

NHS Innovation Accelerator

**Introducing the
2017
Fellows**





Foreword from Professor Sir Bruce Keogh

I am delighted to introduce the new Fellows selected to join the NHS Innovation Accelerator (NIA) in 2017. This year our international search focussed on high-impact, evidence-based solutions which address three key priorities:

- Urgent and Emergency Care
- Mental Health
- Primary Care

The rigorous selection process – involving AHSN partners, patients, clinicians, academics, commercial and implementation leads, and experts at NICE – has resulted in the appointment of 11 exceptional individuals to our nationally celebrated programme, now in its third year. They will join our existing cohort of 25 Fellows, to spread the world’s best tried and tested innovations across the NHS, transforming the health and care of England’s population.

Through the partnership between NHS England and the AHSNs nationally, the NIA has made an unprecedented impact on the NHS and the people it serves. It has supported the adoption of innovation into 799 additional NHS provider and commissioning organisations, benefitting patients through earlier intervention and prevention, new care models, impacting safety, quality and efficiency within hospitals, and supporting self-care. In addition, it has helped to secure £36.4 million inward investment, with 13 innovations now selling internationally.

I am incredibly proud of the NIA Fellows for their dedication to sharing their learning and enthusiasm for increasing the uptake of their products and services. As the NIA enters its third year, and continues to go from strength to strength, I look forward to seeing the benefits delivered to patients on an even greater scale.

A handwritten signature in blue ink that reads "Bruce Keogh". The signature is written in a cursive style and is positioned above a horizontal line.

Professor Sir Bruce Keogh
Chair of the NHS Innovation Accelerator Programme Board
Medical Director, NHS England

About the NHS Innovation Accelerator

First launched in January 2015, the NHS Innovation Accelerator (NIA) is an NHS England initiative delivered in partnership with England's 15 Academic Health Science Networks (AHSNs), and hosted at UCLPartners.

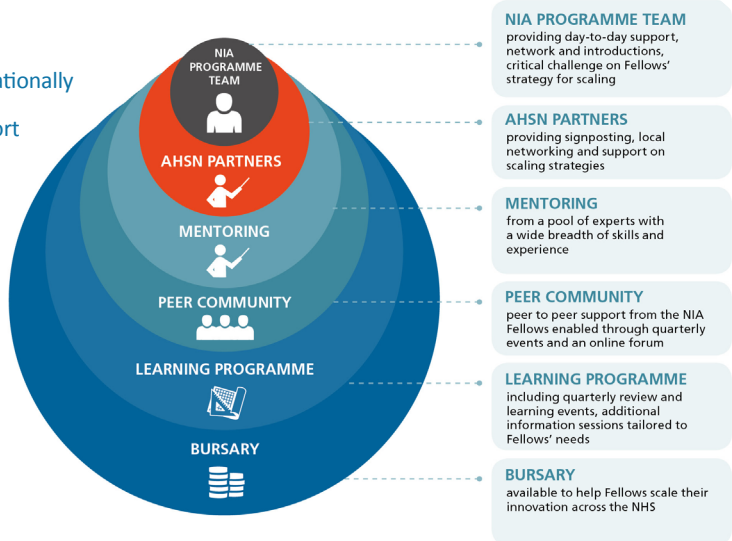
The aim of the NIA is to support delivery of the commitment detailed within the Five Year Forward View – creating the conditions and cultural change necessary for proven innovations to be adopted faster and more systematically through the NHS, and to deliver examples into practice for demonstrable patient and population benefit.

All applicants undergo a rigorous, multi-stage selection process involving a college of expert assessors – patients, clinicians, commercial directors, improvement directors, information governance leads, etc. – drawn from a wide range of organisations including NHS England, NHS Digital, AHSNs, NICE and The Health Foundation. To be appointed as an NIA Fellow, applicants need to demonstrate a set of values and passion for taking a high-impact, evidence-based innovation to benefit more people across the country, and a willingness to openly share their learning on diffusing innovations.

