



## Improving patient flow to maximise operational efficiency in the Acute Sector

SBRI Healthcare NHS England competition for development contracts

June 2016

## 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, including charities. 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 8 June 2016. The deadline for applications is 1200hrs on 28 July 2016.

## Introduction

It is well known that the NHS is facing significant financial challenges. NHS England has been tasked with delivering £30bn of savings per annum by 2020/21<sup>1</sup>, reducing to £22bn per annum after government commitments to increased funding<sup>2</sup>. The Carter Review of Operational Productivity and Performance in English NHS Acute Hospitals, published in February this year, states;

*“The NHS is expected to deliver efficiencies of 2-3% per year, effectively setting a 10-25% real terms cost reduction target for achievement by April 2021. Whilst the NHS ranks as the best value healthcare system in the world, we know more could be done to improve quality and efficiency in our hospitals so they can meet this expectation”<sup>3</sup>.*

The acute sector represents around half of NHS England spend and will therefore be a key contributor to these efficiency gains. Within this context, there is a major opportunity to improve operational efficiency in acute care by better management of patient flow through and out of acute care. This cuts across many aspects of the patient journey, but focuses on activities that can enable more efficient progress through diagnostic, therapeutic and rehabilitation services towards hospital discharge.

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<sup>1</sup> Five Year Forward View - <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>

<sup>2</sup> Comprehensive Spending Review 2015 - <https://www.gov.uk/government/news/department-of-healths-settlement-at-the-spending-review-2015>

<sup>3</sup> Operational productivity and performance in English NHS acute hospitals: Unwarranted variations – An independent report for the Department of Health by Lord Carter of Coles, February 2016

## Background

*“The term ‘flow’ describes the progressive movement of people, equipment and information through a sequence of processes. In healthcare, the term generally denotes the flow of patients between staff, departments and organisations along a pathway of care. Flow is not about the **what** of clinical care decisions, but about the **how, where, when and who** of care provision. How services are accessed, when and where assessment and treatment is available, and who it is provided by, can have as significant an impact on the quality of care as the actual clinical care received.”* Health Foundation 2013

From the patient's perspective acute care can sometimes feel as if their ‘journey’ doesn't ‘flow’ as well as it could and there can be lots of unintended waste such as duplication of assessments, variation in delivery or uncoordinated information sharing. All of which can have a negative impact on patient experience and outcomes.

For example, a person admitted to a hospital in an emergency may end up needing hospital care for a few days, but when they are medically fit to leave they may find they cannot leave hospital immediately because they need post discharge care delivered from another part of the health or social care system. For instance, a person might need adaptations to their home to enable them to eat, sleep or bathe, they may now need a wheelchair or they might need nursing or residential care. Any delay in discharge from hospital can therefore have an unintended impact on the health and social care system, causing congestion, bottlenecks and a mismatch between demand and capacity.

## The challenges

Increasingly we need to understand how to improve flow into, within and out of hospitals by focussing on how to prevent admission, by increasing the proportion of day cases, reducing the length of stay for those people that need to be admitted and by thinking about how to improve discharge and reablement processes. It is important to consider the whole patient journey and to avoid any changes to patient flow that compromise safety or system reliability.

Whilst the NHS has undoubtedly improved performance in this area, there is still significant need to identify innovative solutions to improve patient safety and experience and whilst driving down costs, increasing efficiency and productivity.

## Categories

Three categories have been identified via consultation with clinicians and other stakeholders working in acute care, under the primary theme of ‘Streamlining patient flow’, for this competition, they are outlined in detail below.

Applicants are expected to respond to a category whilst being mindful of the broader system. Whilst this competition is aimed at the acute sector, solutions do not need to be strictly limited to hospital boundaries if

they can demonstrate that they can deliver benefits to the acute sector. However, this competition does not aim to address patient flow into or within A&E, as this topic was covered in the Autumn 2015 SBRI Healthcare call.

Companies applying under this theme are also asked to consider:

