

THE INNOVATORS

Transforming lives through healthcare innovation



INSIDE

Innovation Exchange:

Accelerating access and adoption

In discussion:

Dr Nicola Wesley answers the top 10 questions from innovators

How the AHSN Network supports innovators:

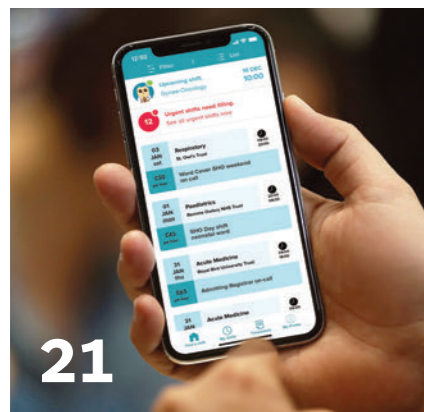
Case studies



8



17



21



22



30

Welcome

AHSNs support the regional 'import and export' of healthcare innovation through our Innovation Exchange. The Innovation Exchange is an AHSN coordinated approach to identify, select and support the adoption of innovations that have the potential to improve the lives of patients and support growth of the businesses we work with. The AHSNs offer a consistent and coordinated support offer to innovators wherever they are in the country and at all stages

of the innovation pathway, which includes signposting to initiatives such as the NHS Innovation Accelerator and SBRI Healthcare. The Innovation Exchange identifies innovations for the Accelerated Access Collaborative and for local adoption.

In this edition of The Innovators we explain how we do this in our feature on 'Accelerating access and adoption', we discuss the top questions we get asked by innovators and we showcase the benefit companies receive by working with the AHSN Network ■

The Accelerated Access Collaborative (AAC) was formed in response to the independently-chaired Accelerated Access Review published in October 2016. The AAC brings industry, government and the NHS together to remove barriers to uptake of innovations, so that NHS patients have faster access to innovations that can transform care.

Contents

4

Innovation Exchange:
Accelerating access and adoption

11

The Innovation Exchange:
Supporting Economic Growth

8

In discussion:
Dr Nicola Wesley answers the top 10 questions from innovators

12

How the AHSN Network supports innovators:
Case studies

CASE STUDIES IN THIS ISSUE

13
Consentricare

19
Inovus Medical

25
Physiomics

14
LiveSmart

20
KiActiv®

26
Quality Hospital Solutions Limited

15
Skin Analytics

21
Locum's Nest

27
Rightangled

16
HealthUnlocked

22
Meantime IT

28
Sensyne Health

17
Healthcare Communications

23
NuVision

29
Spearmark Health

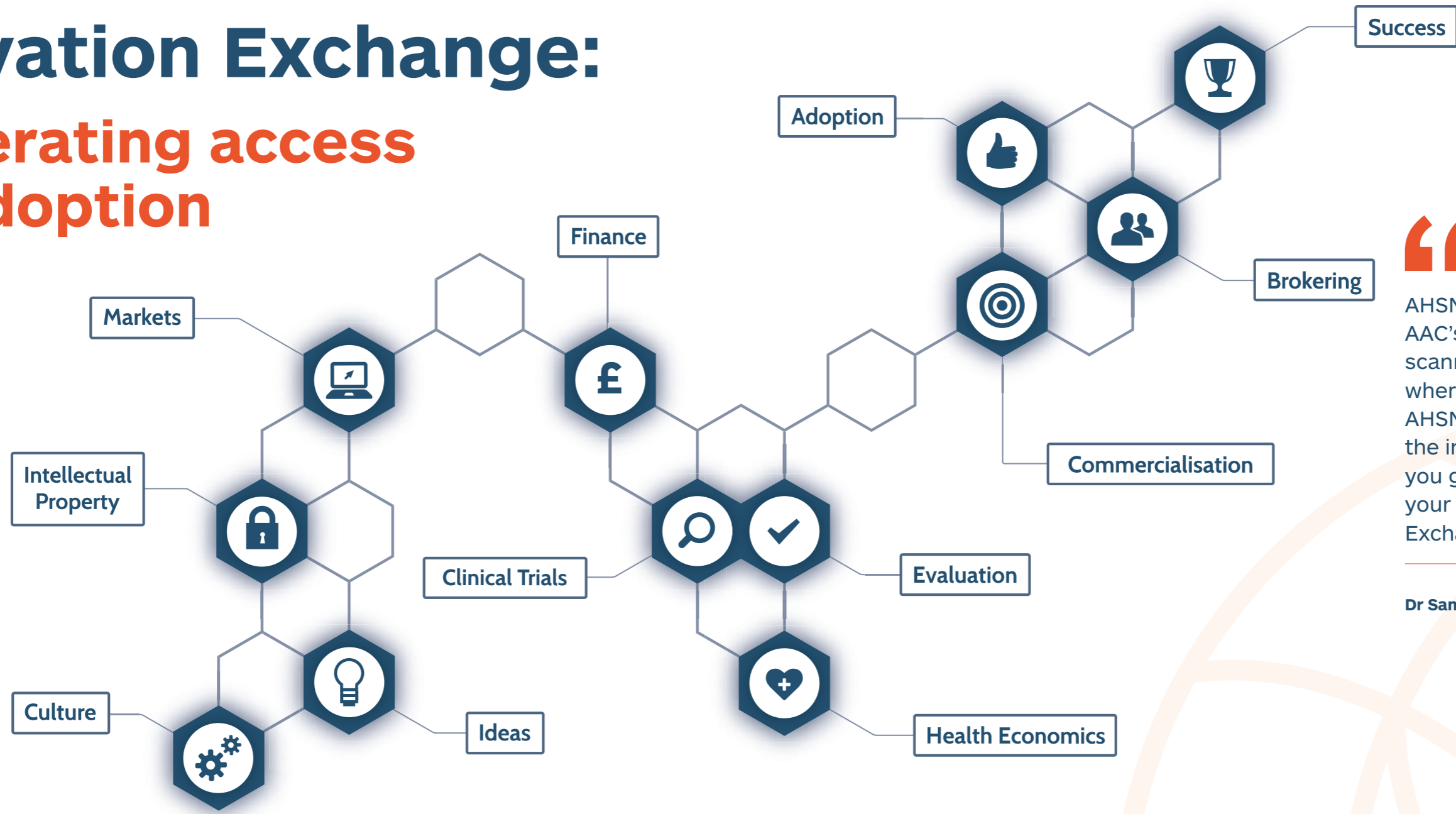
18
Healthy.io

24
Orthocell UK Ltd and Carrera Medical Ltd

30
Ufonia

Innovation Exchange:

Accelerating access and adoption



All AHSNs provide an Innovation Exchange that helps innovators to navigate and access support. AHSNs will assess the innovations offered and seek to identify connections for innovators to help them grow and match healthcare needs.

“ AHSNs are part of the AAC’s single horizon scanning function, where we’ll work with AHSNs to integrate the intelligence you gather through your Innovation Exchange. ”

Dr Sam Roberts

The Innovation Exchange is an AHSN-coordinated approach to identify, select and support the adoption of innovations which have the potential to transform the lives of patients and support growth of the businesses we work with. The digital gateway to the Innovation Exchange can be found at www.ahsnetwork.com/supporting-innovation/innovation-exchange

The Innovation Exchange approach has four phases:

1. Defining needs:

(Sometimes called needs articulation or demand signalling): We support our local NHS partners – clinical and managerial to understand the needs they have that could respond to innovation. We also support those local NHS partners to identify proven solutions to existing challenges.

