

THE INNOVATION PATHWAY:
HOW THE FOUR NORTHERN AHSNS MOBILISE
NHS EXPERTISE AND OPPORTUNITIES IN
SUPPORT OF ECONOMIC GROWTH

Each stage of The Innovation Pathway supports the route which companies need to take, ensuring that viable ideas are protected and developed, markets are assessed, and valuable evidence and clinical trial data is generated, in order to expedite the adoption and dissemination process and ultimately lead to success.

The major areas where the four Northern AHSNs can provide support under The Innovation Pathway, are set out below: -



CULTURE

All four Northern AHSNs have launched innovation schemes involving scouts or champions, who are like-minded individuals within the NHS that understand the challenges and cultural barriers to adoption. These Innovation Scouts or Champions assist the AHSNs with the pull-through of new technologies and services which address unmet needs for the benefit of both patients and the economy, providing support with the identification of new opportunities.



IDEAS, INTELLECTUAL PROPERTY AND COMMERCIALISATION

AHSNs seek to ensure that new ideas are effectively harvested, assessed and protected to maximise the chances of successful commercialisation of new products and services. Some of these AHSNs provide a direct intellectual property function, whilst others work with partners in this connection. All of the four Northern AHSNs place great importance on ensuring that only those ideas which present a real and valid opportunity for positively impacting upon patient care are progressed.



MARKETS

We are experts in supporting the adoption of new innovation, and providing market intelligence, as well as demonstrating a detailed understanding of the NHS marketplace. The AHSNs can assist with sourcing and making sense of, existing data to help inform decisions regarding commercialisation.

In addition, they can provide opportunities for the development of market access strategies in greater detail, as well as the identification of NHS commissioners and key opinion leaders, and the provision of bespoke workshops and other learning forums. Also of prime importance is assistance with prediction of future challenges and unmet needs.



FINANCE

Assistance is provided to help access various forms of financial support, to facilitate further development, commercialisation and aid the adoption of new ideas. This can encompass advice relating to Government based schemes, venture capital funds, regional funds, and the Small Business Research Initiative (SBRI) Healthcare Investment Fund, which is led by the fifteen regional AHSNs.



CLINICAL TRIALS, EVIDENCE AND HEALTH ECONOMICS

We work closely with our regional NIHR Clinical Research Networks and they can provide assistance with the clinical evaluation and establishment of an evidence base for the effectiveness of products and services in clinical practice. This can vary from observational or questionnaire based research through to randomised controlled trials. Further support with the clinical evaluation of new medical devices and diagnostic products can be provided, to validate claims of improved patient care, cost benefits and improved service quality.



BROKERING AND ADOPTION

The four Northern AHSNs can provide direct assistance with accelerating the widespread adoption of clinical innovations that have a strong evidence base and are market ready, to assist local transformation, improve patient outcomes and reduce costs. Further support is provided in terms of accessing innovation repositories, as well as connecting companies with key decision makers.



SUCCESS

We provide support along the entire Innovation Pathway, for innovations having a high potential for success in terms of local health needs and the support of economic growth. Success is demonstrated through the introduction of new products and services to improve patient care, increase productivity, have a positive impact upon economic growth, and celebrate of the positive contribution that innovation can make to the UK PLC.



RESCON TECHNOLOGIES LIMITED - LINCUS APP: HELPING PEOPLE LIVE HEALTHIER LIVES

Rescon has been given both finance and brokering support from The Innovation Agency to develop and launch 'Lincus', which is an App and web-based platform for improving self and shared care.

This innovation has spread from the West of England AHSN, where Rescon has been leading the technology work stream for the Diabetes Digital Coach NHS Internet of Things Test Bed. Lincus will be used in the West of England to support 12,000 users with diabetes, to help them self-manage their condition. With support from the Innovations With Impact Fund managed by The Innovation Agency, Lincus was commissioned by Liverpool City Council to be used as a tool to improve the health of people with mental health issues and learning disabilities in the wider city region.

