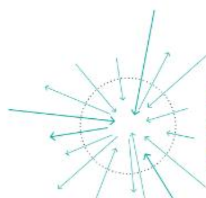
Urgent and Emergency Care

Funding Competition

Health Innovation Network



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Executive Summary

Evidence-based and cost-effective interventions can fail to be implemented into routine health and social care practices, a challenge which could be addressed by real-world validation of innovations in their intended setting and by accelerating their uptake and facilitate adoption and spread.

The SBRI (Small Business Research Initiative) Healthcare Programme is committed to supporting the NHS in delivering the objectives of the NHS Long Term Plan (LTP). Phase 3 funding supports implementation studies that generate the evidence in real-world settings necessary to progress towards future uptake and provide potential adopting organisations with an understanding of the implementation pathway and assurance of benefit delivery.

In 2024/25, SBRI Healthcare Phase 3 seeks to address challenges in **Urgent and Emergency Care** and aims to identify solutions at an advanced stage of development which help tackling:

1. Health and Care outside of Hospitals: Accessing the Right Care and Reducing Demand
2. Reducing Length of Stay and Improving Discharge
3. Supporting Workforce

Applicants are asked to consider the impact of their innovation on the whole system and to be aware of the competitive environment, even considering working together with other companies and organisations to bring forward solutions that can make a real difference. Solutions which address any challenges associated with health inequalities, such as demographic and geographic disparities, and show a strong commitment to contribute to the NHS carbon reduction ambitions are particularly welcomed.

SBRI: Phase 3 funding competition

Programme Ambitions

The SBRI Healthcare Phase 3 funding competition invites innovations at an advanced stage of development to accelerate their uptake into relevant health or social care settings. The aim of the competition is to facilitate the collection of evidence in real-world settings and build on the value proposition required by commissioners and regulators for technology's uptake.

There is no shortage of innovation in the NHS or the health sector more widely. However, innovation has not diffused as quickly, or had the impact seen in other industries, particularly in reshaping how clinical services are delivered. This is despite the NHS having natural advantages over many other health systems including universal coverage of a diverse population, national standards, and relatively rich healthcare data.

Real-world validation of an innovation can accelerate its uptake and bring benefits to both industry, and health and social care by facilitating the adoption and spread of innovation. This may be achieved by providing potential adopting organisations with an understanding of the implementation pathway and assurance of benefit delivery. Alongside this, real world validation can support industry to generate investment and enhance a product's sales story to enable growth and job creation.

Accelerated Access Collaborative's ambitions

The Accelerated Access Collaborative (AAC) funds the SBRI Healthcare Programme and brings together industry, government, regulators, patients and the NHS. It removes barriers and accelerates the introduction of ground-breaking innovations which will transform care. It supports the NHS to more quickly adopt clinically- and cost-effective innovations, to ensure patients get access to the best new treatments and technologies.

The AAC ensures that research and innovation meet the needs of the public,
patients and the NHS. This includes ensuring that all innovations that are adopted into the NHS can support the following targets:

- Reduce health inequalities and enhance equity of access to care through the CORE20PLUS5 initiative.
- Support the NHS ambitions to be a net zero health service through the 'Delivering a NET Zero NHS' initiative.

Core20PLUS5

NHS England launched the Core20PLUS5 initiative in 2021 and a bespoke Children and young people Core20PLUS5 in 2022 to reduce health inequalities at both the national and system level. The approach defines a target population cohort and 5 focus clinical areas requiring accelerated improvement. The Core20 are the most deprived 20% of the national population as identified by the national index of multiple deprivation while PLUS are population groups experiencing poorer than average health access, experience or outcomes which are not captured in the Core20 alone.

Delivering a net-zero NHS

The NHS strategy also includes ambitions to become the world's first net zero national health service. The "Delivering a Net Zero Health Service" report sets out the ambition and two evidence-based targets, which include:

- To reduce direct emissions (NHS Carbon Footprint) and reach net zero by 2040, with an ambition to reach an 80% reduction by 2028 to 2032.
- To reduce influenced emissions (NHS Carbon Footprint Plus) and reach net zero by 2045, with an ambition to reach an 80% reduction by 2036 to 2039.

As outlined in the LTP, sustainability commitments range from reducing single-use plastics and water consumption, through to improving air quality. The Greener NHS National Programme was formed to drive this transformation, while delivering against broader environmental health priorities.

