



INNOVATION AGENCY

Academic Health Science Network
for the North West Coast

Business Plan

2018-2020



*TheAHSN*Network



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SECTION 1: INTRODUCTION

National context

Academic Health Science Networks (AHSNs) were established by NHS England in 2013 to deliver a step-change in the way the NHS identifies, develops, adopts and spreads innovation. AHSNs are predicated on partnership working between the NHS, local government, academia, the private sector, voluntary bodies and other external partners. In the first licence period, the Innovation Agency (the AHSN for the North West Coast), has delivered on its promise to enable improvements in clinical outcomes, deliver better patient experience, drive down the cost of care through innovation and stimulate economic growth.

Since the establishment of AHSNs, NHS England has published its strategy, the Five Year Forward View. The Innovation Agency adapted its delivery plan and associated staffing to support partners to adopt innovations that will help achieve this plan.

Collectively AHSNs have shown that they can enable national innovation platforms, such as the Small Business Research Initiative (SBRI) for Healthcare, the Patient Safety Collaborative and the National Innovation Accelerator programmes, to drive co-creation, implementation and adoption at a regional and national level. Confidence in AHSNs delivering these programmes has led to the Office for Life Sciences (OLS) commissioning AHSNs to deliver Innovation Exchanges, which will support the Accelerated Access Collaborative.

In advance of the re-licensing process, the Innovation Agency worked with its partners to establish five work streams, which cover the content of the nine Innovation National Networks (INNs) and these are core to the business of the organisation. Our Partnership Board has input considerably to the content of our business plan for the next two years. A full list of our Board partners covering Sustainability and Transformation Partnerships (STPs), NHS providers, Clinical Commissioning Groups (CCGs), Local Enterprise Partnerships (LEPs), trade bodies (Association of British Health Industries, Tech UK and Association of British Pharmaceutical Industries), voluntary sector and academic institutions involved in planning our priorities is provided in the Appendix 2.

Because of this cross-partner deliberation this business plan identifies areas in which we can have the most impact in accelerating the pace and reach of innovation. Board members regularly review our plans and progress against our goals and an annual stakeholders' workshop brings together all key partners to agree programmes of work for the coming years.

Local context

We are addressing major health and care challenges in the region; supporting the Lancashire and Cumbria Innovation Alliance Test Bed, five vanguards, one emerging Integrated Care Organisation (Fylde Coast), two Healthy New Town sites, four Global Digital Exemplar Trusts and the two Sustainability and Transformation Partnerships (Integrated Care Systems) in developing plans to deliver NHS England's vision for effective and efficient health for the region's 4.1m citizens. We are working with the Liverpool City Region Combined Authority, our four LEPs, the Northern Health Science Alliance, Well North and other regional partners to deliver the goals of the UK Industrial Strategy in our region.

Looking forward towards the growing focus on efficiency and prevention we are engaging and supporting voluntary and wider public-sector organisations to understand and contribute to strategic health outcomes.

Our partners and system leaders have expressed their support and commitment to helping us deliver our Business Plan; their comments can be read in Appendix 4.

The Innovation Agency has a business support team and a transformation team and by using their skills and expertise, we will continue to deliver a three-year programme of support, part funded by the EU, between 2016 and 2019. Six staff have joined the Innovation Agency commercial team, and regional delivery partners have recruited a further six staff, to help 282 SMEs access the healthcare market.

Key outputs from these programmes by 2019 include:

- 150 new jobs in SMEs
- 34 innovations developed
- 74 new products and services from SMEs

Our impacts are built upon the collaborative nature of the work of the Innovation Agency and mean that we work with many strategic partners who are mentioned in this plan. For example, across the last four years with £1m investment we have enabled £100 million of additional funding to build innovation hubs and business incubators across the region, working with businesses, local authorities, NHS and academia so that life science small and medium enterprises (SMEs) can locate in the region, develop products, create jobs and improve health. In 2017 our jointly funded post with the Liverpool City Region Local Enterprise Partnership (LEP) has led to a business investment of £40 million into the region in vaccine manufacturing, creating 100 jobs and a £35m proton therapy centre with an additional £1m research funding.

Following the launch of the UK Industrial Strategy, we will continue to work with our four regional LEPs and the Northern Health Science Alliance (NHSA) building on the recent Science and Innovation Audits covering infection, high performance computing / cognitive computing, health data and precision medicine.

Our work and collaboration with our LEPs has contributed to the creation of over 200 additional jobs and over £200m investment in the region and we have been recognised with multiple awards for our innovative approach to working with partners, including the Bionow Business Services Award 2017.

The Innovation Agency's track record is recognised nationally. The national campaign to prevent strokes by identifying atrial fibrillation (AF) was initiated in our region in 2013/14 and has since been adapted and adopted across all AHSNs. The work attracted three awards from the AF Association in 2017 and inclusion in their annual Healthcare Pioneers publication.

Our plan focuses on five goals, which are the result of consultation with our partners and key stakeholders, informed by the needs of our region and matched with our capabilities and wider networks. Table 1 (Section 2) outlines how the INNs map to each goal.

These goals are:

1. Support system transformation through the adoption of innovations that enhance quality and value
2. Deliver an Innovation Exchange to accelerate innovation into practice and drive economic growth
3. Develop and connect the digital health and care sector
4. Deliver the NHS Improvement Patient Safety Collaborative programme
5. Collaborate with the national AHSN Network

These goals have supported work across the North West Coast region and are reflected in the region's STPs' plans. As we enter the next licence period, our commitment to meeting the needs of our stakeholders and realising our vision remain absolute.



Gideon Ben-Tovim OBE
Chair, Innovation Agency



Dr. Liz Mear
Chief Executive, Innovation Agency

Our values

In addition to adopting the values of the NHS, we have developed a set of values on which our Innovation Agency culture is based:

- Making a difference
- Honesty and integrity
- Collaborative and creative
- Caring
- Embracing diversity

SECTION 2: PLAN ON A PAGE

Core mission and purpose

Our core purpose is to transform health, generate economic growth and advance technology

- **We are catalysts** for the spread of innovation at pace and scale - improving health, generating economic growth and helping facilitate change across whole health and social care economies.
- **We connect** regional networks of NHS and academic organisations, local authorities, the public, third sector and industry - responding to the diverse needs of our patients and populations through partnerships and collaboration.
- **We create** the right environment for relevant industries to work with the health and social care system.

The Innovation Agency will continue to be an ‘agent for change’, leveraging the AHSN Network and other national collaborations to import good ideas from other parts of the health and care system and to support, spread and export innovations which have delivered local value.

We have established the five goals described in our introduction that deliver across the nine Innovation National Networks (INNs). For example, our work in connecting up/supporting regional delivery of NHS England/NHS Digital/NHS Improvement digital enablement programmes is aligned with the digital INN while also contributing to economic growth in the region by opening up new opportunities for industry.

Table 1: How our five goals align to delivery of the nine Innovation National Networks (INNs)

Alignment to the INNs	GOAL 1 Support system transformation through the adoption of innovations	GOAL 2 Deliver an Innovation Exchange	GOAL 3 Develop and connect the digital health and care sector	GOAL 4 Deliver NHS Improvement Patient Safety Collaborative programme	GOAL 5 Collaborate with the Network of AHSNs
Innovation and Economic Growth					
Innovation Exchange					
Medicines Optimisation					
Med Tech					
Digital and AI					
Patient Safety					
Quality Improvement					
Research					
Genomics and Diagnostics					

Delivery and projected outcomes for the AHSN Network 2018–2020

In the next two years, the AHSN Network will help:

- Prevent 10,000 strokes and 2,500 deaths
- Prevent 100,000 hazardous prescribing errors
- Reduce medicines-related hospital re-admissions by 6,000
- Prevent 1,400 children developing cerebral palsy
- Save the NHS and social care over £200m
- Support £60m of investment and the creation of 60 jobs

The forecast net benefit value to the NHS from our collective AHSN activity from 2018 to 2020 is £132m while also contributing to economic growth in the region by opening up new opportunities for industry.

High level metrics

Before each project is started and when each project concludes, significant thought is given to how impact is demonstrated and evaluation takes place. We use our local universities and our Collaborations for Leadership in Applied Health Research and Care (CLAHRC) for evaluation purposes and sub-contract health economic analysis to an external contractor. We will be refining our approach to evaluation as an objective for 2018/19.

In addition to publishing high impact case studies, we will measure our impact of national programmes using ROI metrics, which all 15 AHSNs have agreed with NHS England.

Please note all impact measures and benefits are presented as non-exhaustive as some programmes are in the demonstrator phase; return on investment (ROI) figures reflect the impact of five year programmes adjusted for optimism bias. ROI figures for the Innovation Exchange programme will include the number of businesses supported and jobs created; these will be further developed with OLS as the programme matures.

As agreed with NHS England, this Plan on a Page and Business Plan is based on a share of £43.6m funding from NHS England.

The plan on a page will be updated and new contract matrix of metrics will be prepared and agreed with NHS England ahead of its May Public Board Meeting to take account of confirmed additional funding to accelerate the uptake of a number of national programmes.

SECTION 3: DELIVERING IMPACT

The Innovation Agency is committed to the two core national objectives of innovation and growth; and service transformation in support of the two Sustainability and Transformation Partnerships in the North West Coast region.

We will work collectively with the AHSN Network to maximise the impact of the national programmes and continue to provide our support for the NHS Innovation Accelerator programme and SBRI Health. We will continue to support the roll out of Innovation and Technology Tariff products and the rollout of endorsed Innovation Technology Payment products. We will help to integrate innovations and products from these programmes into the relevant Innovation National Network (INN) programmes, to ensure alignment with both local and national Network activities.

The nine INNs are:

1. Innovation and Economic Growth
2. Medicines Optimisation
3. Med Tech
4. Digital and Artificial Intelligence (AI)
5. Quality Improvement
6. Research
7. Genomics and Diagnostics
8. Patient Safety
9. Innovation Exchange

We will work with the AHSN Network and the regional and national partners to deliver each of these programmes.

Innovation and economic growth

Summary of our approach:

Through our business support, innovation spread and European funding bids we will continue to have an impact on the local economy and build on our track record of securing grants, revenue and capital funding for local small and medium size partner organisations and businesses.

In line with the key themes within the UK Industrial Strategy, we will develop and implement an economic growth and investment strategy for the digital health sector across the North that continues to create additional jobs in our region and secures further investment and contracts for businesses.

Having invested in our regional infrastructure, we will continue to showcase our network of innovation centres nationally and internationally to facilitate collaboration and leverage investment opportunities including:

- Alder Hey research and education centre, the Institute in the Park
- Alder Hey Innovation Hub for digital and sensor technologies

- Accelerator Hub, Royal Liverpool and Broadgreen University Hospitals
- Bio Innovation Hub, the William Duncan Building at the University of Liverpool
- Centre for Integrated Health Science, Chester
- Centre of Excellence in Infectious Disease Research (CEIDR)
- Sci-Tech Daresbury
- Sensor City
- Chorley Digital Office Park – due to open in 2019
- Health Innovation Campus at Lancaster University – due to open in 2019

In 2016/17, working with partners across the region, we secured £6.5 million, including £3m from the European Regional Development Fund (ERDF), to support SMEs. Our programmes help businesses to develop and commercialise health innovations from which citizens across the region benefit, as well as delivering 34 innovations to the market, and 74 new products and services to SMEs. We also established a transformation team to support our partners to make changes to their processes and systems to incorporate innovations.

In addition, we delivered through five European Union (EU) funded projects, having secured a further €2.1million over the last four years for rollout of technologies to our residents and partners.

In 2017/18, we upgraded our membership of the European Institute of Innovation and Technology (EIT) Health programme from associate partner to core partner status, to enable us to gain more opportunities and potential investments for our SMEs and partner organisations over 2018 to 2020.

