



## Reducing pressure on urgent and emergency care

SBRI Healthcare NHS England competition for development contracts

September 2015



## 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.

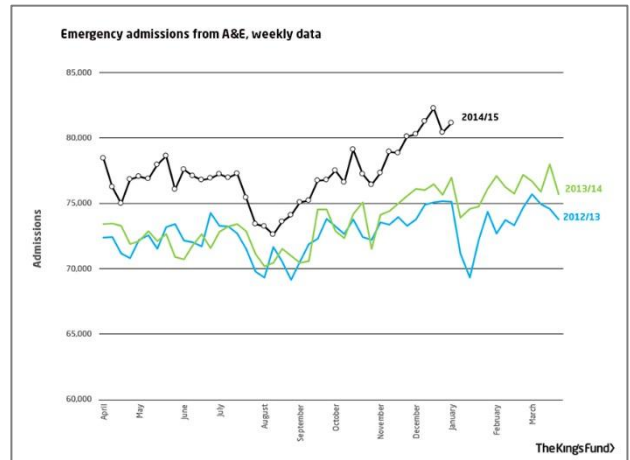
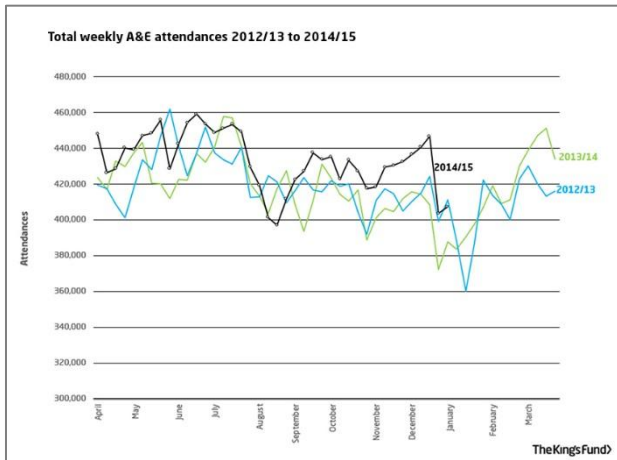
Developments will be 100% funded and suppliers for each project will be selected by an open competition process and retain the intellectual property rights (IPR) generated from the project, with certain rights of use retained by the NHS.

The competition opens on 28<sup>th</sup> September 2015. The deadline for applications is 1200hrs on 17<sup>th</sup> November 2015.

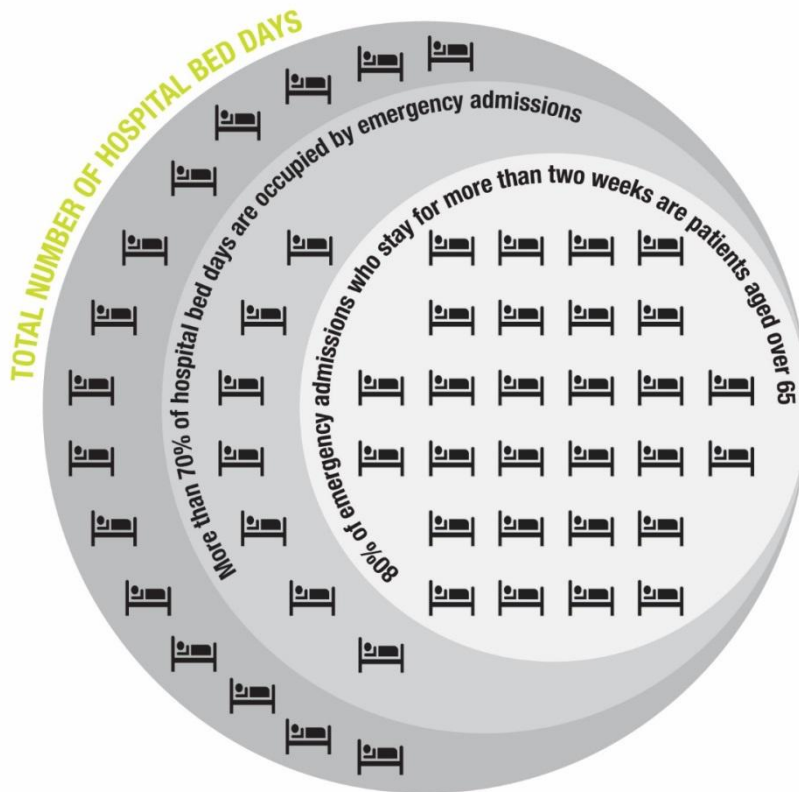
## Background: pressures on urgent and emergency care

Accident and Emergency (A&E) pressures and waiting times regularly make the headlines. In this section, we provide some of the facts that the Kings Fund and analyses of the Health and Social Care Information Centre (HSCIC) statistics together with the findings of the recent Monitor report : <https://www.gov.uk/government/publications/ae-delays-why-did-patients-wait-longer-last-winter> have revealed in order to explain what is actually happening, the causes behind the underlying pressures and what needs to be done. Please note that in this document A&E services includes urgent care services, emergency care services, and acute care units.