"The Innovation Agency and their unique position within the North West Coast health and care ecosystem have helped Rescon in a number of ways that have resulted in strengthening of collaborations with local Government, the NHS and other SMEs. The Innovation Agency has also helped Rescon identify commercial opportunities that have led to funding and longer term contracts. Overall, this has solidified Rescon's position in the health and social care market. This in turn has secured current and future growth along with job creation and security. Thank you!" **Tom Dawson, Founding Director, Rescon Technologies Limited**



DAMIBU LIMITED

Liverpool based App developer Damibu developed an interactive dashboard display to guide medical teams when resuscitating patients in life threatening emergencies, in response to a Hackathon sponsored by The Innovation Agency.

Damibu were provided with both finance and brokering support by The Innovation Agency, with further support provided by Greater Manchester AHSN.

Damibu were also provided with assistance with their application to the European Institute of Innovation and Technology (EIT) Health Accelerator Fund, and they successfully secured £50,000 to develop their idea into a market ready product.

The company also received direct funding from the Transformation Through Innovation Fund managed by The Innovation Agency to implement an App, Common Approach To Children's Health – CATCH, in Halton, Merseyside. This implementation will tackle the priority areas of dental health, nutrition and healthy weight in 0-5 year olds.

"Our connection with The Innovation Agency is a core part of our business. As well as general support through EcoSystem events and newsletters, we've had specific support which resulted in gaining funding for what is going to be one of our key future products. I am continually surprised about how open and helpful all staff members are." **Dave Burrows, Managing Director, Damibu Limited**



THE INNOVATION PATHWAY

Developed by AHSN NENC



3D LIFEPRINTS UK LIMITED

3D printed anatomical models offer exciting opportunities to change the way clinicians plan and undertake surgical interventions by allowing them to examine problems before surgery and perform simulations, thereby shortening theatre time and saving costs. The Innovation Agency has supported an SME, 3D LifePrints, to deliver an innovative 3D anatomical printing service in Alder Hey Children's Hospital and they have provided finance totalling £25,000 through their Transformation Through Innovation Fund, with the aim of supporting its adoption in two further hospitals in Liverpool.

The four Northern AHSNs strive to create and nurture a culture of innovation by means of their Innovation Scout Network, and it was through this Network that the collaboration began, when an Innovation Scout from The Innovation Agency was introduced to the technology during a tour of Alder Hey Children's Hospital Innovation Hub.

"Thanks to the support of The Innovation Agency, we have maintained our existing workforce and hired an additional two staff members. Once the funding has been received from The Innovation Agency it will enable us to hire a further two staff to work in and around the Royal Liverpool and Liverpool Heart and Chest hospitals.

"We really appreciate the help and input. Selling to the NHS as an SME is an incredibly difficult task and we would not have got to where we are now without the support of The Innovation Agency." **Henry Pinchbeck, Chief Executive Officer, 3D LifePrints UK Limited**



ZILICO LIMITED

Cervical cancer is the twelfth most common cancer in women in the UK, with more than three-quarters of all new cases being diagnosed in women aged between 25 and 64 years old. It is the most common cancer in women aged below 35 years old.

The disease can be treated if diagnosed early, particularly at the pre-cancerous or cervical intra-epithelial neoplasia (CIN) stage. The current diagnostic stages of screening, colposcopy and biopsy are recognised as having scope for error in the laboratory. Zilico, a Sheffield based SME, has developed the ground breaking ZedScan System, which offers quicker and more accurate detection of CIN, delivering results in real time and enabling clinicians to improve patient management within the cervical cancer pathway.

Greater Manchester AHSN provided support with the procurement and adoption of the ZedScan System into the Sheffield Teaching Hospitals NHS Foundation Trust. Following this, NICE developed a Medtech Innovation Briefing to encourage the uptake of ZedScan as an innovative and promising technology that has the potential to improve patient health, as well as increasing NHS productivity.

"The Greater Manchester AHSN has been helping Zilico to better understand the procurement landscape within the NHS. The AHSN people have hands-on experience in this area and this has been invaluable" **Ameer Kothari, Chief Executive Officer, Zilico Limited.**



BRUIN BIOMETRICS LLC

A US based company, Bruin Biometrics, has developed a hand-held, portable, sub-epidermal moisture (SEM) scanner which helps healthcare professionals identify the early stages of pressure induced tissue damage, including pressure ulcers and deep tissue injuries.