Further additional funding has come from Europe, the NHS, universities, industry and the UK Government. This has led to the development of multiple facilities, including innovation hubs and business incubators across the region. The latest is an £8.4m investment in Chorley Digital Office Park due to open in 2019; part of the council's larger Digital Health Village masterplan for the 32 acre site which has outline planning permission for industrial / employment units, care home and specialist care facility, convenience store, family pub and/or medical centre, plus around 80 homes.

We are proud of our successes in supporting local industry and SMEs to deliver a strong pipeline of innovative products. We need to complement this work by ensuring that our STPs and partners can become mature customers of innovation. We will build on our existing programme of organisational and personal development, for example our Evidence Based Commissioning Programme and our sponsorship and support of North West Procurement Development to increase capability within our system to adopt innovations.

Our work and plans for developing priorities against this INN include:

- Delivering a business support function to industry partners and SMEs and winning additional income from national and international opportunities such as Horizon 2020, SBRI and EIT Health and post Brexit the Shared Prosperity fund. We will submit and/or support at least eight applications to EIT Health for 2019 funding.
- Promoting digital health assets across the region including: innovation and incubation centres, university and science park assets, NHS Test Beds, Global Digital Exemplars, Connected Health Cities and the economic prosperity of highly skilled SMEs working in the sector.

- Building on work done across our region, we will collaborate with the Northern AHSNs and the Northern Health Science Alliance to launch a Digital Health North showcase and develop a strategy, working with our Local Enterprise Partnerships to bring both public and private investment into the North across the digital health sector.
- Linking the strengths of the region to the Northern Powerhouse agenda and Northern Health Science Alliance, and nationally through Innovate UK and using international partnerships and activities to showcase as appropriate.
- Continuing to jointly fund a post with Liverpool LEP until 2020. Over the past two years, this role has made a significant difference to the economic growth of health businesses in the region and has enabled the Innovation Agency to be a part of the work to shape the region's life sciences and health strategy, supporting over £180 million of economic investment.
- Jointly funding a MedTech cluster champion with Science and Technology Facilities Council (STFC) Daresbury.
- Establishing a programme with AHSN partners that accelerates the development and rollout of the products of our digital SMEs and delivers value to the healthcare system.
- Establishing a programme in partnership with Health Education England that runs projects to create innovative solutions for workforce development and deployment.
- Successful delivery of EU funded innovation projects:
 - Ritmcore – remote monitoring for patients with implanted cardiac devices (€1.1m to fund procurement of innovative medical devices)
 - P/M Fit – funded support for EU SMEs with innovations relevant to the NHS
- Continuing to support the Global Digital Exemplars having supported them to secure £45 million of total investment.
- Continuing to monitor the projects from our 2016 Transformation through Innovation Fund and Digital Investment Fund. This will support our STP/ICS Alliance regional partners to further the development of their digital solutions for outpatients.
- Carry out a market assessment of the needs and priorities for our STP/ICS areas.
- Provide a programme of coaching for system leaders to increase capability in the adoption of innovation.
- Facilitate greater transdisciplinary collaboration and knowledge transfer partnerships between academic institutions, health and social care providers and industry to respond to the evolving priorities of the newly established UK Research and Innovation organisation.
- Participate in the International Business Festival 2018

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
Alongside our delivery partners we will support 280 SMEs across three ERDF business support projects over the next three years	<ul style="list-style-type: none"> • # businesses supported • # jobs created • £ funding into SMEs • # new products to market • # contracts awarded to companies supported and £ value • # new to company products 	Job creation ~ 100 posts by 2020 34 new healthcare products in the market and 74 new products and services for SMEs.
Win and increase investment in grants and private capital	<ul style="list-style-type: none"> • £ grant funding into Innovation Agency • £ grant funding into regional partners where we supported applications • # innovations adopted • # contracts and £ value 	Additional income to invest in the North West health economy.
	<ul style="list-style-type: none"> • # innovations adopted • # organisations adopting innovations • # contracts for SMEs • £ funding into region 	€1m for Liverpool Heart and Chest Hospital to procure innovation. Relevant innovations from EU introduced to the UK and UK SMEs supported to access EU markets and funding. Stimulate demand for and increase the uptake of innovation.
Develop a strategy and launch Digital Health North	<ul style="list-style-type: none"> • Inward investment • # of digital SMEs in the Accelerator Programme • # of innovations adopted by more than one northern AHSN • # of partners in the programme 	Economic growth, increased collaboration and co-creation of innovations and improved health outcomes of an empowered population. Success will depend on securing resources and investment to deliver more than a showcase website.

Medicines optimisation

Summary of our approach:

The NHS spends over £16.8 billion on medicines. Forecasts suggest that this is likely to grow to £20 billion over the next parliamentary cycle. There is strong evidence to suggest that this investment could help deliver greater value. Effective medicines optimisation ensures the right patients get the right choice of medicine, at the right time. Our approach leverages the four principles published by the Royal Pharmaceutical Society on medicines optimisation. In all our programmes, we have developed the implementation to take account of three key drivers:

- Practice - making sustainable change happen on the ground.
- Public - how we work with patients and the public to shift the culture around the use of medicines in the NHS in England towards a shared decision making, patient-empowered and patient-centred culture.
- Policy - how we use the learning from these programmes to ensure a flow of information, insight and experience from practice to help shape policy thinking.

Our work and plans for developing priorities against this INN include:

- The Medicines Pathway – reducing medicine-related avoidable readmission through the Clinical Handover to Community Pharmacy. We will deliver this as we continue the rollout of the electronic transfer of care programme to share medication, admission and discharge details between acute hospitals and community pharmacies, which we are introducing into the region and plan to deploy across our provider network. We have supported four of our hospital trusts to deploy this system and have another eight signed up to roll this out across 2018/19.
- Locally we have been introducing pharmacists into GP practices through the ‘Closing the Gap’ programme and we will evaluate their impact on prescribing safety and efficiency. We will enable this by adopting / adapting PINCER, a pharmacist-led information technology intervention for reducing clinically important errors in general practice prescribing. All AHSNs are helping deliver the objective to implement PINCER at a rate of 15% per annum, achieving 75% coverage in year five. We will work with our STPs/ICSs to develop an implementation plan.

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
PINCER (or equivalent)	Medication errors	<ul style="list-style-type: none"> • Reduction in costs • Safer prescribing • Increase in quality of life
Handover to community pharmacy (Transfer of Care Programme)	Medicines related admissions Unplanned admissions Medication errors	<ul style="list-style-type: none"> • Reduction in dispensed items and drug waste releasing time and £ • Reduction in medication errors • Reduction in readmission to medical wards for the same diagnosis

MedTech

Summary of our approach:

The Medical Technology (MedTech) industry makes a vital contribution to economic growth in our country. The industry employs 95,000 people in 2,500 companies, mostly small and medium sized enterprises (SMEs).

In partnership with our Local Enterprise Partnerships (LEPs) and our ERDF programme partners we will focus on providing greater support to MedTech SMEs enabling the adoption of innovative technologies to secure sales growth and inward investment.

Summary of our approach:

- Nationally supporting the development and implementation of an Innovation Exchange to deliver a step change in the capacity of the Innovation Agency to accelerate the adoption of innovation and drive economic growth.
- Continuing to identify pathways to adoption for innovations to become commercially viable and to reduce risks to investors and funders; supporting those adopting to put innovation into practice.
- Continuing to work with our LEPs to support the health and life science elements of their regional plans and co-fund posts and events that support business development and economic growth.
- Support local SMEs to access European markets through EIT Health.

- Recommend products, as appropriate to the AHSN Network and the Accelerated Access Collaborative
- We are supporting the national Innovation Technology Tariff (ITT) and Innovation Technology Payment (ITP) programmes, facilitating deployment of centrally funded medical including: Episcissors, Non-Injectable Arterial Connector (NIC), PneuX, MyCOPD, UroLift, Endocuff Vision, Heartflow, Plus Antibacterial Sutures and SecurAcath to improve care to specific patient populations.
- As part of the national AHSN atrial fibrillation programme, we are deploying mobile ECG devices across the NWC region
- We will jointly fund a MedTech Cluster Champion with STFC-Daresbury to bring the MedTech community together across our region to explore and exploit opportunities for growth, collaboration and inward investment.

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
Inward investment to region	<ul style="list-style-type: none"> • # of MedTech companies supported • # of MedTech and diagnostics products supported to adoption from the SBRI, NIA and Clinical Entrepreneurs programmes • New MedTech research funding leveraged with AHSN 	This is a relatively fragmented sector in the region and investing in a 'cluster champion' will support sector development and growth
ITT and ITP	Vary by product but include: <ul style="list-style-type: none"> • # of devices deployed • # procedures performed • # incidents of harm / litigation • infection rates • # patients impacted 	Vary by product but include: <ul style="list-style-type: none"> • Reduced costs • Reduced length of stay • Reduced admissions • Improved outcomes • QALYs

Digital and AI

Summary of our approach:

We will drive and support the accelerated introduction of digital technology at scale to bridge the gap between citizen demand and capacity.

We work closely with programme leads at NHS England, NHS Digital, NHS Improvement and OLS to help provide input and connect-up national programmes to local partners and complementary initiatives and support the rapid uptake and delivery of national digital policy objectives (for example LHCRE, NHS Online, Buying Catalogue, Citizen.ID, Testbed 1.5 and 2 and Digitisation of Outpatient Care amongst others).

We are members of Cheshire and Merseyside and Lancashire and South Cumbria STP/ICS digital steering groups as well as the Pennine Lancashire Care Digital Health Board and provide constructive input to the shaping and delivery of their related portfolios of initiatives.

We have a leadership role in the Connected Health Cities programme, co-ordinating all partners in this project, which unites carefully selected local health data with advanced clinical algorithms and enabling digital technology to improve health services for patients in the North of England. This programme aligns with our objective to make better use of the information and technology that already exists in our health and social care system to improve the health of patients and ensure services are more joined-up. The themes of our project are chronic obstructive pulmonary disease (COPD), alcohol misuse and epilepsy. Through our work with patients, health practitioners and experts in digital health, we are helping deliver research and improved services for learning health systems that are relevant, effective and have a real impact on public health.

We support our local Test Bed the Lancashire and Cumbria Innovation Alliance. We supported the successful application, sit on the Board, chair the Spread and Adoption Group and fund the communications function.

We are committed to rolling out the products of the Test Bed where appropriate across our region and partnering to deliver further benefits if successful as part of the recently announced Wave 2 competition.

We support our Vanguards and Global Digital Exemplars (GDEs) by cross-fertilising best practices and introducing innovative digital technologies that complement their transformation programmes (for example Patients Know Best, Kinesis and Otsuka).

We have established a Digital Expert Group and have appointed a Director of Digital Health with a small team to work with partners on the creation and delivery of a set of unified digital enablement primary aims for the region. This will help to enable collaboration, spread knowledge and best practice, and develop the NWC as a region that is leading the way for innovative new models of patient care, research and investment.

The Digital Expert Group, meeting monthly around the region, acts as an effective forum to explore new ideas and share thoughts on the integration of national and local initiatives.

Our work and plans for developing priorities against this INN include:

- Accelerating the adoption of digitally enabled self-care by working in partnership with key stakeholders in the health, social care and third sectors, who have demonstrable capacity to drive major change within the local health economy. Leveraging the potential of telehealth as exemplified in the Liverpool Community Health hub.
- We will achieve this by working across our Digital Expert Group and supporting the STP/ICS digital work streams, diffusing knowledge and technologies from the Global Digital Exemplars in the North West Coast to other providers. Our Global Digital Exemplars are Royal Liverpool and Broadgreen University Hospitals NHS Trust, Alder Hey Children's NHS Foundation Trust, Wirral University Teaching Hospital NHS Foundation Trust and Mersey Care NHS Foundation Trust.
- The Innovation Agency has supported major interoperability projects such as Lancashire Person Record Exchange Service (LPRES) in Lancashire and iLINKS in Merseyside. We secured over €1m EU funding for Liverpool City Council to procure an electronic record system to enable nominated families and friends as well as health and social care services to access and improve domiciliary care provision. Moving forward, we plan to capitalise on these strong foundations to bid for one of the forthcoming NHS England interoperability hubs and use the regional digital health strategy work to support a bold digital future for the region.

