

## NHS ENGLAND – BOARD PAPER

**Title:**

Increasing the impact of Academic Health Science Networks

**Lead Director:**

Ian Dodge, National Director: Strategy and Innovation

**Purpose of Paper:**

We sponsor England's 15 Academic Health Science Networks (AHSNs), which reach the end of their first five-year licensing period this year.

The AHSNs will become the national innovation network for the NHS. They will be responsible for fostering a rich innovation pipeline and enabling national spread of proven innovations.

In our paper to the Board in July 2017, we set out our approach to re-licensing the 15 AHSNs. This paper reports on the fruits of this process, describing the key roles AHSNs will play during this new license period, associated governance and contractual arrangements, and consistent metrics regarding value generation – for both the NHS and the UK economy.

**Patient and Public Involvement:**

As part of NHS England, NHS Improvement and the Office of Life Science's oversight of the AHSNs we have set up a strategic group comprising the three co-commissioners, think tanks, third sector organisations and relevant arm's length bodies to consider how the AHSNs can maximise their impact in contributing to the strategic issues facing the Health and care Sector. This group meets every 6 months and future meetings will include patient representation.

In addition, PPI has been one of the criteria for selection of the projects put forward for national spread. AHSNs looked at the degree of patient and public involvement in the development of proposals and this approach will be continued in the future.

**The Board is invited to:**

- Review the approach we are taking to maximising demonstrable value; and
- Approve the principle that licenses should be issued from October 2018.

# Increasing the impact of Academic Health Science Networks

## Introduction

1. AHSNs form the centrepiece of a wider and growing NHS programme on innovation and life sciences. The Board last debated this agenda at a public meeting in November 2017, when it approved *12 Actions to Support and Apply Research in the NHS*. Since then we have made concrete progress, we:
  - a. Consulted on and started implementation of new processes to improve and streamline the management of commercial and non-commercial research (making changes to simplify excess treatment costs and standardise the costing of multi-site trials);
  - b. Worked with the National Institute for Health Research (NIHR) to identify NHS England's (NHSE) research needs and agree how to address a good proportion of these within the current NIHR portfolio of programmes. Subject to further work with NIHR, we expect to publish this shortly;
  - c. Trebled our funding for the Innovation and Technology Tariff/Payment (ITT/ITP), which is already benefitting over 70,000 patients, and approved another four products to be covered by this scheme. In addition, NHSE has initiated an evidence generation fund to support digital products to get the kind of evidence required for national roll-out through the ITP;
  - d. Supported creation of the Accelerated Access Collaborative and proposed a suite of products for Accelerated Access designation, to be submitted when a new chair is appointed and the Collaborative reconvenes;
  - e. Significantly increased the rate of GP practice sign up to the Clinical Practice Research Database. We are working with TPP with the expectation that they implement changes to ensure that all practices using their system are able to participate fully;
  - f. Initiated the process to select Local Care Record Exemplars and, linked to these, Digital Innovation Hubs;
  - g. Worked with UK Research and Innovation, and partners, on the Industrial Strategy Challenge Fund proposals to support artificial intelligence demonstrators targeted at early detection and diagnosis;
  - h. Progressed the delivery of the 100,000 genome programme including through the procurement of the new genomic medicine service;
  - i. Worked with Lord O'Shaunessy and the Office for Life Sciences (OLS) to initiate a joint review of the innovation landscape; and
  - j. Established a dedicated NHS Life Sciences and Innovation Group in NHSE under the leadership of Dr Samantha Roberts.
  
2. As England's national health innovation architecture, the 15 AHSNs have enabled the spread of 200 innovations that have benefitted six million people and created more than 500 jobs. They are committed to playing an increasingly impactful role in fostering a rich innovation pipeline which develops products and pathways that meet the NHS's most pressing needs and have rigorous evidence of efficacy and financial impact; and stimulating and achieving the spread of proven innovations across the nation. Their potential has been highlighted by the Accelerated Access Review and more recently by the House of Lord's Science

and Technology Committee report into implementation of the Life Sciences Industrial Strategy.

3. As they enter this next phase of maturation, AHSNs are committing to working much more consistently together – as a joined-up national innovation delivery network – and to providing consistent levels of support to innovators developing products that could greatly benefit patients and the health system.

