The Future Challenges
Keeping Healthy at Home

West of England AHSN competition for exemplar future facing projects - guidance for applicants

March 2019

Tender reference number is: itt_30232

Contents

Introduction

The [West of England AHSN](#) has a remit to assist industry and particularly smaller companies to work with the NHS to adopt and spread innovative products and services for patient benefit and to assist growth in the UK economy.

Together with colleagues within Sustainability and Transformation Partnerships and Integrated Care Systems we have developed local innovation hubs. Our innovation work is based in Gloucestershire; Bristol, North Somerset and South Gloucestershire; and Bath & North East Somerset, Swindon and Wiltshire. Through these hubs we have articulated the needs of our local health and care communities to drive forward "challenge-led" innovation. We will be matching these needs to the innovative solutions to be tested out in a real world setting.

What activities will we support?

We are looking for organisations that will ultimately be capable of supplying their product or service on a commercial basis in response to our health and care challenges. We are particularly keen to attract small and medium sized enterprises (SMEs) who already demonstrate a level of market traction in terms of sales and/or who can demonstrate they are already working with the NHS. We will also accept applications from small consortia with a lead company. This competition is not suited for products that are currently in a research and development stage, but is for products at advanced prototype/beta testing to full market ready positions.

The successful projects will be selected primarily on their potential value to the local health economy and on the improved outcomes delivered for the service users.

We are particularly interested in technology solutions but we recognise that there is no need for more apps focusing on general symptom monitoring and self-management. We are looking for novel, future facing transformative technologies that can build on and augment existing interventions by improving their efficacy, engagement and delivery. The desire is to ensure that more people have access to solutions/interventions that will improve their lives.

The opportunities for applicants:

- Your innovative product or service will be used & evaluated in a real world setting with support from the West of England AHSN.

- You will submit a quotation rather than a tender as we are looking to evaluate a number of innovative solutions with the costs of each one less than £40,000.

- You will receive a report on the evaluation which will also be shared with West of England AHSN members who commission and provide healthcare services across our region with a population of 2.4 million people.

- You have the opportunity to develop your products in line with commissioner and provider requirements.

- Increased potential for sales in West of England healthcare providers.

- Increased potential for national sales as the 15 AHSNs across England share case studies.

Our priorities

Our priorities in the West of England focus on two main areas: **staying well and confident**, and **staying connected and supported**. Further information is given below and highlighted through **'what if…'?** questions. The key priorities and challenges were articulated by our local expert network at a workshop in November 2018. The representatives included health service providers and commissioners, voluntary organisations and university researchers. Further discussions and input also took place with additional stakeholder groups to develop the health and care challenges.

Priority 1: Staying well & confident, and out of the hospital

What if… we had technology, knowledge and confidence to manage our own condition?

What if… we had interventions that support behaviour change e.g. physical activity?

What if... the community could better support its own health and social care needs, for example, have local "one stop shops"?

Priority 2: Staying connected and supported at the right time and the right place

What if… we could improve health literacy and fully support self-management, as an expert in our own condition? This includes education for services users, carers and healthcare professionals?

What if… we supported the aging community and people with long term conditions with their daily lives to ensure that they are engaged and not isolated? For example, support local groups for physical activity?

What if… we could use virtual and augmented reality to improve and decentralise access for diagnostics, for example virtual consultations at home?

What if… we let service users lead the timing and location of service interventions?

What if… technology could keep people safe at home, for example, predict if people are at risk of issues such as falls?

What if… service users, healthcare professionals and carers had better access to simple assistive technology and could measure service users' wellbeing objectively?

What challenges are we facing?