- We will focus on implementation of digital projects in each one of our principal goals (digital as a cross cutting theme).
- We will identify key CCGs to start the implementation of the Connected Health Cities' vision and rollout.
- We will continue to work at a system and regional level to link STP, Combined Authority, CCG and provider (including Digital Exemplars) digital programmes and assets, identifying opportunities for collaboration and spread of innovation across the North West Coast.
- Develop and share collaboration and learning opportunities with key stakeholders, and facilitate partnership working to accelerate uptake of innovation across a range of networks including the voluntary sector and local authorities.
- Provide support to our ongoing digital projects, eg LPRES, iLinks, Wirral Care Record, Alliance digital outpatients, app development.
- Showcase examples of digital innovation on our Innovation Exchange and match innovations to stakeholder needs.
- Adopt and spread the outputs of our regional Test Bed and if appropriate support an extension of the Test Bed programme.
- Run our quarterly Digital Ecosystem events to showcase good practice in the digital sector and support partners to adopt digital innovation.
- Promote transformation in the patient experience and journey through the systematic adoption of clinically evidenced apps and wearables and the provision of access through a digital 'no wrong door' to care and support plans.
- Develop digital leaders working with national and regional Health Education England partners.
- Support the development of a comprehensive workforce education strategy and delivery programme to enhance the digital capability and capacity of the multidisciplinary workforce in combination with academic partners, Health Education England (HEE), and leading NHS organisations.
- Offer training to support digital system leaders on innovation adoption where appropriate.
- Co-design an academic programme to enhance evidence based digital approaches to support health service development and commissioning with a focus on data analysis, research synthesis, evaluation and governance.
- Deliver the EU funded Assistive Living Technology and Skills (ALTAS) project: The ALTAS project addresses the shortfall of assistive living technology (ALT) training courses for health and social care staff that will ultimately enable their clients and patients to benefit from smart solutions to live independently, self-care and improve their health and well-being.
- We continue to collaborate with the Telecare Services Association (TSA) to progress plans to prepare for the transition from analogue to digital telephony of the estimated 1.5-1.7-million telecare services users around the country
- The TSA white paper 'Improving lives a digital future for TEC' October 2017' highlights a potential opportunity with the switchover. This could be used to not only to enhance the level of technology enabled care, provided through upgraded versions of existing solutions,

but also, to integrate both devices in the home and the information that is transmitted (with appropriate safeguards and information governance) as part of the wider drive towards achieving interoperability and better clinical and domiciliary care decision making. We will specifically support practical areas such as:

- suggesting roadmap opportunities
- input around potential new commercial models
- identifying / helping qualify transitional funding sources, linking in to Digital Health North and national interoperability and analytics programmes and supporting a coordinated communication and roll out plan
- We will once again sponsor and support the TSA in running a national conference, to provide a forum for connecting interested stakeholders.

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
Develop a regional digital strategy to enable collaboration, spread knowledge and best practice, and develop the NWC as a region that is leading the way for innovative new models of patient care, research and investment.	<ul style="list-style-type: none"> • # of new ideas or best practices introduced from outside the region • Increased capacity created in the system (unchanged cost, more work done, more people covered) • 10 per cent of patients now able to access a digital interface to view their patient record and interact with the healthcare system 	Focus on enabling initiatives to leverage local and national initiatives to release capacity.
Connected Health Cities (CHC): Develop and engage with citizens regarding patient information; implement information sharing agreements between organisations; link and analyse data sets in COPD and alcohol; deliver digital workforce development plan; implement plan for industry; identify key CCGs to start the implementation of the CHC vision and roll-out; deliver a robust approach to clinical engagement	<ul style="list-style-type: none"> • Widespread clinical engagement into the project • # of trained innovators • Improved public awareness of Connected Health Cities and issues regarding data sharing and consent • Production of reports to illustrate need for pathway change • First clinical interventions demonstrated through the CHC pilot 	Patients benefit from new clinical pathways informed by a unique data algorithm based on: <ol style="list-style-type: none"> 1. Capture of all the clinically relevant data for a disease area; 2. The identification of clinical subtypes within a dataset; 3. Enhanced HotSpot mapping to target intervention.

Quality improvement

Summary of our approach:

As innovation partner to our two STPs the Innovation Agency is supporting a step change in the quality of health and care services. Our unique offer is to be able to take successful innovations and support spread and adoption of these across health systems by understanding the needs of our systems, and by working with local organisations to create a fertile culture for adoption of innovation. We use our knowledge of STP priorities to direct our support to local SMEs. Where there are gaps, we will stimulate the market to respond to local needs.

We currently offer a rolling programme of Continuing Professional Development (CPD) accredited training courses for skills and knowledge for Putting Innovation into Practice, following defined steps in the Innovation Pathway and will continue to work with academic partners to develop online offers, hosting them on our existing Moodle site, improving access to all. This work will be targeted at increasing capacity and capability in our STPs to adopt innovation.

We will continue to work with the North West Leadership and Development Collaborative (inclusive of Advancing Quality Alliance (AQuA), North West Leadership Academy, North West Employers and Health Innovation Manchester) to provide a co-ordinated offer to STP partners that meets their needs. We will build on diagnostic work in 2017 for Lancashire and South Cumbria's Workforce and Organisational Development group, leading the theme of 'Safe risk taking and curating failures'. We will also apply the same methodology to the Cheshire and Merseyside Local Workforce Action Board (LWAB) to understand the workforce and organisational development needs of the STP.

There are a number of national scale-up quality improvement programmes that will be supported by the AHSN Network over the next two years. These include three programmes we have been rolling out, or had plans and funding to rollout in 2018, and some that are new pathways into our system.

We will continue our work to transform the atrial fibrillation (AF) pathway, deploying detection technology and encouraging adoption of the CCG Atrial Fibrillation dashboard.

In 2017 we received funding from Arthritis Research UK for limited deployment of Escape Pain (a self-management rehabilitation programme for people with chronic pain); in 2018 this will be scaled up across the region.

The AHSN Network is establishing a scale-up plan for Serenity Integrated Mentoring (SIM) during 2018. This is an award-winning mentoring programme for mental health service users struggling to cope with highly intensive patterns of complex behaviour. SIM trains a police officer passionate about mental health in high intensity behaviour, risk management and basic clinical theory and places that officer into his/her local community mental health team to assist with the clinical and risk management of the most challenging cases. We will work with our mental health trusts and STPs to develop an implementation plan.

An Emergency Laparotomy Collaborative will be established by the AHSN Network. Emergency laparotomy is a major surgical procedure, with up to 50,000 performed annually in the UK. However, 14.9% of patients die within 30 days of surgery and over a quarter remain in hospital for more than 20 days after surgery, costing the NHS over £200M a year.

The programme adopts the evidence-based Emergency Laparotomy Pathway Quality Improvement Care (ELPQuiC) bundle within NHS trusts. It brings together dozens of staff from emergency departments, radiology, acute admission units, theatres, anaesthetics and intensive care. Through a series of learning events they collaborate to solve problems and embed quality improvement skills.

This approach has been shown to significantly reduce mortality rates and length of stay - a health economics analysis suggests a £4.50 benefit to the wider health and social economy for every £1 spent. We will work with Trusts in 2018/19 to identify those that could implement this programme in 2019/20.

Our role in 2018-20 will be to align the best local, national and regional innovations with our STP priorities, enabling us to present our partners with a curated and targeted package of support. We are creating value propositions for place based systems that set out priorities and innovative approaches, products and ways of doing things that alleviate their 'pains'.

The NHS directors of finance are leading Carter at Scale /Model Hospital programmes in each STP. The Innovation Agency will act as an innovation partner to curate known innovations from the AHSN Network and between NHS partners across our two STPs.

Through our multiple interactions on STP working groups we will draw from emerging evidence from Vanguard and integrated care systems (ICS) sites, navigate nationally supported innovations including the Innovation and Technology Tariff (ITT) and Small Business Research Initiative (SBRI); and work with our AHSN Network to scope the innovative practice that will have the most impact for our STPs.

We will take a strategic and targeted approach to supporting an 'adopt and adapt' culture across our STP footprints. We will articulate this approach in an agreed strategy that sets out a defined set of principles that will guide our work.

We will establish a process for the oversight of spread and adoption within the governance arrangements of each of our STPs. This will assure alignment to work programmes and efficient deployment of resources.

We will develop organisational readiness for innovation and adoption by building on existing strengths in our community. Through use of cultural assessments, we will support organisations to understand their readiness to adopt new ways of working.

Our work will develop innovation and quality improvement leaders across organisations by taking an approach that moves beyond tools and techniques toward mobilising, supporting and coaching our stakeholders via our new Coaching Academy, as well as through supporting networks and communities of practice.

We will focus our capabilities for coaching by progressing two key areas, firstly coaching systems leaders for improvement in adoption and spread, taking a theme based approach based on STP priorities, and by offering a coach training programme for a continuously improving and safe culture that is sponsored by our Patient Safety Collaborative.

We will work closely with LWABs (Local Workforce Advisory Boards) and Health Education England to develop a programme of workforce innovation projects that support the overall strategy of the workforce programmes in each STP. The programme in 2018/19 will have a mental health theme.

Our work and plans for developing priorities against this INN include:

- We will work with the STPs to deliver the 'Escape Pain' programme for patients with osteoarthritis of the hip and knee. This proven intervention, imported from the Health Innovation Network (HIN), will reduce the need for medication and surgical intervention. We have received funding from Arthritis Research UK and NHSE to bring this to early adopters in our region.
- Deploying mobile electrocardiograms (ECGs) across our region to improve detection of AF and drive adoption of the CCG Atrial Fibrillation dashboard.
- Developing a Coaching Academy that offers both coached programmes and coach training for improved quality of care, delivery of care and adoption and spread of innovation.
- Taking a strategic approach to quality improvement that identifies need, champions innovation and develops capacity to adopt and implement solutions.
- We will ensure the transformation partnerships are able to 'pull' effective innovations to their areas through the establishment of an Innovation Adoption Oversight Group in each area. These groups will have representation from the Innovation Agency teams and the senior leadership team from each partnership.

- Ensuring we have visibility of QI leaders across the system and can offer these leaders a curated view of best-in-class innovations that meet their organisational priorities.
- Creating synergy between regulatory requirements and offers from local improvement bodies (Care Quality Commission (CQC) - well led domain).
- Working collaboratively with our improvement partners in the North West, ensuring that the offers complement one another and add value to our customers.
- Maintaining collaborative work with universities and local/national improvement bodies (Health Education England, Health Foundation, NHS Improvement, North West Leadership Academy, AQuA and Haelo) to enable us to increase knowledge and skills across our system in quality improvement methodologies and evidence based improvement science. For example, our Evidence-based commissioning programme that is recruiting to its second cohort.
- Capability building: We will share knowledge with partner organisations with whom we will work collaboratively to produce a workforce skilled in change management methodologies and ready to adopt innovation. This will include our work to develop and support Quality Fellows, Clinical Evidence Champions, Innovation Scouts and through our new Coaching Academy.
- Support grass roots/front line culture change via NHS Change Week.
- Deliver our Putting Innovation into Practice programme to share practical skills to enable individuals to implement innovative solutions.
- Develop a 'Safe risk taking and curating failure' programme for the STP in Lancashire.
- Develop our hackathon support offer enabling system integration and development of the STP workforce.
- Support STP system development by offering expert facilitation and coaching to support newly formed groups to develop purpose and overcome conflict.
- Promote the use of QI Life system as a programme tool for visibility of ongoing improvement and development activities with the STP footprints.
- Work with the Health Foundation to coordinate and support growth and mobilisation of the community of quality improvers in the North West Coast.
- Establish the team to design the workforce innovation programme.
- Support our objectives with high quality communications, engagement and events.