The number of attendances at A&E has increased significantly to 21.7 million in 2013/14, a rise of more than 30 per cent over the decade, and it continues to rise. Clinicians in A&E departments used to refer to the winter crisis when flu epidemics were common, but now crises are appearing at unexpected times of year, such as June and August with no apparent reason. Front line clinicians are unclear as to what is actually causing this, however the Monitor paper throws light on this probably being the result of a supply side variation issue. Some clinicians consider this a result of a growing lack of any stretch in the system. Many clinicians believe that the overall cause is a lack of 24-hour GP access and the lack of a credible alternative to turning up at A&E where attendees know that they can expect to be seen by a specialist within 4 hours. Whilst GP access is under discussion, and the service 111 online is being extended with self-assessment tools and direct access to a GP, A&E remains the first port of call for many and continues to plug the gaps in primary care support.

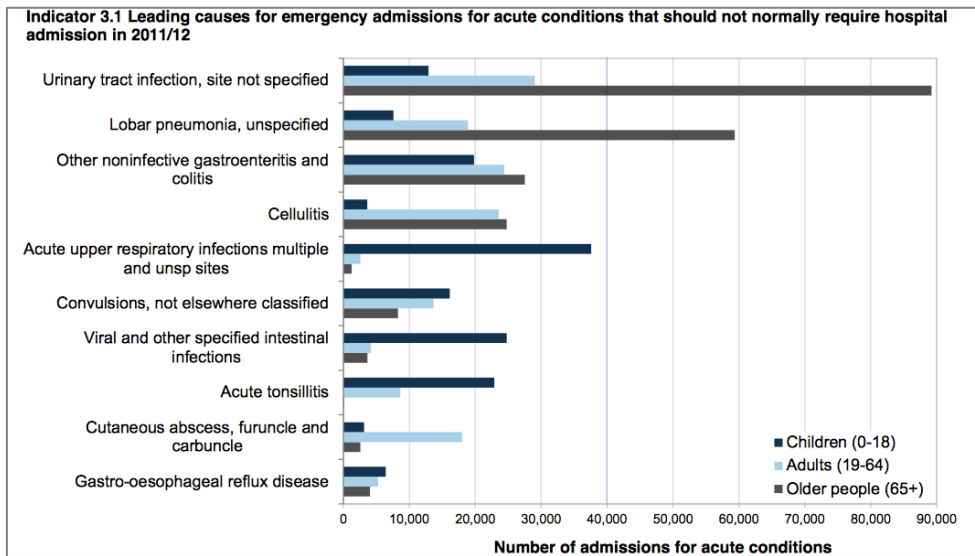


More than 70 per cent of hospital bed days are occupied by A&E admissions and 80 per cent of A&E admissions who stay for more than two weeks are patients aged over 65. Consequently as elective admissions occupy less than 30% of bed days, this means that reducing bed use for A&E admissions offers greater potential to deliver an overall reduction in the use of hospital beds and a corresponding reduction in cost. In a cost-saving environment, this adds more pressure on to A&E departments.