To date, 25 Fellows have been supported to scale their innovations across the NHS, achieving some impressive results:

- 799 additional NHS providers and commissioners now using NIA innovations
- £36.4 million secured in external funding
- 77 jobs created
- 23 awards won
- 13 selling internationally

Fellows receive support through a variety of mechanisms, summarised as follows:



Meet the Fellows

- 5 **Alistair Martin:** WaitLess
- 6 **Asma Khalil:** Home monitoring of hypertension in pregnancy (HaMpton)
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- 15 **Olivia Hind:** Oviva Diabetes Support



Alistair Martin

WaitLess

Alistair worked in the NHS as an A&E General Manager and Urgent Care Commissioner, and has expertise in delivering large scale transformational programmes. He left the NHS in 2015 to join Transforming Systems Ltd to develop real-time data solutions designed to help manage urgent care flow. Here, he has worked in partnership with Encompass – a multispecialty community provider vanguard – to launch WaitLess, a free, patient-facing app which shows patients the fastest place to access urgent care services for minor conditions.

Pressure has been growing across A&E services nationally since 2012. Most A&E attendances are from self-presenting patients, attending A&E with conditions that are associated with minor injuries, ailments and minor emergencies, which can be seen in other departments like the Minor Injuries Unit or the Urgent Care Centre. Local and national studies recognise that many of these patients could be treated more quickly closer to home by accessing commissioned services provided outside of hospital.

Commissioned by CCGs and co-designed by patients and GPs, WaitLess was launched in east Kent in December 2016. The app allows people with minor injuries to select the location which will get them access to treatment fastest. It combines live feeds from A&E departments and all types of Urgent Treatment Centres, showing the number of people waiting and waiting time. The app then combines this with the travel time to the location and expresses this as a single figure.

Impact:

- 11% reduction in minor injuries activity in A&E, specifically during the busiest times of day
- 5% reduction in minor injuries activity across the board
- 125,000 uses to date with 99.6% patient satisfaction rate

2017 NIA Challenge:
**Urgent and
Emergency Care**

Type of Innovation:
Digital app

“**Brilliant app. Used it for the first time properly this morning, taking my little girl to A&E. Saved us six hours by suggesting Margate over William Harvey Hospital. Recommended to all my friends.**”
Parent

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 [@ShrewdWaitLess](https://twitter.com/ShrewdWaitLess)



Asma Khalil

Home monitoring of hypertension in pregnancy (HaMpton)

Asma is a consultant obstetrician at St George's Hospital, London and Reader at St George's Medical School, University of London. She is a subspecialist in Maternal and Fetal Medicine.

High blood pressure disorders complicate 10% of pregnancies and pre-eclampsia affects between 2% - 8%. Pre-eclampsia can be life-threatening for both mother and baby. Standard care pathways for women who have high blood pressure in pregnancy require frequent hospital visits. This has significant cost implications, both to the NHS and to patients, and can cause anxiety to pregnant women.

Home monitoring of hypertension in pregnancy, or HaMpton, is a new care pathway developed by the maternal fetal medicine team at St George's Hospital. This pathway involves the use of an innovative smartphone app for monitoring high blood pressure at home. The app alerts women if they need to attend the hospital, and it also links with a hospital computer system where the data can be monitored by clinicians in real time.

HaMpton empowers women to be involved in their own care, reduces the number of hospital visits, and has achieved excellent patient and staff satisfaction.

Impact:

- 53% reduction in number of appointments for hypertension monitoring, and amount of time per appointment
- £300 average cost saving per patient per week according to basic health economic study
- £50 million potential annual cost saving if scaled up across the UK

2017 NIA Challenge:
**Urgent and
Emergency Care/
Primary Care**

Type of innovation:
Pathway

“This home-monitoring service has been very good for me because I can do it at home, in comfort, and in much more realistic surroundings. If there is a problem, I can call up - there's always someone to talk to - and if things really get bad, I can get called in. But no time is wasted on either side.”

Patient

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Dave Burrows

CATCH - Common Approach To Children's Health

Dave Burrows is the CEO of Damibu, a digital health technology company based in Liverpool. Dave spent the first 20 years of his working life in the Computer Gaming sector, and then ten years at Sony. He started Damibu with the intention of bring the same high-tech innovation to the health sector.