Urgent and Emergency Care

Background and introduction

Urgent and emergency services have been through the most testing time in NHS history with a perfect storm of pressures impacting the whole health and care system but causing the most visible problems at the front door. Despite their best efforts, problems discharging patients to the most appropriate care settings, alongside the demands of flu and COVID peaking together, has seen hospital occupancy reach record levels. This means patient 'flow' through hospitals has been slower. As a result, patients are having to spend longer in A&E and waiting longer for ambulances. Hospitals are fuller than pre-pandemic, with 19 out of 20 beds occupied; up to 14,000 beds are occupied by someone who is clinically ready to leave; and the number of the most serious ambulance callouts has been at times up by one third on pre-pandemic levels. Even before the pandemic, pressure on urgent and emergency care had been growing, with changes in demographics and new types of care available, meaning the need for services has been growing every year. And looking forward, our growing and ageing population will see this continue.

Given the relationship between access to general practice and dental services, A&E attendances, admissions, and discharge to appropriate community services, recovering UEC services in England will require a system-wide approach. NHS England's Delivery Plan for Recovering Urgent and Emergency Care Services, published in January 2023, sets out the ambition to develop a system that provides more and better care in people's homes, gets ambulances to people more quickly when they need them, sees people faster when they go to hospital and helps people safely leave hospital having received the care they need. The paper sets out a number of ambitions, including:

- Patients being seen more quickly in emergency departments: with the ambition to improve to 76% of patients being admitted, transferred or discharged within four hours by March 2024, with further improvement in 2024/25.
- Ambulances getting to patients quicker: with improved ambulance response times for Category 2 incidents to 30 minutes on average over 2023/24, with further improvement in 2024/25 towards pre-pandemic levels.

Meeting this challenge will require sustained focus on five areas:

- Improving flow
    - Reducing demand through better care pathways in community, innovations in hospital at home/virtual wards and improved discharges to provide the capacity to allow flow of patients
- Growing the workforce
    - Optimising the composition of the workforce and supporting staff to work flexibly for patients.
- Improving discharge

  - Working jointly with all system partners to strengthen discharge processes, backed up by more investment in step-up, step-down and social care, and with a new metric based on when patients are ready for discharge, with the data published ahead of winter.
- Expanding and better joining up health and care outside hospital
  - Stepping up capacity in out-of-hospital care, including hospital at home/virtual wards so that people can be better supported at home for their physical and mental health needs, including to avoid unnecessary admissions to hospital.
- Making it easier to access the right care
  - Ensuring healthcare works more effectively for the public, so people can more easily access the care they need, when they need it.

Worsening Urgent and Emergency Care (UEC) performance levels have had a disproportionate impact on those who experience health inequalities. BMJ publication in 2023 reports that, life expectancy improvements in England had stalled and health inequalities were widening.

Health inequalities contribute to the large disparity in morbidity and mortality between the most and least deprived. In the UK, there is an almost 10-year gap in life expectancy between men in the most and least deprived regions. For the women living in the most deprived areas, life expectancy is starting to fall.

The pandemic exacerbated the issue, with people in more deprived areas and some ethnic minority groups having seen disproportionately high mortality rates from the virus, as shown by ONS data. The Marmot review 10 years on describes how all social and economic inequalities have widened in the last decade and these have led to a widening of health inequalities, a decrease in life expectancy and an increase in the amount of life spent in poor health for the most deprived.

The current situation only serves to exacerbate the health inequalities in A&E.

As ambulance waiting times, A&E waiting times and referral times get longer, those who were already struggling to access health care in a timely manner are likely to wait even longer and have worsening outcomes.

In March 2024, only 74.2 per cent of patients were seen and either admitted or discharged within four hours. The backlog of patients waiting for treatments continues to grow, in August 2022 more than 7 million people were waiting for care. This backlog exacerbates pre-existing health inequalities; people from more deprived backgrounds wait longer for specialist referrals and care. People from minority ethnic backgrounds, people with disabilities and people from more deprived backgrounds are more likely to access care late, have worse outcomes and higher mortality in certain conditions such as colorectal cancers. In addition, long-term conditions, many of which have predictable patterns of progression, are more prevalent in people from deprived communities.

Key Metrics

2x
More attendances to A&E departments in England for the 10% of the population living in the most deprived areas (3.0 million), compared with the least deprived 10% (1.5 million)

6%
Annual growth in 111 calls received in the 5yrs before the pandemic

12.1%
Increase in A&E attendances since 2012-13

Up to 20%
Of emergency hospital admissions are avoidable with the right care in place

10%
Increase over the last year in the number of beds occupied by someone who is clinically ready to leave

<50%
Of all attendances at Type 1 Emergency Departments were seen within 4 hours in December 2022

>25%
Of the adult population in England now lives with two or more long-term conditions

55%
Of people who needed a GP appointment in the 12 months to July 2022 avoided making an appointment

These pressures have also taken their toll on staff, who have had to work in an increasingly tough environment.