2. Innovator support and signposting:

Innovator support is provided by every AHSN. The Innovation Pathway, as shown above, sets out the range of service offered. There is a consistent and coordinated offer to innovators wherever they are identified in the system, but not all the services are provided by every AHSN. Innovators will be directed to the best place for the assistance they need.

3. Real world validation:

Innovations that need real world validations are tested and evaluated in local systems. This enables the AHSNs to understand the information and evidence needed to enable the adoption of innovation in a variety of settings. The AHSNs are developing a consistent approach to real world validation – but some local variation is inevitable as the NHS has multiple delivery approaches.

4. Spread and adoption of supported innovations:

The AHSN Network Innovation Exchange supports the adoption of innovations identified by the Accelerated Access Collaborative and those that the AHSNs identify for national spread. It also identifies and supports the adoption of innovations on a regional and cross-regional basis.

There is a structured process that the AHSNs use to identify and support innovations to be adopted into the NHS. All the AHSNs connect together through their Innovation Exchange activities, innovations identified in one geography are shared and their offer is understood across the AHSN network.

The AHSNs have a rich understanding of the needs of their local systems and they know where hospitals or community services are ready for new ways of working.

Accelerating access to the right support helps small and medium sized enterprises to get their innovations quickly assessed and if suitable, into the NHS.

The Innovation Exchange process has been designed to address known barriers to innovation adoption:



Clinicians can say they need more evidence.



Innovators can say they don't know how the NHS process works.



Businesses can say they waste too much time trying to find the right part of the NHS to speak to.



Patients want the most effective care - sometimes this includes different innovations.



Bridging the Gap

A series of national events connecting delegates from NHS organisations and industry to help and guide health technology innovators and companies to access the health and care marketplace.



Suicide prevention challenge

The Eastern AHSN hosted an Innovation Exchange event bringing together selected innovators to meet representatives from the health and care system who are experiencing the challenges of dealing with suicide directly.



Rural health and care

East Midlands AHSN collaborated with the National Centre for Rural Health and Care to hold an Innovation Exchange event to address some of the challenges that rurality presents to the delivery of both health and social care.



The Innovation Exchange digital gateway

The Innovation Exchange digital gateway can be found at ahsnnetwork.com/innovation-exchange

This part of our website is specifically designed to help innovators and businesses navigate their way to tailored support from the regional AHSN teams. It also provides information on how to find national support from our colleagues in the sector.



The Innovation Exchange podcast

The AHSN Network Innovation Exchange podcast provides the latest from NHS leaders about national needs and a snapshot of the nationwide response from innovators.

Example 1 – accessing funding

Following Innovation Exchange work focussing on mental health, East Midlands AHSN supported QbTest a diagnostic tool which measures the core indicator symptoms of Attention Deficit Hyperactivity Disorder (ADHD). On average, QbTest can reduce time to diagnosis by 153 days and provide 20% cost reductions.

EMAHSN's mental health Innovation Exchange event brought together the region's STPs and health and care partners to establish key themes – child and adolescent mental health services (CAMHS) were recognised as a priority. **Support and funding of up to £300,000 was offered to innovation programmes that tackled these priorities. QbTest's proposal was successful and following the Innovation Exchange event, received funding for a clinical trial across three East Midlands Trusts.**

Example 2 – building clinical and managerial evidence

The key to effective flu management is time – the quicker the presence or absence of flu can be confirmed the quicker anti-viral medication can be administered and the quicker patients might be isolated to prevent onward transmission. During the 2014-15 winter season the AHSN for the North East and North Cumbria partners joined forces to conduct a diagnostic accuracy study of the Alere™-i Influenza A&B Near Patient Test (NPT) in comparison to a lab real-time PCR. **The results showed that rapid point of care tests for flu have the potential to lead to a more evidence-based use of isolation resource with the potential for substantial savings. The company have been able to use this information to promote the wider use of their treatment.**

Example 3 - supporting commercialisation

Arterial lines are used in the Intensive Care Unit (ICU) to accurately measure blood pressure on a second-by-second basis. However, these lines are associated with complications including bacterial contamination, blood spillage and, owing to possible confusion with venous lines, accidental administration of medication into the artery instead of the vein.

The Non-Injectable Connector (NIC) makes arterial lines and blood sampling techniques safer. Its origins lie in a local 'fix': one of the consultants at The Queen Elizabeth Hospital in King's Lynn started wrapping tape around the arterial sampling port to reduce the risk of the junior doctors accidentally giving medicine into this line.

Eastern AHSN supported the clinician to find a commercial partner, secure regulatory approval and subsequently to be adopted as part of the NHS Innovation Accelerator programme.



In discussion: Dr Nicola Wesley answers the top 10 questions from innovators

If you have an idea for a new or improved product or service that can bring benefit to the NHS, the AHSNs can help you explore and develop that idea.

Our unique position embedded within regional health systems across England allows us to reach out to frontline NHS staff to establish whether innovations are needed or whether something similar already exists.

Dr Nicola Wesley, Interim Chief Executive at the Academic Health Science Network for the North East and North Cumbria, answers some of the most commonly asked questions from innovators.

1. How developed does my idea have to be?

Innovators can receive bespoke assistance from their regional AHSN at every stage of the innovation lifecycle – from initial idea right the way through to CE marked product and beyond.

However, earlier engagement means that innovators could access key opinion leaders in the NHS more quickly, which can help to shape the idea and understand the value proposition.

Once we understand what you are trying to do, we can signpost, or provide access to, a range of expert support services across the health and care sectors to realise the commercial and economic potential of your ideas.

2. How do I find out if my idea has already been developed?

AHSNs can support innovators at this early stage. The Innovation Exchange is a great resource to signpost you to the AHSNs that can help you to undertake due diligence including analysis of the marketplace, patent and Freedom to Operate searches, horizon scanning, and, crucially, engagement with NHS clinicians.

3. What if someone copies my idea?

It is essential you protect your Intellectual Property (IP) as early as possible. Your AHSN can signpost you to relevant support or may be able to help you understand the process of disclosure, what IP means and how you can protect it.

4. How much do I need to invest to get started? How do I go about funding an idea?

There isn't a one size fits all when it comes to funding - it depends on your product, service or idea. AHSNs can help signpost innovators to early stage finance and relevant funding or grant opportunities as part of our offer through the Innovation Pathway.

5. How do I know what the NHS needs?

AHSNs have a remit to work with the NHS to identify and support any known unmet needs (sometimes known as 'demand signalling'). Our role is to broker co-development between industry, academia and the NHS. As part of our Innovation Exchange activity, AHSNs regularly launch unmet need calls which invite innovators to submit solutions to clinical challenges. All unmet need calls will be included on the Innovation Exchange digital gateway on the AHSN Network website. ahsnnetwork.com/Innovation-Exchange

6. How do I know if my innovation would work within the NHS?

The NHS is a unique market – the AHSNs help innovators understand this market. Just because a product or solution works doesn't necessarily mean it will work within the NHS. A key element of our offer to innovators is supporting industry to understand the value of real-world validation. We are required to test innovations →

“
The NHS is a unique market – the AHSNs help innovators understand this market.
”

in the real world to analyse the effectiveness and cost benefits to the NHS. This is informed by regional and local need and seeks to provide the information and evidence needed to enable adoption of the innovation in a variety of settings in the NHS and gives the potential for export to other countries.

