

# Academic Health Science Networks



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# Welcome

*In May 2013, England became the first country in the world to create a nationwide system of Academic Health Science Networks (AHSNs). The AHSNs have a unique opportunity to align education, clinical research, informatics, innovation and healthcare delivery.*



There are now 15 AHSNs across England, each charged with the mission of improving patient and population health outcomes by translating research into practice, and developing and implementing integrated health care services. Simultaneously, they are driving service improvement, economic growth and wealth creation. AHSNs have also been established to deliver a step-change in the way healthcare providers identify, develop and adopt new technologies.

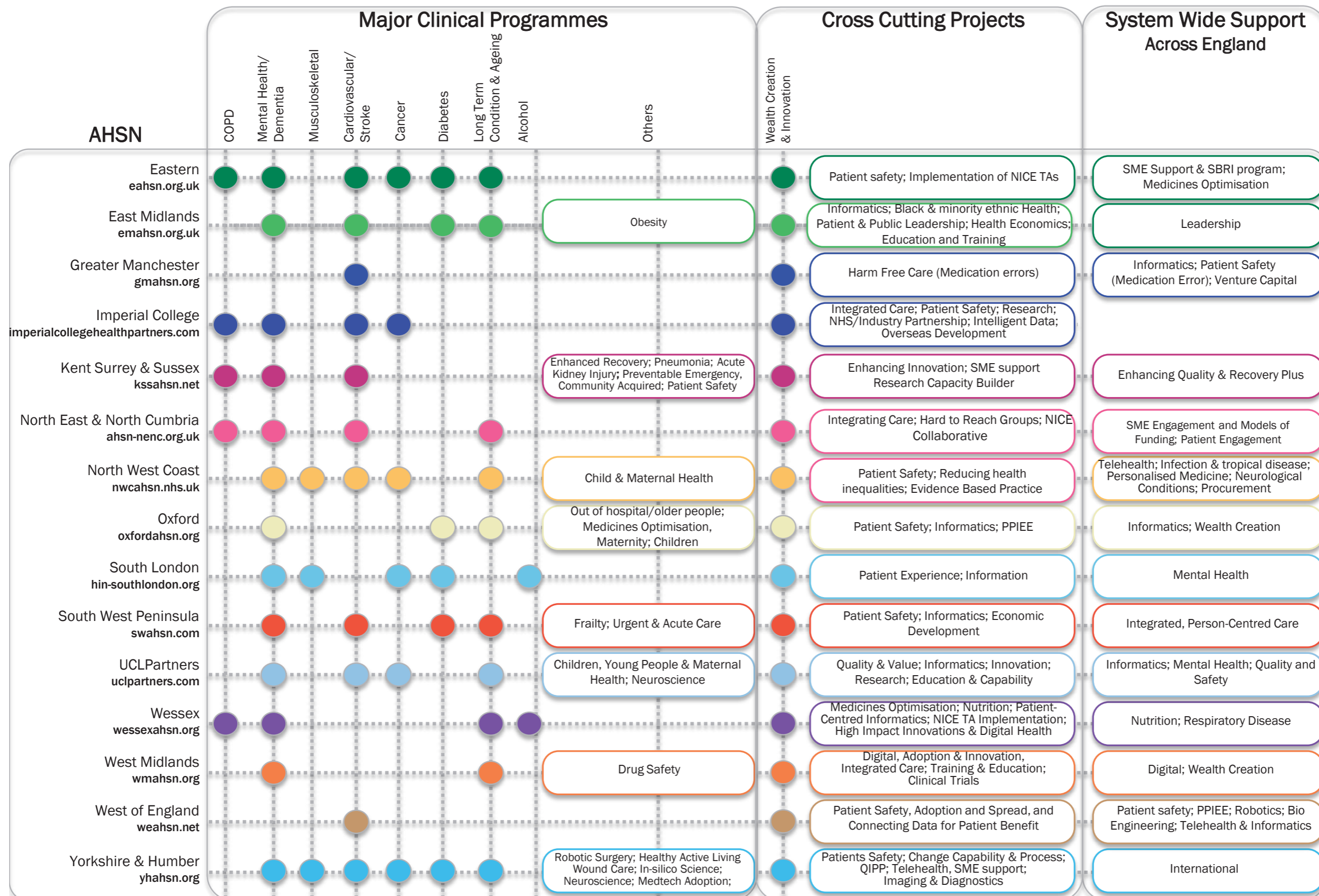
AHSNs have the potential to be generational leaders of fundamental change in the NHS. They are pioneering a new, innovative model designed to help close the gap between best practice and current practice, working across a range of sectors to co-develop solutions to joint challenges.

Although the networks are licensed and funded by NHS England for five years, they have been established as autonomous bio-enterprises. The relationship between NHS England and AHSNs is one of investor return, rather than traditional service provision and programme management. AHSNs put the NHS at the forefront of collaborative working for system-wide improvement in health outcomes.

Each of the 15 AHSNs has a five-year licence to deliver against four broad objectives:

- Focus on the needs of patients and local populations: support and work in partnership with commissioners and public health bodies to identify and address unmet health needs, whilst promoting health equality and best practice
- Build a culture of partnership and collaboration: promote inclusivity, partnership and collaboration to consider and address local, regional and national priorities
- Speed up adoption of innovation into practice to improve clinical outcomes and patient experience - support the identification and more rapid spread of research and innovation at pace and scale to improve patient care and local population health
- Create wealth through co-development, testing, evaluation and early adoption and spread of new products and services

However, these objectives are tailored by the AHSNs to meet local needs.



Information is of indicative areas of activity. For more detailed analysis please contact the relevant AHSNs directly

## East Midlands Academic Health Science Network

*Igniting innovation: bringing together the NHS, universities, industry and social care to transform the health of our 4.5m East Midlands residents and stimulate wealth creation.*



### Three key areas of focus are:

- Speed up adoption of innovation into practice, focusing on the big health problems affecting our region's 4.5m residents including frail older people, liver disease, stroke, obesity, diabetes and mental health
- Create and maintain partnerships regionally and nationally; sharing expertise and resources, supporting health organisations facing challenge and helping them to improve
- Stimulate wealth creation and growth of local small to medium size enterprises (SMEs) in healthcare, through co-development, testing, evaluation and early adoption and spread of new products and services.