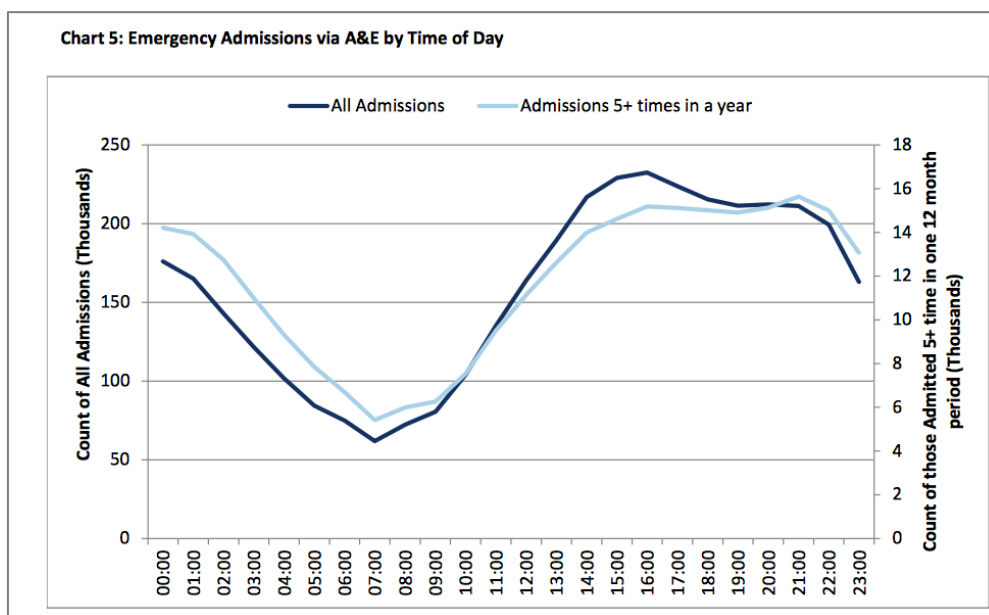


The higher number of patients waiting to be admitted into a hospital bed from A&E than in previous years points not only to patients being admitted when they are sicker, but also to pressure on beds in other parts of hospitals. Beds available have fallen faster than bed days required, i.e. bed occupancy has risen. This leads to disruption in the flow of patients through A&E. The Kings Fund found that the need for better co-ordination between different parts of the NHS is just as significant as the need for co-ordination at the NHS and social care interface.

HSCIC gives us the leading causes of people coming to A&E that should not normally require hospital admission.



Admissions into A&E reach a peak between 3 and 4 in the afternoon. Because this is fairly late in the day for hospital support services and also because of the peak, getting diagnosed and treated often results in the patient having to stay in overnight. Clinicians indicated that if they saw many of these patients earlier in the day, they would not need to be admitted. The peak at mid to late-afternoon is partly thought to be as a result of GP referrals following home visits and poor transport scheduling, so even though GP referrals have decreased, some are still needed and they often result in attendees arriving at broadly the same time.