## **Progress since the Board discussion in July 2017**

4. In July 2017 the Board publicly committed to relicensing the 15 AHSNs in their current geographical configuration, subject to consideration of adequate collective value and procurement regulations/processes.
5. Following further engagement with the Board in the autumn, the 15 AHSNs subsequently developed their own set of compelling proposals – setting out the potential return on investment (ROI) that could be generated by additional funding. In January 2018 these were considered by NHSE's Investment Committee who agreed (subject to the NHSE budget process) that AHSN funding will be increased to £44.2m in 2018/19 and £44.4m in 2019/20, from the planned £30m settlement. The forecasted return for the additional investment (over and above the original £30m settlement), is £41.7m to the NHS in 2018/19 (in-year ROI: 2.9) and £84.6m to the NHS in 19/20 (in-year ROI: 5.9).

## **Proposed work programme**

6. As we prepare for re-licensing, NHSE has re-focused the AHSNs on two main objectives: 1) improving the uptake of innovation at pace and scale and 2) supporting local transformation. The former has been standardised across the country and agreed with NHSE centrally. The latter is bespoke, with AHSNs agreeing with their sustainability and transformation partnerships (STPs) and Regional Teams how they will add value locally.
7. AHSNs will therefore be delivering two types of programme over the next 5 years:
  - National programmes: National spread of 'proven' AHSN-backed innovations, that improve clinical outcomes and reduce cost, across the AHSN network.
  - Local programmes: Tailored quality improvement programmes or innovations that are designed to meet specific local needs identified by STPs and other key local stakeholders.

## **National programmes**

8. All 15 AHSN chief officers selected a set of locally trialled, proven innovations, with clear evidence of clinical and financial benefit, that are suitable for national spread. AHSNs will deliver seven such programmes in 2018/19 and 2019/20. The cost and financial return of these programmes were considered by NHSE's Investment Committee in February 2018. The national programmes are:
  - **PINCER**: a pharmacist-led information technology intervention for reducing clinically important errors in general practice prescribing, leading

to a 50% reduction in prescribing error rates, improved quality and length of life (0.81 quality-adjusted life-years per GP practice) and reduced cost. Initially evaluated across 361 GP practices in the East Midlands, AHSN national roll-out will reach at least 40% of GP practices by 2020

- **The Atrial Fibrillation (AF) programme:** improves diagnosis and management of AF, targeting the approximately 400,000 people in England who have undiagnosed AF, with 7,200 strokes avoided and 1,700 lives saved through this programme since 2015. Additional investment in 2018-2020 will enable screening of an additional 18% of the population.
- **Transfer of Care Around Medicines (TCAM):** addresses the issue of changes to patients' medication often not being transferred between hospital and community settings, with this initiative leading to significantly lower rates of readmissions and shorter hospital stays. Initially trialled in 30 sites, with a published evaluation, additional investment enables spread to a further 11% of eligible patients.
- **Serenity Integrated Mentoring (SIM):** integrates mental health care and policing, to improve the lives of people with complex mental health needs and high use of police time. Initial evaluation of the pilot in the Isle of Wight found 97% fewer police incidents, 81% fewer ambulance deployments, 69% less A&E attendances and 100% less mental health bed days. SIM is currently being adopted in London with additional funding enabling spread to 85% of regions in England.
- **ESCAPE-Pain:** is a NICE-approved programme providing group rehabilitation for the one in five people over the age of 50 who experience chronic joint pain, improving physical and mental wellbeing and reducing health care resource utilisation. Initiated in South London, there are now 36 ESCAPE-Pain programmes operating across 6 AHSNs, with analysis by Public Health England estimating that every £1 invested in ESCAPE-Pain delivers a return of £5.20. Additional investment will enable spread to 20% of eligible patients.
- **PReCePT:** reduces the risk of cerebral palsy by 30% in babies born to the 11,000 mothers per year who go into pre-term labour. Trialled in 5 maternity units in the West of England AHSN, and evaluated by the West CLAHRC, additional investment will enable 33% of mothers to access this therapy.
- **The emergency laparotomy programme:** has the potential to reduce risk-adjusted mortality by 13% and length of stay by 1.3 days for the 50,000 people annually undergoing this procedure in England. Additional investment will enable 87% of patients undergoing emergency laparotomy access to this enhanced pathway.