**Transforming the health of 4.5m East Midlands residents and stimulating wealth creation**

## East Midlands Academic Health Science Network

Igniting **Innovation**

### Case study: SCARRED LIVER PROJECT – SAVING LIVES THROUGH INNOVATION

EMAHSN is supporting the roll-out of a region-wide project to detect liver disease at an early stage. The initiative has the potential to save thousands of lives – and many millions of pounds.

Deaths from liver disease increased by 25% between 2001 and 2009, the majority in patients aged below 70. Often there are no symptoms until there is irreversible scarring to the liver.

The partnership between EMAHSN, The University of Nottingham and Nottingham University Hospitals Trust, will be rolled out across the region over next three years following a successful pilot.

The initiative identifies patients with liver scarring at an earlier stage, improving use of existing diagnostic tests and developing new tests using novel approaches.

It will reduce deaths and invasive procedures through alternatives to traditional screening, including specialist blood tests and a portable scanner to measure liver stiffness. Tests are carried out at GP surgeries, rather than patients having to go into hospital.

Based on the pilot, projected national cost savings could be as much £74.6 million in the first year.

*Malcolm, service user:* "This pathway will save lives by putting prevention at the centre of patient care. I had no idea I had liver disease and if it had not been for my diabetic nurse putting me in touch with the pathway I would still be none the wiser – I can only say thank goodness I went on the programme."

*Matthew Jelpke, GP for the pilot area:* "We hosted the liver team to screen our patients who had risk factors. About a third had significant liver damage and 70% of these had normal blood tests. Traditional tests are poor discriminators of cirrhosis and using a scanner uncovered twice as many patients than we were aware of. This test should have a positive and major impact in detecting undiagnosed liver damage when it becomes more widely available."

[www.emahsn.org.uk](http://www.emahsn.org.uk)  
@EM\_AHSN

# Eastern Academic Health Science Network

*Accelerating innovation to improve health outcomes and create wealth by connecting our members and partners.*



## Three key areas of focus are:

1. Accelerating the commercialisation of innovation from within the NHS and facilitating cross NHS/industry partnerships e.g. overseeing the doubling of investment in the national Small Business Research Initiative.
2. Improving health outcomes by working jointly with the global pharmaceutical industry and leading the medicines optimisation agenda e.g. developing collaborations around long term conditions and hosting the leading national programme (PrescQIPP).
3. Accelerating service innovation across the system in areas of clinical priority by convening members to identify barriers and solutions, accelerating innovative clinical pathways and models of care e.g. developing a Patient Safety Collaborative.



## Case study: CLINICALLY LED INNOVATION:

The EAHSN identified seven areas with notable variation in clinical outcome or in the adoption of best practice: patient safety, stroke, diabetes, respiratory, cardiovascular, cancer, mental health and dementia. In each of these, clinicians drawn from across our geography came together to identify the evidence base and proposals for service innovation. The selected projects addressed a number of approaches for adoption and spread. Seventeen projects have been funded in 2014/15. Examples include:

- **Improving the uptake of NICE technology appraisals (TAs)**  
The EAHSN's Responsible Prescribing Group (RPG) is supporting commissioners and providers in understanding their adherence to NICE TAs by delivering a full evaluation of comparative activity and then identifying barriers to uptake and share best practice to overcome these. The project is an innovative collaboration between NICE, the ABPI and the EAHSN. Based on early feedback from stakeholders, the work achieved to date now offers an unparalleled level of intelligence around compliance against NICE TAs.
- **Minimising harm from medical errors by introducing a single hospital-based drug chart.** This project is examining the type of variation between prescription charts across NHS Trusts, to harmonise where appropriate and to re-design charts. It will take into account good human factors practice in the context of safe design.
- **Transforming community care for cancer** Working with Macmillan and the Strategic Clinical Network (SCN) through 7 pilot sites, the EAHSN is testing and evaluating local implementation of an evidence based model of care. Shifting from the traditional hospital-based care, to community based support through primary care cancer nurse/support workers. The project involves qualitative and quantitative metrics, and works in close conjunction with commissioners to provide intelligence about return on investment, and to support this sustainable innovation. Learning will also be drawn from benefits of aligning EAHSN and SCN capacity in delivering innovation and service improvement.

[www.eahsn.org](http://www.eahsn.org)  
[@theeahsn](https://twitter.com/theeahsn)

# Greater Manchester Academic Health Science Network

*To improve population health, create opportunity for wealth and employment through building on our assets and adopting effective methods for reliable implementation of agreed best practice in healthcare.*



## Three key areas of focus are:

- To support Greater Manchester's strategy for growth through enabling £1bn of wealth creation over 5 years, helping to create a healthier population with significantly increased wellbeing and a better educated and trained workforce.
- A whole system's approach to vascular disease with a view to a coordinated set of interventions to narrow the gap in amenable life years lost. To enable Greater Manchester to be the safest and most effective place for medication.
- Linking health and social care data in order to empower individuals, to improve treatments and the quality of care in order to deliver safer, more effective outcomes.

## Case study:

In the past, we relied on books, paper records and a largely reactionary approach to care. Enter Datawell – GM AHSN's innovative approach to developing world-class informatics. The ambition is to create a facility that enables individuals to take ownership and responsibility for their own wellbeing. They will be empowered to monitor and record their day-to-day wellness, treatments and symptoms. Linking this data with that held by health and social care professionals will create a wealth of data to not only effectively treat the individual, but also inform and shape services for the wider community and drive economic growth.

The project is designed to deliver 3 clinically agreed goals which are to provide information to support:

- 1) Direct care of the patient / client (enabling the transfer of clinically relevant data between care providers)
- 2) Commissioning (including pathway management)
- 3) Planning, research and commercialisation

By engaging with clinicians and senior leaders from CCGs, Acute Trusts, HEIs and key figures from Local Authorities, GM AHSN is working to develop a Data Federation. This federation will enable the creation of a platform that facilitates reliable and industrial implementation of cutting edge informatics and analysis solutions at scale across multiple localities and systems.

The AHSN ran a conference on 23rd January 2014, on "World Class Informatics" for all partner organisations. This was an opportunity to showcase the informatics journeys in exemplar GM localities, hear of successes from elsewhere and receive insight from informatics suppliers.

Following the conference there has been a census undertaken on all informatics systems being used across Social, Primary and Secondary Care and the identification of current plans to digitalise and integrate data in the 12 localities of GM AHSN. This has led to the creation of an Outline Business Case which demonstrates the feasibility of the programme. All localities will be asked to sign a commitment to join the federation and to accept and design the principles of data transfer and sharing. The design and cost of developing the platform and applications is subject to a full business case.