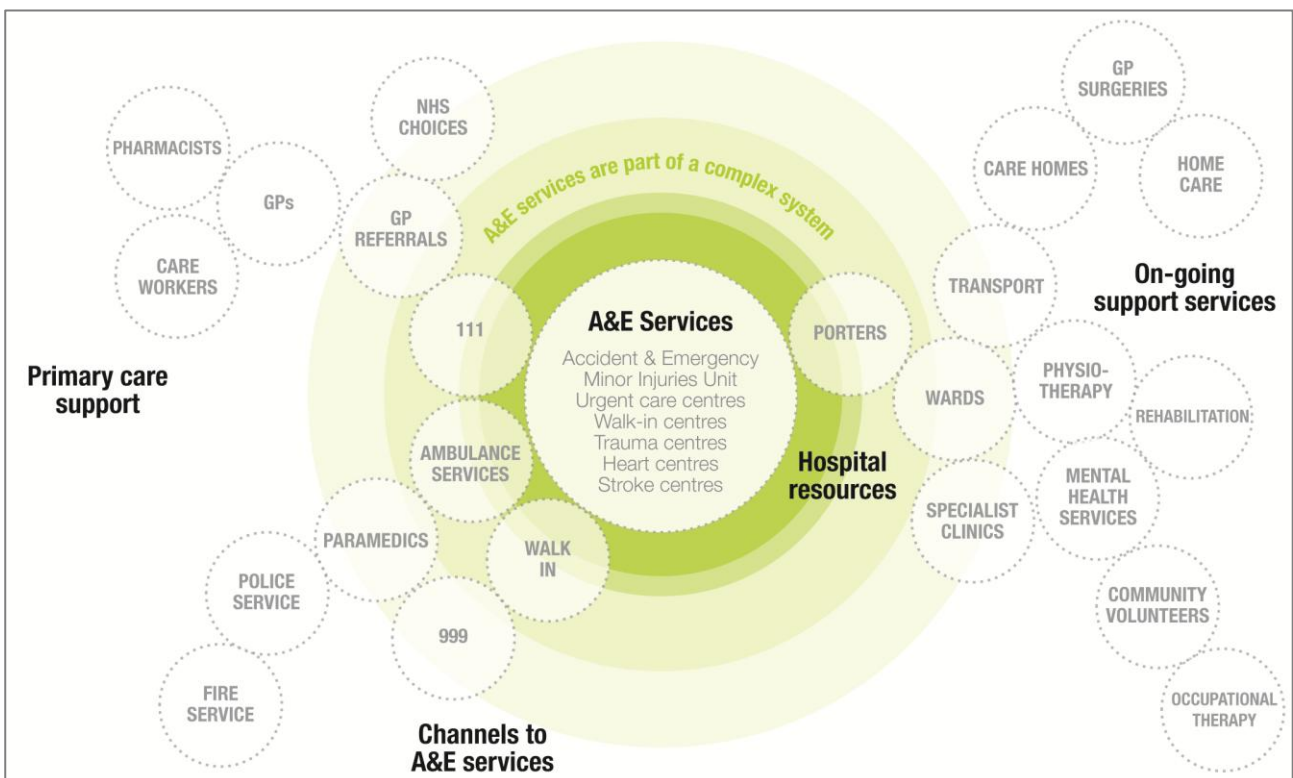


It is possible to distinguish between acute cases, who are mainly older patients, emergency cases and cases that could be dealt with by other specialists, such as mental health support staff, pharmacists, community nurses and GPs. In fact, many A&E departments currently have a GP and pharmacist on hand.

Clearly there are some major systemic problems that need credible solutions, such as:

- We need a viable alternative to attending A&E where someone who is sick is seen by a specialist within 4 hours
- We need more proactive and preventive care so that those more vulnerable in our community can be cared for and stay in their own homes, creating less impact on their wellbeing and their carers' welfare. For example, in the Netherlands, GPs call their more vulnerable COPD patients on a Friday morning, which has reduced weekend admissions to A&E. Also in the Netherlands, a mobile mental health unit deals with patients who have a psychotic episode and makes sure they have the care they need and are admitted if needed.
- In the meantime, we need more resources in the A&E at peak times, improvements to the post A&E patient assessment process, or ways of managing and changing the distribution of attendees according to the capacity available.

Many studies have tried to understand the causes of the pressures on A&E and have explored potential solutions, by say redesigning care pathways, streamlining utilisation and patient education, but the system is complex and there are many interdependencies.



## The challenges - introduction

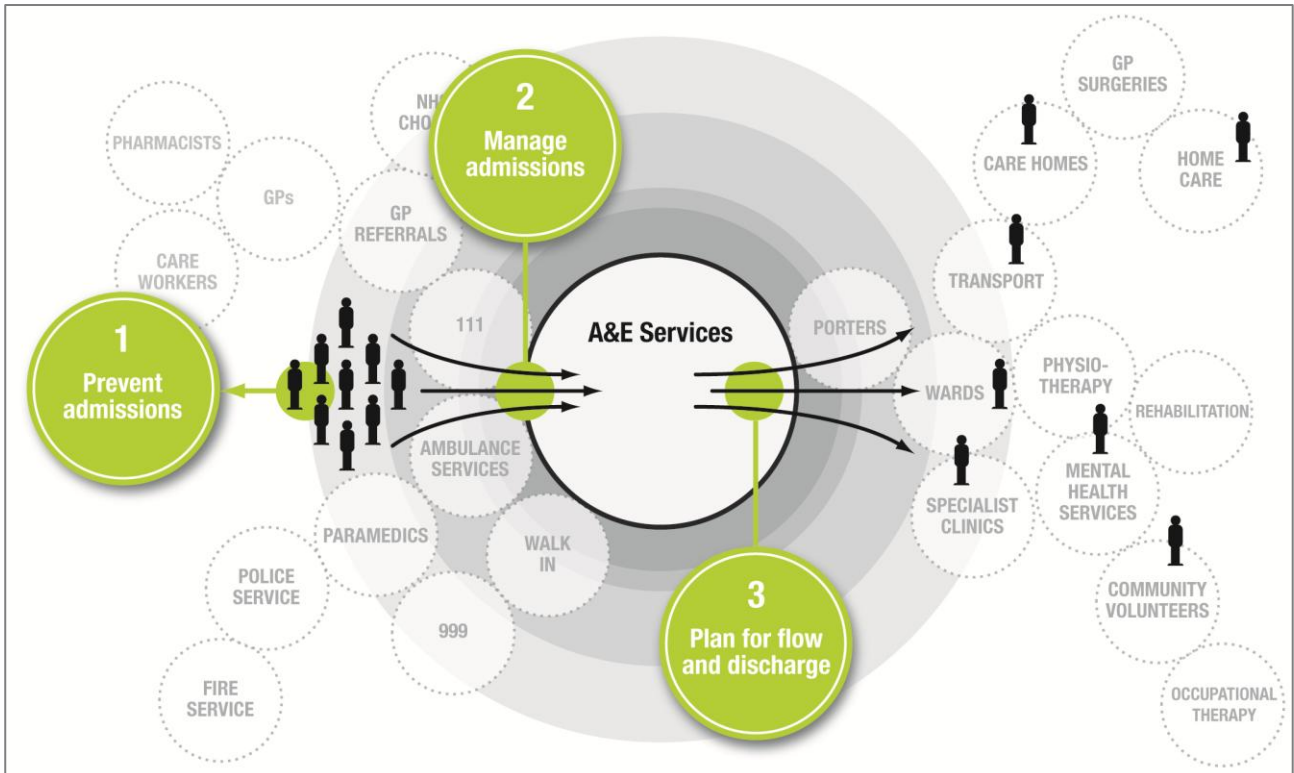
This SBRI Healthcare call focuses on potential areas where technology solutions can play a role and where we complement other funding initiatives that have an impact on this area, such as DALLAS and the recent SBRI Healthcare calls in areas such as falls and incontinence in the frail elderly.