Key facts:

- Over one million people every 36 hours use the NHS England services[1]
- In 2016/17 the total annual attendances at Accident & Emergency departments was over 23 million[2].
- At the end of April 2017, 885,876 patients were on the waiting list for a diagnostic test. Of these, 1.8% had been waiting longer than six weeks[3].
- In 2017 there were over 3.7 million patients on the waiting list for treatment, with 10% of patients who waited for longer than 18 weeks[4]
- Outpatient appointments across the country make up almost 85% of all hospital based activity (excluding Accident & Emergency department).[5]
- Outpatient appointments in England alone have almost doubled in the past decade, now reaching over 118 million per year.[6]
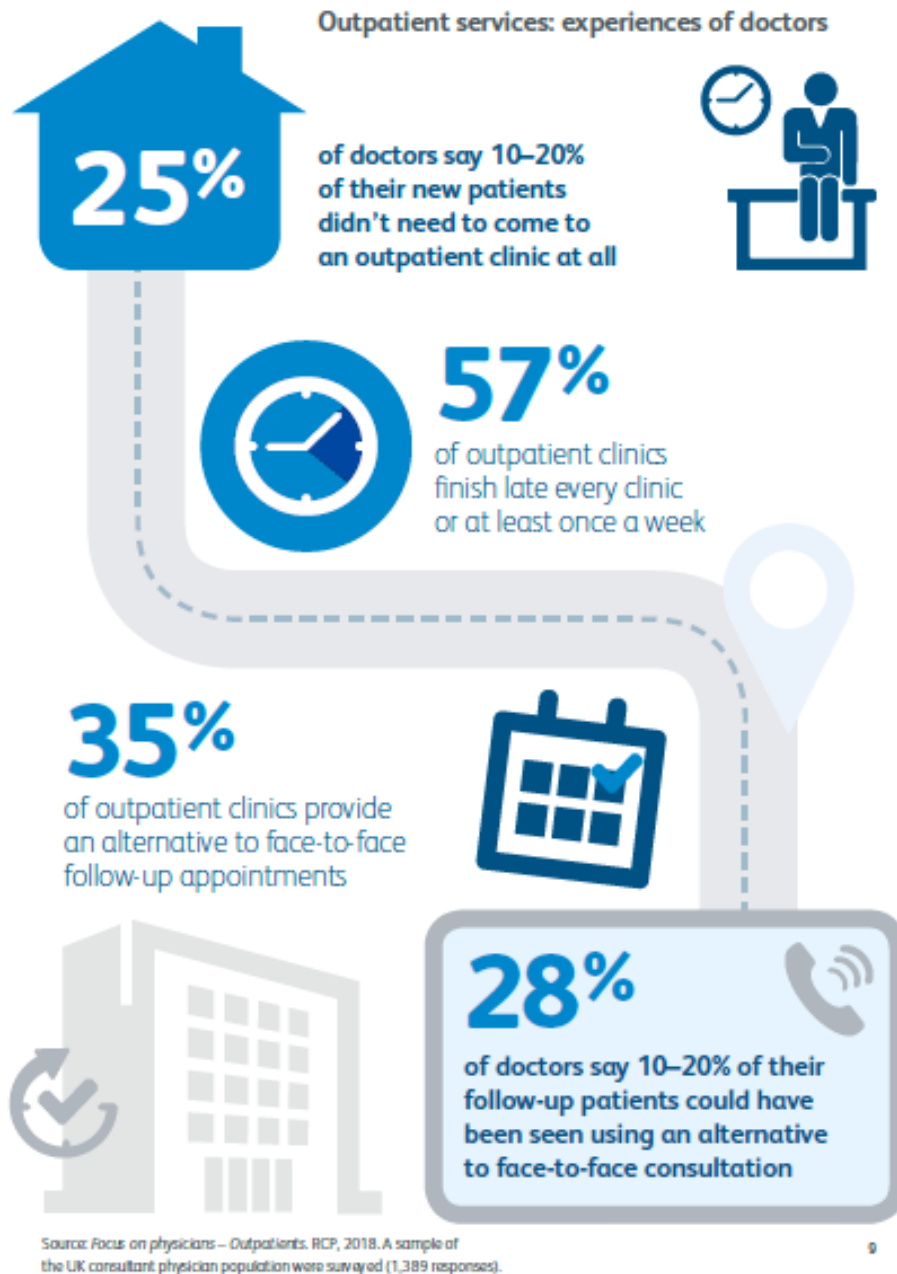
- On any given day, traffic related to NHS activities accounts for 5% of overall vehicle use in England[7]