The NHS Long Term Workforce Plan published in June 2023 sets out the strategic directions at local, regional and national level to address the current workforce challenges and calls for actions on three priority areas to provide (among other priorities) timely urgent and emergency care:

- Train: significantly increasing education and training, as well as increasing apprenticeships and alternative routes into professional roles, to better meet the changing needs of patients and support the ongoing transformation of care.
- Retain: ensuring retention of the staff by better supporting people throughout their careers, boosting the flexibilities to work in ways that suit them and work for patients, and continuing to improve the culture and leadership across NHS organisations.
- Reform: improving productivity by working and training in different ways, building broader teams with flexible skills, changing education and training to deliver more staff in roles and services where they are needed most, and ensuring staff have the right skills to take advantage of new technology that frees up clinicians’ time to care, increases flexibility in deployment, and provides the care patients need more effectively and efficiently.

Challenges

Under this Phase 3 Funding Competition, three challenges have been identified via consultation with clinicians and other stakeholders working in healthcare provision. Applicants are expected to respond to one of the following challenges.

Challenge 1 – Health and Care outside of Hospitals: Accessing the Right Care and Reducing Demand

In 2010, a new A&E standard was introduced: 95% of patients arriving at an A&E department should be admitted to hospital, transferred to a more appropriate care setting, or discharged home within four hours. According to NHS England statistics, this target has not been met since 2014 and performance was at its worst in December 2022 when less than half of all attendances at Type 1 departments were seen within four hours.

The Royal College of Emergency Medicine cited both a lack of access to primary care and an increase in the elective care backlog as key drivers behind the increase in demand in Emergency Departments in its Acute Insight Series: What's Behind the Increase in Demand in Emergency Departments?. The Getting it Right in Emergency Care Advice Pack highlights that studies have consistently shown that at least a third of A&E attendances can and should be managed by clinicians other than emergency physicians. Solutions which enable patients to better manage long term conditions in the community alongside systems which enable effective triaging of all patients attending A&E to the most appropriate stream, will be important in reducing the pressure on UEC.

Potential solutions include (but are not limited to):

- Supporting self-management of long-term conditions in the community.
- Use of risk stratification in primary/community care populations and the use of personalised care plans around exacerbation of chronic conditions.
- Provision of alternative pathways of urgent care or support, directly accessible to clinicians working outside hospital settings and particularly relating to acute mental health, falls response, maternity services, and care homes.
- Services which can provide 24/7 telephone access to hospital specialists such as geriatricians and paediatricians, supported by point of care diagnostics and testing to ensure provision of high-quality care close to home.
- Linking up primary and secondary care services more effectively, for example enabling access to primary care records in UEC services to aid clinical decision making.
- Provide UEC clinical decision makers with a greater understanding of how community and primary care services work and the risk they are able and willing to hold in ensuring their patients can remain at home.
- Complex data use to better frame, remodel and manage system-wide risk, in real-time and as a predictive tool, to allow operational and strategic decision-making for the benefit of patients and staff.

- Innovations which can provide healthcare professionals working in out of hours care, GP services, NHS 111, or 999 with access to a single live source of available community services. Patients can then be directed to the most appropriate UEC care setting.
- Interventions of home treatments for people with acute mental health needs.
- Interventions that support patients who are experiencing homelessness or rough sleeping and embedding family support workers in A&E settings to provide additional support to children and families presenting with non-urgent issues.
- Point of care to enable more effective triage prior to hospital admission and remote monitoring technologies as well as new models of care to expand virtual wards as an alternative to acute care in hospitals across a range of conditions.

Challenge 2 –Reducing Length of Stay and Improving Discharge

Prolonged hospital stays are bad for patients, especially those who are frail or elderly. Reducing length of stay will not only lead to better patient experience but will also help to increase the capacity within the UEC system. A key driver of longer hospital stays is delayed discharge; timely discharge is vital to hospital flow but figures from NHS England from February 2023 showed that in England there were 13,260 patients in hospital who were clinically ready for discharge.

Innovations that give increased confidence to patients and carers in home, primary, and community care management and promote early intervention could facilitate early discharge and lead to a reduction in admissions to hospital from the ED. Additionally, effective triage and streaming to identify patients who could be better cared for outside the ED will free up resources to deliver care to those who need it.