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
Strokes prevented	<ul style="list-style-type: none"> # of strokes prevented Cost saved to the system 	£1.7m saving in 2018/19
ESCAPE PAIN	<ul style="list-style-type: none"> Adoption rate Outpatient appointments and investigations Change in pain metric data 	Healthcare utilisation and cost savings
Personal development of system leaders for spread and adoption of innovation through coaching	<ul style="list-style-type: none"> Confidence measures before and after coached programmes 	Optimised personal effectiveness for implementing innovation and managing change
Clear strategic approach for STP spread and adoption	<ul style="list-style-type: none"> Identified STP lead for innovation spread and adoption Profile of STP priorities, place based value propositions and demographics. 	Single point of contact for STP to identify and manage spread and adoption of innovation, Tailored offer of support and interventions increasing capabilities for spread and adoption.
Meaningful stakeholder engagement in spread and adoption for innovations that add value, providing intelligent design to create 'pull' mechanism for innovation	<ul style="list-style-type: none"> Internal oversight group established Spread and adoption groups established in each STP Standard offer to each STP agreed 	Advise on navigation of local system and 'voice of the customer' to inform design principles for spread and adoption of innovations.
Spread of agreed ITT and ITP products	<ul style="list-style-type: none"> # take-up of each product Product specific impact metrics 	As per estimated ROI for each product per # take-up rate

Research

Summary of our approach:

Our approach is to work with the NIHR Clinical Research Network (CRN) North West Coast and the partnership of the Northern CRNs to support the engagement of primary care services and clinicians to increase participation in research, and involvement in our regional and national (AHSN Network priority) programmes of work driving uptake of high value innovation.

Working with the NIHR CRN North West Coast we will develop a process to identify locally led and completed NIHR portfolio studies with research outputs that may be high value to the NHS and suitable for further evaluation or implementation.

Alongside the North West Coast CRN and CLAHRC, we will leverage the region's research infrastructure, providing gateways locally into the regional research/innovation/adoption infrastructure to provide an integrated regional response to industry using the AHSN Innovation Pathway or similar local framework pathway.

We will continue to work with the NIHR CLAHRC NWC and our nine universities to co-create a joint programme of work of evaluation in areas relating to health inequalities, building on our current programme of work around genotype-guided warfarin, patient and public involvement and consent for the 100,000 Genomes programme. Our two STPs and local authorities are also involved in this work. During the next licence, we will identify potential high value innovations for national implementation and evaluation to be assessed by the joint national CLAHRC/AHSN group.

Our work and plans for developing priorities against this INN include:

- Connected Health Cities research programme covering three clinical pathways - COPD, epilepsy and alcohol related illnesses, in collaboration with the University of Liverpool, Lancaster University and AIMES Grid Services. This includes the development of linked health related data sets and an algorithm to identify clinically relevant cohorts of patients for specific diseases; the ability to demonstrate clinical subtypes within a single disease dataset and highlight geographical hotspots for targeted intervention.
- Continuing our joint research programme with the CLAHRC around genotype guided warfarin testing.
- Develop a work programme with the CLAHRC around reducing health inequalities.
- Using the CLAHRC and universities as evaluation partners for our innovation work.
- Contribution to the review and future development of Liverpool Health Partners Research Hub to align research priorities around the needs of the local population.
- Support and input for Lancashire Research Hub.
- Run the annual North West Coast Research and Innovation Awards, organised in partnership with NIHR CLAHRC NWC and NIHR CRN NWC to identify and promote best practice throughout the region; and to bring together partners in an evening of networking and celebration.
- Support our universities to collaborate to gain funding to support population health needs and respond to priorities and funding opportunities set out by UK Research and Innovation, Local Enterprise Partnerships and other sources.
- We will continue to support SMEs to work with the range of universities within the region.
- Work with the Northern CRNs and NHSA who have signed a Framework Agreement to develop an NIHR Clinical Research Northern Collaborative Network with resulting opportunities for industry.

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
Atrial fibrillation evaluation with the University of Central Lancashire	<ul style="list-style-type: none"> Reduce strokes 	Early detection and reduce morbidity.
Genome Guided Warfarin research with University of Liverpool and CLAHRC	<ul style="list-style-type: none"> # of patients offered genomic screening for warfarin metabolism 	Fewer cases of high INR requiring corrective treatment. Greater time in therapeutic range for warfarin patients
Closing the Gap under evaluation with Queens University Hospital, Belfast	<ul style="list-style-type: none"> # of referrals to pharmacists Time saved in dispensing # of medication errors prevented 	Clinical pharmacists embedded in GP practices reduce medication errors, identify interactions and improve safety.
Antibiotic point of care testing, sepsis identification and antimicrobial resistance with evaluation by Edge Hill University	<ul style="list-style-type: none"> Earlier identification of sepsis. Antibiotic prescribing reduced 	Single point of contact for STP to identify and manage spread and adoption of innovation, Tailored offer of support and interventions increasing capabilities for spread and adoption.
Connected Health Cities research with Liverpool and Lancaster Universities: Develop and engage with citizens regarding patient information; implement information sharing agreements between organisations; link and analyse data sets in COPD and alcohol; deliver digital workforce development plan; implement plan for industry; identify key CCGs to start the implementation of the Connected Health Cities' vision and roll-out; deliver a robust approach to clinical engagement;	<ul style="list-style-type: none"> Widespread clinical engagement into the project # of trained innovators Improved public awareness of Connected Health Cities and issues regarding data sharing and consent Production of reports to illustrate need for pathway change First clinical interventions demonstrated through the CHC pilot 	Patients benefit from new clinical pathways informed by a unique data algorithm based on: 1. Capture of all the clinically relevant data for a disease area; 2. The identification of clinical subtypes within a dataset; 3. Enhanced HotSpot mapping to target intervention.

Genomics and diagnostics

Summary of our approach:

We have been a key supporter in the rollout of the 100,000 Genomes programme locally and nationally. At the beginning of the programme we supported bid-writing and pitching; and we sponsored the establishment of robust governance arrangements for the region-wide programme, with a view to rapid adoption and spread across the region. Liverpool Women's NHS Foundation Trust lead the programme. In addition, we support this INN by:

- Sponsoring the Programme Manager/ Adoption and Spread Ambassador role in the North West Coast Genomic Medicine Centre, for which we adopted a model used by the West Midlands AHSN. We have committed to support this role until the end of the 100,000 Genomes programme in December 2018.

On top of supporting the national programme, we have sponsored a pioneering, personalised medicine project in three hospitals involving genotyping of patients who are using warfarin in anti-coagulation clinics. The work is led by the University of Liverpool's Wolfson Centre for Personalised Medicine and funded by the Innovation Agency and the NIHR CLAHRC NWC.

Continued advances in genome sequencing and scientific knowledge will radically change the classification of diseases and risk profiles for UK citizens, with consequences for prevention and treatment pathways. Our approach is to continue to maintain the UK's pre-eminence in this field, to the benefit of our population, the NHS and the life science industries.

Our work and plans for developing priorities against this INN include:

- Continuing our support for the Genomics Medicine Centre – funding and supporting the Genomics Ambassador/ Project Manager post until December 2018 when the programme becomes 'business as usual' for the region.
- Promoting, publicising and promoting the Health Education England sponsored training to support the genomics revolution.
- The i-THRIVE programme, which aims to improve outcomes for children and young people's mental health, will be supported by multiple AHSNs. i-Thrive is transforming the way mental health services are organised for children and adolescents, offering a personalised approach to diagnosis and treatment and we will work with our mental health trusts and STPs to develop an implementation plan.
- We will support the spread and adoption of the Faecal Calprotectin Diagnostic Test: The York Care Pathway. This is an innovative and sensitive test to help GPs make the difficult discrimination between irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD).

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
Genome Guided Warfarin	<ul style="list-style-type: none"> • # of patients offered genomic screening for warfarin metabolism 	Fewer cases of high international normalised ratios (INR) requiring corrective treatment. Greater time in therapeutic range for warfarin patients.
Spread and adoption of i-Thrive	<ul style="list-style-type: none"> • # of patients offered this approach 	A personalised approach to the diagnosis and treatment of childhood and adolescent mental health.
Spread and adoption of Faecal Calprotectin diagnostic test	<ul style="list-style-type: none"> • Reduced cost in primary care • Reduce referrals to secondary care • Reduce endoscopy waiting times 	Accelerate diagnosis and refer only clinically appropriate patients Subject to additional funding.

Patient Safety Collaborative

Summary of our approach:

The North West Coast Patient Safety Collaborative is funded by NHS Improvement and is committed to delivering the three nationally agreed priorities. The collaborative brings together patients and carers, clinicians and managers alongside national and international safety experts, and uses a variety of practical quality improvement methods and approaches to address key safety concerns across their footprints.

The Patient Safety Collaborative will establish communities of practice in each of the national work stream areas to facilitate knowledge transfer and spread of best practice.

Additionally, we are creating a cohort of 'patient safety advocates', one from each of our partner organisations across health, social care and academia, who we will support to be the leaders of patient safety improvement within their organisations through a sharing of experience, learning and quality improvement methodology.

Our work and plans for developing priorities against this INN include:

- Delivering the three nationally agreed priorities
 - **The Deteriorating Patient** - with an initial focus on National Early Warning Scores (NEWS) in acute hospitals and ambulance trusts as partners in a pan-system programme to make NEWS the common language across England for early identification and response to deterioration. PSCs have demonstrated that they can improve outcomes for patients including reducing deaths from sepsis, unplanned intensive care admissions and length of hospital stay; and can improve time to appropriate care.
 - **Maternal and Neonatal Health Safety Collaborative** - focus on supporting the NHS Improvement Maternal and Neonatal Quality Improvement Programme through quality improvement (QI) coaching, culture surveys and support for communities of practice. The aim of this programme is to improve outcomes and reduce unwarranted variation, including stillbirths, neonatal death and brain injury.
 - **Safety Culture** - delivering local safety culture work plans and building on extensive local activity from 2014/15 complemented by QI training provided by our new Coaching Academy.
- Working with our Maternity Vanguard and partners, we will roll out the PreCepT programme for Magnesium Sulphate administration in pre-term labour and reduce the incidence of brain injury to new-borns as a result. We have been a successful partner in a Health Foundation Scaling Up grant to allow us to work with our specialist maternity hospital to rollout PreCepT. (Scaling across our region will be subject to available funding).

In addition, we are also supporting the following local programmes:

- Antibiotic Point of Care testing as an enabler to sepsis identification and antimicrobial resistance with evaluation by Edge Hill University and potential spread and adoption.
- Care Home Patient Safety Programme – using the Anticipatory Care Calendar to develop and deliver a programme to manage care home residents with deteriorating conditions to prevent unnecessary admissions.
- Genotype programme – implementing the use of genotype testing to ascertain correct dosages of warfarin, to improve the risk benefit ratio including the evaluation and spread and adoption with a case for genotype dosing made to NHS England and other potential funders.
- Implementation of the LIFE Quality Improvement System (online QI system) across the North West Coast that allows consistent use of a single platform and will improve compliance and allow for the aggregation of metrics for the PSC.
- Sign Up to Safety – recruit outstanding organisations to increase the patient, carer and staff voice in learning from when things go wrong.

