http://www.hscic.gov.uk/catalogue/PUB13005

often been minimal, and that slot could have been better used by someone in crisis and who has to wait, often considerable time, for their next appointment.

Many Clinical Commissioning Groups have set ambitious targets to reduce outpatient volumes by up to 30%. There have been a number of effective initiatives to address growing outpatient demand; the most common approach has been to discharge to primary and community care teams. Monitor's own figures suggest an estimated 10 million to 16 million outpatient attendances in hospitals could take place in primary care[5].

Even when it is appropriate for a patient to visit hospital as an outpatient, there are still issues to be addressed in terms of efficiencies, for example, it is not unusual for patients with multiple conditions to have to come to hospital on different days for different tests, and missed appointments are common. Missed appointments, known as Did Not Attends (DNAs) can cause serious delays in treatment for other patients and are a huge drain on budgets. Almost 7 million outpatient hospital appointments are missed each year in the UK, costing an average of £108 per appointment (2012/13). By making the appointment system fit into patient's lives more easily, and using simple initiatives such as sending email and text reminders, the NHS hopes to cut the numbers of missed appointments, saving precious NHS resources.

The NHS is introducing solutions which let patients check, book and cancel appointments at their own convenience and order repeat medication online. In England this has initially been focused on primary care access, whilst in Scotland there have been developments to promote patient focused booking (PFB), putting patients at the heart of the outpatient booking process by engaging them in dialogue about their appointment[6]. However, the outpatient process is still dominated by paper communications that initiate telephone responses. In most cases patients are sent an appointment letter with the date and time of their appointment, clinician's name, location and, often, instructions about tests and eating/drinking, no matter how far ahead in time that may be. When the appointment day comes, patients may have misplaced the letter and any instructions, may no longer require the consultation, may forget to turn up or booked clinics may have been cancelled.

By employing effective remote consultation and monitoring using various technologies and media (including voice, video and text) valuable insight can be gained into the need for a face-to-face consultation. This will enable dynamic management of outpatient waiting lists, as well as providing feedback to patients on their progress to inform self-care and self-referral.

Challenges

A range of outpatient reforms have been initiated over the last decade including proposals under the Better Care Fund. Proposals should build on this progress by developing services and technologies that enhance outpatient services which are often overlooked by traditional telehealth and telecare deployments. Typically these technologies have been developed for people who have long term conditions. With this call the use of these technologies should be expanded to people who have a temporary need for support and to help determine what type of follow up is most appropriate, if any is needed at all.

[5] www.monitor.gov.uk/sites/default/files/publications/ClosingTheGap091013.pdf
[6] www.scotland.gov.uk/Resource/Doc/89501/0021443.pdf

In order to help achieve economies of scale and learning across administrative boundaries (both geographic and between services) this competition aims to bring together a collaboration of industry, health and care providers and commissioners of services from local authorities and the NHS. Developments funded under this initiative must have real application, ensured through user-centred design with patients and healthcare providers. Developments funded under this initiative must be able to be supported by those who will procure services. The principles of 3millionlives/TECS and dallas need to be adopted; in particular that pilots - that are rarely sustainable - are not required. The requirement is for scalable services and technology that can be built up in a phased approach, utilising action learning. Applicants will accordingly need to consider working with commissioners and their providers on service re-design, returns on investment and describing the business model to be deployed.

All technology developed under this call will need to be open, flexible and reusable or sufficiently low cost to be disposable. There are vast arrays of reasons why a patient may need an outpatient appointment and the information needed to determine how recovery is progressing will vary greatly. Platforms must therefore be easy to configure for different needs by clinicians e.g. some conditions may require static images of a wound for example, others a motion video of walking, some a text based questionnaire, others response to audio prompts etc. Wherever questionnaires are employed to determine health status they should be based on existing clinically validated content. Whilst flexibility in configuration is required, it is accepted that demonstrations may focus on a single condition to demonstrate efficacy. Bidders must demonstrate an understanding of medical device regulation in the context of their proposal , but this is not a call to develop new diagnostics.

Technology development will need to be grounded in user centred design principles. Integrated services will require better interoperability at a system level and not just of telecare/telehealth and videoconferencing devices (which is already achievable, if not available commercially). Technology deployed may need to be robust, and use of clients/carers own devices should be considered.

Topics we would like to see investigated would include:

1. Screening tools and monitoring devices that can identify recovery status (physical and mental) and a change in condition enabling the prioritisation or postponement of outpatient appointments, in particular those that enable:
    a. Monitoring of the physical and mental health outcomes of people on outpatient lists by providing very low cost secure remote care opportunities in a way that existing technology and services don't facilitate i.e. discharge to non-face-to-face consultation
    b. More efficient outpatient waiting lists with priority determined by need/risk.

2. Educational tools that can help recovery and enable people to understand progress and therefore reduce the number of patients who do not attend outpatient appointments and/or make informed self-referral into services. In particular those that provide/enable:
    a. Remote interventions that enhance recovery and reduce the likelihood of needing a follow-up outpatient event
    b. Shorter waiting times for outpatient slots by freeing up unnecessary face-to-face outpatient consultations
    c. Evidence based self-referral into outpatient services

3. Tools e.g. mobile apps that can make health and care services more accessible and communicate changes in outpatient clinic times/dates and patient availability in a way that can be integrated with existing systems and is widely accessible, providing advantages such as:
    a. Avoiding unnecessary outpatient journeys
    b. Better attendance rates and avoid DNAs and unnecessary face-to-face follow ups

The technology must have a positive effect by directly reducing outpatient health service utilisation, especially conditions with high outpatient volumes.

Key policy documents

http://www.england.nhs.uk/statistics/statistical-work-areas/hospital-activity/monthly-hospital-activity/

http://www.nhs.uk/NHSEngland/AboutNHSservices/NHShospitals/Pages/hospital-outpatient-appointment.aspx

https://www.gov.uk/government/publications/national-tariff-payment-system-2014-to-2015

http://www.hsj.co.uk/home/innovation-and-efficiency/-take-outpatient-clinics-out-of-the-system/5065240.article

http://www.health.org.uk/areas-of-work/programmes/innovation-to-improve-outpatient-clinic-efficiency/

http://docs.health.vic.gov.au/docs/doc/2135E6586F8B725CCA2579170003AB64/$FILE/progress0508.pdf

http://www.institute.nhs.uk/option,com_joomcart/main_page,document_product_info/products_id,945/cPath,106.html

http://evidence.nhs.uk/search?q=Hospital%20outpatient%20clinics&ps=50

http://www.population-health.manchester.ac.uk/primarycare/npcrdc-archive/Publications/82-research-summarySDO.pdf

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 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 the 11th and 13th of November 2014. 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 9th December 2014.

Key dates

Competition launch	20 October 2014
Briefing events	11 & 13 November 2014
Deadline for applications	09 December 2014
Assessment	January/February 2015
Contracts awarded	March 2015
Feedback provided	April 2015

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