[www.gmahsn.org](http://www.gmahsn.org)  
[@GM\\_AHSN](https://twitter.com/GM_AHSN)

# Health Innovation Network South London

*The Health Innovation Network is improving health and wellbeing across South London through innovation, collaboration, education and wealth creation.*



## Three key areas of focus are:

- **Projects of public health importance**  
Our clinical priorities – diabetes, dementia, musculoskeletal, alcohol and cancer – are focused on meeting local health needs. Projects have been co-created with members and patients to promote self-care and encourage a “whole person” approach that integrates physical and mental health and social care needs
- **Wealth creation**  
We are working with industry partners to enhance value and improve health across our clinical areas
- **Working together to spread local innovation and initiatives**  
By working in partnership, we are driving innovation, facilitating the adoption of best practice and celebrating successes across our membership



## Case study: IMPROVING ACCESS TO HIGH QUALITY INSULIN PUMP THERAPY SERVICES

The Health Innovation Network has established a number of projects across our five clinical areas – diabetes, dementia, musculoskeletal, alcohol and cancer – that have been designed in collaboration with our members. One of our diabetes projects is focusing on improving self-management of insulin through increased uptake of insulin pump therapy.

Across the UK, 3.2 million people are diagnosed with diabetes; 10% of them have Type 1 where they are totally reliant on insulin treatment. Currently, only 6% of people with Type 1 diabetes receive pump therapy whereas NICE guidance suggests that 15% would benefit. This translates to 600 additional people in South London.

The quality of life improvements gained by this technology is immeasurable: fewer hypoglycaemic incidents gives people greater confidence, whilst reducing the fear of hypos and their impact on the person with diabetes and their wider social circle.

Our members expressed a strong interest in developing a project to increase the uptake of insulin pump therapy. The project was established with three core objectives:

1. Establish a best practice operating network to provide insulin pump therapy across South London in accordance with NICE guidelines
2. Establish best in class support services for people using insulin pump therapy
3. Improve outcomes for people who use insulin pumps and related technology

Through ongoing discussions and working groups, a provider survey was developed to explore current insulin pump uptake and service quality standards. This allowed us to create a useful baseline overview of the current service landscape. Additionally, a joint working agreement was established with the Association of British Healthcare Industries (ABHI) to involve insulin pump manufacturers in supporting the project's data and service improvement requirements. Moving forward in 2014-15 we are working to establish an improvement collaborative to deliver the service changes needed to increase the uptake of insulin pump therapy.

[www.hin-southlondon.org](http://www.hin-southlondon.org)  
@HINSouthLondon

We deliver demonstrable improvements in health and wealth for the people of North West London and beyond, through collaboration and innovation.



### Three key areas of focus are:

- Enabling discovery of new ideas and innovations, and then facilitating the adoption and diffusion of these across the NHS;
- Reducing variation and spreading best practice across healthcare to improve patient outcomes;
- Strengthening synergy between the NHS and industry for the benefit of patients and to create wealth for the local population, the NHS and the UK.

Our members have identified the priorities for North West London and determined where we can add most value and support transformational change for patients. These priorities have now been scoped into 11 projects which cut across both clinical and operational areas, and also address specific clinical needs.



### Case study:

We recently worked in partnership with three of our member trusts - the Royal Brompton and Harefield NHS Foundation Trust, West London Mental Health NHS Trust and West Middlesex University Hospital NHS Trust – to pilot a new innovative engagement method: crowdsourcing.

More than 11,000 NHS staff were invited to join a pioneering online community where a three week online workshop ran to gather their views and ideas, all without time consuming meetings. A simple, secure website enabled staff to share their ideas, comment on the ideas of others and vote the best to the top, collectively identifying and prioritising the ideas they felt as a crowd were best. People were able to do this at any time of the day, from any device that had an internet connection, making it truly inclusive and accessible for a large group of people.

One simple question was posed to the crowd: What would you stop, start or do differently to improve care for your patients?

Nearly 5,000 contributions were made during the three week online workshop covering a range of ideas from further support needed for IT infrastructures to introducing transferable training for clinicians. Some of the ideas suggested are already being implemented by the ICHP and the Trusts, such as standardising junior doctor induction to help improve patient safety. We are now reviewing the most popular ideas as voted by the crowd with a view to working with partners to take these forward where appropriate.

<http://imperialcollegehealthpartners.com>

@Ldn\_ICHP

*Towards consistently high quality care and a vibrant local economy*



## Kent Surrey Sussex Academic Health Science Network

### Three key areas of focus are:

#### Enhancing Research Capability

- Connects NHS, industry and academia to strengthen region-wide research infrastructure and catalyse new collaborations.

#### Enhancing Quality and Recovery

- An innovative, clinician-led, quality improvement programme. It has a track record of using large scale change methodology in clinical practice to deliver health benefits for patients and economic benefits for our community.

#### Enhancing Access to Innovation

- Accelerates the identification, development and adaptation of innovation with high patient and economic benefit. Supported by our Navigator Advisory Service providing advice and expert assistance for industry and other innovators.

### Case study:

#### REVOLUTIONISING DIABETIC RETINOPATHY PREVENTION AND TREATMENT

Current treatments for diabetic retinopathy – sight loss in patients with diabetes – can be invasive and expensive. Sight loss is a frequent occurrence for ageing patients with diabetes, a cohort of patients that is growing fast.

PolyPhotonix is an SME joint venture with CPI (Centre for Process Innovation), and new to working with the NHS. It has developed a sleep mask for the prevention and treatment of diabetic retinopathy. The mask is a non-invasive, monitored therapy for use in the patient's home. It aims to improve patients' quality of life, slow sight deterioration and be delivered at a price below the current treatment cost. It has the potential to offer better care at lower cost.

There is both market need for a better solution and supplier need for expertise to accelerate R&D, evaluation and adoption. Our members are supporting PolyPhotonix's Phase III multi-centre trial through principal investigators based at Frimley Park Hospital NHS Foundation Trust, Maidstone and Tunbridge Wells NHS Trust, and Brighton and Sussex University Hospitals NHS Trust.