7. Who can I turn to for support?

The whole of England is covered by a network of 15 AHSNs that can work together via a national database to ensure you have the correct team supporting you and your idea.

As part of the AHSNs' mandate from the Office for Life Sciences, each AHSN has industry focused experts available to provide specialist support to health innovators. All the information you need can be found via the digital gateway to the AHSN Network Innovation Exchange, which includes relevant contact details for your regional AHSN.

8. How long does it take to move an idea forward?

It takes a lot longer than you think! The AHSNs will support innovators on their journey to market, to understand the needs of frontline clinicians, what evidence is required, insight into procurement within the NHS, highlight regulatory and governance challenges, support business case development and offer realistic milestones for adoption and spread, as well as helping to understand the barriers for adoption.



Each AHSN has industry focused experts available to provide specialist support to health innovators.



9. Who can seek innovation support from the AHSNs?

There are no restrictions on who an AHSN can support, the process will largely be the same for an individual, an SME, an NHS employee or a multinational company – the correct team and support will be bespoke to your idea.

10. How do I get my idea taken up nationally?

All 15 AHSNs across England work together to identify suitable solutions that could be adopted on a national scale. AHSNs support a number of programmes to accelerate the adoption and spread of innovations nationally including the Innovation and Technology Payment (ITP), NHS Innovation Accelerator (NIA) and the Accelerated Access Collaborative (AAC) ■



**THE INNOVATION EXCHANGE:
SUPPORTING ECONOMIC GROWTH**

Between April 2018 and April 2019



2,605

companies were supported with **3,630** innovations



164

companies entered into a long term strategic partnerships with the AHSNs



603

companies have been supported by more than one AHSN

From a 2019 survey of companies that the AHSNs and the NHS Innovation Accelerator (NIA) have worked with over the year we found that:



691 jobs

had been created



£152 million

of investment had been leveraged



188 jobs

had been safeguarded

Consentricare

Mobile app for organising elderly care supported by AHSN-Led commercialisation workshop

CareHound is a free mobile app for people organising elderly care, designed by Consentricare, a healthtech start-up launched by two friends, after experiencing difficulties accessing information and organising social care for their elderly parents.



Nearly 1.4 million older people in the UK are missing out on the care they need, due to difficulties in accessing information about what is available to them. The app helps family and friends navigate the local health and social care environment, with access to information for relevant services and entitlements gleaned from local councils and healthcare providers.

The app aims to help patients and families make more informed decisions, potentially reducing delayed transfer of care and pressure on the system.

Through the Bucks HSC Ventures programme, the Oxford AHSN provided a commercialisation workshop, to help direct Consentricare's future-customer discovery, develop their value proposition and further develop their product. The workshop also used the Business Model canvas, which allows companies to visually map out their business structure, in a light

touch way, and see if they have a viable model. Companies are encouraged to go out and test all of their key assumptions on these canvases, as part of their customer discovery.

The Oxford AHSN also provided Consentricare with an NHS perspective on how their solution meets the clinical need, supplemented with input from a social care perspective provided by Buckinghamshire County Council. This helped Consentricare think about the system in a more holistic manner and tailor the CareHound app accordingly.

The CareHound app is currently available in Surrey, Buckinghamshire and Kent, and a national rollout is now taking place with the assistance of Bucks HSC Ventures as a partner ■

“The support provided has been invaluable in helping us to understand the dynamics in dealing with the NHS and the interaction between the NHS and social services.”

Bill Palmer,
Executive Partner and
Founder of Consentricare

AHSNs involved



How the AHSN Network supports innovators: Case studies

LiveSmart

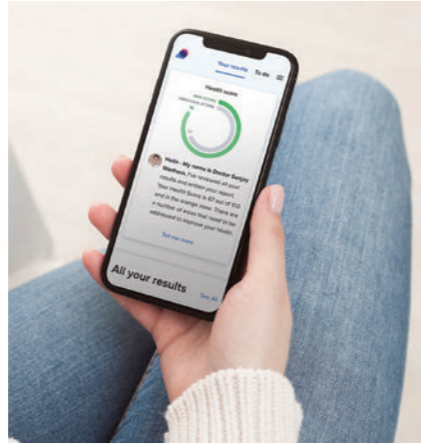
Providing pathology-based health assessments, digital health data tracking, reporting and behaviour change programmes

LiveSmart provides pathology-based health assessments, digital health data tracking, reporting and behaviour change programmes, alongside 1:1 health-coaching services led by their medical team. LiveSmart was a participant in the first cohort of the DigitalHealth.London Accelerator programme which aims to support small digital health businesses accelerate their development through access to the NHS. During that one-year programme, LiveSmart received support from the team of DigitalHealth.London Navigators as well as clinical experts.

Over the last year, DigitalHealth.London has developed another programme to support digital health companies who are looking for investment. LiveSmart was keen to engage with the programme, not only for the funding opportunities, but also to gain further technological validation of their product through the panel of DigitalHealth.London reviewers.

The company's development focus is to form commercial partnerships with health insurers and other intermediaries. Its most recent partnership has provided LiveSmart with a stamp of pre-approval and

AHSNs involved



global access to over 100 million of their customers. LiveSmart raised £1.25 million funding from RYSE and other investors through the DigitalHealth.London programme in this round to expand sales into other geographical jurisdictions, securing additional long-term partnerships with other substantial players in the insurance market, and improving technology ■



LiveSmart raised **£1.25 million**

funding from RYSE and other investors

“ Navigating the digital health landscape is complex. Choosing to work with specialists like RYSE and DigitalHealth.London was a no-brainer for us. Their deep knowledge and understanding of the health and funding environment will continue to be a major advantage for us moving forward. ”

Alex Heaton, CEO, LiveSmart

DigitalHealth.London

● DigitalHealth.London is a partnership programme established by London's three Academic Health Science Networks (AHSNs) – UCLPartners, Imperial College Health Partners, and Health Innovation Network, and MedCity. It supports companies through a range of programmes including an Accelerator programme, Launchpad for companies developing new products for the NHS.



Skin Analytics

Technology with the potential to disrupt the process of diagnosis and management of skin cancer

A graduate of the DigitalHealth.London Accelerator and then the NHS Innovation Accelerator, Skin Analytics specialises in screening for melanoma and non-melanoma skin cancers. The company invested heavily in technology with the potential to disrupt the process of diagnosis and management of skin cancer, having validated its proprietary Artificial Intelligence (AI) in two large studies.