- Over the next two decades the number of people over 85 years old is expected to double[8]

- 75% of people over the age of 85 have two or more serious health conditions[9]

- 1/3 of people over 85 years of age struggle with five or more daily tasks[10]

- Patients over 65 and over occupied 62 % of hospital bed days (in 2014-15)[11]

- The most commonly reported incident in 2015/2016 by acute and community hospitals was patient falls, and it is estimated that people over 65 account for 75% of these falls[12]

- Within the past 10 years, hospital admissions have gone up annually by an average of 3.6%[13].

- 20% of potential appointments in England, and 25% in Wales have been either cancelled or marked as "did not attend".[14]

Background information
Using NHS services

The impact of the increase in population and its needs on the healthcare system has an effect on the speed and quality of the service given on all parts of this complex system. General practices are challenged on daily basis with demand and pressures due to the workload and workforce management. The General Practice Forward View report (2016) estimated that around 27% of appointments could be avoided with closer working between "GPs and hospitals, wider use of primary care staff, better use of technology to streamline administrative burdens, and wider system changes"[15].

The NHS Long Term Plan describes the "traditional model of outpatients as outdated and unsustainable"[16]. The Plan also describes how there is a need to remodel this service in recognition of alternative consultation methods and reduce face to face outpatient visits, giving an opportunity to reinvest the resources in other areas, such as improving diagnostics. Also, the 'Outpatients: the future - adding value through sustainability' report by the Royal College of Physicians found that different consultation methods still allow the same clinical input but in a more convenient manner for the patient (2018, p17). The report also illustrates the doctors' experience of the service itself, providing an interesting insight and areas of potential opportunity for an improvement.

Outpatient services: experiences of doctors

25% of doctors say 10–20% of their new patients didn't need to come to an outpatient clinic at all

57% of outpatient clinics finish late every clinic or at least once a week

35% of outpatient clinics provide an alternative to face-to-face follow-up appointments

28% of doctors say 10–20% of their follow-up patients could have been seen using an alternative to face-to-face consultation

Source: *Focus on physicians – Outpatients*. RCP, 2018. A sample of the UK consultant physician population were surveyed (1,389 responses).

Source: Royal College of Physicians (2018).Outpatients: The Future- adding value through sustainability p.9

From the service user point of view, Age UK – one of the largest charities devoted to supporting people at later stage in life[17], reported that as many as 20% of people at retirement age find themselves feeling worse after the outpatient appointment, due to the stress of travelling to the meeting[18].

It's been noted that just over half of the outpatient referrals come from GPs[19] with the remainder received from other consultants. Nevertheless gathered information suggests that outpatient referrals from other consultants is rising in comparison to primary care, which counter any reductions in GP referrals[20].
The Royal College of Physicians suggests that "any interventions to reduce referral volume should be translatable across all referral sources, not solely aimed at primary care"[21]. A report by the King's Fund focusing on referral management recommended that "more-

resource intense options, referral management centres and clinical triage, were unlikely to be both cost-effective and clinically effective"[22].

What are we currently doing about it?

Supporting people with long-term conditions and aging well

Our society is aging and people are living longer, however the additional years may not be at best health. The conversation around supporting people with long-term conditions and aging well has started, and it continues to be part of a wider national and international discourse.

Aging 2.0 Grand Challenge is an "interdisciplinary, intergenerational, international community of older adults, senior care providers, thought leaders, and entrepreneurs"[23]. Over the past six years, they have identified eight of the biggest challenges and opportunities for innovation priorities to support the aging community. These are: engagement and purpose , caregiving, mobility and movement, daily living and lifestyle, care coordination, brain health, end of life and finally financial wellness.[24]

The NIHR, Assistive Technologies Review[25], explores the current research for assistive technologies used to support the aging population. It discusses similar areas of opportunity to innovate and improve as in Age 2.0 Challenge, however it also highlights a topic about the assistance around staying safe in your own home, in spaces such as the kitchen and bathroom which require additional consideration when designing technologies for end users.