Expected local impacts, measures and benefit value:

Expected Impact	Measures	Benefit Value
Maternal and Neonatal Safety	<ul style="list-style-type: none"> Reducing the rates of maternal deaths, stillbirths, neonatal deaths and brain injuries that occur during or soon after birth 	Improved outcomes and experience of care by 20 per cent by 2020
PreCepT – deliver the rollout of PreCepT in the region to reduce the incidence of cerebral palsy	<ul style="list-style-type: none"> # of cases of MgSO4 administration during pre-term labour. 	Reduced incidence of cerebral palsy in new-borns. If rolled out across the UK, it is estimated that up to 1,400 babies could be prevented from having cerebral palsy each year
Physical Deterioration	<ul style="list-style-type: none"> # of acute trusts not using National Early Warning Score (NEWS) # of acute trusts using modified NEWS # of acute trusts no using an early warning score Adoption of NEWS by North West Ambulance Service 	Earlier diagnosis of sepsis contributing to avoidable mortality and morbidity. Reduction in sepsis with 17,000 cases in the North West in 13/14 and an annual cost to a medium sized hospital of £1.25m
Local programme - Care Home Patient Safety programme	<ul style="list-style-type: none"> # of care homes participating in the scheme # of patients evaluated using the tools. 	
Safety Culture	<ul style="list-style-type: none"> # of Quality Improvement community members #Score tools administered & shift #Teams on coaching programme 	

Active and Healthy Ageing North

We will continue to be a partner in Active and Healthy Ageing North (AHA North), supporting the creation and delivery of a pan-Northern programme. Following success in being awarded Reference Site status, all four Northern AHSNs decided to create a framework for formal collaboration, 'Active and Healthy Ageing North' (AHA North), with the NHTA. We held a shared event to showcase award winning best examples in older population health from across the North of England, and to launch the start of the Pan-Northern programme. AHA North now has an Operations Executive to steer collaboration and provide governance and a pan-Northern 'toolkit' of interventions to maximise assets around e-frailty, falls prevention and bone health.

Innovation Exchange

Summary of our approach:

We set a goal of becoming a nationally leading host for healthcare business support programmes. This ambition is now being realised with the support and funding of Innovation Exchanges by the Office for Life Sciences. Supporting commerce and economic growth is a priority for AHSNs. This has resulted in the Office for Life Sciences (OLS) commissioning the delivery of Innovation Exchanges through AHSNs, as part of the Government's response to deliver the recommendations of the Accelerated Access Review. The investment in Innovation Exchanges will ensure a step-change in the capacity of AHSNs to accelerate the adoption of innovation and drive economic growth.

The core functions of the Innovation Exchanges are:

- Identifying need and communicating demand, helping innovators to understand what and where are the healthcare demands and the evidence requirements, and to prepare systems for promising products.
- Signposting innovators working with the Innovation Agency to additional support, market access, matching innovations to healthcare, adapting solutions to meet local needs, finding early adopter regions.
- Identifying innovators working with local NHS partners and offering Innovation Agency support, bringing them to wider market attention as appropriate using Innovation Exchange mechanisms.
- Evaluation in practice – brokering partnerships between commissioners and providers to undertake real world testing to create evidence to support adoption and spread.
- Spread and adoption of promising innovation – locally, regionally and nationally funded by the Innovation Agency and the NIHR CLAHRC NWC.

Each AHSN is committed to delivering the above core functions and to improving local and collective approaches to support innovators to meet the most important healthcare needs and enable adoption. Our strong partnership with our two STPs enables us to offer targeted and bespoke packages of support to the healthcare system, increasing the likelihood of successful adoption of innovation.

National activities between AHSNs to support Innovation Exchanges include the following:

- An AHSN moderation panel to assess products that will be nominated by AHSNs to the AAC Steering Group.
- A range of communications and marketing activities to promote Innovation Exchanges nationally and locally.
- A shared website to support both innovators and adopters.
- A shared system across the AHSN Network to facilitate collaboration, learning from both success and failure and adoption of best practice and evidence based innovations in multiple regions.

These activities will be developed over the lifetime of the Innovation Exchanges.

We will support our STPs to articulate unmet needs within the healthcare system and foster collaboration with industry and SMEs to assess needs, co-create solutions, commercialise practitioner-led innovations and de-risk change.

We have started to work with our STP partners to understand and classify their priority areas so that we can better translate the needs of health and care services to industry at scale. Our developing knowledge of STP priority areas will enable us to offer targeted and bespoke packages of support to the healthcare system, increasing the likelihood of successful adoption of innovation. Our close alignment with STP teams through our Transformation team will enable us to remain responsive to the evolving system needs.

Supporting local businesses and economic growth has always been a priority for the Innovation Agency. Building on the work across our region and collaborating with the northern AHSNs, the NHSA, Telecare Services Association (TSA) and NHS Digital we will launch a Digital Health North showcase and develop a strategy, working with our Local Enterprise Partnerships to bring both public and private investment into the North across the digital health sector.

In developing priorities against this INN we will:

- In our role as STP innovation partner, we will link our innovative businesses to STP innovation leads, making direct links to NHS providers and commissioners, using our well-established networks and experienced staff. We will also identify local innovators working with STP partners and elevate their visibility where appropriate.
- Act as a single (but not exclusive) access point for businesses to the NHS and health and social care sectors through individual introductions and themed collaboration events that enable innovations to be showcased in the context of wider pathway redesign.
- Increase adoption of innovation across the STP by aligning pathways to adoption with existing or emerging transformational priorities and support each centre to put innovation into practice; reducing risks to investors and funders as innovations become commercially viable. We will build on our existing successful programme of events (e.g. Innovation Show, Ecosystem programme and business breakfasts) to share the best innovations across the region and showcase innovations that are market ready.
- Deliver a business support function to industry partners and (through our ERDF match funded programme) SMEs in our region including social enterprises.
- Support local SMEs to access European markets through the EIT Health programme and provide business support to three European SMEs, funded by EIT Health.
- Identify and support funding applications.
- Recommend products, as appropriate to the AHSN Network, the assessment panel for the Accelerated Access Collaborative, Innovation Technology Payment scheme, for potential national rollout.
- Support the NHS Innovation Accelerator (NIA) and signpost and support our entrepreneurs who want to apply.
- Support the clinical entrepreneurs who work in our region to develop their products and services.
- Continue to develop the Innovation Exchange portal shared with Yorkshire and Humber AHSN to showcase innovations we are supporting in the region.
- Trawl for visibility of existing innovative practice from our partners and share across the patch/nationally.

- Actively contribute to the central system established to support the Innovation Exchanges nationally; support others to adopt innovations from the NWC and proactively seek evidence based-solutions from other AHSNs to adopt in the NWC.
- Take a strategic approach to spread and adoption, building on the best academic research in this area and informed by the spread and adoption oversight group.
- Work with North West Procurement Development (NWPD) to support the delivery of high quality and safe patient care by developing and providing efficient and contemporary procurement functions managed by highly trained, knowledgeable and competent staff. NWPD is driven by NHS finance directors from across the North West and has plans to extend across the North of England; Dr Liz Mear is Chair of the group and the Innovation Agency partly funds their activities, including advice for SMEs and sponsorship and communications support for their annual Excellence in Supply Awards. We will link this work to the 'Carter at scale' work programmes in each STP.
- Health economics support is currently contracted from the Royal College of Physicians and we will work with this team and local universities to our evaluation in practice.

We will deliver the increased capacity and capability for the Innovation Exchange by expanding the team and increasing resources in system navigation, adoption support, evaluation, technical product management, patient and public involvement and marketing. We are also improving our systems to improve programme efficiencies and collective working with the AHSN Network.

The AHSN Network will work with the Office of Life Sciences to determine an agreed set of impact measures for the Innovation Exchange programme; these will include the number of businesses supported, the type of support provided and measures of economic impact such as jobs created as a result of the support.

SECTION 4:

ENABLING ACTIVITIES

Engaging system partners to develop the business plan and ongoing prioritisation

Our Partnership Board members and other system leaders have expressed their support and commitment to helping us deliver our business plan; their comments and a list of participants can be read in Appendix 4. This business plan is the result of careful deliberation with our partners to identify areas in which we can have the most impact in accelerating the pace and reach of innovation. Board members regularly review our plans and progress against our goals and an annual stakeholder workshop brings together all key partners to agree programmes of work for the coming year.

Throughout the year, we organise or support around 100 events to bring together colleagues from different sectors to learn, share and collaborate. This is a key part of our approach and we organise a full calendar of events to support different work streams. For example, one of the biggest regular events in our calendar is the annual North West Coast Research and Innovation Awards, organised in partnership with NIHR CLAHRC NWC and NIHR CRN NWC to identify and promote best practice throughout the region; and to bring together partners in an evening of networking and celebration.

Our quarterly Digital Ecosystem events allow digital innovators from our region and across Europe and beyond to showcase their products and share good practice. These events add real value to our business partners and health and social care organisations, as one of our business partners, Dignio, describes: “Back in June (2017) we attended Ecosystem 12 ‘Digital Innovations for Mental Health’. The event has had a major, positive impact on us. At the event, we met two representatives of the Hungarian government who were looking for Technology Enabled Care solutions to help Hungary quickly move from where they were then to where they wanted to be. We’ve been in negotiations with them ever since and have just been told that we will be awarded a very significant contract to supply the Dignio solution right across the Hungarian health system.

“The Ecosystem 12 theme also encouraged us to look at how Technology Enabled Care could be repurposed to provide Technology Enabled Mental Health Care (TEMHC). In particular, we were interested in how TEMHC could be focused on children and young people. The result is a solution which combines an innovative ‘personal anxiety recorder’ (it’s a small squeezable device not a smartphone app) combined with the Dignio platform so that users can record, by simply squeezing the device, the strength, duration and frequency of anxiety attacks anywhere and at any time.

“We think it dovetails perfectly with the government’s recent green paper ‘Transforming Children and Young Peoples Mental Health Provision’. The plan is to manufacture the device under license here in the UK.

“We owe so much to the Ecosystem 12 event, we just wanted to say thank you.”

We offer development and training opportunities to our 70 Innovation Scouts on a quarterly basis. Scouts are employed by our partner organisations; they have contact with their Boards and front line staff and are our agents for horizon scanning and spread and adoption of innovation across the region. Over the summer of 2017, we ran an Accelerator Scout programme. This was very successful in upskilling a core group of our Scouts to work as a stronger adoption and spread network. We will run this programme again before the end of the financial year.

In addition to events, we use a variety of media to communicate our work. These include video interviews shared on YouTube and engagement on Twitter, LinkedIn and Facebook, with several communities of practice using dedicated Facebook groups. We produce case studies to promote best practice and proven innovations, promoted through social media; press releases, blogs, monthly e-newsletters, an Innovations magazine and other printed collateral to support all programmes of work. Our focus in communications and events is to promote great work which is ready for spread, share opportunities for support from national and local sources, and to acknowledge the important role of our partners.

In 2018-20, our primary focus is on adoption and spread and we will include in our communications simple messages about how to identify and adopt appropriate innovations. This will enable service leaders to assess the value of adopting each innovation and will support widespread adoption across the North West Coast and the whole of the NHS. We will be reviewing the leadership cadres who benefit from these programmes and aligning them to STP leadership development needs in partnership with AQuA and the NW Leadership Academy.

Alignment with Sustainability and Transformation Partnerships (STPs)

We have been an active supporter of our two Sustainability and Transformation Partnerships since their inception, sitting on Boards and working groups, offering a menu of support options and funding for region-wide programmes, such as the spread of health coaching. We continue to use this term throughout the business plan, recognising that ICS (integrated care system), ICP (integrated care partnership) and H&CP (health and care partnership) are variously starting to replace the acronym STP.

Our role has included supporting various working groups to establish their programmes and providing an overview of a wide range of national and local innovations, including digital solutions (more details of the programmes are provided in Appendix 2 and 3).

In 2018/20, our focus will be to work with STPs and their place based systems to identify where proven innovations and improvements can help them towards their Five Year Forward View vision. We will use established New Models of Care evidence as well as change model methodology.

In each STP, the Innovation Agency has worked with STP members to establish a team led by a Director of Transformation, with an Associate Director for Transformation for each STP area. This team will develop through 2018 to build resources in system navigation, and in spread and adoption of ITT/ITP products.