The Academic Health Science Network for the North East and North Cumbria connected Bruin Biometrics to the NIHR Clinical Research Network North East and North Cumbria, and they provided brokering support to key clinical staff across the major acute hospitals in the region. These facilitated introductions have led to the implementation of Pressure Ulcer Prevention Programmes across the regional NHS Trusts, and the results of these studies have shown high levels of pressure ulcer reduction in patients.

As a result of the clinical evaluation support provided by the Academic Health Science Network for the North East and North Cumbria, Bruin Biometrics successfully secured venture capital funding of \$9 million for further development of the scanner.

"The AHSN for the North East and North Cumbria was extremely helpful in making helpful introductions to the NHS for Bruin Biometrics and this support has been invaluable" **Alan Hill who was acting UK Managing Director for Bruin Biometrics**



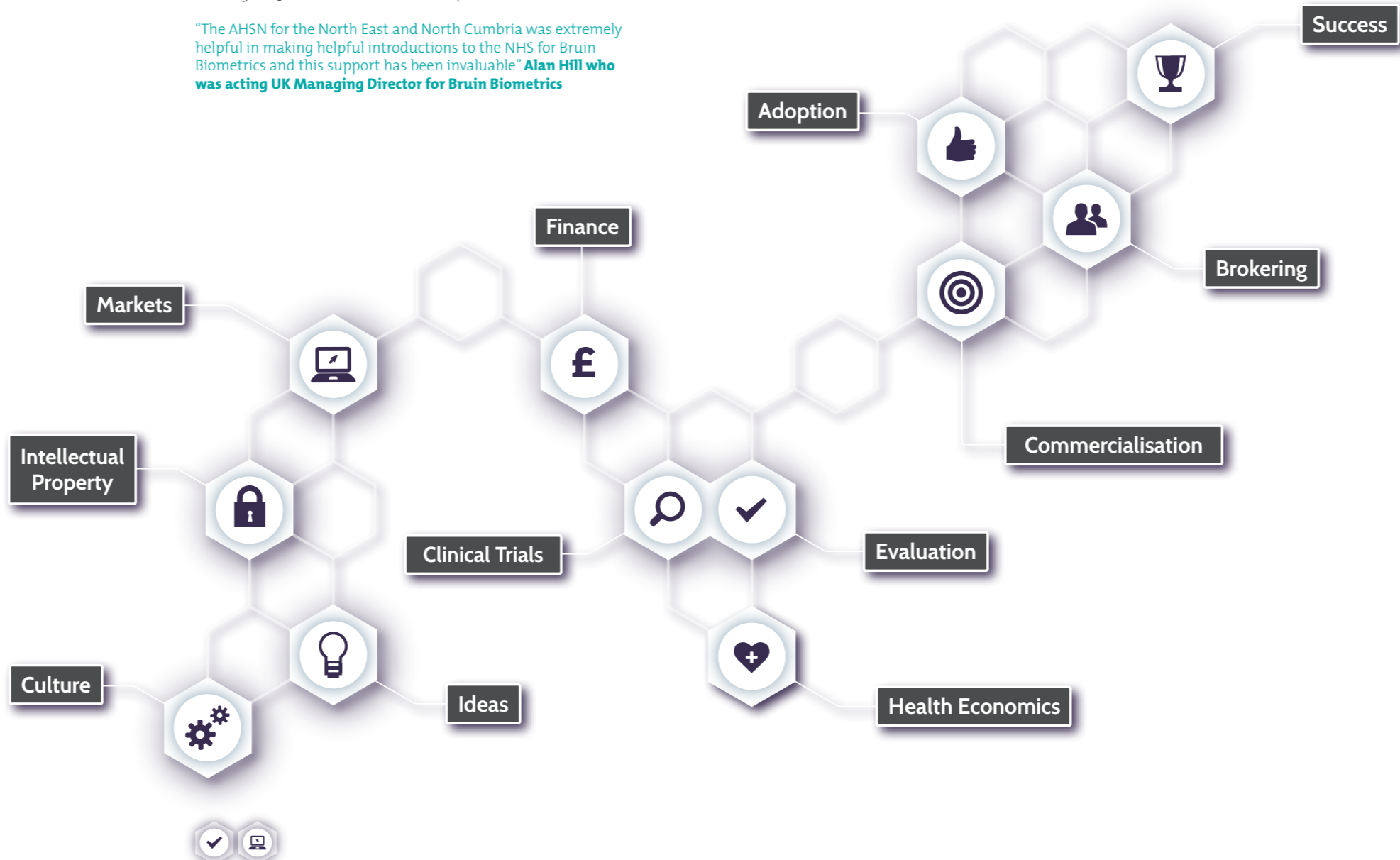
ELUCID MHEALTH LIMITED

eLucid mHealth are pioneers in the development of disruptive software technology, which has the capacity to deliver improved patient care within the healthcare system.

The company creates and builds medication adherence solutions, using common technology to turn static medicine dispensing products into active systems that promote patient adherence, improve safety, and aid recovery.

eLucid mHealth was one of nine SMEs selected to receive bespoke brokering and adoption support, as well as funding totalling £67,500 from the Technology Innovation Challenge Fund and the Corridor Growth Fund, leveraged via the Greater Manchester AHSN, which led to the creation of fifty jobs in the Greater Manchester region.

"The Technology Innovation Challenge Fund and Corridor Growth Fund demonstrate a level of commitment to fresh ideas and innovative solutions, and as a result we are delighted to be involved. The Greater Manchester AHSN is a facilitator and conduit for SMEs to gain access to a roadmap into the NHS. They've proved to be a successful partner" **Graham Howieson, Chief Executive Officer, eLucid mHealth Limited**



ALERE™ INC.