Further development funding from the Technology Strategy Board's Small Business Research Initiative (SBRI Health Care Initiative) and support from KSS AHSN has helped PolyPhotonix learn from early engagement with clinicians and gain a better understanding of the NHS marketplace.

The company is now pursuing its route to market, building its evidence to demonstrate value for money and affordability as well as clinical efficacy. KSS AHSN convened healthcare commissioners and providers in North West Surrey to explore collaboration with PolyPhotonix and agree how best to collect value for money evidence ahead of a submission to NICE's MTEP programme to secure a 'case for adoption' endorsement.

*"We hope the impressive level of KSS AHSN support and pace of progress can continue into the new care pathway pilots, through NICE appraisal, and beyond into NHS adoption."*

**Martin Holland**, Operations Director, PolyPhotonix

[www.kssahsn.net](http://www.kssahsn.net)  
[@kssahsn](https://twitter.com/kssahsn)

# Academic Health Science Network for North East & North Cumbria

*Partnership working for the collation, dissemination and adoption of knowledge and innovations to drive wealth creation, improve healthcare and promote research participation.*

## Wealth Creation Project:

ROTEM equipment used by Hart Biologicals Ltd to reduce risk of blood clots



## Three key areas of focus are:

### Wealth Creation:

- £1m investment in SME partnerships
- £600k secured ERDF funding
- Tech transfer investment and Innovation Scout Scheme

### Health Improvement

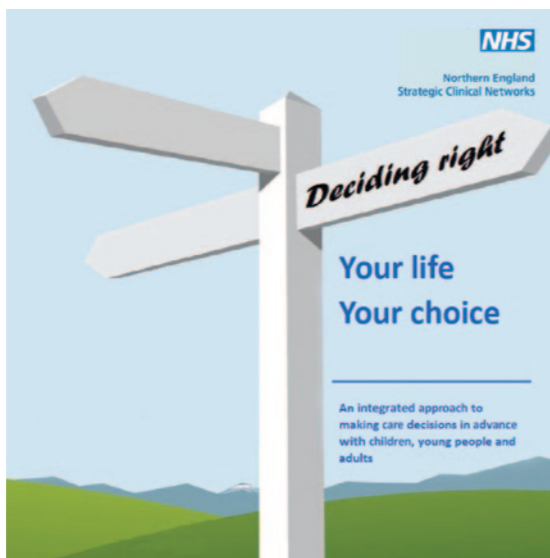
- £2m invested in over 20 healthcare projects - sourced from the healthcare community
- Large investment to improve quality of care, reduce emergency admissions and develop staff in Care Homes
- COPD pathway improvement - significant partnership funding from Pharma

### Partnership Working with:

- LETB - matched funding of £500k across multiple projects
- NIHR Clinical Research Network to improve Patient Involvement in clinical trials and to promote commercial studies
- LEPs - partnership proposal to promote open innovation in Healthcare

## Health Improvement

**Project:** Rolling out the Deciding Right programme across the North East and Cumbria



## Case study:

The Academic Health Science Network for the North East and North Cumbria (AHSN NENC) is dedicated to improving healthcare, driving wealth creation and promoting research participation within the region.

Working in partnership with core members, comprising the local NHS Trusts, Clinical Commissioning Groups, Universities and a wide range of other stakeholders including companies, the AHSN NENC works to ensure areas of best practice and innovation are identified and adopted regionally and nationally.

In order to improve health standards for patients and support local businesses involved in health technologies to create jobs and wealth in the region, the AHSN NENC has invested over £3m to support 45 projects with regional companies and Partner Organisations. These projects are specifically aimed at addressing identified regional healthcare issues such as COPD, Telehealth, Respiratory and End of Life care to improve care pathways and patient outcomes and will support the development of products and services that are important to the NHS.

For more information about the work of the AHSN for the North East and North Cumbria please visit [www.ahsn-nenc.org.uk](http://www.ahsn-nenc.org.uk)

Projects include:

1. A project with Newcastle upon Tyne Hospitals NHS Foundation Trust and NewGene to develop an adaptive regional genetic diagnostic testing service for Familial Hypercholesterolemia through the validation and optimisation of a "chip and sequence" approach to DNA diagnosis leading to the definition of a best practice model for a regional, long-term service delivery approach.
2. Investment into the VERITAS project will enable Hart Biologicals Limited to use ROTEM equipment to reduce and stratify the risk of preventable death or injury by venous thrombo embolism (VTE) in patients following total hip, knee replacements and pelvic fractures. The project will increase health outputs for patients at risk of VTE, reduce long-term morbidity whilst offering cost savings to the NHS through better patient management.

[www.ahsn-nenc.org.uk](http://www.ahsn-nenc.org.uk)

@AHSN\_NENC

## North West Coast Academic Health Science Network

Connecting healthcare, academia and industry to spread innovation across Cheshire, Merseyside, South Cumbria and Lancashire.



Consultant Paediatric Neurologist, Dr Ram Kumar  
and Dr Liz Mear, NWC AHSN CEO'



NORTH WEST COAST  
ACADEMIC HEALTH  
SCIENCE NETWORK

### Three key areas of focus are:

- Leading nationally on excellence in personalised medicine and procurement.
- Paving the way with technology-supported care and expansion of telehealth, telecare and telemedicine.
- Reducing health inequalities and improving the wealth of the region through economic investment and the creation of jobs.

### Case study:

#### **SUPPORTING FAMILIES FROM ACROSS THE UK TO ACCESS SPECIALIST HEALTHCARE ADVICE AND SUPPORT THROUGH VIDEO TECHNOLOGY**

The North West Coast Academic Health Science Network (NWC AHSN) is supporting a major project which will help families across the UK access expert advice and support from consultants at Alder Hey Children's Hospital through remote video monitoring.

The project is being implemented at three sites covered by Alder Hey Children's Hospital and will allow paediatric consultants to use video technology to monitor and assess children living with chronic neurological conditions at locations as far afield as Bangor and the Isle of Man.

The £50,000 programme is being funded and supported by the NWC AHSN. It will enable consultants at the specialist hospital to review and assess children with chronic conditions remotely through video link, saving valuable time and resources and making it easier for patients to access expert consultation.

The programme is due to be rolled out at sites including Southport and Ormskirk NHS Trust, Warrington and Halton Hospitals and the Isle of Man over the next nine months.

There is also potential for the scheme to be rolled out across other practice areas including Cardiology, Endocrinology and Psychiatry over the next two years.