During 2018, a workforce innovation programme will commence. This is commissioned by Health Education England and will report to each STP workforce programmes. A programme director will be appointed to lead this work.

These members of staff are sharing and spreading nationally and locally developed innovations across the STP footprint. The Innovation Agency and the Lancashire and South Cumbria STP also part-fund a Digital Health and Prevention Lead Consultant for the STP and work together to ensure that the goals of the population health strategy are achieved.

The Innovation Agency has supported several Innovation Exchange events, bringing different partners together to ensure that partners are aware of innovations that are ready to spread across the region.

STP leaders in both partnerships have helped to shape the Innovation Agency's business plan to ensure that it meets the future needs of the region.

Many chief executives and directors from organisations within the STPs sit on the Innovation Agency Partnership Board and its Expert Groups and are ambassadors for the spread of innovation across the region. Senior staff members in their organisations are Innovation Scouts who have been trained by the Innovation Agency to support innovation into practice. (See Appendix 2 for further details).

Approach to patient and public involvement and engagement

We have established a Public/Patient Involvement and Engagement Senate (PIES) which meets every 12 weeks and comprises patients, carers, patient advocates and charities.

The Senate supports our Connected Health Cities programme by developing feedback surveys about sharing data and helping to develop a 'wizard' for patient consent as a first interface on apps.

Members review documents, publications and website content for the Innovation Agency and provide a citizen voice on business operations such as recruitment. They take part in our patient safety steering group and in a selection panel for our Innovation Exchange portal.

There are 25 citizens recruited by our Patient and Public Involvement (PPI) Lead to test two self-care apps and to try out the consent model developed with the support of the Senate.

We have recruited 20 Atrial Fibrillation Ambassadors and are continuing to enrol residents to take on the role, which was created in partnership with the Stroke Association to use portable devices to test family and friends for atrial fibrillation.

We bring together innovative SMEs with patients and public for feedback on their products and systems; and form citizen focus groups to try out innovations.

Our PPI Lead regularly advocates on behalf of patients and residents by speaking at events and meetings focused on innovations such as data sharing and genomics. She also champions the work of the Innovation Agency and the AHSN Network in her talks to patient, charity and community groups.

SECTION 5: GOVERNANCE AND RISK

Our leadership

Our Senior Leadership Team consists of a Chairman, Vice Chair and Non-Executive Director. Their combined experience covers health, academia, applied health research, bio-medical research, med-tech health industry, pharma, communications and marketing and roles at the Association of British Health Industries (ABHI) and the Association of British Pharmaceutical Industries (ABPI).

Our Executive Leadership Team consists of a Chief Executive, Chief Operating Officer, Director of Transformation, Medical Director, Director of Digital Health and Director of Communications and Engagement and Director of Strategic Partnerships.

Their combined experience covers NHS Trust leadership at Chief Executive and Director level, CCG Chair and Director, NHS Digital Executive Director, local government senior leadership, med-tech industry leadership and senior roles in multi-national healthcare companies, SME Chief Executive and Director roles, digital industry leadership, senior consultancy and policy advisor experience, university lecturing and system-level communications and engagement experience.

These roles are underpinned by teams with a wide range of experience in health-related industry, new models of care, public health, local government, academia and patient safety.

Two senior roles have been recruited for the two Sustainability and Transformation Partnerships (STPs) in the North West Coast. Job descriptions were co-produced with the STP leadership and NHS England regional leaders, with the aim of supporting the STP to deliver adoption and spread across their place-based structures. The Innovation Agency also employs a senior Quality Improvement leader to support the STPs and commissioners with using evidence-based practice and coaching them to deploy innovation. These teams will be developed during the year to build further capacity for increased spread and adoption.

A network of 70 Innovation Scouts has been established by the Innovation Agency and they receive development support on a quarterly basis so that they are able to test, spread and develop innovation in their own health, local government or academic organisation. The Scout programme is regularly reviewed to ensure membership and training /material content remains relevant to our STP partner priorities.

Our Board and assurance process

The Innovation Agency chose to be an NHS-hosted AHSN from its inception, to maximise its income and have some 'skin in the game' alongside NHS partners. HR, finance, procurement and IT support are provided by our host Lancashire Care NHS Foundation Trust.

The Innovation Agency Board meets bi-monthly, has 45 members with representatives from NHS trusts, commissioners, Local Enterprise Partnerships, universities, trade bodies, voluntary sector, NIHR infrastructure and local research organisations.

The Innovation Agency commissions a bi-annual governance review with an external audit agency. This has been completed for 2017 and assessed whether governance of the Innovation Agency was relevant, resilient, and fit for the challenges ahead. The review reported that the Agency was well led and well governed and prompted the Innovation Agency to review its Board format, working alongside Board members. As a result, the Board changed its name to the Innovation Agency Partnership Board to reflect the role its members play in supporting adoption and spread of innovation across the health and care system and acting as advocates for the organisation.

A Finance, Performance and Strategy Committee, comprising of Non-Executives, Executive Directors and our senior accountant from our NHS Foundation Trust host meets bi-monthly before the Board meeting to consider detailed finance and performance information. This information is also presented to the host trust finance committee. The Chief Executive of the Innovation Agency attends the host Trust Board on an annual basis to present the annual report and business plan of the Innovation Agency.

Figure 1: Our leadership structure

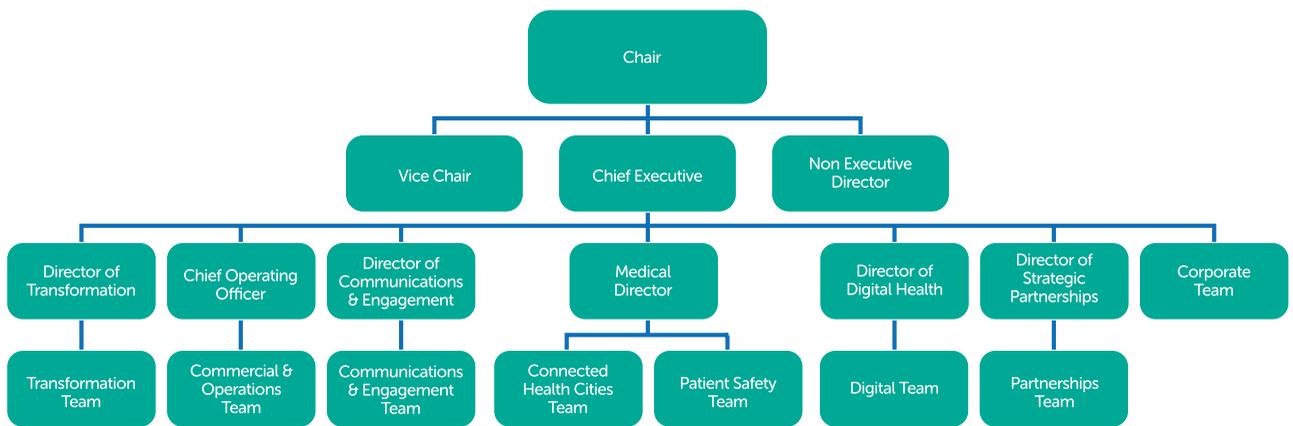
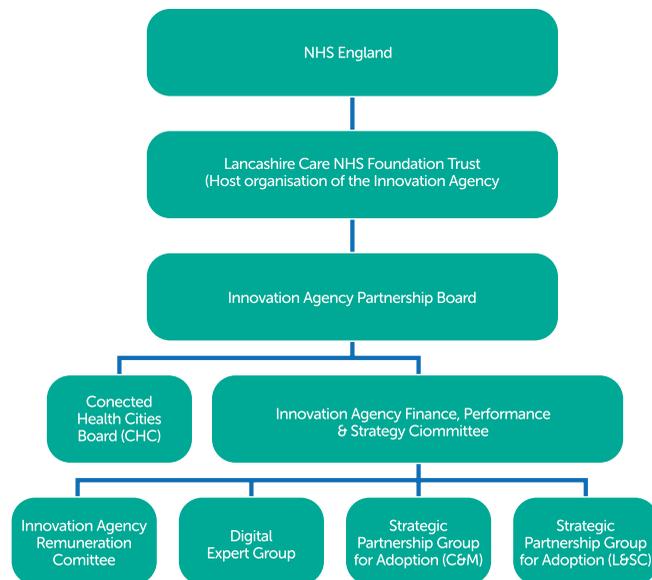


Figure 2: Our governance structure



Risks and mitigations

A risk register is presented to the AHSN Board and is updated bi-monthly. The most up to date risks relate to slippage in relicensing timescales and the associated risk of losing key staff, lack of capacity in the system to adopt innovation and the difficulty of a small organisation covering all the requirements of working across a large, complex geography.

SECTION 6: FINANCE AND INVESTMENT

Additional sources of funding, investment and income generation:

In addition to the licence, we will grow our business by securing inward investment to benefit our stakeholders; we retain sufficient funds to cover the costs of additional activity.

We currently generate income from several sources including:

- Additional NHS England funding, e.g. we secured additional funding for the Electronic Transfer of Care to Pharmacy programme within the Medicines Optimisation INN
- NHSI (Patient Safety Collaborative programme)
- Office for Life Sciences – Innovation Exchanges
- ERDF and EIT Health Product Market Fit (for SME support services)
- Horizon 2020 (innovation procurement projects Stop & Go and Ritmocore)
- Department of Health (Connected Health Cities)
- Companies (e.g. joint working agreements with pharmaceutical companies)
- Health Foundation (patient safety grant and Scaling Up grant)
- Small-scale grants for European projects for example in 2017/18 we participated in the ENSAFE (Active and Assisted Living Programme), SHiFT (EIT Health) and ALTAS (Erasmus+) projects.
- Health Education England (workforce innovation programme)

Our target for 2018/2019 is to maintain our total income and drive value from this resource and, subject to the impact of Brexit, to source additional income for 2019/20 onwards.

Table 5: Forecast benefit value from AHSN activity 2018-2020

Programme Impacts	2018/2019	2019/2020
Total National Programmes	£2,512,000	£5,552,000
Total Local Programmes	£779,000	£1,573,000
Total Social Impact	£8,193,000	£9,666,000
Overall Impact	£11,484,000	£16,791,000

Appendix 1 – Our programme plan and return on investment (£000s)

Innovation National Networks Activity	2018/2019	2019/2020
National Programmes		
PINCER	142	142
Transfer of Care Around Medicines	1,163	2,428
Atrial Fibrillation	371	1,262
Escape Pain	256	589
Serenity Integrated Mentoring	580	704
Emergency Laparotomy	0	427
PreCepT ¹	-	-
Local Programmes		
i-Thrive	110	183
Faecal Calprotectin	128	383
Connected Health Cities (COPD Project)	100	200
CATCH	81	327
Tele Triage	30	60
Video Consultation (Virtual Outpatients)	54	108
3D Printing for Surgical Planning	36	72
Local Business Connect Accelerators (Jobs Created)	24	240
Digital Health North	Demonstrator	Demonstrator
MedTech Cluster Champion (jointly funded with STFC)	Demonstrator	Demonstrator
Increase MedTech Trials in the NW (See 8. Research)	Demonstrator	Demonstrator
Connected Health Cities	Demonstrator	Demonstrator
Support NWSTU to Increase MedTech Trials in the NW	Demonstrator	Demonstrator
100,000 Genomes (Funding Project Manager)	Demonstrator	Demonstrator
Genotype Guided Warfarin	Demonstrator	Demonstrator
Workforce Innovation Programme	Demonstrator	Demonstrator
Coaching Academy	Enabling Culture	Enabling Culture
Clinical Evidence Champions	Enabling Culture	Enabling Culture
QI Network	Enabling Culture	Enabling Culture
QI Capability Building	Enabling Culture	Enabling Culture
Innovation Scouts Programme & Events	Enabling Culture	Enabling Culture
Patient Safety		
National Programmes		
NEWS	Demonstrator	Demonstrator
Maternal & Neonatal Health	Demonstrator	Demonstrator
Local Programmes		
Antibiotic Point of Care Testing to Identify Sepsis	Demonstrator	Demonstrator
Care Home Patient Safety Programme (ACC)	Demonstrator	Demonstrator
Social Prescribing for Maternity	Demonstrator	Demonstrator
ReSPECT (Culture Tool)	Enabling Culture	Enabling Culture
Total Economic Growth	240	240
Total NHS Impact National programmes	2,512	5,552
Total NHS Impact Local & National programmes	3,051	6,885
Additional Social Impact²	8,193	9,666
Overall Total	11,484	16,791