Having just won the UKBAA Best AI Investment, and the Advance Queensland Ignite Grant in 2018, as well as several other awards, grants and accolades, Skin

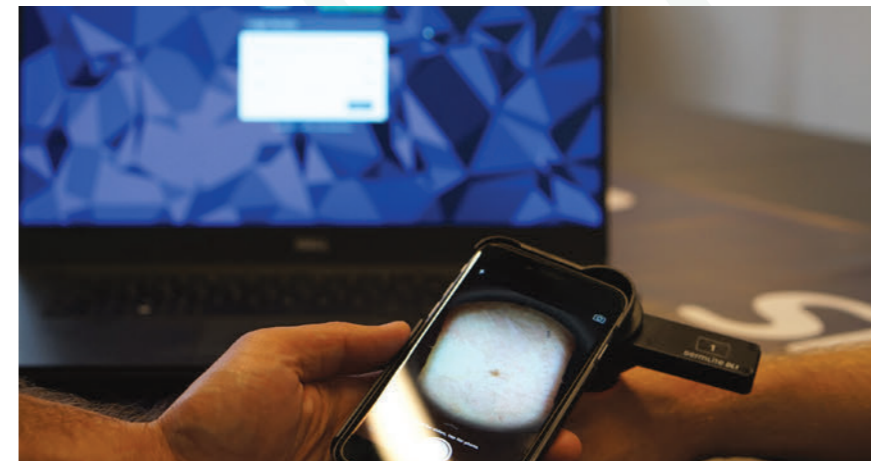
Analytics is on the right path to expand further into the UK, Australia and New Zealand, private and public, healthcare markets.

The company has already entered into primary care agreements as well as commercial contracts with private medical insurers and providers.

Skin Analytics raised £1.6 million funding in this round from RYSE and other investors, supported by the DigitalHealth.London investment programme, to finalise the first prospective clinical study in applying AI to dermatology and secure regulatory approval, and bring on the high calibre team needed to deploy the technology into a variety of patient pathways ■

“ Working with RYSE and DigitalHealth.London has given us great access to leading NHS initiatives and those behind them, as well as the financial support needed to get our technology to the point it will positively impact patients and the healthcare service. ”

Neil Daly, CEO, Skin Analytics



Skin Analytics raised **£1.6 million**

funding in this round from RYSE and other investors

AHSNs involved



HealthUnlocked eSocial Prescription

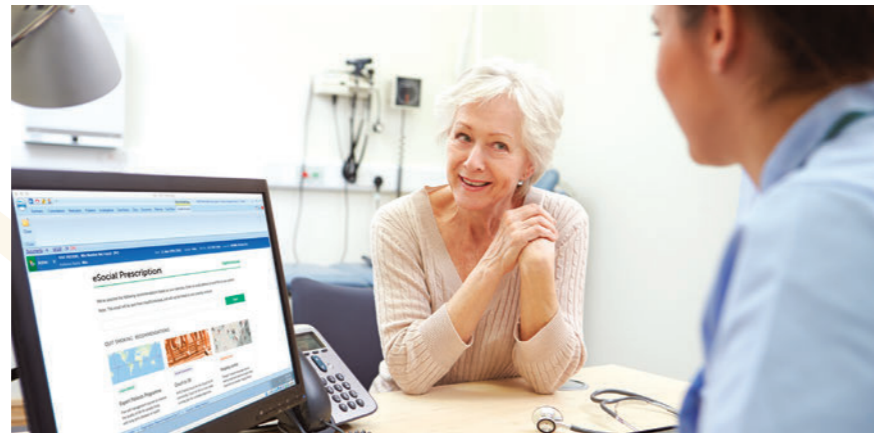
HealthUnlocked eSocial prescribing tool lets GPs easily deliver a digital social prescription to patients

The HealthUnlocked eSocial prescribing tool lets GPs easily deliver a digital social prescription to patients within their standard consultation. It directs patients to local services and voluntary sector support, high-quality, validated content and online peer support networks to help them manage a chronic health condition. The tool also provides people with wellbeing support to get active, eat healthily, lose weight, and deal with anxiety and depression.

Care City, a healthy ageing innovation centre commissioned by UCLPartners to help deliver its Innovation Exchange work in East London, collaborated with HealthUnlocked and Barking and Dagenham London Borough Council to roll out its EMIS plug-in for social prescribing across Barking & Dagenham. Care City supported HealthUnlocked to develop its product, engage with the local system including the NHS and local authority, and offered behavioural change support.

Data shows that 90% of social prescriptions sent to patients with a chronic health or wellbeing need have been opened, followed by 84% of people clicking on curated resources.

The highest numbers of prescriptions created for 'wellbeing' needs have been generated for



Working with Care City has allowed us to understand the local context and the needs of healthcare professionals and patients. We have been able to capture new features and developments that can improve the product itself.

Marc Singh-Jones,
Director of Strategy,
HealthUnlocked

AHSNs involved



'Healthy Eating', 'Lose Weight' and 'Getting Active', corresponding well to significant local challenges around obesity and inactivity.

The tool is now used by more than 160 healthcare professionals, and implemented within primary care, hospitals, and other STP-level deployments. HealthUnlocked has expanded to 30 staff members and seen 40% revenue growth. HealthUnlocked has multiple customers including local governments, Imperial College NHS Trust, a leading health insurer and the USA Academy of Oncology Nurses and Patient Navigators ■



Healthcare Communications

Digital appointment management

Healthcare Communications is a Macclesfield-based SME that has a range of software solutions for the management of outpatient appointments, including digital outpatient letters, a patient portal and a health messaging service.



The company's digital appointment management software streamlines the process of providing patients with their appointment time and other information such as directions, maps, and leaflets about their condition.

As this information was previously sent through the post, there are significant savings in terms of administrative time, stationery costs and postage costs. The service has also shown a reduction in missed appointments by being able to link with the recipient's calendar and the ability to link to Google Maps to provide directions in real-time.

Trusts who have implemented digital appointment letters have had good results in terms of uptake and reduced costs. At Barnsley Hospital NHS Foundation

AHSNs involved



Trust, 50% of patients have opted to receive appointment details digitally. At Leeds Teaching Hospitals NHS Foundation Trust, patient attendance rates improved to over 90% and there were efficiency gains of £1.5 million for 2015/16.

Yorkshire & Humber AHSN worked with Healthcare Communications to increase exposure across the region, leading to the company implementing systems in new Trusts, including Calderdale and Huddersfield NHS Foundation Trust, and adding to the services provided to existing customers. The AHSN also supported the company to establish a base in Leeds, which led to the creation of one job and an inward investment to the region's economy valued at £50,000 with further growth planned ■



The Yorkshire & Humber AHSN is an amazing support and has been instrumental in helping spread our digital innovation within the region.

Tara Webb,
Marketing Manager,
Healthcare Communications.



Patient attendance rates improved to over 90% and there were efficiency gains of

£1.5 million

for 2015/16



Healthy.io

Improving uptake of albumin testing in people with diabetes

“ Yorkshire & Humber AHSN has not only funded a robust independent cost-model to underpin our evidence, it has supported us in how we present this dataset to the clinical community. Collaboration in writing up our ACR pathway into a Business Case to ensure it has meaning and impact for stakeholders who are evaluating our offering has been critical in our partnership.

Anthony Meyerstone,
Commercial Director, Healthy.io



523 deaths would be prevented over 5 years due to 22,946 additional cases of CKD being diagnosed, potentially saving the NHS

£209,445,072

AHSNs involved



Healthy.io have developed a home-based albumin screening service for people with diabetes using a smartphone urinalysis test kit and app – the only FDA-cleared and CE-approved home urine test equivalent to lab-based devices.