In consultation with clinicians, paramedics, GPs and operations managers working in emergency admissions, we have identified three challenge themes (“categories”) where there is the potential for innovative solutions to reduce pressures on emergency services.

- The first challenge resides in primary care support and aims to reduce the number of people attending A&E in the first place.
- The second challenge looks to manage the distribution of cases arriving at A&E at any one time and so manage the flow of patients into the department.
- The third challenge looks at improving the access to the clinical decision maker and if appropriate the flow through A&E and onto the wards or for discharge. Although this challenge doesn’t reduce the flow itself, it does give a measure of the resources that are required, and therefore can be planned for.

Whilst some projects in these category areas are already underway, there is a sense that more needs to be done and integration with other systems is key. We expect applicants to learn from these projects and to address the gaps and shortfalls in their proposals.

Many other areas were discussed but the three category areas described below arose time after time and met with general consensus among the specialists we conferred with.



## Categories

The three categories identified for this competition are outlined below. Applicants are expected to respond to a category whilst being mindful of the broader system. We have identified possible technology solutions but are open to other proposals.

### **Category 1: What if we could more effectively deal with chronic cases in the community before escalation to an urgent case? What if we could prevent some A&E admissions?**

- Medical technologies for GPs, paramedics, community nurses, care workers and pharmacists, that reduce or manage acute conditions that should not require urgent hospital care
- Technologies to support proactive services for preventative care to groups of patients, e.g. identification and notification of frail and elderly to community nurses, identification of vulnerable COPD patients to GPs, identification of diabetics more likely to have hyperglycemic episodes to pharmacists
- Communication tools between primary care workers and urgent care specialists beyond voice calls with data, such as images transferrable across systems
- Technologies to enable vulnerable groups to effectively monitor their condition and detect deterioration to escalating but non urgent symptoms and seek non-urgent care appropriately
- More effective and real time diagnostic technologies for primary care to reduce referral to A&E for diagnosis

### **Category 2: What if we could better coordinate the admission of unscheduled attendees?**

- Tools for paramedics to better diagnose, treat and manage conditions prior to patient admission to hospital – what if patients could bypass A&E and channel straight to appropriate hospital services?
- Technologies to manage the demand for emergency services in real-time by integrating and liaising between incoming services, such as transport calls, GP referrals and 111 referrals.
- Technologies to identify and direct patients to the most appropriate service and the services with available capacity, including pharmacists, GP 24-hour services and mental health support services
- Communication technology to support the liaison between GPs, urgent care specialists and specialist care services, e.g. mental health services
- Technologies to extract clean data available from various systems so that an integrated response can be supplied

### **Category 3: What if there was better resource planning for flow within and discharge from A&E?**

- Technologies to predict and prioritise the resources required, e.g. transport, porters, nurses, care packages, ward beds, CT scans
- Technologies to interrogate and check, in real-time, the available resources and near-term availability of those resources



- Technologies to coordinate and plan services for long term condition management on discharge
- The ability to alert onward departments and services - including social care - of patients being admitted to the system

## **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 the competition will be held on the 13 October and 21 October in Manchester and Bristol respectively. Please check the 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 17 November 2015.



## Key dates

Competition launch	28 September 2015
Briefing events	13 October 2015, Manchester 21 October 2015, Bristol
Deadline for applications	17 November 2015
Assessment	December 2015 / January 2016
Contracts awarded	March 2016
Feedback provided by	April 2016

## 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)

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