Consultant Paediatric Neurologist, Dr Ram Kumar, who is spearheading the programme at Alder Hey said: "This scheme will allow families and their local paediatricians to easily access the expert support and advice of their specialist neurological specialist, without having to make long and tiring journeys."

Dr Liz Mear, NWC AHSN CEO, said: "It's crucial that the NHS taps into and harnesses innovative new technology to deliver the best results possible for both staff and users and we're delighted to be working with the fantastic team at Alder Hey to help make this vision a reality."

"Going forward, the NWC AHSN will use the lessons learnt from this project and make links with other NHS organisations, trusts and hospitals to ensure that healthcare improvements are replicated where possible and rolled out to other parts of the North West Coast and nationally to benefit patients from across all parts of the country."

[www.nwcahsn.nhs.uk](http://www.nwcahsn.nhs.uk)  
[@nwcahsn](https://twitter.com/nwcahsn)

## Oxford Academic Health Science Network

*We are bringing together the NHS, universities, business, patients and the public to promote best health for our population and prosperity for our region.*



### Three key areas of focus are:

- Supporting collaboration, research and innovation across the NHS, universities and business in our region which is home to a wealth of world-leading organisations involved in clinical care, life sciences and education.
- Building on existing strengths to deliver exemplary care, create the strongest life science cluster and create wealth.
- Speeding up the adoption of innovation in line with the needs of patients and populations – each year we will identify ten innovations which offer improved clinical outcomes and patient experience if adopted at pace and scale (see case study).



### Case study:

The Oxford AHSN has identified ten initial innovations where it will focus on speeding up adoption of innovation into practice leading to improved clinical outcomes and patient experience.

The ten innovations selected for 2014/15 following a rigorous evidence-based process include new devices or changes to processes and NICE Technology Appraisals to address unwarranted variation.

A prioritisation tool designed to facilitate a market assessment of the strategic priorities for providers and commissioners was developed by the Oxford AHSN. Cross-referencing was carried out against an initial long list of 200 innovations collected from national and local sources.

By measuring each innovation against the collective priorities for the area it was possible to identify projects that would meet the needs of local people and link to work that is already underway in organisations with the Oxford AHSN.

This process reduced the list to 30 potential innovation candidates. These were then scored against criteria based on net benefit and ease of implementation by the Oxford AHSN's Clinical Network leads with input from the Strategic Networks (cardiac, cancer, stroke), as well as clinical and management staff within provider organisations across the region.

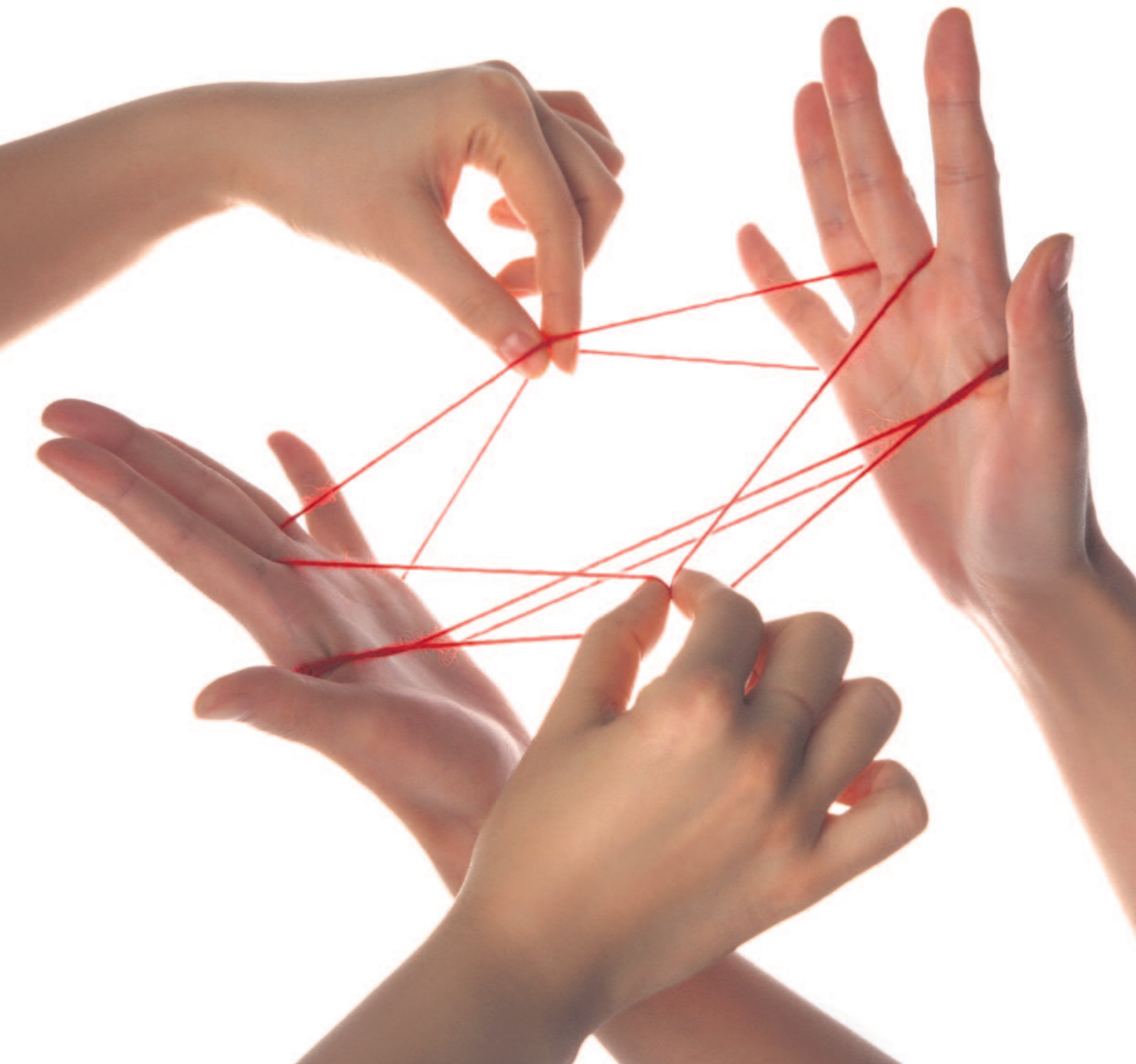
The list was further reduced to 16 and Strategic Outline Cases (SOCs) produced for each from which the successful innovation candidates were selected.