The Common Approach To Children's Health – or CATCH – addresses the inappropriate use of NHS services, when self-care would be more appropriate. CATCH gives parents appropriate and understandable information when they need and want it, in a timely and measured way, via smartphone or tablet. Support and clinical knowledge is aggregated from an area's GPs and public health department, building a region-specific, tailored, trusted resource that parents can re-use, giving them the confidence to look after their children at home. CATCH curates this local health information and articles from trusted sources, such as NHS Choices.

Impact:

- 3% reduction in overall A&E attendances reported by Eastern Cheshire CCG in winter 2016/2017
- 47% of users deciding self-care over an A&E visit*
- 64% of users deciding self-care over a GP visit*
- 91% of users would recommend CATCH to a friend or relative*

*Based on 284 responses from user satisfaction survey conducted by Eastern Cheshire CCG

2017 NIA Challenge:
**Urgent and
Emergency Care/
Primary Care**

Type of innovation:
Digital app

“Often, [parents'] anxieties stem from not knowing what else to do when their child is ill. The CATCH app offers guidance and reassurance for parents to provide self-care for their children at home, without visiting the hospital.”

Dr Kilroy, Lead Clinician
for Emergency Medicine,
Macclesfield Hospital

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 [@Catchapp_UK](https://twitter.com/Catchapp_UK)



Debbie Wake

My Diabetes My Way

Debbie Wake is a qualified medical doctor, diabetes specialist and academic. Her passion for education, diabetes care and technology has culminated in the My Diabetes My Way (MDMW) patient platform.

Diabetes is a growing health problem affecting 9% of the global population. Diabetes spending will consume around 17% of the NHS budget by 2025. People with diabetes only spend a few hours per year with healthcare professionals. The rest of the time, they self-manage. ePatient education, empowerment, feedback, motivation and flexible access to healthcare staff can reduce costly long-term complications, clinic visits, hospitalisations and death, allowing people to live longer and healthier lives with reduced care costs.

My Diabetes My Way (MDMW) is a low-cost, scalable, comprehensive online self-management platform for people with diabetes. It incorporates multimedia education (around 200 resources), online health record data access, personalised tailored data-driven advice, communication tools for healthcare professional contact, and links in to social media and peer support. MDMW currently has over 30,000 registered users. Running across NHS Scotland since 2008, MDMW education sites have recently been launched commercially in Somerset and North West London.

Impact:

- Over 88% of users felt MDMW helped them to manage their diabetes better*
- Improvements in long-term blood glucose sustained out to three years (based on case control study)
- Over 5:1 return on investment (ROI) based on analysis of outcome data from long-term user in NHS Scotland

*Based on recent evaluation survey of 1,098 users

2017 NIA Challenge:
Primary Care

Type of innovation:
IT platform

“ I am much more in control of my condition but importantly I now understand the goals that I should be achieving and am able to have a constructive discussion with my consultant. This patient access through My Diabetes My Way is an outstanding achievement in the care, education and involvement of people with diabetes. ”

Patient

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Karina Allen

FREED

Karina is a Clinical Psychologist working in the Eating Disorders Service at the Maudsley Hospital, South London and Maudsley NHS Foundation Trust. She leads the Trust's innovative new care model 'First episode Rapid Early intervention service for Eating Disorders' - or FREED.

A 2015 report estimated the UK prevalence of eating disorders (ED) at 600,000 - 725,000 people, with up to £4.6 billion associated NHS treatment costs. ED carry high levels of disability, and mortality is amongst the highest for mental health disorders.

The FREED model of care provides a rapid early response intervention for young people aged 16 to 25 years with short (three years or less) first episode illness duration. FREED overcomes barriers to early treatment and recovery. Components include rapid screening and assessment protocols, evidence-based interventions that specifically attend to the needs of young people and their families (including options for online treatment), and an implementation toolkit. FREED is effective at reducing waiting times, improving treatment engagement, and promoting full recovery.