The screening solution shifts testing from the clinic to the home to increase Chronic Kidney Disease (CKD) screening compliance in diabetic patients.

The service was offered to patients across Modality GP practices in Hull and Airedale, Wharfedale & Craven. Patients with no previous albumin:creatinine ratio (ACR) measurement were offered a home test kit, enabling them to conveniently self-test for early signs of CKD, with the results sent through to the primary care clinical system to be reviewed by a clinician.

Yorkshire & Humber AHSN commissioned York Health Economic Consortium to evaluate the cost-effectiveness of the innovation compared to standard care for the detection of albuminuria in people with



diabetes in the NHS. The results showed improved compliance with the ACR test and an 11% increase in the number of CKD diagnoses, which will significantly improve patient outcomes and deliver savings.

The evaluation found that adopting Healthy.io's service for people with diabetes unreceptive to traditional testing is cost-effective. Across England, an estimated 3,463 cases of end-stage renal disease (ESRD), and 523 deaths would be prevented over 5 years due to 22,946 additional cases of CKD being diagnosed, potentially saving the NHS £209,445,072 ■



Inovus Medical

Providing affordable and accessible medical simulation training

A suite of medical training devices is being produced at a fraction of the cost of established models – leading to an increase in training opportunities and safer surgery.

Usually, training in laparoscopic surgery is based on using high cost surgical simulation devices which are hard for medical staff to access, limiting opportunities for learning.

Inovus Medical, a start-up business in Merseyside, has won major funding to develop and market low-cost keyhole surgical simulators, based on their original model which is now used by nearly 100 hospitals in the NHS.

Having secured an initial £100,000 from SBRI Healthcare for its augmented reality simulator, Inovus Medical was awarded £1 million SBRI phase-two funding to complete development of a commercially-ready offering, in July 2019.

AHSNs involved



The Innovation Agency advised Inovus on its SBRI applications and on a successful bid for 50,000 Euros from the European Institute for Innovation and Technology (EIT) Health. This will allow the company to market new products, including a turnkey hysteroscopy simulator, in the UK and abroad.

In November 2018 the company secured £700,000 from the Northern Powerhouse Investment Fund and an angel investor, which will lead to an extra four jobs and enable the growth of Inovus Medical's commercial operations. Overall, headcount has grown from two to 16 and they have won three industry awards ■

“ Our contact with the Innovation Agency has had a hugely positive effect on the company and has helped towards its growth over the last 18 months. The Innovation Agency has opened doors to funding, supported our funding bids and helped spread the word on the innovative work we are doing at Inovus.

Dr Elliot Street,
CEO Inovus Medical



Inovus Medical was awarded **£1 million**

SBRI phase two funding to complete development of a commercially ready offering, in July 2019

KiActiv®

Improving self-care through technology enabled behaviour change



The West of England AHSN has been invaluable in supporting the real-world evaluation, and subsequently the adoption and spread of our digital health technology. They have given us a platform to connect with their member CCGs and other NHS stakeholders, and enabled us to work collaboratively to put our digital health innovation in the hands of people who can benefit most from it.

Tommy Parker,
Digital Innovation Lead, KiActiv®

KiActiv® Health is a 12-week digital therapy designed to improve the self-management of long-term conditions using personalised everyday physical activity.

The digital health programme offers guided development of self-management and goal setting skills, enabling users to create 'ideal' physical activity profiles in the context of their health.

Thanks to support provided by West of England AHSN, KiActiv® was selected to be a partner on the regional Diabetes Digital Coach Challenge and subsequently became a partner in the national Diabetes Digital Coach Test Bed - one of the seven wave one NHS Test Beds.

These programmes provided KiActiv® with introductions to regional clinicians and commissioners, detailed

evaluation of the service, and raised the company profile through speaking opportunities at regional and national events.

As a result, KiActiv® was commissioned by Gloucestershire CCG for self-care and prevention and this work was shortlisted for a 2018 HSJ award in the 'patient digital participation' category.

The beneficial impact of KiActiv® Health has also been identified for other long-term conditions in Gloucestershire and is currently being offered to patients in the falls prevention pathway who have declined face-to-face or group services.

Health economic evaluation of the programme demonstrated a positive return on investment within a 1-year, 5-year and 10-year time horizon. For every £1 spent, the model demonstrates a return on investment of £2.53, £15.63 and £43.40 at the respective time horizons ■



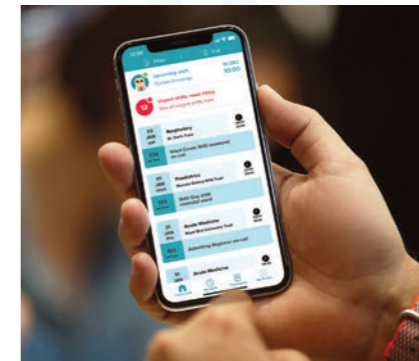
AHSNs involved



Locum's Nest

Providing a native mobile app connecting doctors to locum work in healthcare organisations

Locum's Nest is a temporary staffing management platform combining advanced mobile technology with personal service.



The app matches doctors to short-staffed shifts available within preferred hospitals across a chosen geographic area by linking to cloud-based web platforms for hospital managers to manage their staff bank and temporary workers.

By listing all available vacancies on one portal, doctors registered with that hospital will receive immediate notification of available shifts within their chosen parameters. The doctors can choose where, when and which shifts they select. Once their selection is approved by the Trust they are notified via the app. This streamlines work efficiency and saves time, ensuring patient needs are met faster and with the appropriate professional.

After piloting in 2016, Locum's Nest is now used in 15 NHS Trusts and 3 GP federations. In one Trust alone, it has achieved a 100% attendance rate, a fill rate of over 90% and has saved (cash-releasing) £3.2 million in one year through avoided agency fees.

AHSNs involved



Locum's Nest has received support from KSS AHSN and the three AHSNs and partners who provide the DigitalHealth.London Accelerator, as well as gaining further introductions from Wessex AHSN. This support has included; introductions to local systems, advice on interoperability, change management and awareness, and independent robust economic evaluations and case studies.

In October 2018, Locum's Nest announced it had raised £3m in further funding from Albion Capital, the leading independent investment manager, and IDO Investments. The new funding takes the total investment in Locum's Nest to £4.2 million. Locum's Nest now have increasing UK and global opportunities with interest in Southern and Northern Ireland ■



In the last full financial year the NHS spent £2.3 billion on agency staff to cover vacancies¹, which means at least £235 million was spent on recruitment agency commissions... which could otherwise have been used to finance other areas of clinical improvements that would directly benefit patients. From the data we already have, we know the NHS could claw back up to £500 million of this year's projected Trust overspend. We're delighted to have worked with KSS and other AHSNs across the country. Our work with KSS has been instrumental in supporting our growth across the region and beyond.

Dr. Ahmed Shahrabani,
Co-Founder of Locum's Nest



¹ www.nuffieldtrust.org.uk/resource/the-nhs-workforce-in-numbers

Meantime IT

Audit management system brings transparency and improvement to four Trusts



After developing AMaT with Lancashire Teaching Hospitals, I realised that I needed help to take the product to market, to other Trusts, which is when I got in touch with the Innovation Agency. Their help has been invaluable in understanding the barriers; making introductions; and in networking with other SMEs who are also trying to take products into the NHS.