It can typically take in excess of 24 hours for clinicians to confirm the presence of influenza in a patient. However, the key to effective management of this condition is time, in order to facilitate the early administration of anti-viral medication and prevent transmission to others. Alere™, a rapid diagnostics company with locations internationally, have developed the Alere™ I Influenza A and B, a rapid point of care test which generates a diagnostic result within fifteen minutes. The NIHR Diagnostic Evidence Cooperative (DEC) in Newcastle Upon Tyne and The Newcastle Upon Tyne Hospitals NHS Foundation Trust, both of whom have been commissioned as delivery partners of The Innovation Pathway by the Academic Health Science Network for the North East and North Cumbria, joined forces with the Sheffield Teaching Hospitals NHS Foundation Trust to conduct a diagnostic accuracy study of the test.

"Working with the DEC gives access to world-leading expertise, enabling us to develop evidence beyond basic performance studies" **Alere**



SLÖ DRINKS PLC

Dysphagia, otherwise known as difficulty with swallowing, is a secondary symptom of many different medical conditions such as stroke and cancer. One in ten people over the age of fifty years old around the world live with dysphagia. For those affected, eating and drinking can be difficult, and patients may become dehydrated and malnourished as a consequence.

Slō Drinks, a Manchester based SME, has developed the first fortified milkshake designed to make sustenance more appealing and nutritious for dysphagia sufferers.

The Greater Manchester AHSN has provided funding totalling £40,000 from its Technology Innovation Challenge Fund to enable clinical evaluation of the Slō Milkshake, with the result that the milkshake is now available across the NHS. In particular, four hospitals in the Greater Manchester region, including the Manchester Royal Infirmary, have adopted the milkshake, which is now also available for patients to buy directly from the company, for use at home.

"The Greater Manchester AHSN provided financial support to Slō Drinks in September 2015 from the 'Technology Innovation Challenge' Fund, which enabled us to undertake a clinical evaluation of our Slō Milkshakes+ product.

This clinical evaluation of Slō Milkshakes+ was vital and as a result, Slō Milkshakes+ can now be prescribed by GPs, helping dysphagia patients maintain their oral nutritional intake safely whilst dramatically cutting the costs to the NHS. We couldn't have done it without the Greater Manchester AHSN!" **Mathew Done, Founder and Managing Director, Slō Drinks Plc**



MOLOGIC LIMITED

Currently, COPD sufferers are required to monitor their health at home and either access emergency services or call their GP when symptoms worsen. Recognising these symptoms can be difficult for the patient, and unnecessary visits to A and E may result.