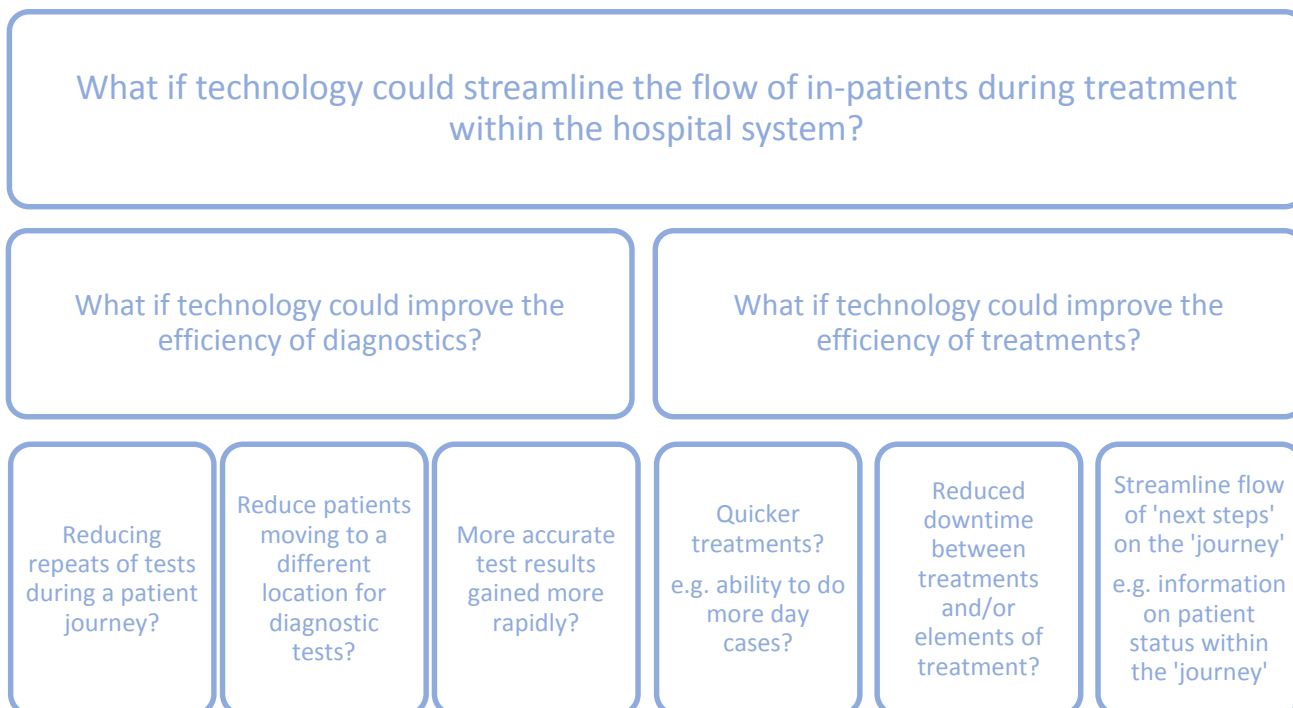
- How will the proposed solution impact on the clinical care pathway, and how will the care pathway need to be changed in order to deliver system-wide benefits?
- What health economics evidence will the NHS require before the technology can be adopted?
- How will you ensure that the technology will be acceptable to patients (and their families) and to healthcare workers?

### Category 1: Improving in-patient journey whilst receiving care within the hospital

A patient’s journey whilst in hospital can face many delays along the patient pathway, for example seeing the right person, chasing results, communication between teams, follow up investigations. This category considers technologies that assist in ensuring the *right patient always sees the right clinician at the right place, at the right time, with the results of the right tests and the right information every time.*

Reducing delays commonly associated with the in-patient ‘journey’ aims not only to improve patient care and experience, whilst being treated within the hospital, but to reduce the cost of care or increase capacity in the system. Information in real time on bottlenecks – where and why and how they are impacting the patient journey – will be essential to be able to better manage patient flow.

The following “what if’s” are some examples of scenarios that have the potential to improve the patient journey within the Hospital:

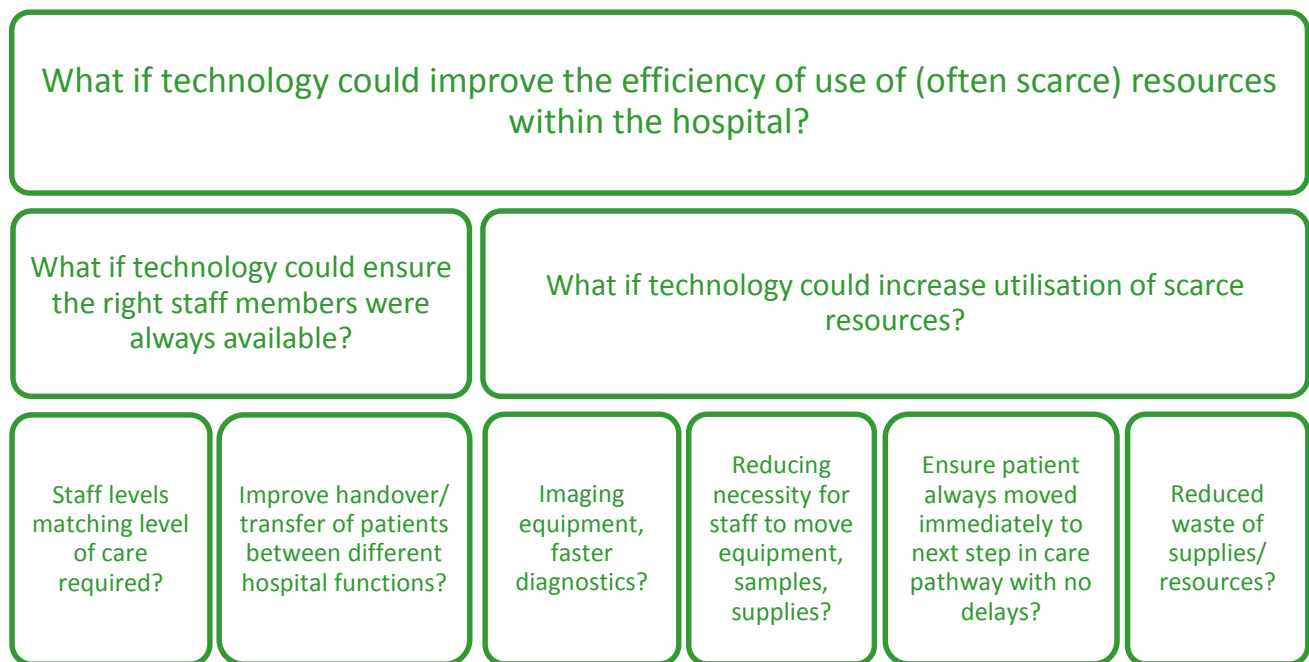


## Category 2: Improving use of resources during the patient journey within acute care

Delays to patient flow can also be caused by waiting for access to and inefficient use of resources within acute care. Getting timely access to equipment or having the right staff from a multidisciplinary team available for the patient is essential. Following on from the themes in category one, applicants to this category should consider how technology can ensure the right resources are available for each patient at the right time.

How can technology assist in ensuring the (often scarce) resources – including staff, equipment, time, medications – required during the course of patient care are used more efficiently, in order that the patient flow through the hospital system is not impeded by lack of, or wait for, necessary resources?

The following “what if’s” are some examples of scenarios that have the potential to improve the use of resources within acute care:



## Category 3: Improving efficiency of hospital discharge

A recent report published by the National Audit Office estimates that the burden on the NHS relating to delays in discharging patients from hospital is primarily attributed to older (aged 65 and over) patients remaining in hospital who are no longer in need of acute treatment and are medically fit to leave – a cost of approximately £820m per year, potentially equating to 2.7 million bed days<sup>4</sup>.

Remaining in hospital longer than is needed not only impacts on NHS costs and the wider issue of impeding patient flow through the acute sector, but can have long term impact on older patients, it is estimated that 5% of muscle strength can be lost per day of treatment in a hospital bed and there is a significantly higher risk of developing hospital-acquired infections. As a result, longer stays in hospital can lead to worse health outcomes and increase long term care needs. Lack of integration and poor joint working between different aspects of healthcare, such as hospital and community health services can result in people being discharged

<sup>4</sup> <https://www.nao.org.uk/wp-content/uploads/2015/12/Discharging-older-patients-from-hospital.pdf>

without the support they need to cope at home. Equally, lack of co-ordination between health and social care services can lead to lengthy delays in finding suitable care packages for elderly people with complex needs. This means they can be stuck in hospital wards at the expense of their dignity, human rights and independence.

The pressure that delays in discharge, in conjunction with an increasingly ageing population, puts on the NHS is clearly unsustainable, hence this category considers technologies that can assist with ensuring patients are discharged in a timely manner when acute care is no longer necessary.

Although it is recognized that a dominant factor in delays to discharge from acute care is the extent to which health and social care effectively interact to support transfer of care from hospital to community, this category is primarily interested in technologies that can facilitate patient flow out of acute care, safely and without risk of increased re-admission.

Common discharge delays within the acute sector are due to arranging for multiple things to happen and the difficulty in coordinating those activities, for example pharmacy, transport, next outpatients appointment, home equipment, family involvement etc.