Potential solutions include (but are not limited to):

- Systems which provide confidence to clinical decision makers in the efficacy and effectiveness of home and community management.
- Virtual wards combining technology and face-to-face provision to allow hospital-level care, including diagnostics and treatment, while enabling patients to remain in their own home supported by family or carers and/or enabling supported discharge.
- Systems to facilitate efficient communication between clinical teams within a hospital and/or between primary care/community care/hospitals/ambulances.
- Effective and timely diagnosis to direct patients to the most appropriate care setting as early as possible.
- Innovations that support the effective and efficient completion and use of discharge summaries.
- Innovations to support the supply of medications to take home.
- Enabling self-care as early in the treatment pathway as possible.
- Products that support safe discharge of those with learning disabilities, autism and/or mental health.

- Interventions that facilitate new approaches to intermediate care, working with local authorities and voluntary and community partners to help move from hospital into more appropriate settings for their needs, with the right wrap-around support for their rehab and reablement.
- Innovations that allow increased social care capacity (providing more care packages to more people) in ways that have the greatest possible impact in reducing delayed discharge from hospitals.
- Transport based service interventions for supporting timely and safely discharge which aim to complement the ambulance services.

Challenge 3 – Supporting Workforce

The demand for emergency medicine throughout England continues to grow year-on-year due to a growing and ageing population. The capacity and systems to deal with this demand vary greatly between different trusts, thereby resulting in unwarranted variation in patient experience and outcomes. The Getting It Right First Time (GIRFT) review have highlighted that in 2019/20 there were more than twice as many ED attendances for the 10% of the population who live in the most deprived areas compared with the 10% who live in the least deprived areas. Demand is importantly determined by the deprivation of the local population but resourcing for urgent and emergency care does not always follow health need.
Though demand remains at historic highs, waiting times for both emergency and planned care are too long, and bed numbers are too low while occupancy is too high. All of this is undercut by the fact that the NHS has a workforce shortage of over 133,000. Addressing the systemic workforce shortages will be pivotal to achieve a sustainable and equitable recovery of urgent and emergency care services.

Potential solutions include (but are not limited to):

- Innovations to improve work arrangements, professional satisfaction, staff welfare and staff resilience.
- Educational tools that provide more accessible learning approaches to significantly increase education and training to better meet the changing needs of patients and support the ongoing transformation of care.
- Tools that improve productivity by working and training in different ways, ensuring staff have the right skills to take advantage of new technology that frees up clinicians' time to care, increases flexibility in deployment, and provides the care patients need more effectively and efficiently.
- Approaches that upskill staff across UEC, acute and community care to improve care for people with co-occurring mental health needs, people with learning disabilities and people with autism.
- Training programmes tailored for scaling virtual wards, including training on frailty and access to specialist and consultant oversight required to deliver hospital level care at home.

- Innovations that support the expansion of mental health workforce within UEC, including clinical roles, such as ambulance mental health workers staffing specialist new vehicles and innovative non-clinical roles such as peer support workers and lived experience practitioners.

Useful Information for Applicants

Eligibility

The competition is open to any innovation (e.g., medical device, in-vitro diagnostic, digital health solutions and AI solutions, behavioural interventions, and service improvements) that meets the entry criteria and the challenges described below.

Single organisations (contracts are executed with individual legal entities) based in the UK or EU from the private, public and third sectors, including companies (large corporates and small and medium enterprises), charities, universities, and NHS Foundation Trusts, given a strong commercial strategy is provided, are eligible to apply.

Organisations based outside the UK or EU with innovations in remit for this call can apply as subcontractors of a lead UK/EU based organisation or via a UK or EU subsidiary.

Collaborations are encouraged in the form of subcontracted services as appropriate.

Innovations excluded from this competition

All proposals should also be aware that the following will be excluded:

- Basic research and innovations in the creation phase.
- Systems and solutions (such as wellness or wellbeing digital applications) that will not easily integrate or communicate with NHS/community setting systems. Some evidence of interoperability and/or work to assess this will be required.
- Technologies that do not comply with GDPR policies.
- Technologies that may increase burden on the workforce.
- Technologies that will exacerbate health inequalities (including digital exclusion or data inequalities) and inequity of access to care e.g., digital technologies that are inaccessible to certain communities that experience digital poverty.
- Innovations that are not co-designed with patients and end users.
- Electric ambulances.

Phase 3: Entry criteria

The call is open to innovations in an advanced stage of development and with the aim to accelerate these innovations into relevant health or social care settings. The aim of the call is to facilitate the collection of evidence in real-world settings and build on the value proposition required by commissioners and regulators to make purchasing or other recommendations and decisions.