9. As part of their business planning for 2018-20, all 15 AHSNs have now chosen and agreed to deliver their 'share' of spread of the seven national programmes, which in turn translates into a share of the ROI for national programmes. Together these contributions make up their national collective commitment. Individual AHSN business plans are being reviewed to ensure accuracy ahead of NHSE sign off by the AHSNs' respective Regional Medical Director and Sam Roberts.

10. In addition, all AHSNs will develop spread goals for the ITT/ITP products. Based on our experience in the first year of the ITT, some products spread far more quickly than expected whereas other products fall far short of targets. For this reason, we expect volatility in delivery against plan for these products.
11. Once the Accelerated Access Pathway has designated the first suite of products, we anticipate a similar approach being adopted for them.

### **Local programmes**

12. 50% of AHSN funding is dedicated to the continuation of successful local programmes and further development of tailored projects that meet the needs of their local areas. Some examples of local programmes are included in Appendix 1.
13. On local service transformation, AHSNs will serve local STPs and the Regions by being commissioned to drive specific service improvements that dock within and are accountable to local programmes. As a result, local populations will benefit from significantly improved health outcomes and transformation in NHS leadership and quality of care.

### **Additional funding sources to the AHSNs**

14. Following on from the Accelerated Access Review, AHSNs will receive a further £26m (£13m in 2018/19 and £13m in 2019/20) from OLS to deliver Innovation Exchanges. Innovation Exchanges will improve collaboration and coordination and increase capacity to help innovation find the right support, and to promote regional adoption and spread of the most promising products.
15. In addition, AHSNs host the Patient Safety Collaboratives (PSCs), funded by NHS Improvement (NHSI) with annual funding of £7m. This funding supports their work on the three national patient safety priorities – such as roll out of the National Early Warning Score. Funding has been agreed in principle by NHSI for 2018/19. NHSI is also considering how the PSCs can further develop.
16. NHSE's Innovation and Research Unit, together with finance colleagues, are working closely with OLS and NHSI commissioners to create a single oversight regime and ensure alignment of programmes, reporting and accountability. In addition, we are working with the AHSNs, and arm's length bodies and think tank partners, to provide support and advice.

### **Governance and assurance**

17. The AHSNs are developing a common performance framework with agreed standard definitions and data capture methods and, where appropriate, common methods of implementation – including improvement and transformation approaches, service offers, access and platforms which have been collectively identified as being the most successful (regardless of origin).

18. An AHSN governance group is being established to provide leadership and oversight to the AHSN programme. We anticipate this will include Samantha Roberts (Director of Innovation and Life Sciences) as NHSE's Senior Responsible Owner, working with a Regional Medical Director representative and senior representatives from NHSI and OLS.
19. Assurance will continue to be undertaken by the NHSE regional teams with support from NHSE's Innovation and Research Unit, OLS, NHSI and finance. NHSE's metrics will be collated, analysed and discussed with AHSNs quarterly to inform the assurance meetings and an end of year review will be completed to assess impact on each AHSN and the AHSN network as a whole.
20. An escalation protocol is being agreed where significant concerns about performance are identified through assurance. This includes a plan for improvement to be agreed with the AHSN Governance Group and progress closely monitored. Support, advice and guidance will be provided where required together with peer review and assistance from the AHSN network. In the event that an AHSN is unable to resolve ongoing concerns, NHSE retain the ability to withhold NHSE funding, and in extreme circumstances remove AHSN designation and branding and/or curtail the license period. We do not expect to have to use the highest sanctions. Such use would reflect the collective failure of the AHSN network to provide effective peer assistance, as well as our own failure to provide absolute clarity of expectations and earlier more impactful intervention.
21. NHSE's Innovation and Research Unit will maintain central oversight of the day-to-day AHSN programme to maximise delivery, address barriers where identified, support and facilitate learning and address any emerging areas of concern.
22. These plans represent what is achievable in practice in 2018/20. They are far from the summit of both our own, and the AHSNs', ambitions. Should AHSNs over-deliver against their commitments in 2018/19, and really prove their ability to spread proven innovations nationwide, they will be well placed to make the case for collective plans that achieve much fuller adoption, more rapidly, for a much larger number of specific innovations and programmes.