Fenner Pearson,
Managing Director, Meantime IT

Clinical and nursing staff at four North West Trusts are embracing digitally-enabled quality and service improvement through a clinical audit platform from Lancashire company Meantime IT.

AMaT (Audit Management and Tracking), which costs £20k per annum per Trust, is a tool which streamlines auditing, improvement and guidance requirements into one simple, easy-to-use system – saving time and money and leading to improvements in care.

Clinical audit can be an essential tool to increase efficiency and effectiveness and reduce unwarranted variations in care, establishing whether healthcare is being provided in line with standards and showing care providers and patients where their service is doing well, and where there could be improvements.

The AMaT system was developed in partnership with Lancashire Teaching Hospitals NHS Foundation Trust and the Innovation Agency has helped Meantime to spread it to three other Trusts in the North West.

More than 2,700 staff at Lancashire Teaching Hospitals now have access to AMaT, out of the 7,000 employed. Alongside increasing the transparency and visibility of activity, it is making audit simple by guiding staff through the audit process resulting in improved quantity and quality of audits.

The clinical audit department at Lancashire Teaching Hospitals has saved over £40k by not replacing retiring staff, after taking on AMaT. Throughout the Trust overall there were previously around 250 audits every year using the old system; in one year after using AMaT, there were 467 audits and quality improvement projects registered ■



AHSNs involved



NuVision

Revolutionising the treatment of wound care utilising amniotic membrane

NuVision eye treatments offer an alternative to eye surgery by using preserved amniotic membrane (membrane from placentas) to treat damaged corneas and promote healing. The products are unique, as the material is preserved making it easy to store and accessible to hospitals.

The company is in the process of expanding into using their product to facilitate the treatment of chronic wounds, such as diabetic foot ulcers.

East Midlands Academic Health Science Network (EMAHSN) has been instrumental in supporting the company to commercialise this revolutionary procedure. The company is based in Nottingham and the product is currently used at 54 NHS sites in the UK.

After some initial guidance, EMAHSN signposted and supported NuVision in their application for a MedTech grant

provided by Medilink and part-funded by EMAHSN and the European Regional Development Fund (ERDF).

This support was crucial in helping secure the £100,000 grant to undertake clinical trials to provide an evidence base for using the product for the treatment of diabetic foot ulcers, results are currently pending.

In the last 12 months, over 1,500 patients have been treated in the UK with NuVision products. The company expect to double their turnover in 2019-20, from £238,828 to over £500,000 and have secured a further £2 million of investment. As a result, the company have been able to recruit eight additional members of staff ■

AHSNs involved



The support East Midlands AHSN has provided over the last two years has been invaluable. The advice and guidance has been extremely useful, particularly when looking at developing the product for new markets and working on strengthening our evidence base. We know our innovations can make a huge difference to the lives of patients, so working towards spread and adoption across the UK healthcare system to benefit patients is our ultimate goal.

Dr Andrew Hopkinson,
CEO NuVision



The company expect to double their turnover in 2019-20, from £238,828 to over £500,000 and have secured a further

£2 million
of investment.

Orthocell UK Ltd and Carrera Medical Ltd

Bringing innovative soft tissue and bone regeneration products to UK patients and clinicians



It's been great to meet such an ambitious and friendly group of people here in the West Midlands. WMAHSN and their industry gateway – Medilink WM have been outstanding in their help and support to Orthocell. So much so, that we were able to set up our exclusive UK distribution agreement with Carrera Medical in just under two months. Orthocell's business in the UK's lucrative dental bone and soft tissue regeneration market, where there is a significant and growing demand and market opportunity is continuing to develop with assistance from the WMAHSN.



Kevin Edwards,
Orthocell's European Manager

AHSNs involved



CelGro™ is an innovative medical device for dental bone and soft tissue repair, developed by Australian-based regenerative medicine company, Orthocell Ltd.

Clinical studies have shown that the use of CelGro™ in dental indications can improve guided bone regeneration within the maxilla by as much as 26% over existing products.

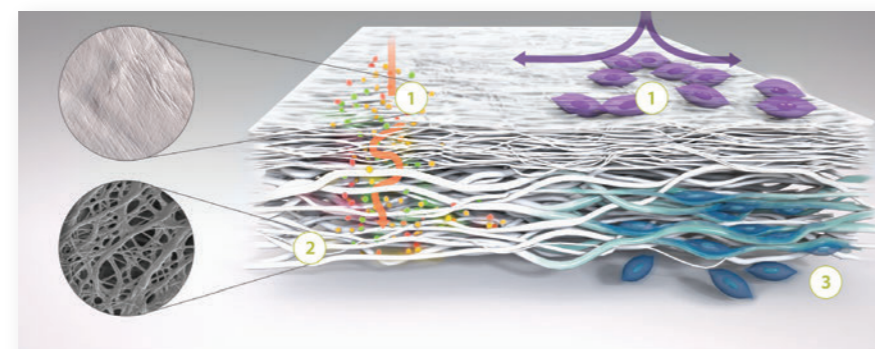
Traditional dental implant procedures are often performed in two-stages, with patients receiving an initial implant placement, followed by a second re-entry surgery up to six months later to insert the implant abutment and dental crown.

Advances in technology, namely Orthocell's CelGro™ collagen membrane, allow the potential for a single-stage procedure for some patients, which eliminates the need for re-entry surgery, accelerating

the healing process and potentially reducing the total cost to patients and the healthcare system.

Orthocell has greatly benefited from the link to West Midlands AHSN's Industry Innovation Gateway, delivered by Medilink West Midlands, acting as a single point-of-entry for health technology and science businesses to engage with the West Midlands AHSN, which is credited for the introduction to the Directors of a well-respected Dental Laboratory, leaders in the marketing and distribution of innovative medical devices in the UK.

Early adoption of CelGro™ has been embraced by the UK dental community, a significant number of patients have been treated in a short period of time, and the biggest impact from Orthocell working with West Midlands AHSN, has been the introduction to Carrera Medical Ltd, now Orthocell's exclusive UK distributor and having achieved the first UK sales through Carrera Medical ■



1 Smooth layer
Barrier membrane enables the passage of bioactive molecules and proteins

2 Rough layer
Porous network of highly organised collagen fibres guide the formation of new bone and tissue

3 Tissue remodelling
Guides superior quality bone formation

CelGro Osteoconductive collagen membrane

Physiomics

Personalised oncology company leverage £199,000 from Innovate UK in partnership with the Oxford AHSN

Physiomics has developed a proprietary model-aided simulation of tumours, Virtual Tumour™, to help pharmaceutical companies improve the success rate of drug development. The company wants to expand the utility of this technology by exploring methods of personalising oncology treatments and dosages for patients.



for the two cancer types. The Oxford AHSN led feasibility studies to determine the utility of the technology in a clinical setting.