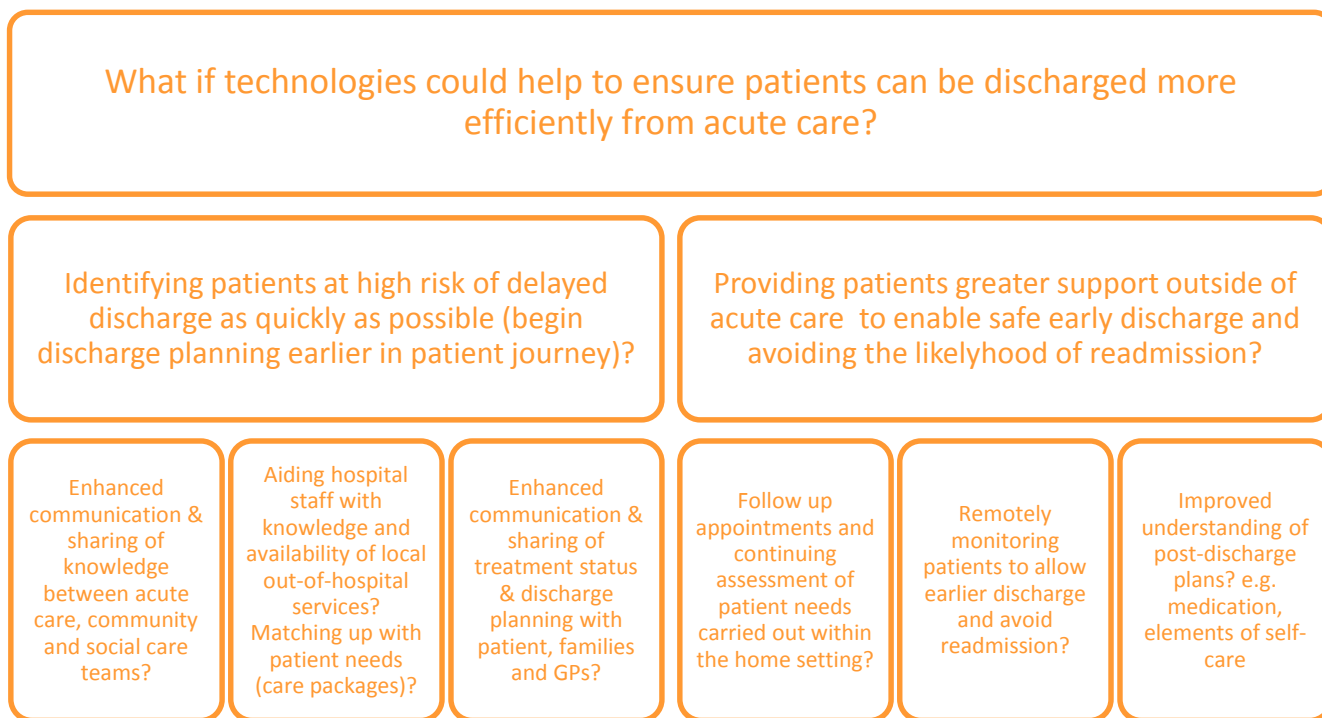
Products and services that allow better flow of the patient along the care pathway could include tools that allow professionals in the acute sector to better coordinate appropriate discharge services across community social care organisations, general practice and family members. Technologies and services that allow patients to monitor their conditions after discharge and communicate more effectively with the right local support teams to avoid deterioration and readmission or to schedule admissions where and when is most appropriate for their conditions<sup>5,6</sup>.

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<sup>5</sup> <http://www.ombudsman.org.uk/reports-and-consultations/reports/health/a-report-of-investigations-into-unsafe-discharge-from-hospital>

<sup>6</sup> [http://www.healthwatch.co.uk/sites/healthwatch.co.uk/files/170715\\_healthwatch\\_special\\_inquiry\\_2015\\_1.pdf](http://www.healthwatch.co.uk/sites/healthwatch.co.uk/files/170715_healthwatch_special_inquiry_2015_1.pdf)

The following “what if’s” are some examples of scenarios that have the potential to improve the efficiency of hospital discharge:



### 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 development contracts placed will be for a maximum of 6 months and up to £100,000 (incl. VAT) per project.

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 portal 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 these competitions will be held on the 21<sup>st</sup> June in London and 22<sup>nd</sup> June in Leeds and. Please check the [SBRI Healthcare Website](#) for confirmation of dates and venues, information on how to register and details of the challenges that will be presented at each event.

Please complete your application using the online portal and submit all relevant forms by 1200hrs on the 28th July 2016.

### Key dates

Competition launch	8 June 2016
Briefing events	21 June 2016, London 22 June 2016, Leeds
Deadline for applications	28 July 2016
Assessment	September 2016 / October 2016
Contracts awarded	November 2016
Feedback provided by	December 2016



## **More information**

For more information on this competition, visit:

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

For any enquiries e-mail:

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

For more information about the SBRI programme, visit:

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

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