## **Procurement and Contracting**

23. A contract specification is being developed with the NHSE regional teams, OLS and NHSI to capture their requirements. The specification was assessed in March 2018 for Regulation 14 compliance (Research and development exemption, Public Contracts Regulations 2015), and it has been agreed with legal and commercial that procurement can proceed on a ring fenced basis to the AHSNs.
24. The new contract will be for five years, with the option to roll forward for up to a further five years. The contract will allow for break clauses in year and at year end. It will take the form of a suite of three documents:
  - 1) The NHSE legal 'umbrella' contract between NHSE and the AHSNs

- 2) A 'call off' licence which will set out the detailed service requirements and enable other commissioners to 'call off' from the main contract where they support and align to the contract objectives
- 3) A tripartite MOU between the three national commissioners.

### **Next steps**

25. The new contract will be issued in June, to commence 1 October 2018. This will be signed off both by Ian Dodge, as the responsible National Director, and Paul Baumann. A six month contract extension against current license terms was put in place to run to the end of September to support implementation planning and transitional arrangements.

### **Recommendations**

26. The Board is asked to consider the approach to maximising demonstrable value and agree the principle that licenses should be issued from October 2018.

## Appendix 1: Example local programmes

AHSN	Scheme	Description	NHS benefit		
			18/19	19/20	Total
Eastern	<b>Wiresafe</b>	Procedural pack that prevents accidental guidewire retention and allows safe disposal of sharps and wires	£111,000	£303,000	£414,000
	<b>Active+</b>	Supported self-care model for people with long term conditions	£89,600	£89,600	£179,200
	<b>Silhouette®</b>	Diabetic foot service digital solution that assesses wound status, wound progress and response to treatment	£20,000	£40,000	£60,000
East Midlands	<b>Unit Dose Closed Loop Medicines Management</b>	Robotic medicines management solution	£203,000	£830,845	£1,033,845
	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	£130,000	£656,000	£786,000
	<b>Intelligent Digital Outpatient Appointment Management</b>	Outpatient solution changing outpatient follow up from a time to need basis	£181,307	£600,000	£781,307
Greater Manchester	<b>Healthy Hearts</b>	Cardiovascular Disease Programme targeting those at highest risk of Cardiovascular Disease as part of the NHS RightCare approach	£738,810	£1,664,621	£2,403,431
	<b>COPD</b>	Programme to reduce variations in care to the England average as part of NHS RightCare	£588,665	£1,793,428	£2,382,093
	<b>Troponin-only Manchester Acute Coronary Syndromes (T-MACS)</b>	Computerised clinical prediction model that calculates a patient's probability of acute coronary syndrome	£468,750	£900,000	£1,368,750
Imperial College Health Partners	<b>Discover</b>	Programme to develop and deliver a consent register for North West London's longitudinal linked data set	£300,000	£300,000	£600,000
	<b>Integrated Care</b>	Programme of work with boroughs and regions including capability development, providing organisational development support and sharing knowledge through events	£400,000	£400,000	£800,000
Kent Surrey Sussex	<b>Respiratory</b>	Medicines Optimisation programme of work, focussing on addressing the interdependency between polypharmacy prescribing issues and respiratory prescribing	£750,000	£500,000	£1,250,000



	<b>Diabetes MedTech and Hypoglycaemia</b>	MedTech programme of work, improving access and use of medical technology and quality of data available for type 1 diabetes	£467,000	£370,000	£837,000
<b>North East &amp; North Cumbria</b>	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	£117,000	£591,000	£708,000
	<b>Pressure Ulcer Collaborative</b>	Train the trainer programme to reduce pressure ulcer prevalence	£250,000	£400,000	£650,000
	<b>Acute Kidney Injury Collaborative</b>	Regional collaboration on Acute Kidney Injury management and referral pathways	£250,000	£250,000	£500,000
<b>Innovation Agency</b>	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	£128,000	£383,000	£511,000
	<b>Local Business Connect Accelerators</b>	Programme of work supporting local businesses and economic growth (creating jobs)	£240,000	£240,000	£480,000
	<b>CATCH (Common Approach To Children's Health) App</b>	Part of the NIA, CATCH is a free health app for parents/carers of children aged 0-5 living in Cheshire East - it aims to give parents the confidence to know when a child needs medical treatment or when self-care would be more appropriate	£81,000	£327,000	£408,000
<b>Oxford</b>	<b>Mental Health Programme Anxiety and Depression</b>	Patient Safety and Clinical Improvement programme of work supporting the existing Anxiety and Depression Clinical Network	£4,800,000	£0	£4,800,000
	<b>The Deteriorating Patient integrated with SEPSIS</b>	Patient Safety and Clinical Improvement programme of work reducing avoidable harm and enhance the outcomes and experience of deteriorating patients	£1,950,000	£1,950,000	£3,900,000
	<b>Rapid Identification of Stroke Mimics</b>	SBRI Point of Care diagnostic blood test that measures blood purine levels as an early indicator of stroke	£340,000	£690,000	£1,030,000
<b>Health Innovation Network</b>	<b>DrDoctor</b>	Part of the NIA, Dr Doctor is a digital outpatient platform enabling patients to manage hospital bookings	£1,500,000	£2,500,000	£4,000,000