Physiomics has partnered with Oxford AHSN as well as clinicians at Oxford University Hospitals to explore the utility of the technology in different tumour types. This work was facilitated by two Innovate UK grants. The first (£131,000) was focused on oesophageal cancer, while the second was for prostate cancer (£68,000). Both grants provided funding for Physiomics to develop the VirtualTumour™ technology

In the first study, the Oxford AHSN conducted its Lean Assessment Process into a decision support tool in oesophageal cancer. The second was a stakeholder engagement study for a personalised dosing app for prostate cancer. In both cases stakeholders were interviewed, results analysed and fed back to Physiomics in order to refine their future product development ■



This work was facilitated by two Innovate UK grants totalling **£199,000**



The Oxford AHSN has provided us with feedback from medical oncologists and been a gateway into the NHS. Market access has been paramount in the adoption of the personalised dosing app and has enabled us to speak to clinicians we otherwise would not have had access to.

Jim Millen, Chief Executive Officer, Physiomics



AHSNs involved



Quality Hospital Solutions Limited

Healthcare innovation company develops an improved biological sample transportation system with support and expertise from the AHSN NENC



The system which we have developed is set to make a massive impact on the transportation and processing of biological samples, throughout the NHS and beyond. We have the unprecedented support of the NHS, as well as valuable assistance from the AHSN NENC, and as such we feel well equipped to benefit patient care by making biological analysis processes leaner and significantly more efficient.

Andrew Turner,
Technical Director and Lean Innovator at Quality Hospital Solutions Limited



£65,000
invested



Quality Hospital Solutions Limited (QHS) is a North East-based company specialising in providing innovative products and solutions to the NHS. Their innovations are driven by a specific healthcare need, or a bright idea originating from within the NHS, with the aim of overcoming challenges and improving patient care.

QHS has developed an improved biological sample transportation system in conjunction with Gateshead Health NHS Foundation Trust. The system aims to improve the handling of laboratory samples in their journey from the source (such as a GP surgery or a hospital department), to their eventual arrival at the pathology laboratory ready for processing and analysis.

Pathology laboratories can receive a huge number of biological samples per day, with the samples typically arriving in many different sizes and shapes of tubes, which are themselves contained within sample bags. Once the biological samples arrive at the pathology laboratory, the sample bags are torn open and discarded, and the tubes are then placed in storage racks, and then directed to the correct part of the pathology laboratory for analysis.



This can be inefficient and time consuming. The QHS biological sample transportation system improves the efficiency of the process, reducing costs and waste.

As well as being driven by QHS and Gateshead Health NHS Foundation Trust, the project draws upon the expertise of other local manufacturing partners including PragmatIc Limited, providing a holistic approach to the developmental process. The AHSN NENC has helped to implement the project by providing intellectual property protection support, funding to support the development of prototypes for trialling, and also commercialisation strategy support ■

AHSNs involved



Rightangled

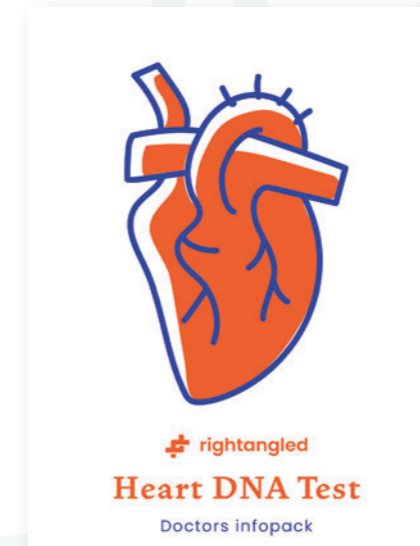
Heart DNA test

Hearth DNA Test is a genetic test kit for cardiovascular risks, drug responses and a risk evaluation for developing thrombosis and abnormal levels of lipids. A seed fund from WMAHSN supported Rightangled to develop an online platform through which Rightangled currently operates and the Heart DNA Test services can be offered.

The platform, which is now available in the UK and the USA enables partner practitioners to provide medical provision to patients by giving detailed context on their respective results, after taking into consideration the patient's self-reported Qrisk and JBS3 information which is supplied by the patient through their user journey.

Since launching, Rightangled has achieved registration with the Quality Care Commission, has been highly commended for the Economic Impact Award and listed in the Innovation Top 50 (both 2017.)

The growth of the company has seen them open office space in London, and shared office space in Texas due to a newly formed partnership, facilitated by the WMAHSN, with the Association of British Health Tech Industries and Texas Medical School.



If it wasn't for the WMAHSN it might have simply taken us way longer to reach the stage we are at today. The financial backing was paramount in prototyping the online platform and has greatly facilitated our route to the second round of investment, which we Crowdfunded online in late 2017.

Abdullah Sabyah
– CEO of Rightangled



95%

of users rate the product and service as 5/5 and would recommend the service to a friend or relative.

So far, this growth has enabled the creation of 6 internal jobs at the company, whilst also creating over 25 part-time jobs for Rightangled's partner clinicians. The company also managed to raise over £430,000 in investment through crowdfunding in 2017 ■

AHSNs involved



Sensyne Health

Healthcare tech company's expansion and Stock Exchange listing enabled by Oxford AHSN expertise



Chronic disease affects the lives of millions of people as well as accounting for around 70% of NHS costs. Digital health technologies offer the potential to make a huge difference for these people and save money for the NHS. This highly innovative partnership will ensure that there is a pathway from invention to commercialisation for digital health products created in Oxford that will deliver benefits to patients and reinvestment back into the University and the NHS Trust.

Lord Paul Drayson,
Chairman and CEO
of Sensyne Health

The Oxford-based firm Sensyne Health (formerly Drayson Health) uses artificial intelligence (AI) to develop medicines and aims to improve patient care through the analysis and commercialisation of real-world evidence from large databases of anonymised patient data in collaboration with NHS Trusts.

Sensyne Health has developed and licenced three products including GDM-Health, a remote monitoring system for women who develop diabetes during pregnancy. Gestational Diabetes Mellitus (GDM) affects 5%-16% of all pregnancies in the UK and can lead to complications for the mother and baby if blood glucose is not tightly controlled. Women require hospital visits every 1-2 weeks. The cost and burden of GDM for both the NHS and the patient are high. GDM-Health has been extensively evaluated and is associated with fewer pre-term births, less reliance on medication, a significant reduction in caesarean sections (27 per cent compared with 46 per cent for those keeping traditional paper diaries), high patient satisfaction, better compliance with blood glucose monitoring, fewer clinic visits and more efficient use of staff time. Sensyne Health signed a five-year strategic research agreement in July 2017 with the University of



Oxford and the Oxford University Hospitals NHS Foundation Trust. The collaboration creates a pathway for the commercial development of digital health innovations invented and clinically validated by the University and the Trust and invests £5m back into patient care and research via a shared equity and royalties' agreement with the University of Oxford and the Oxford University Hospitals NHS Foundation Trust. Similar agreements have followed with other NHS trusts.

The Oxford AHSN provided support – including helping to develop the commercial strategy and presenting at investor roadshows – in the run-up to and during Sensyne Health's stock market debut in August 2018 which raised £60m. This funding is supporting the company's expansion with 45 new jobs created by June 2019 ■

AHSNs involved



£60m
raised

Spearmark Health

Droplet Smart Mug

Spearmark Health has developed the Droplet Smart Mug, a device that reminds users when they have not had a drink after a period of time, to improve the hydration of people who may forget to drink throughout the day.