Mologic, a company based in Bedfordshire, have developed 'Head Start', which is a urine-based test which enables COPD patients to monitor their condition at home and interpret the results within ten minutes.

The NIHR Diagnostic Evidence Cooperative (DEC) in Newcastle Upon Tyne, which is commissioned a delivery partner of The Innovation Pathway by the Academic Health Science Network for the North East and North Cumbria, is leading on the care pathway modelling work, leading to the use of the Head Start test to empower COPD patients to gain better understanding and control of their disease, thereby reducing the demand for urgent clinical care and the need for attendance at A and E.

"We are delighted to be working with the NIHR DEC in Newcastle Upon Tyne on this exciting project. The benefits of the relationship have already become clear, right from the start of our collaboration when we wrote the proposal as a joint exercise and, later, when we jointly presented our case to the SBRI 'Dragons Den' selection panel. Whilst Mologic brings the background science and product development skills to the project both the Academic Health Science Network for the North East and North Cumbria and the NIHR DEC have brought a great depth of knowledge and realistic insights in health economics, care pathways, as well as patient attitude and concerns. We recognise that it might be possible to get all of the science and technology right, whilst missing the point from the patient or healthcare provider aspects. The partnership with both the Academic Health Science Network for the North East and North Cumbria and the NIHR DEC has all the markings of a winning team." **Paul David, Chief Executive Officer and Co-founder, Mologic Limited**



NEOTRACT INC.

Benign Prostatic Hyperplasia (BPH) is a condition whereby an enlarged prostate can make it difficult for a male sufferer to pass urine. This can lead to urinary tract infections (UTIs) and in some cases, renal failure. Drugs for BPH tend to be poorly tolerated and can cause undesirable side effects. Surgical procedures involve cutting away or removing existing tissue, and this can lead to permanent side effects affecting sexual function.

Neotract, a company based in the US, are the manufacturers of UroLift®, which is a cost-effective and non-invasive treatment for BPH that is completed in less than 30 minutes, can prevent lengthy and unnecessary stays in hospital, and can target the problem area for patients without the need for cutting or removing tissue. Moreover, each patient can be treated as a day case, with no requirement for a hospital stay.

The Academic Health Science Network for the North East and North Cumbria helped Neotract to understand the NHS landscape and commissioning processes, as well as providing expert input into Neotract's communication materials for both Trusts and CCGs, brokering discussions with local NHS organisations, and assisting with the adoption of this beneficial procedure.

"We at NeoTract have been thrilled with the advice, guidance and open collaboration with the AHSN for the north East and North Cumbria. I would heartily recommend open engagement and sharing of industry and innovations emerging from the NHS. The AHSN for the North East and North Cumbria is truly a balanced organisation which improves patient outcomes, drives innovation and represents what is great about the NHS at its core." **Justin Hall, Vice President and General Manager EMEA, NeoTract Inc.**



DOCOCO LIMITED

Half of all GP appointments and 70% of hospital bed days are used by patients living with Long Term Conditions, of which there are 15 million in England alone.

Dococo, a company based in Leatherhead, developed ArtemisICS, which is a data driven population health intelligence platform facilitating earlier detection and intervention, with the aim of supporting community teams in the prevention of unnecessary attendance at A&E departments, as well as reducing in-patient stays. The platform enables patients to self manage as well as allowing commissioners to assess the needs of their local populations and identify gaps in care.

The Yorkshire and Humber AHSN has provided assistance with the development of routes to market and engagement across the Yorkshire and Humber region, as well as providing access to senior decision makers and key NHS partners. They also helped to identify a partner to manufacture for the Chinese market and helped Dococo gain Chinese FDA accreditation for their at home CarePortal device.

Moreover, the Platform is set to be piloted in three GP practices in the The Academic Health Science Network for the North East and North Cumbria

"Having someone to present to other innovators to share the challenges of accessing the NHS was incredibly important, the presentation given by Phil Goodwin of Dococo really demonstrated the importance of resilience and developing strong relationships." **Carl Greatrex, Head of Innovation Adoption, Yorkshire & Humber AHSN**



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The Innovation Pathway was conceived and implemented by the Academic Health Science Network for North East North Cumbria and subsequently adopted by the national AHSN Network