Following approval by the Oxford AHSN Board a Clinical Innovation Oversight Group has been formed. Further engagement is taking place with clinicians and managers at the provider organisations to agree local business plans.

Implementation will be closely monitored throughout 2014/15.

Meanwhile the process is already under way to identify the next top ten innovation candidates for implementation in 2015/16.

[www.OxfordAHSN.org](http://www.OxfordAHSN.org)  
[@OxfordAHSN](https://twitter.com/OxfordAHSN)



**The SW AHSN and its members are aligned behind a shared, three-fold ambition:**

- To identify and spread innovation and best practice at pace.
- To create a step change in wealth creation and economic productivity.
- To become a UK and global exemplar of research participation and discovery.

**Case study:  
WORKING COLLABORATIVELY TO REDUCE  
STROKE-RELATED DISABILITY:**

**Accelerating the real-world implementation of clinical evidence:**

The South West Academic Health Science Network (SW AHSN) is working collaboratively to reduce stroke-related disability by accelerating the real-world implementation of clinical evidence for thrombolysis (clot-busting drugs) after acute ischaemic stroke.

Stroke patients are most likely to recover with minimal disability, if thrombolysis is received within 90 minutes from the onset of stroke. Recovering with minimal disability means a better quality of life for the patient, reducing the burden on carers and the long-term costs to health and social services.

The award-winning precursor work of the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care South West Peninsula (also known as PenCLAHRC), on the emergency stroke pathway at the Royal Devon and Exeter Hospital, has already achieved a thrombolysis rate of 17% (2013) – matching delivery rates for large urban hyper-acute centres.

**A model for collaborative working:**

The SW AHSN, PenCLAHRC, the South Western Ambulance NHS Foundation Trust, the South West Cardiovascular Strategic Clinical Network and acute providers are working collaboratively, building on existing work and expertise, to reduce variation and improve thrombolysis rates across the South West.

**The SW AHSN will work with providers to roll-out the treatment delivery pathway modelled by PenCLAHRC. It is anticipated that 600 stroke patients will be treated annually – exceeding the Department of Health's national target by over 50%. This will be achieved by:**

- Using simulation models to better understand in-hospital delays and further explore the positive impact of care re-organisation.
- Identifying barriers to and facilitators of change within a Trust, through the model development process.

The implementation will be led by a Service Improvement Manager, working with PenCLAHRC's operational modelling team, local Trust physicians, managers and data analysts to ensure the delivery of effective plans for change.

[www.swahsn.com](http://www.swahsn.com)

*Delivering partnership solutions to major challenges in health and care  
- Bringing together leaders in cutting-edge research and innovation to  
create measurable health benefits for patients and populations.*



#### Our guiding principles:

- **Improving connectivity:** Enabling links between the partnership's designations (AHSC, CRN, AHSN, CLAHRC and Education Provider), supporting the translation of research into real benefits for patients and populations.
- **Harnessing the power of informatics:** Connecting the strengths of the partnership and supporting partners to create a model of innovation that will save lives, transform services for patients and create value to the organisations.
- **Supporting a dedicated workforce:** Creating new models of collaboration to enhance the opportunities for supported delivery, peer learning and leadership development for our dedicated workforce. Leading to a more sustainable and collaborative system.

#### Case study: REDUCING IN-HOSPITAL CARDIAC ARRESTS

##### Aim

A collaborative, consisting of nursing and medical directors as well as resus teams and ICU staff, set itself a bold vision of reducing avoidable in-hospital cardiac arrests by 50% versus an initial baseline in each trust, by focusing on a few key interventions and training ward staff in their reliable delivery.

##### Facing the challenge

When the project started in 2010, it covered five NHS trusts in north central London. Since the establishment of the AHSN, the initiative has expanded to 16 acute trusts across the whole region, facilitated by UCLPartners. The project encouraged local ownership; each trust implemented solutions tailored to local circumstances, adapting what had worked elsewhere.

Using the IHI Model for Improvement, the team mapped the 'pathway' of deterioration, agreed common drivers, and defined metrics to measure each driver. The team hypothesised that by achieving higher reliability on five key interventions, cardiac arrests would fall.

Teams run repeated PDSA ("plan, do, study, act") cycles to test and reflect on changes designed to improve reliability. Great Ormond Street Hospital's Transformation Team has played a key role in providing the analytical infrastructure to feedback performance to teams and enabling rigorous measurement and use of performance information.

Project teams attend learning sets every two months to discuss the successes achieved and challenges faced by individual trusts in the programme. These meetings are hosted in rotation at each trust.

The deteriorating patient initiative uses a secure social networking platform for team members to gain updates on the project at a trust and partnership level, to share documents and feedback comments and issues.

##### Outcomes

Improvements are seen in both clinical process/inputs to care and in outcomes (cardiac arrests) across participating trusts. Data demonstrates increased reliability of recognising the signs of deterioration by wards and departments; increasingly prompt referral/escalation to senior help; improving transfer times to ICU (where appropriate). In some trusts this had led to significant decreases in arrest rates - most successfully at UCLH which has demonstrated a sustained decrease of over 50% of its previous rates.

Success will see similar gains across all 16 trusts to those seen in the original five; taking arrests down still further in all trusts, linking arrest reduction work to appropriate use of treatment escalation and supporting teams working in other areas to benefit from the systematic application of improvement methods.

# Wessex Academic Health Science Network

*Bringing discovery and innovation into the Wessex health system so that the population has better health and benefits from a thriving health innovation sector.*



### Three key areas of focus are:

- Creating whole system quality improvement programmes (focusing initially on respiratory and dementia), implementing NICE Technology Appraisals and timely delivery of High Impact Innovations
- Improving health and life chances through better nutrition, reducing alcohol misuse, and optimising medicines/eliminating waste
- Supporting joint product development initiatives with local businesses and building Life Science research/industry clusters.



IMPROVING HEALTH THROUGH INNOVATION

### Case study: INSTITUTE FOR ORTHOPAEDIC RESEARCH & INNOVATION

An Institute for Orthopaedic Research & Innovation is being created at Bournemouth University. Accelerator Funds from Wessex AHSN and matched funding from Bournemouth University are helping to shape the Institute and start multiple research and education projects concurrently. The new Institute will:

- be supported by all Dorset NHS, leisure and local authority organisations
- collaborate with national and international partners including industry and universities
- work with all local NHS provider and commissioning organisations
- achieve significant health and wealth gains in Wessex and beyond, already attracting over £300k of funding.