Dehydration is a concern, particularly in older people, due to the potential adverse effects on function and clinical outcome; common complications include constipation, pressure ulcers, urinary tract infections, and dizziness leading to falls and fractures. It can also lead to Acute Kidney Injury (AKI) which can lead to thousands of extra occupied bed days in hospital.

Wessex AHSN has supported Spearmark to understand the health and care market (what evidence is required to promote sales, as well as market research). They have also made introductions to partners and potential customers, supported with research projects (Hydrate

AHSNs involved



Support has led to **2,000** droplet systems being sold across partner organisations

at Home), introduced Spearmark to Bournemouth University for further research, and signposted to additional customers.

Droplet Smart Mugs also became one of the NIA supported products in 2018.

Support has led to 2,000 droplet systems being sold across partner organisations and at least 300 have been purchased through ongoing projects with the AHSN and NIA ■



Wessex AHSN has been extremely supportive in helping to gather evidence and by introducing Droplet across the region. I have asked for help with contacts across CCGs, local councils and hospitals and these have been made for me. The team has been instrumental in helping set up a key pilot with Southern Health involving hospitals and care homes as well as leading an evaluation on domiciliary care. All of these elements will help scale our hydration device across the region and ultimately across England. I have regular contact with multiple people across different functions and everyone gives me the support and insight I need including huge help with NHS Supply Chain with getting us onto a relevant framework. I couldn't ask for more!

Martin Withers,
Group Commercial Director,
Spearmark Health



Ufonia

AHSN support enables AI company Ufonia to leverage more than £700,000 of grant funding



Ufonia has worked closely with the Oxford AHSN since 2017 and are integral partners in two successful Innovate UK grant awards and providing insights into our business proposition in the feasibility study. We look forward to working together for the next two years to roll-out Ufonia to other providers.

Nick de Pennington,
CEO and Founder, Ufonia



Ufonia is a start-up based in Oxford University Innovation's Incubator applying artificial intelligence (AI) technologies to solve the biggest challenges in healthcare.

The company has developed an AI system, that monitors health and wellness through a conversation with a medical "chat bot". Ufonia can then provide autonomous, automated telephone-based clinical follow-up which is applicable to the patient's reported outcome measures in numerous clinical areas.

Oxford AHSN provided support to Ufonia as part of an Innovate UK Digital Health Technology Catalyst (DHTC) feasibility grant worth £75,000 and with the development of a business model. A second grant worth £20,000 was awarded to Ufonia under the Harwell HealthTec Cluster Proof of Concept award which then allowed the company to develop a test pilot version with a pharmaceutical

partner. This was supported by an additional £25,000 from the Science and Technology Facilities Council (STFC) to work with IBM.

Following successful completion of the feasibility grant, a follow-on grant was awarded by the DHTC for £665,000. This has allowed Ufonia to enter a launch and discovery phase running from April to September 2019 followed by a six month development phase. Deployment of the technology will take place from April to September 2020 and the case for wider dissemination will be built over the subsequent six months until April 2021.

As a result of this growth and expansion, Ufonia will use the Strategyzer canvases to generate seed funding to use towards taking on five part-time employees ■

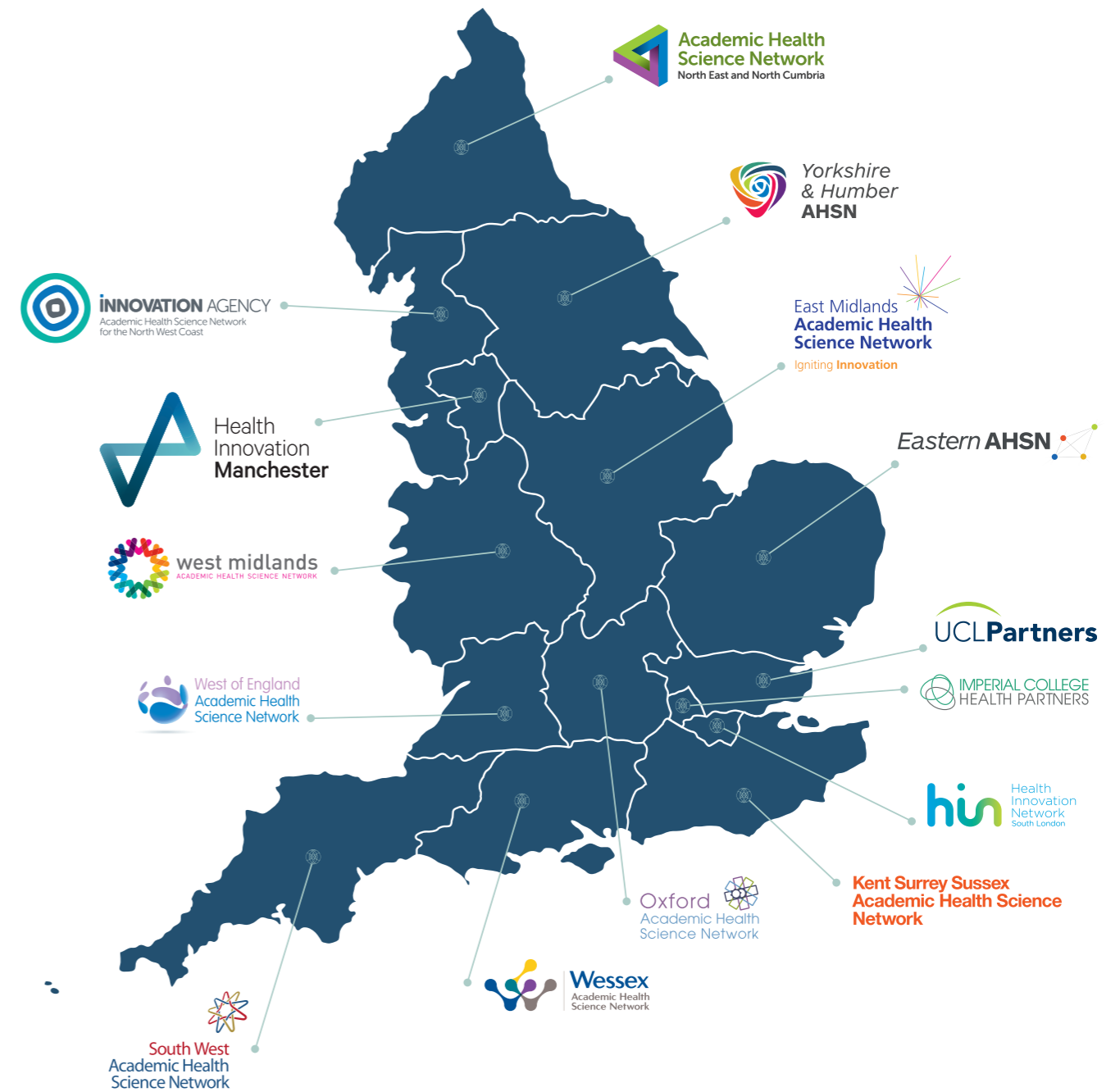
AHSNs involved



£700,000

raised

The AHSN Network



Find details for your regional AHSN at www.ahsnnetwork.com
For case studies on innovations supported by the AHSNs visit our Atlas of Solutions in Healthcare at atlas.ahsnnetwork.com

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