The challenges outlined above facing the aging population can be similarly experienced by people of any age with long term conditions.

The Department of Health estimated that during a period from 2008 to 2018, the number of people with three or more long-term conditions will rise from 1.9 million to 2.9 million leading to additional costs for the NHS of £5 billion[26]. According to NHS England, the greatest health need comes from the 15 million people with long term conditions who have half of all GP appointments and 70% of all bed days. The spending on treatment accounts for approximately 70% of acute and primary care budgets in England[27].

National direction

It is widely recognised by many government departments that there is a need for innovative solutions and a change in the way we care for people while they age and how the people caring for them are supported.

The Industrial Strategy sets out four Grand Challenges[28], one of which focuses on the aging society in the UK. The aim for this Grand Challenge (with £100 million funding) is to support

research, technologies and to provide business investment into innovation that can transform the lives of the aging population[29].

The NHS England Long Term Plan outlines, among others, five areas of service model changes for the next five years:

1. "We will **boost 'out-of-hospital' care**, and finally dissolve the historic divide between primary and community health services.
2. The NHS will **redesign and reduce pressure on emergency hospital services.**
3. People will get more control over their own health, and **more personalised care** when they need it.
4. **Digitally-enabled primary and outpatient care** will go mainstream across the NHS.
5. Local NHS organisations will increasingly **focus on population health** and local partnerships with local authority-funded services, through new Integrated Care Systems (ICSs) everywhere"[30].

The Royal College of Physicians report discusses self-management in chronic diseases, and its role in educating service users to have the confidence to identify and manage their own health without additional medical attention. This emphasises the individual's role and responsibility over one's own health[31]. Self-management is included in the Chronic Care Model, which aims to improve the quality and the effects of care through system level changes[32].

As highlighted by the NHS England Long Term Plan, there is progress around self-care with additional support through medical advice, the community and online. This increasing support for self-management has been described by the King's Fund as "shared responsibility for health"[33] (2018). NHS England is increasing support for self-care, starting with prevention and management of diabetes, respiratory disease, maternity and parenting support and online therapies focusing on some mental health problems[34].

The fast developing digital and technology sector is able to support some of the interventions and changes around care delivery on a personal and system level. On an individual level, the "evidence indicates that patients are accepting the technology and are willing to use it to self-monitor...however patients do not want to lose in-person contact so a combination of telehomecare and in person visits seems best"[35]. On the system wide level, Local Health Care Records Exemplars (LHCRs) are being put in place. These aim to support population health management and research[36].

Application and decision making process

This national call for innovative solutions and offer of funding is part of the wider West of England AHSN innovation work, which aims to support the NHS to identify solutions and companies to partner with to deliver these solutions. We actively nurture an innovation ecosystem around health and care, removing obstacles and bringing diverse groups together to maximise new ways of working.

The Challenge

We refer to 'challenges' as a means of articulating clinical or healthcare system needs and then describing it in such a way that companies can respond with concepts for development, or solutions and value propositions which can meet that need. We refer to this as 'open innovation' as we are open to solutions coming from outside our organisations. This process also has similarities to soft market testing.

The Solution

The call for solutions to the challenges is launched nationally. Local subject matter experts then review applications and interview a shortlist before selecting the successful applicants. We then invite local organisations to act as hosts for the challenge projects and work together to draw up a project plan to test how the products and services work in practice and are evaluated in a real world setting.

The project plan and deliverables are then described in a joint working agreement between the host organisation/ lead customer, the funder and the developers or solution providers. We work with the host organisation to develop a value for money business plan which they agree to consider as part of their next business planning round.

We are looking for organisations that will ultimately be capable of supplying their product or service on a commercial basis in response to our clinical challenge. We are particularly keen to attract small and medium sized enterprises (SMEs) who already demonstrate a level of market traction in terms of sales and/or who can demonstrate existing working with the NHS. We will also accept applications from small consortia with a lead company. This competition is not suited for products that are currently in a research and development stage, but products at advanced prototype/beta testing to full market ready positions.