To be eligible for the SBRI Healthcare Phase 3 funding competition, proposed innovations must meet the following:

- UKCA marked.
- If CE-marked only, a clear timeline to achieve UKCA mark by June 2028 for general medical devices or June 2030 for in vitro diagnostic medical devices. If regulatory approval is yet not obtained, evidence should be provided to demonstrate that the innovation is close to obtaining approval and/or in use in at least one NHS Hospital Trust.
- Clinical efficacy and safety demonstrated through an appropriate and relevant clinical evaluation.
- All projects must demonstrate relevant partnerships with a clinical partner and service(s)/clinical sites lined up.
- Projects are strongly encouraged to conduct an independent evaluation.
- For digital solutions, evidence that the technology has passed or is close to passing the necessary information governance and cyber security requirements where relevant. Evidence that the NHS England [Digital Technology Assessment Criteria (DTAC)] has been considered.

Desirable exit points

The aim of the funding is to generate real-world evidence to support rapid local or regional roll out of the innovation. Awarded proposals are expected to demonstrate some of the following exit points upon project completion:

- Implementation effectiveness demonstrated and a defined implementation guide produced where appropriate.
- Evidence of health and financial impact: health economics analysis (i.e., cost benefit analysis, budget impact model).
- Collation of evidence in response to NICE Early Value Assessment recommendations and related Evidence Generation Plan and/or towards full NICE guidance
- Innovation independently evaluated to demonstrate its impact in real-world settings.
- Environmental and sustainability assessment and impact.
- Equality and Health Inequalities impact assessment.
- Partnership developed for implementation in multiple sites.
- NHS Business case (e.g., procurement business cases to support transition into business-as-usual via standard commissioning routes, inclusion for national commissioning initiatives, inclusion on procurement frameworks, etc).
- Defined commissioning or procurement approach.

- Other relevant evidence to ensure local adoption following project completion, and plans for further spread and adoption (e.g., scaling-up plan and strategic plan towards adoption and spread, marketing tools development).
- Company scaling plan (e.g., staff, money, supply, etc).

Additional considerations

Please consult the Guidance for Applicants for more details.

- The programme supports innovations that plan to meet relevant regulatory standards, compliances and generate a strong evidence base. These may include CE marking, UKCA, relevant ISO certifications, etc.
- Where relevant, the NICE Digital Health Technology Framework and the Digital Technology Assessment Criteria (DTAC) should be consulted and your application should evidence your plan to meet the appropriate evidence guidelines.
- How will the proposed solution impact the care system and how will the system need to be changed (including people, processes and culture) in order to deliver system-wide benefits?
- How will you ensure that the innovation will be acceptable to patients (and their families and wider support network) and to health and social care workers?
- How will you ensure that the innovation is affordable to the NHS and wider systems such as Integrated Care Systems (ICSs) both immediately and throughout the life of the product?
- How will you ensure that the innovation enhances equity of access, such as different demographics and geographies?
- How will your innovation support the NHS commitment to reach net zero carbon?
- All proposed technologies should take into consideration appropriate integration with electronic patient records (EPR).

SBRI Healthcare Programme

This SBRI Healthcare competition is funded by the AAC in partnership with the Health Innovation Network to facilitate the collection of evidence in real-world settings and build on the value proposition of mature products for adoption and spread. The projects will be selected primarily on their potential value to the health service and social care system, and on the improved outcomes delivered for those in receipt of care.

The Phase 3 funding competition is intended to facilitate the implementation of developed innovations. Contracts will be for a maximum of 12 months and up to £500,000 (NET) per project.

The implementation 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.

SBRI application process

This competition is part of the Innovate UK Contracts for Innovation, formerly known as Small Business Research Initiative (SBRI) programme, which offers innovative organisations the chance to work directly with the public sector to solve complex challenges:

- 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 and evidence gathering through demonstration and trial.

The 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. Thus, it is an opportunity for new companies to engage a public sector customer pre-procurement.

For more information about Contracts for Innovation, visit Contracts for Innovation - Innovate UK Business Connect (ktn-uk.org)

The SBRI Healthcare is managed on behalf of NHS England by LGC Group. All applications should be made using the application portal which can be accessed through the Research Management System. Applicants are invited to consult the Invitation to Tender, the Guidance for Applicants, the RMS portal Guidance and FAQ pages on the SBRI Healthcare website to help prepare their proposal.

A briefing event for organisations interested in finding out more about the competition and a webinar event to respond to potential applicants' questions will be held. Please check the SBRI Healthcare website and/or SBRI Healthcare LinkedIn page for confirmation of dates,

information on how to register, and details of the competition, along with attending supporting webinars and Q&A sessions.

Key dates

Competition launch	31 July 2024
Deadline for applications	18 September 2024 **(13:00 BST)**
Interview Panel	December 2024
Project start	January - February 2025

More information

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

For any enquiries e-mail: sbri@LGCGroup.com

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