Impact:

- Reduced waiting time for treatment by approximately 50% compared to audit data from matched patients*
- Improved treatment uptake by 100% compared to 73% for audit patients*
- 59% patients with anorexia nervosa reached a healthy weight by 12 months, versus 17% of the audit sample*

*Initial evaluation where implemented

2017 NIA Challenge:
**Mental Health/
Primary Care**

Type of innovation:
Model of care

“**FREED came along at just the right time. With such bespoke support, I was able to really leave the eating disorder behind. Instead of dropping out, I stayed at university and embraced its opportunities. I involved myself with university life in a way that I couldn't whilst the eating disorder monopolised my time.**”

Service User

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Katherine Ward

Dip.io

Katherine is Chief Commercial Officer and Managing Director, UK and Europe for Healthy.io. She has worked in healthcare for 26 years, including 15 years in the NHS in both provider and payer roles.

Healthy.io is the first company to turn the smartphone into a regulatory-approved clinical device. Its first product, Dip.io, uses computer vision and user centric design to turn the smartphone into a urinalysis device. Built around existing semi-quantitative urinalysis dipsticks, Dip.io complements established clinical efforts by empowering patients to test themselves at home with no quality compromise, and securely share results with a clinician.

Smartphone urinalysis impacts a range of pathways:

Pre-natal: Dip.io is currently used for self-management in hypertensive pregnancies with one of Israel's leading health maintenance organisations, and demonstrated strong favourability during a trial at John Hopkins.

Chronic Kidney Disease (CKD): Home-based screening of albumin:creatinine (ACR) for people with diabetes or high blood pressure, to increase adherence to NICE CG 182 and diabetes care process beyond the current level of 50%.

Urinary tract infections (UTI): Enables self-testing for UTI to reduce unplanned admissions in people with Multiple Sclerosis (MS). Dip.io also reduces the need for GP visits in women aged 18-64 (e.g. through integration with NHS 111 and pharmacies).

Impact:

- CE approved and ISO 13485 certified
- 99.5% usability rates in FDA clinical trials covering 500 patients across demographics
- John Hopkins prenatal study demonstrated that less than 10% preferred testing at the clinic
- Roll out of home ACR screening in collaboration with US and Dutch National Kidney Foundations

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2017 NIA Challenge:
**Urgent and
Emergency Care/
Primary Care**

Type of innovation:
Device

“UCLPartners sees great potential in the digital application of point-of-care urinalysis and is working closely with Healthy.io to integrate this innovation into appropriate care pathways within the NHS.”

Dr Charlie Davie,
Managing Director,
UCLPartners



Liz Ashall-Payne

ORCHA

Previously a Speech and Language Therapist with almost 20 years NHS experience, Liz is passionate about the opportunities that technology – particularly apps – offers to improve health and care efficiencies and outcomes. She founded ORCHA – the Organisation for the Review of Care and Health Application – in 2015, to offer guidance to developers to help raise app quality, as well as helping the public and professionals to confidently find and apply apps that could genuinely improve patient and organisational outcomes.

ORCHA provides a live resource of reviewed health and care apps which can be easily searched, compared, recommended, and downloaded through its easy-to-use platform. Thorough reviews and a simple scoring system highlight functional capabilities of the apps, making it easier for users to confidently and quickly compare and choose the best apps.

ORCHA works with CCGs and Providers to develop health app portals which integrate with local systems and strategies. This allows professionals easy and clear access to a verified resource, allowing them to enhance services and outcomes by finding and recommending the best apps to patients. ORCHA is currently working with a growing number of health and care economies which enable local populations to gain access to a trusted health app store so they can choose apps to keep them well.

Impact:

- Data collation and reporting of app usage by population, patient and professional group, to help assess and prove digital strategies, investment and outcomes
- Activating over eight million people and patients to use healthcare apps in England
- Over 90% of healthcare professionals believe that health apps will increase their knowledge of patients' conditions*

*2015 Research Now Group study of 500 healthcare professionals and 1,000 health app users

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2017 NIA Challenge:
Primary Care

Type of innovation:
IT platform

“**Health and care apps can offer huge benefit to patients, really empowering them to manage and improve their health. However, there is a huge choice out there, so ORCHA really helps all involved to understand which are the best and most trustworthy.**”

Dr George Dingle, GP,
Morecambe Bay area



Melissa Morris

Lantum

Lantum is a platform that uses Artificial Intelligence (AI) and Machine Learning to automate the manual processes involved in organising staff to fill clinical rotas. Melissa developed Lantum whilst working at NHS London, recognising how much time, effort and funds were wasted on organising rotas as well as on filling gaps through agencies.