¹ROI for PreCepT (prevention of cerebral palsy) is out with the 2-year window

² Additional social returns on investment from AF, PINCER and SIM are detailed in Appendix 6

Appendix 2 – Our partners and members

Our footprint includes 23 NHS providers (22 during 2018, as two will merge), 20 CCGs, 9 universities and many life science industry partners (See Appendix 4). The STP leaders in the following areas have been directly involved in developing our business plan and priorities:

- The Healthier Lancashire and Cumbria Programme – Dr Amanda Doyle, Blackpool CCG
- Cheshire and Merseyside Partnership, England’s third largest STP area - Mel Pickup, CEO of Warrington and Halton Hospitals

Formal partners and members of the Innovation Agency are listed below:

Provider Trusts

- | | |
|---|---|
| 1. North West Boroughs Healthcare NHS Foundation Trust | 12. Liverpool Heart and Chest NHS Foundation Trust |
| 2. Aintree University Hospital NHS Foundation Trust | 13. Liverpool Women’s NHS Foundation Trust |
| 3. Alder Hey Children’s NHS Foundation Trust | 14. Mersey Care NHS Foundation Trust |
| 4. Blackpool Teaching Hospitals NHS Foundation Trust | 15. Mid Cheshire Hospitals NHS Foundation Trust |
| 5. Cheshire and Wirral Partnership NHS Foundation Trust | 16. Royal Liverpool and Broadgreen University Hospitals NHS Trust |
| 6. Clatterbridge Cancer Centre NHS Foundation Trust | 17. Southport and Ormskirk Hospitals NHS Trust |
| 7. Countess of Chester NHS Foundation Trust | 18. St Helens and Knowsley Teaching Hospitals NHS Trust |
| 8. East Lancashire Hospitals NHS Foundation Trust | 19. The Walton Centre NHS Foundation Trust |
| 9. Lancashire Care NHS Foundation Trust | 20. University Hospitals of Morecambe Bay NHS Foundation Trust |
| 10. Lancashire Teaching Hospitals NHS Foundation Trust | 21. Warrington and Halton Hospitals NHS Foundation Trust |
| 11. Liverpool Community Health (transferring to Mersey Care NHS Foundation Trust in 2018) | 22. Wirral Community NHS Trust |
| | 23. Wirral University Teaching Hospital NHS Foundation Trust |

Universities

- | | |
|--|-------------------------------------|
| 1. Lancaster University | 6. University of Chester |
| 2. Edge Hill University | 7. University of Central Lancashire |
| 3. Liverpool Hope University | 8. University of Cumbria |
| 4. Liverpool John Moores University | 9. University of Liverpool |
| 5. Liverpool School of Tropical Medicine | |

Clinical Commissioning Groups

1. NHS Blackburn with Darwen CCG
2. NHS Blackpool CCG
3. NHS Chorley and South Ribble CCG
4. NHS East Lancashire CCG
5. NHS Fylde and Wyre CCG
6. NHS Greater Preston CCG
7. NHS Halton CCG
8. NHS Knowsley CCG
9. NHS Liverpool CCG
10. NHS Morecambe Bay CCG
11. NHS South Cheshire CCG
12. NHS South Sefton CCG
13. NHS Southport and Formby CCG
14. NHS St Helens CCG
15. NHS Vale Royal CCG
16. NHS Warrington CCG
17. NHS West Cheshire CCG
18. NHS West Lancashire CCG
1966. NHS Wirral CCG

Other organisations formally committed to the AHSN collaboration include:

- Local government partners
- Charities, e.g. Stroke Association, Atrial Fibrillation Association, Arthritis UK
- Voluntary sector organisations including Active Lancashire
- NHS Digital
- Healthwatch
- Strategic Clinical Network
- NIHR Clinical Research Network: NWC
- NIHR Collaboration for Leadership in Applied Health Research and Care NWC

Health and Life Sciences Industry

Collaborations

- Association of British Healthcare Industries (ABHI)
- Association of British Pharmaceutical Industries (ABPI)
- Bionow
- eHealth Cluster
- Innovate UK
- Knowledge Transfer Network
- Medilink
- Northern Health Sciences Alliance (NHSA)
- TechUK
- Telecare Services Association (TSA)

Economic Growth

- Cheshire and Warrington Local Enterprise Partnership
- Cumbria Local Enterprise Partnership
- Lancashire Local Enterprise Partnership
- Liverpool City Region Local Enterprise Partnership

Commissioners

- NHS England
- NHS Improvement
- Office for Life Sciences
- Health Education England

A Board of 45 representatives from the following areas governs the Innovation Agency:

- Provider trusts
- Commissioners – CCGs and NHS England
- Strategic Clinical Network
- Local Enterprise Partnerships (LEPs)
- Public Health England
- NHS England (North)
- Health Education England and Local Workforce Education Groups (LWEGs)
- Universities
- NIHR Clinical Research Network: NWC
- NIHR Collaboration for Leadership in Applied Health Research and Care NWC
- Association of British Pharmaceutical Industry (ABPI)
- Association of British Healthcare Industries (ABHI)
- Tech UK
- Healthwatch
- Research and innovation centres
- Voluntary sector partners

The Board meets at least five times a year and members are expected to attend at least three out of five meetings to ensure that the Innovation Agency achieves its goals and objectives and complies with all relevant performance metrics.

Appendix 3 – Examples of work with regional partners for the forthcoming year (non-exhaustive)

Example 1: A collaboration between the Innovation Agency and the University of Liverpool, Lancaster University and AIMEs Grid Services - £4m external investment in the development of a Learning Health System – the Connected Health Cities programme. Emergency unplanned care (COPD and epilepsy) and alcohol related care are the care pathways that we are focusing on in this programme.

Example 2: Lancashire and Cumbria Innovation Alliance - continuing to support the test bed from bid to successful rollout of technology into more than 700 residents' homes. We support the communications function of the programme; have a seat on the test bed Board and lead the adoption and spread steering group.

Example 3: Sustainability and Transformation Partnership (STP) – the Healthier Lancashire and South Cumbria programme - introducing a population health model at scale across the footprint, with prevention strategies, comprehensive health promotion and wellbeing programme, community resilience and mobilisation, and support for people to co-produce health gains. The aim is for a 'one service approach' to acute physical and mental health services. The population based care delivery model incorporates the roadmap for implementation of technology, workforce, partnerships and estates.

Example 4: Sustainability and Transformation Partnership (STP) - Cheshire and Merseyside Partnership

- supporting England's third largest STP area. It includes the merger of the Royal Liverpool and Aintree University Hospitals and there is a focus on four themes:

1. Support for healthier lifestyles
2. Joint working with local government and the voluntary sector to develop joined up care, with more of that care offered outside hospitals
3. Designing hospital services to meet modern clinical standards and reducing variation in quality
4. Reducing costs in managerial and administrative areas, maximising the value of our clinical support services and adopting innovative new ways of working, including sharing electronic information across all parts of the health and care system.

Example 5: Local Enterprise Partnerships - We have worked with all four of our Local Enterprise Partnerships (LEPs) to align our health and life science sector activities economic growth. Our jointly funded post with Liverpool City Region LEP has enabled us to be a part of shaping the life sciences and health strategy for the region and supported over £180 million of investment in the Liverpool City Region over the past year. We propose to fund this post until 2020 due to the significant difference it has made to the economic growth of health businesses in the region.

Appendix 4 – What our partners say about us

Mel Pickup

CEO/STP Lead Cheshire and Merseyside STP:

The Innovation Agency has worked alongside the Cheshire and Mersey Partnership since its inception. This has included supporting various working groups to establish their programmes and providing an overview of a wide range of national and local innovations, including digital solutions.

The Innovation Agency has worked with STP members to design a job description and recruit an Associate Director for Transformation. This member of staff is in post and is starting to share and spread nationally and locally developed innovations across the STP footprint.

The Innovation Agency has supported a number of Innovation Exchange events, bringing different partners together to ensure that partners are aware of innovations that are ready to spread across the region. Many chief executives and directors from organisations within the STP sit on the Innovation Agency Partnership Board and its Expert Groups and are ambassadors for the spread of innovation across the region. These leaders have helped to shape the Innovation Agency's business plan to ensure that it meets the future needs of the region.

Senior members of their organisations have been recruited as Innovation Scouts who have been trained by the Innovation Agency to support innovation into practice.

The Innovation Agency runs the North-West Coast Patient Safety Collaborative on behalf of the region. As well as contributing to the work of the region in maternity, deteriorating patient and culture change, this programme has been rolling out the electronic transfer of care programme to share medication, admission and discharge details between acute hospitals and community pharmacies. Four hospitals in the region have gone live with this work and plans are in place for another nine to deploy the work in 2018.

The Innovation Agency is more closely aligning its delivery with the aims and needs of the Cheshire and Merseyside and Lancashire and South Cumbria STPs. In Cheshire and Merseyside, the Innovation Agency has sought the views of the STP leadership and membership about what support they want and need from the Innovation Agency.

This work will continue to iterate over the year but high-level priorities are:

- To champion the innovations funded and supported by national programmes (ITT, SBRI etc.) and to align the safety, quality and financial benefits of these innovations with the Cheshire and Merseyside programme themes.
- To increase collaborative working and reduce duplication across the STP by providing opportunities for shared learning, between organisations and places.
- To scope evidence-based innovations from across the country, and internationally, and curate these for STP programmes to support their development. This will include clinical innovations and innovative ways of organising and delivering care.
- To support the development of population health models through nine place based plans by providing access to new technologies and innovative ways of working.



Dr Amanda Doyle OBE

STP Lead Lancashire and South Cumbria; Chief Clinical Officer, NHS Blackpool CCG:

The Innovation Agency has worked alongside the Healthier Lancashire Sustainability and Transformation Partnership since its inception. This has included sitting on various working groups to establish their programmes and providing an overview of a wide range of national and local innovations, including digital innovations. One of these digital innovations is aimed at preventing strokes and the Innovation Agency has run a comprehensive programme across the region, involving a range of health, voluntary sector and community partners to deploy this programme.

The Innovation Agency has worked with STP members to design a job description and recruit an Associate Director for Transformation, who is part-funded by the STP. This member of staff joined the organisation in August 2017 and has started to identify and spread nationally and locally developed innovations across the STP footprint, including the iHACs wellbeing programme.

The Innovation Agency part-funds the Digital Health and Prevention lead for the STP and has also part-funded the development of an interactive patient record service, LPRES, which is the digital platform that is being deployed across Healthier Lancashire.

The Innovation Agency has supported a number of Innovation Exchange events, bringing different partners together to ensure that partners are aware of innovations that are ready to spread across the region. They are also a core partner in the Lancashire and Cumbria Innovation Alliance NHSE Test Bed programme, supporting the initial application, sitting on the Steering Board, funding the communications and marketing element of the programme and leading the Adoption and Spread steering group and programme.

Many chief executives and directors from organisations within the STP sit on the Innovation Agency Partnership Board and its Expert Groups and are ambassadors for the spread of innovation across the region. These leaders have helped to shape the Innovation Agency's business plan to ensure that it meets the future needs of the region. Senior members of their organisations have been recruited as Innovation Scouts who have been trained by the Innovation Agency to support innovation into practice.