### Funding has kickstarted progress in five key areas:

- A medical device trial to study a new type of hip replacement in 200 patients with degenerative hip disease. Accelerator funding helped to initiate this trial, securing industry research funding of over £107k.
- A medical device trial to study mid-term results for a type of hip replacement. 123 patients will be involved in this trial, which will attract £50k of industry funding.
- A medical device trial to study a novel neuromuscular electro stimulation device designed to increase blood flow and promote the reduction of swelling following lower limb injury. £50k of industry funding has been secured, and the study will review 24 patients.
- An educational consultancy project to develop an online Enhanced Recovery Awareness Tool for staff in NHS Scotland, securing £10k funding.
- The development of a proposal to the NIHR RFPB funding stream for: A randomised controlled trial to evaluate the effectiveness of a cycling and education treatment intervention for patients with hip osteoarthritis.

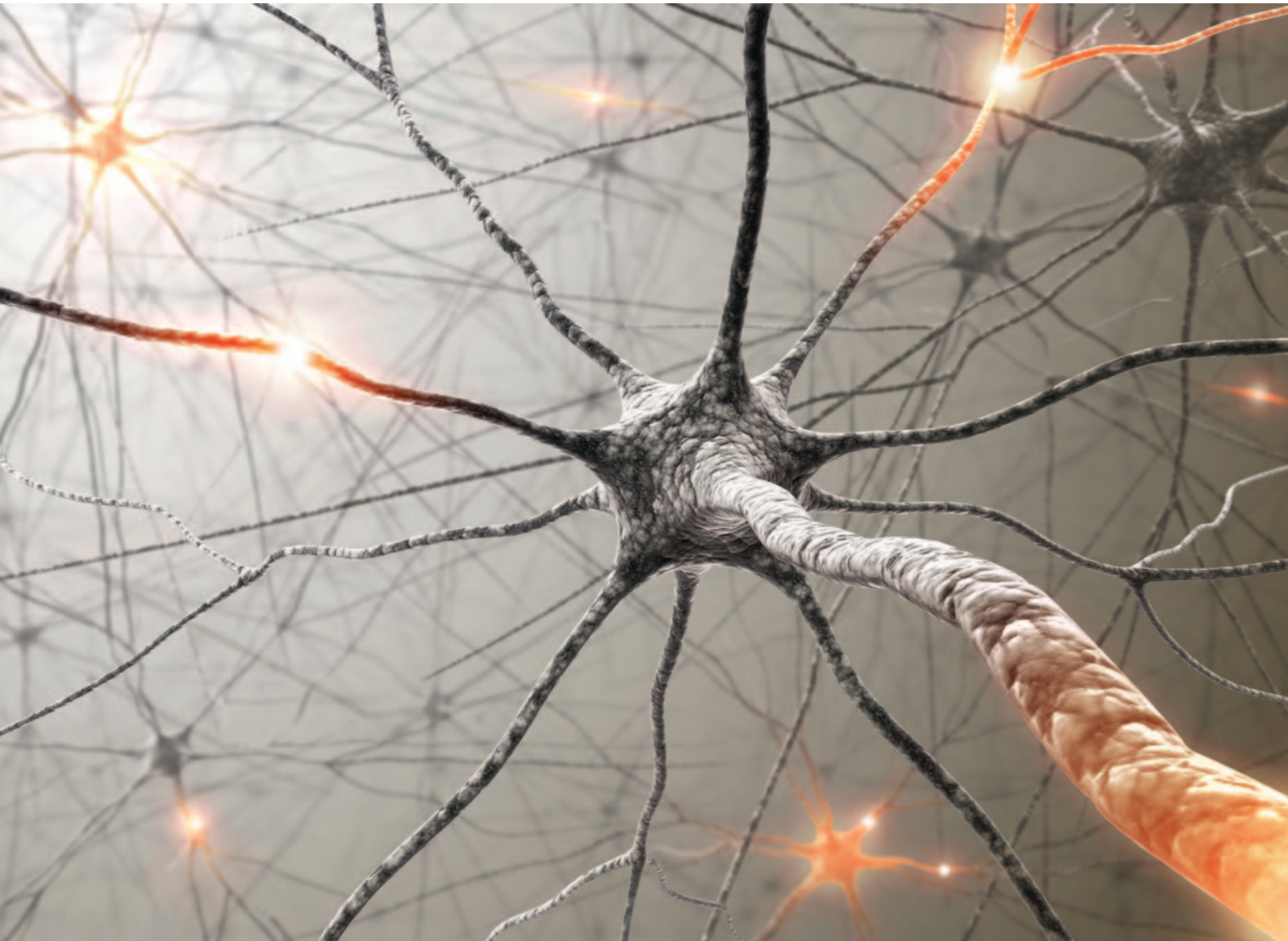
*"The funding and support of the Wessex AHSN has provided us with the additional capacity required in order for us to accelerate our plans to establish an institute for orthopaedic research and innovation."*

**Robert Middleton** – Consultant Orthopaedic Surgeon, The Royal Bournemouth Hospital, and Visiting Fellow, Centre for Postgraduate Research and Education, Bournemouth University.

[www.wessexahsn.org.uk](http://www.wessexahsn.org.uk)  
@WessexAHSN

# West Midlands Academic Health Science Network

*Improving health and creating wealth*



west midlands  
ACADEMIC HEALTH SCIENCE NETWORK

## Three key areas of focus are: **Case study:**

- Our initial priorities of mental health, drug safety and long-term conditions, for which we concentrate and support innovation that will enhance services and improve outcomes.
- Supporting improvements in clinical and academic work through networking and connecting these with enabling functions such as digital support, education, training or clinical trials.
- Attracting inward investment to support the growth and spread of innovation, research and education that lead to improved care and patient experience.

West Midlands AHSN supported a business proposal from Warwick University's Institute for Digital Health (IDH) to establish a regional Health Informatics Network (WMHIN). The aim of this network is to enable and promote collaboration between clinicians, companies, informatics professionals and the wider health community to share knowledge and information relating to digital health in its widest sense. This network has now been established, with a website ([www.wmhin.org](http://www.wmhin.org)), a twitter feed (@wmhinet) and a steering group.