The Selection

The successful projects will be selected primarily on their potential value to the local health economy and on the improved outcomes delivered for the service users. Whilst the West of England AHSN will work with successful applicants and host organisations to deliver a successful pilot project and gather information that can contribute to a value for money business case for health and care organisations, it would be for the health and care organisation itself to commission the innovative product or service once the project ends. This would usually be done as part of a competitive business planning process.

Applicants should offer a transformative solution and also consider the following underlying aspects of the use of their innovative product or service:

- How will you ensure that your technology and/or service solution is affordable to the

  NHS both immediately and throughout the life of the product? What health

  economics evidence do you have to demonstrate this?

- How will the proposed solution impact on the clinical care pathway?

- How will the service user be empowered? How will you ensure that the technology and/or service solution will be suitable to the technology/servicer user (and their families) and to health and care workers?

- How will you ensure this technology and/or service solution assists the community and the care givers?

- How will it contribute to the prevention agenda?

- How sustainable is your technology and/or service solution and what is the end of the life cycle of the product? For example, can it use a renewable source of energy?

The West of England AHSN will be able to answer queries about the call and a log of FAQs will be updated weekly with these answers on the Bravo Solutions platform. **The last date for responses to clarification questions is Tuesday 16 April 2019, 5pm.**

Application submission and review process

Stage 1: All of the application documents and guidance are available via the portal. If you're interested in applying, register on the **Bravo Solutions procurement portal**, managed by our procurement partner, Royal United Hospitals Bath Foundation Trust. To register on the Bravo Solutions portal, please go to:
https://nhs.bravosolution.co.uk/nhs_collaborative/web/login.html
Tender reference number: itt_30232

Stage 2: You will submit an application form as we are looking to evaluate a number of innovative solutions and their cost implications; indicative pricing will aid the evaluation process. **Responses are to be submitted via the Bravo Solutions platform by 5pm on Tuesday, 23 April 2019.**

Stage 3: Responses will be technically evaluated with all successful providers being invited for presentations.

Stage 4: Each shortlisted supplier will be request to prepare and deliver a presentation that is:
- 20 minutes in length
- Followed by a 15-20 minute Q&A

Successful applicants will be notified and made a formal offer in writing which sets out the conditions under which the funding will be made. Unsuccessful applications will be provided with a feedback soon after the project selection date.

Key Dates

Calls open	**18 March 2019**
Last date for responses to clarification questions	**16 April 2019 (5pm)**
Deadline for uploading application forms onto Bravo Solutions portal	**23 April 2019 (5pm)**
Presentation, solution demonstration and Q&A session. Successful candidates will be informed of location and time. **Please hold these dates.**	**w/c 13 May 2019**
Successful applicants will be notified	**w/c 27 May 2019**
Call for host organisations opens	**Summer 2019**
Successful applicant matched with host organisation	**Summer 2019**
Contract preparation including costed project plan and fees schedule. Agreed between West of England AHSN, successful applicant and host organisation.	**Summer 2019**
Contracts signed	**Summer 2019**
Projects commence	**Autumn 2019**

Contact Information

For further information, and competition queries please email us at innovation@weahsn.net.

West of England Academic Health Science Network www.weahsn.net

References

1 NHS Confederation *NHS Facts and Figures.* Available:
https://www.nhsconfed.org/resources/key-statistics-on-the-nhs

2 NHS Confederation *NHS Facts and Figures.* Available:
https://www.nhsconfed.org/resources/key-statistics-on-the-nhs

3 NHS Confederation *NHS Facts and Figures.* Available:
https://www.nhsconfed.org/resources/key-statistics-on-the-nhs

4 NHS Confederation *NHS Facts and Figures.* Available:
https://www.nhsconfed.org/resources/key-statistics-on-the-nhs

5 Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* London: RCP
6 Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* London: RCP.