	<b>Sutton Red Bag Scheme</b>	A "Red Bag" that keeps important information about a care home resident's health in one place and is easily accessible to ambulance and hospital staff - improving communication	£700,000	£800,000	£1,500,000
	<b>Oral nutrition in care homes</b>	Supporting CCGs to reduce inappropriate prescribing of Oral Nutritional Supplements , and minimise spend	£500,000	£700,000	£1,200,000
<b>South West</b>	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	£114,000	£150,000	£264,000
	<b>STP Patient Record Viewer</b>	Allowing secondary care clinicians and out of hour GP services access to a patients GP record 24hrs a day at the point of care	£100,000	£100,000	£200,000
	<b>Wiresafe</b>	Procedural pack that prevents accidental guidewire retention and allows safe disposal of sharps and wires	£48,000	£138,000	£186,000
<b>UCLPartners</b>	<b>iThrive</b>	NIA innovation to support personalised mental health services for children, young people and their families	241,000	403,000	644,000
	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	141,000	422,000	563,000
	<b>Care City Test Bed</b>	Testing and implementing solutions to improve quality of life and independence in 3 population clusters (dementia, long-term conditions, carers and families)	£100,000	£350,000	£450,000
<b>Wessex</b>	<b>JVS</b>	Support adoption of re-usable intermittent use catheters in Wessex (pot AAC technology)	£100,000	£1,600,000	£1,700,000
	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	£117,000	£591,000	£708,000
	<b>Wiresafe</b>	Procedural pack that prevents accidental guidewire retention and allows safe disposal of sharps and wires	£48,000	£145,000	£193,000
<b>West Midlands</b>	<b>Rapid Assessment Interface Discharge</b>	Test bed programme with Telefonica to develop and implement predictive analytics, using AI to enable proactive support to people at risk of mental health crisis	£1,500,000	£1,750,000	£3,250,000

	<b>STaRTBack</b>	A prognostic questionnaire that helps clinicians identify modifiable risk factors (biomedical, psychological and social) for back pain disability. The resulting score stratifies patients into low, medium or high risk categories. For each category there is a matched treatment package	£654,000	£752,000	£1,406,000
	<b>Medically Unexplained Symptoms (MUS) programme</b>	A mental health recovery, crisis and prevention programme	£200,000	£230,000	£430,000
<b>West of England</b>	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	£114,000	£341,000	£455,000
	<b>Diabetes Digital Coach Test Bed</b>	An NHS / Internet of Things Testbed project, between 10 partners to create a single sign-on platform giving people with type 1 and 2 diabetes access to a selection of digital self-management tools. Users can share insights from the Coach with family and healthcare professionals, leading to more shared decision making.	£98,000	£701,000	£799,000
	<b>Wiresafe</b>	Procedural pack that prevents accidental guidewire retention and allows safe disposal of sharps and wires	£48,000	£136,000	£184,000
<b>Yorkshire &amp; Humber</b>	<b>Faecal calprotectin</b>	Diagnostic test supporting discrimination between irritable bowel syndrome and inflammatory bowel disease	£141,000	£422,000	£563,000
	<b>Wiresafe</b>	Procedural pack that prevents accidental guidewire retention and allows safe disposal of sharps and wires	£59,000	£168,000	£227,000
<b>Total</b>			<b>£19,127,132</b>	<b>£25,677,494</b>	<b>£44,804,626</b>