Lantum is a cloud-based tool built to help NHS Providers fill empty shifts in their clinical rotas. Designed by doctors and rota managers over the past five years, this tool has been specifically developed for staffing managers working in the NHS.

Lantum offers a secure online environment where providers can advertise shifts for their own clinical staff to book at any time via any device. The tool integrates with clinical staff calendars to efficiently match available clinicians with open shifts. The smartphone app for clinical staff allows them to cover shifts quickly on the go 24/7.

Lantum has been adopted by 35 GP Federations and aims to support more healthcare providers across all staff grades.

Impact:

- £3 million savings for the NHS in under five years by providing a free platform for providers to manage their existing clinical workforce
- Support to meet CQC requirements - rota managers can improve governance processes by creating cloud-based profiles for staff
- 30% - 50% more shifts being filled by providers' own clinical staff banks, thereby reducing use of agency staff and improving continuity of care

2017 NIA Challenge:
Primary Care

Type of innovation:
IT platform

“Lantum thoroughly understand the Five Year Forward View and have assembled a team to support delivery of the plans by working in partnership with GPs and practices to work smarter and reduce the additional burden on surgeries from changing workforce dynamics.”

Dr Tarun Gupta,
GP, Birmingham

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Mike Hurley

ESCAPE-pain

A qualified physiotherapist, Mike is Clinical Director for the Musculoskeletal Programme at the Health Innovation Network, South London AHSN. Mike's areas of interest are devising and evaluating rehabilitation programmes for people with rheumatological conditions, falls and dementia. This led him to develop the ESCAPE-pain rehabilitation programme to help people with chronic joint pain.

Osteoarthritis (OA) affects nearly ten million people, causes pain, reduced mobility, impairs physical, mental and emotional wellbeing, independence and quality of life, and increases risk of co-morbidity and mortality. 90% of people with OA are managed by GPs. It accounts for two million GP consultations, prescription medication, an estimated 150,000 knee/hip replacements, and is the third largest NHS expenditure.

Enabling Self-management and Coping of Arthritic Pain through Exercise, or ESCAPE-pain, is a six-week programme delivered to groups of ten people, aged 45 years or older, with knee and/or hip OA. It helps people understand their problem, advises them what (not) to do and teaches simple exercises that can alleviate pain; allowing them to do more, change the course of the condition and improve their lives. Behavioural change techniques - including goal-setting, action/coping planning, monitoring - are incorporated to encourage participants to maintain a healthy body weight and exercise regularly.

Impact:

- Shown to reduce pain, improve physical function, depression, health beliefs and general well-being in randomised control trial (RCT)
- Sustained benefits for up to two and a half years after completing the programme
- £2.8 million annual savings in total health and social care for every 1,000 participants who undertake ESCAPE-pain

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2017 NIA Challenge:
Primary Care

Type of innovation:
Service

“ I have benefitted
100% from the class.
My right knee is much
improved and I have
a training programme
to help me with the
rest of my life.”

Patient



Myles Murray

RespiraSense

Myles Murray, Founder and CEO of PMD Solutions, is entirely focused on improving patient outcomes by making every breath count. He is named inventor of RespiraSense - the world's first continuous respiratory rate monitor.

Respiratory rate is singularly the earliest and most sensitive vital sign for prediction of patient outcome. Yet it is the only one manually counted, and is therefore prone to error. Respiratory rate is highlighted as a parameter to measure in a number of NICE guidelines, including recognition of deterioration, acute management of pneumonia, and acute management of sepsis.

RespiraSense offers medical teams the ability to detect signs of patient deterioration 12 hours earlier than the standard of care. The device is body-worn and wireless, with a patented sensor to measure the mechanics of both chest and abdomen movements during breathing. RespiraSense is highly robust against non-breathing movements, leading to highly accurate respiratory rate data, continuously, and without the burden of false alarms. Designed to be used by all levels of healthcare professionals, RespiraSense can be integrated with electronic health records.