7 Sustainable Development Unit. *Low carbon travel, transport and access.* Available:
www.sduhealth.org.uk/areas-of-focus/carbon-hotspots/travel.aspx

8 National Institute for Health Research (2018). *Help at Home. Use of assistive technology for older people.* London: NHIR Dissemination Centre (Themed Review). Available:
https://www.dc.nihr.ac.uk/themed-reviews/research-on-assistive-technology.htm

9 National Institute for Health Research (2018). *Help at Home. Use of assistive technology for older people.* London: NHIR Dissemination Centre (Themed Review). Available:
https://www.dc.nihr.ac.uk/themed-reviews/research-on-assistive-technology.htm

10 National Institute for Health Research (2018). *Help at Home. Use of assistive technology for older people.* London: NHIR Dissemination Centre (Themed Review). Available:
https://www.dc.nihr.ac.uk/themed-reviews/research-on-assistive-technology.htm

11 Department of Health and Social Care (2016) *Discharging older patients from hospital*: National Audit Office. (HC 18). Available: https://www.nao.org.uk/report/discharging-older-patients-from-hospital/

12 NHS Improvement (2017) *The incidences and cost of inpatient falls in hospitals. Available:*
https://improvement.nhs.uk/resources/incidence-and-costs-inpatient-falls-hospitals/

13 The Kings Fund (2017). *Hospital activity.* Available:
https://www.kingsfund.org.uk/projects/nhs-in-a-nutshell/hospital-activity

14 Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* London: RCP

[15] NHS England (2016) *General Practice Forward View*. p 27 London: Available: https://www.england.nhs.uk/wp-content/uploads/2016/04/gpfv.pdf

[16] NHS England (2019) *The NHS Long Term Plan*. p28 London: Available: https://www.england.nhs.uk/long-term-plan/.

[17] Age UK. Available: https://www.ageuk.org.uk

[18] Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* London: RCP.

[19] Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* London: RCP.

[20] Imison C, Naylor C.(2010) *Referral management: lessons for success*. London: The Kings' Fund

[21] Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* p15 London: RCP.

[22] Imison C, Naylor C.(2010) *Referral management: lessons for success*. London: The Kings' Fund

[23] Aging2.0 Challenge. Available : https://www.aging2.com/grandchallenges/

[24] Aging2.0 Challenge. Available : https://www.aging2.com/grandchallenges/

[25] National Institute for Health Research (2018). *Help at Home. Use of assistive technology for older people*. London: NHIR Dissemination Centre (Themed Review). Available: https://www.dc.nihr.ac.uk/themed-reviews/research-on-assistive-technology.htm

[26] The King Fund (2013). *Supporting people with long-term conditions: what is the house of care?* Available: https://www.kingsfund.org.uk/blog/2013/10/supporting-people-long-term-conditions-what-house-care

[27] NHS England. *House of Care – a framework for long term condition care*. Available: https://www.england.nhs.uk/ourwork/clinical-policy/ltc/house-of-care/

[28] Department for Business, Energy & Industrial Strategy (2018). *The Grand Challenges.* London: (Policy paper) Available: https://www.gov.uk/government/publications/industrial-strategy-the-grand-challenges/industrial-strategy-the-grand-challenges

[29] UK Innovation & Research. *Health aging*. Available: https://www.ukri.org/innovation/industrial-strategy-challenge-fund/healthy-ageing/

[30] NHS England (2019) *The NHS Long Term Plan*. p12 London: Available: https://www.england.nhs.uk/long-term-plan/

[31] Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* London: RCP.

[32] Wagner EH (1998).Chronic disease management: what will it take to improve care for chronic illness? Effective Clinical Practice. 1(1):2-4.

[33] The Kings Fund (2018). *Shared responsibility for health: the cultural change we need.* Available: https://www.kingsfund.org.uk/publications/shared-responsibility-health

[34] NHS England (2019) *The NHS Long Term Plan*. London: Available: https://www.england.nhs.uk/long-term-plan/

[35] Royal College of Physicians (2018). *Outpatients: The Future- adding value through sustainability.* p 30. London: RCP.

[36] NHS England. *Joining up health and care data*. Available: https://www.england.nhs.uk/digitaltechnology/connecteddigitalsystems/health-and-care-data/joining-up-health-and-care-data/