The steering group has met twice and includes commercial companies, NHS IT and information specialists, clinicians with an interest in digitally enabled healthcare and patient organisations.

Birmingham & Solihull Mental Health Foundation NHS Trust (BSMHFT) asked one of the AHSN head of programmes for advice on their ambition to trial video consultations for some routine appointments. They had encountered technical and governance issues that were delaying their attempts. The head of programmes posted an enquiry on the WMHIN web forum seeking people who either had already made progress in this area or who would be interested in collaborating with BSMHFT to overcome some of the challenges.

### **Outcome**

Within 48 hours of posting the enquiry, two responses were received; one from the director of a local CSU who is supporting NHS partners in Warwickshire to explore video consultations, and one from a diabetes consultant whose clinic in Sandwell Hospital already provides video consultations as an option for patients.

These two individuals have now agreed to work with BSMHFT to help them deliver this innovation and to develop a set of 'how to' guides for other NHS partners.

[www.wmahsn.org](http://www.wmahsn.org)  
[@wmahsn](https://twitter.com/wmahsn)

## West of England Academic Health Science Network

*Our vision is to be a vibrant and diverse network of partners committed to equality and excellence, which will accelerate the spread of innovative, evidence-based practice to improve health and care quality*



[www.weahsn.net](http://www.weahsn.net)



### Three key areas of focus are: **Case study: Connecting data for patient benefit**

**Connecting** – we will strengthen existing relationships across the network, extend networks to be fully inclusive and forge new relationships with diverse partners to achieve our vision.

**Collaborative** – in pursuit of excellence in care quality and health outcomes, we will collaborate to attain our strategic goals, respecting the unique contribution of each partner to achieve our vision.

**Catalytic** – we will accelerate research, innovation and improvement by creating optimal conditions for change (removing hurdles, simplifying structures and processes, creating incentives and growing capability).

**Challenging** – we commit to openness, transparency and constructive challenge. We will be accountable to one another for delivery of specific objectives and our vision.

We exist to connect, collaborate, catalyse and challenge to introduce innovative thinking and solutions into the NHS. Here you can read about some of the ways that the projects directly supported and promoted by us are beginning to positively affect the health of patients.

#### 3 Key Priorities

*Patient safety*

*Connecting data for patient benefit*

*Putting evidence into practice*

#### *'Integrating information to benefit patients'*

For busy clinicians, having the most up-to-date and reliable information on the patient in front of them is essential in providing the most appropriate treatment.

When moving between care settings like a pharmacy, GP, hospital or being treated by social carers, your medical information – including details such as allergies and medical care history – is stored on a variety of different systems, not all of which are shared.

Rather than replacing any existing systems, Connecting Data for Patient Benefit is about pulling information through from a variety of sources, and displaying to the medical professional a personalised and up-to-date record of your treatment and medical conditions.

With the patient or client's permission, their clinician can see important information about a patient's condition. The system itself has been designed to ensure that the information is used in a secure way and is not inappropriately aggregated or distributed to ensure that the individual's personal data is protected at all times.

During 2013-14, the system has been implemented across Bristol, North Somerset and South Gloucestershire serving a population of approximately 900,000 people. It means that a social worker can see when a client has been discharged from hospital and what care is being provided by community services. It means that an A&E consultant can check a person's allergies and see their GP's record of their main diagnosis and treatment history. When patients are admitted to hospital the pharmacist will be able to see an accurate record of their medication, which is invaluable when the patient's GP surgery is closed.

Health communities in Gloucestershire, Somerset and Bath and North East Somerset are each working on undertaking feasibility studies during 2014-15 on how to join their clinical data systems to improve patient safety and care. Exchanging learning across the West of England means that innovative practice can spread more rapidly.

For patients, the system is already improving the way that they are treated by allowing the clinician to prescribe the most appropriate drugs, being aware of any allergies and having access to your complete medical and care history.

The system is well-used and respected by clinicians from across the healthcare system. The project's success has been recognised nationally as an exemplar of innovative use of digital technology and has been the recipient of additional funding from NHS England as part of their 'Safer Hospitals, Safer Wards' programme.

# Yorkshire & Humber Academic Health Science Network

*To create an impact where it matters by bringing together regional NHS organisations, leading universities and businesses to bring significant, tangible improvements to patient care.*



### Three key areas of focus are:

- Improve population health** through innovative workplace health promotion schemes such as our Workplace Wellbeing Programme, providing tailored lifestyle support, boosting fitness, healthy eating and wellbeing to NHS employees
- Transform healthcare** through the establishment of an Improvement Academy and an Integrated Intelligence and Information resource to reduce variations in clinical practice and improve care
- Create wealth** With a collective annual budget in the region of £12bn, the Yorkshire and Humber NHS deals with thousands of national and international companies. Our vision is to work more closely with local businesses to develop NHS ideas locally, creating wealth and prosperity for the region.



### Case study: REDUCING INPATIENT FALLS

Preventing hospital falls is one of the ten key patient safety areas NHS Trusts should be seeking to address.

St James's University Hospital were one of five hospitals across the region invited to take part in the Patient Safety Initiative with the Yorkshire and Humber Academic Health Science Network's Improvement Academy. The Academy works in partnership with frontline teams, recognising the clinical expertise of the teams but providing expert knowledge around the evidence and tools to support safety improvements.

Frontline staff at the hospital chose to work on reducing inpatient falls by developing practical sustainable interventions, (in addition to the falls care plan) led by the multiprofessional staff on the four acute wards, sharing and learning from each other, with weekly updates and support from experts within the Academy.

Interventions tested so far in the project, commencing October 2013 include:

- daily falls safety briefing
- toileting prompts pre-meals
- high risk of falling signage
- sharing results and lessons through newsletters, run charts and visual displays of "days since last fall"
- education of staff
- equipment availability
- dedicated leaders for improvement on each ward

The impact of this collaboration is already showing promising results. Weekly run charts are showing a significant drop in falls since the project started (with four fewer falls per week since October). Feedback from staff has been very positive and teams feel empowered to make sustained improvements. There is a sense that the culture among teams is changing, everyone can make a difference and contribute to falls prevention.

Our health economics evaluation is showing a very strong return on investment for this work, with the costs of the programme so far amounting to £38,704 and savings from the reduction in falls to date at £185,690. This is a return of investment of 388%.

[www.yhahsn.org.uk](http://www.yhahsn.org.uk)  
@AHSN\_YandH