The Innovation Agency runs the North West Coast Patient Safety Collaborative on behalf of the entire North West Coast region. As well as contributing to the work of the region in maternity, deteriorating patient and culture change, this programme has been rolling out a fracture prevention programme, working with CCGs to proactively identify those patients at risk of osteoporosis and fracture ensuring that preventative medication can be offered.

Prof Heather Tierney-Moore

CEO Lancashire Care NHS Foundation Trust:

As the chief executive of Lancashire Care, the host organisation for the Innovation Agency and one of the major trusts in the area, I have been massively impressed with the achievements of the Innovation Agency over the period that the organisation has held its first licence. I think it is essential to renew the licence to maintain and accelerate the progress which is having positive, quantifiable impact on systems. I also fully endorse the priorities within the Innovation Agency's Business Plan.

Professor Mark Gabbay

Director CLAHRC NWC:

I am delighted to offer a letter of strong support for the renewal of the Innovation Agency funding outlined in the business plan we have shared and discussed both at the advisory board meeting and separately.

Over the past four years we have collaborated on a number of projects of mutual interest, building on our shared and separate networks and infrastructures. Going forward, I support the developing relationship of exchanging information between our organisations for the benefit of the projects and partners. For example, the implementation programme for CLAHRC findings that is now a national programme between CLAHRCs and AHSNs. This is being built upon locally as we develop implementation science capacity building and a programme of partner projects in this area within the CLAHRC, which will align closely with the relevant areas of the Innovation Agency business plan in both project and topic specific elements where they are mutual, but also more general implementation science capacity building terms across the CLAHRC partnership, as this will synergistically support Innovation Agency programmes.

I look forward to continuing collaborations across our shared footprint, to improve health and wellbeing and reduce health inequalities for the population therein.

Karen Howell

Chief Executive, Wirral Community NHS Foundation Trust:

Wirral Community NHS Foundation Trust continues to be highly supportive and committed to working with the Innovation Agency. Their transformational focus, supported by collaboration and innovation, is essential to seeding the significant development required to maintain and sustain health and social care services in partnership with other key private and commercial agencies.

The focus on digitalisation to improve services and the patient experience; and improve the lives and efficiency of our workforce is an absolute necessity. We look forward to working together with the Innovation Agency to maximise our joint opportunities.

Mr Iain Hennessey

Consultant Paediatric Surgeon and Clinical Director of Innovation, Alder Hey Children's NHS Foundation Trust:

The Innovation Agency has been invaluable in the inception and delivery of the Alder Hey Innovation Hub. The initial £280,000 funding to prepare the 1000m² facility was provided through an innovation grant and allowed the leveraging of a further £800,000 of resource to be deployed, without which the hub would not exist.

Throughout this period, we have worked very closely with the Innovation Agency in a bi-directional flow of ideas, contacts and partnerships. As part of the Health Innovation Exchange business support programme we are collaborating with the Innovation Agency and other local partners to provide a system to encourage local SMEs to develop ground breaking medical technologies.

The continued partnership with the Innovation Agency will concentrate on expanding this programme to ensure a rich ecosystem of blue chips, SMEs, venture capitalists, patients and clinicians to continue to work together to achieve the Innovation Agency's Goal 2.

Alder Hey Innovation Hub with the support of the Innovation Agency has become a beacon site for innovation within the NHS. We will continue to work closely with the AHSN to provide a showcase for other NHS trusts, investors and academics to see innovation being implemented in both real world and idealised environments. The power of showcasing and the ability to spread the message that innovation can be achieved, is an important part of our mission to push the NHS to the top of the world's most innovative health services.

Britain is after all one of the world's most technologically advanced and innovative countries, our health system should and will be the same.

Kathryn Thompson

Chief Executive, Liverpool Women's NHS Foundation Trust:

Liverpool Women's NHS Foundation Trust remains committed to working with the Innovation Agency and is fully supportive of their five key strategic goals.

Professor Sally Spencer

Professor of Clinical Research, Faculty of Health and Social Care, Edge Hill University:

The Innovation Agency is a key driver for maintaining regional connections between all stakeholders in healthcare development and delivery. As an academic institution, it is essential that the health-related research we support is relevant for service users and providers. To achieve this, we need to work closely with organisations, such as the NHS, to identify and prioritise new research that capitalises on mutual strengths.

The Innovation Agency's five goals are consistent with these aims and we have worked together in a number of ways to meet those goals. For example, we recently invested in a new technology hub that focuses on cutting edge virtual reality systems and the Innovation Agency have supported discussions with regional partners to identify healthcare applications. We are also working with the Innovation Agency on preliminary assessment of a new point-of-care test for infections that has the potential to reduce antibiotic prescribing. We are therefore committed to supporting and further developing this mutually beneficial collaboration.

Dr Andrew Davies

Chief Officer NHS Warrington CCG:

Thank you for sharing the goals of the Innovation Agency for the coming year. I am pleased to be able to write in support of these goals on behalf of NHS Warrington CCG. As the specifics are developed, I would be happy to present them to our governing body and share their views back with you.

Mike Gibney

Director of Workforce at The Walton Centre NHS Foundation Trust:

It is fundamental to the future of The Walton Centre NHS Foundation Trust that we promote a culture of innovation to maintain our status as a centre of excellence for neuroscience. We are currently developing a number of ground breaking visions for service delivery and, complex rehabilitation. The Innovation Agency is supporting us at every step of the way in finessing the ideas, translating aspirations into practice, engaging stakeholders and providing the right level of challenge. This is further supported through their network of innovation advocates who are offering additional expertise. The continued presence and leadership of the Innovation Agency is essential to this organisation and the wider system.

Steve Bridge

Associate Director – Planning and Strategy at The Centre for Integrated Healthcare Science, Countess of Chester Hospital NHS Foundation Trust:

The Countess of Chester Hospital NHSFT has worked in partnership with the Innovation Agency over the last three years, helping us to support the development of the Centre for Integrated Healthcare Science, and is committed to continuing to do so in the future. We regard the Innovation Agency as a key partner helping us to promote innovation and system transformation activities, which are both essential for long-term sustainability and the health of our population. We have no hesitation in supporting the Innovation Agency through its next licence period.

Dr Andrew Rose

Sector Manager – Life Sciences and Health, Liverpool City Region Local Enterprise Partnership:

The Innovation Agency's support has enabled the Liverpool City Region Local Enterprise Partnership (LCR LEP) to maximise business support and support inward investment, including the recent £40 million investment at Seqirus vaccines announced by Business Secretary Greg Clark, which will create close to 100 jobs and increase pandemic resilience across the UK. The LCR LEP is committed to working with the Innovation Agency during the next AHSN licence period to achieve our mutual goals.

Brian O'Connor

Chair, European Connected Health Alliance:

The European Connected Health Alliance (ECHAlliance) works closely with the Innovation Agency and we are committed to helping them achieve their key goals, particularly in accelerating the adoption and spread of innovations and boosting economic growth.

The Innovation Agency plays a vital role in the digital health ecosystem, not only in the North West Coast but also in our wider ECHAlliance network, nationally and internationally.

Katharina Ladewig

Managing Director, EIT Health UK-Ireland:

The Innovation Agency has been a highly valued and active member of the EIT Health consortium for over three years and recently became a core partner. We share their aims of supporting entrepreneurship, healthy ageing and innovation in health and will be working with them more closely than ever, to achieve their goals in the North West Coast, nationally through the AHSN Network, and internationally through EIT Health.

Appendix 5 – Partnerships with larger companies and international organisations

Partnerships

We set ourselves the challenge to establish collaborative partnerships with larger companies and international organisations to support pathway transformation and now have agreements and / or collaboration plans in place with Massachusetts Institute of Technology Hacking Medicine, Pfizer, Bayer, Roche, Amgen, Daiichi Sankyo, Lundbeck, Medtronic and Boehringer-Ingelheim.

Organisation	Nature of Collaboration
Massachusetts Institute of Technology Hacking Medicine	Co-design and facilitation of health and care hackathons culminating in a National Innovation Leadership Summit in November 2017
Lundbeck	Funded report for National Innovation Centre on barriers to uptake of drugs to reduce alcohol consumption. Completed Oct 2016
Roche	Supporting the roll out of self-monitoring of warfarin patients in Lancashire alongside the Innovation Agency. Exploring potential collaborations in Europe through EIT Health partnership
Amgen	Funded pharmacist to work with GP practices to identify patients with osteoporosis
Medtronic	A programme manager sits on steering group of the LinQ project
BMS-Pfizer	Awarded £100k from Medical and Educational Goods and Services (MEGS) AHSN innovation fund, to support the development of innovation in the anticoagulation pathway
Bayer	Joint working agreement has been signed enabling us to obtain access to audit and case finding support and a project manager who has been seconded to the Innovation Agency to work on our North West Coast AF Collaborative
Boehringer-Ingelheim Daiichi-Sankyo	We are working to identify opportunities to collaborate through MEGs and possible joint working arrangements

Appendix 6 – Abbreviations and acronyms

AAR	Accelerated Access Review
ABHI	Association of British Health Industries
ABPI	Association of British Pharmaceutical Industries
AF	Atrial Fibrillation
AHA	Active and Healthy Ageing
AHSNs	Academic Health Science Networks
ALT	Assistive Living Technology
ALTAS	Assistive Living Technology and Skills
AQuA	Advancing Quality Alliance
CCG	Clinical Commissioning Group
CEIDR	Centre of Excellence for Infectious Disease Research
CHC	Connected Health Cities
CLARHC	Collaborations for Leadership in Applied Health Research and Care. Collaborations between local providers of NHS services and NHS commissioners, universities, other relevant local organisations and the relevant Academic Health Science Network
COPD	Chronic Obstructive Pulmonary Disease (COPD) is an umbrella term used to describe progressive lung diseases including emphysema, chronic bronchitis, refractory (non-reversible) asthma, and some forms of bronchiectasis.
CPD	Continuing Professional Development
CQC	Care Quality Commission
CRN	Clinical Research Network
ECG	Electrocardiogram, a simple test that can be used to check heart rhythm and electrical activity.
EIT	European Institute of Innovation and Technology
ERDF	European Regional Development Fund
EU	European Union
FYFV	Five Year Forward View
Haelo	An innovation and improvement science centre who focus on using improvement science to design and deliver improvements across health economies.
HEE	Health Education England
HIN	Health Innovation Network
HPC	High Performance Computing
IA	Innovation Agency, the AHSN of the North West Coast
IBD	Inflammatory Bowel Disease
IBS	Irritable Bowel Syndrome
IG	Information Governance
INN	Innovation National Network
INR	International Normalised Ratios
LEP	Local Enterprise Partnership
LPRES	Lancashire Person Record Exchange Service
Med Tech	Medical Technology encompasses a wide range of healthcare products and is used to treat diseases or medical conditions affecting humans.
MgSO4	Magnesium sulphate part of the PreCepT programme
NEWS	National Early Warning Scores
NHSA	Northern Health Service Alliance
NHSE	National Health Service England
NHSI	National Health Service Improvement
NIHR	National Institute for Health Research
NWC	North West Coast

OD	Organisational Development
OLS	Office for Life Science
PSC	Patient Safety Collaborative
PINCER	Quality improvement tool to identify at-risk patients who are being prescribed drugs that are commonly and consistently associated with medication errors
PPI	Patient and Public Involvement
QI	Quality Improvement
ROI	Return on Investment
SBRI	Small Business Research Initiative
SME	Small and Medium Enterprise
STFC Daresbury	Science and Technology Facilities Council Daresbury
STP	Sustainability and Transformation Partnerships
TSA	Telecare Services Association
Test Bed	Seven NHS and industry partnerships are testing combinatorial innovations in real-world settings, under the Test Beds Programme.
UK Industrial Strategy	The Industrial Strategy sets out the government's plan to create an economy that boost productivity and earning power throughout the UK.

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