E-book is available via bit.ly/2y297Gf

Impact:

- Improves patient flow by reducing the rate of preventable escalations of care, and supporting timelier patient discharge
- More than 70% return on hospitals' investment
- Over £100 million potential net savings in pneumonia and sepsis pathways, from 5% reduction in preventable escalations of care

2017 NIA Challenge:
**Urgent and
Emergency Care**

Type of innovation:
IT platform

“ [RespiraSense] provides a unique way of continuously monitoring respiratory rate, offering a safe and reliable solution that will identify deteriorating patients earlier, improve patient safety, and reduce the burden of emergency care on the NHS, as well as releasing clinical staff for time to care. ”

Professor Anoop
Chauhan,
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Olivia Hind

Oviva Diabetes Support

Olivia has spent her career working with and in the NHS through roles at Sussex Community NHS Foundation Trust, Diabetes UK, and the Department of Health. As Head of Partnerships at Oviva UK Ltd, Olivia supports adoption of Oviva's digitally-enabled programmes in the NHS.

Oviva Diabetes Support is a technology-enabled and NICE-aligned programme of type 2 diabetes structured education. Diabetes costs the NHS over £10 billion per year, of which 80% is spent on preventable complications. Structured education and guided behaviour change are crucial to help people self-manage and reduce risk factors. However the National Diabetes Audit indicates that uptake of traditional group-based, face-to-face structured education programmes is poor, and the impact on clinical outcomes and complication rates limited.

Oviva Diabetes Support is a fully remote, 10 to 12-week programme, providing patients with individualised care to support goal setting and development of sustainable self-management strategies. The programme combines high-frequency, one-to-one support from a dietitian with highly engaging evidence-based structured education materials, such as podcasts and videos, that patients can access online at a pace that suits them. Participants also have access to the Oviva app to self-monitor weight, nutrition and progress against goals.

Impact:

- Average uptake of 75%, with 85% of participants completing the programme
- Clinically meaningful improvements in diabetes treatment targets, as demonstrated by outcome data
- 93% of participants would recommend Oviva Diabetes Support to friends or family
- Estimated NHS savings of £1,000 per participant based on reduced medication need and use of services

2017 NIA Challenge:
Primary Care

Type of innovation:
Service

“Using the app and the feedback allowed me to make changes to my eating habits. I felt in charge of these changes and the coaching allowed me to set reasonable goals and achieve them. I have no hesitation in recommending Oviva – it worked for me!”

Patient

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NHS Innovation Accelerator: A partnership initiative

NHS England

NHS England's primary aim is to improve health outcomes for people in England. NHS England sets the direction and priorities for the NHS as a whole, allocates funding to England's GP-led clinical commissioning groups, and directly commissions primary care, specialised services and healthcare services for offenders.

Academic Health Science Networks (AHSNs)

The two key objectives of the AHSNs are to improve health and generate economic growth. They do this through connecting academics, NHS, researchers and industry to accelerate the process of innovation and facilitate the adoption and spread of innovative ideas and technologies across large populations.

All 15 of England's AHSNs are formal partners in the NIA and provide a contribution towards the cost of the bursaries offered to each of the Fellows.

Eastern AHSN: www.eahsn.org

East Midlands AHSN: www.emahsn.org.uk

Greater Manchester AHSN: www.gmahsn.org

Health Innovation Network: www.healthinnovationnetwork.com

Imperial College Health Partners: www.imperialcollegehealthpartners.com

Innovation Agency (AHSN for the North West Coast): www.innovationagencynwc.nhs.uk

Kent, Surrey, Sussex AHSN: www.kssahsn.net

North East and North Cumbria AHSN: www.ahsn-nenc.org.uk

Oxford AHSN: www.oxfordahsn.org

South West AHSN: www.swahsn.com

UCLPartners: www.uclpartners.com

Wessex AHSN: www.wessexahsn.org.uk

West Midlands AHSN: www.wmahsn.org

West of England AHSN: www.weahsn.net

Yorkshire & Humber AHSN: www.yhahsn.org.uk

UCLPartners

The NIA is hosted by UCLPartners, an academic health science partnership that brings together people and organisations to transform the health and wellbeing of the population. Working in partnership and at pace, its members from the NHS and higher education support the healthcare system serving over six million people in parts of London, Hertfordshire, Bedfordshire and Essex. Crucially for the NIA, UCLPartners works in partnership with all other AHSNs across England.



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