iNNOVATION AGENCY

Academic Health Science Network
for the North West Coast

Business Plan
2019-2020

Update of plan 2018-2020

INVESTORS IN PEOPLE | Gold

The **AHSN** *Network*

European Union
European Regional
Development Fund

NHS

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SECTION 1:
INTRODUCTION

Background to the update

This document refreshes the 2018/2020 Innovation Agency Business Plan, describing how we will achieve the updated 2019/20 national programmes, with highlights from the first year.

The NHS Long Term Plan names the Academic Health Science Networks (AHSNs), as integral to its delivery and we were relicensed for a further five years, with an additional commission from the Office for Life Sciences (OLS) to deliver Innovation Exchanges, which will support the Accelerated Access Collaborative (AAC) and the spread of Rapid Uptake Products (RUP).

Innovation Agency Chief Executive Dr Liz Mear represented the wider AHSN Network as a member of the AAC Board, to develop and shape this new national workstream.

Liz also became a trustee of the Stroke Association in 2018, reflecting her dedication to improve the prevention and treatment of strokes.

Our partnership board has made a considerable contribution to the content of our business plan and to the 2019 review. A full list of our Board partners covering system partnerships, 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.

We have replaced the previous Innovation National Network programmes (INNS), which featured in the original document, with six interrelated goals. Our business support and transformation teams are delivering a new three year programme of support for regional businesses and health and care organisations, part funded by the EU in 2019.

At the end of March 2019 in the last year the companies we supported had:

- Received investment totalling £8.2million
- Gained new contracts worth nearly £2.5million
- Created 73 new jobs

Our Innovation Agency values remain as a foundation to our culture:

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

Gideon Ben-Tovim OBE
Chair, Innovation Agency

Dr. Liz Mear
Chief Executive, Innovation Agency

Executive summary

In 2019/20, our focus will be to work with place-based systems and programmes to identify where proven innovations and improvements can help towards their long-term plans. This ensures targeted uptake of national innovation programmes. We will work with them using their preferred improvement methods and curate relevant established innovations for them to consider.

We have worked with our two systems, Lancashire and South Cumbria, and Cheshire and Merseyside, to support their capacity, navigate through the changing system and capture needs and priorities. We have positioned a team within each system, led by our Director of Transformation, supported by an Associate Director in each area.

We have made excellent progress in delivering the seven national programmes, the national Innovation Technology Tariff (ITT) and Innovation Technology Payment (ITP) programmes, and the four Patient Safety Collaborative national workstreams, exceeding targets in many areas.

To deliver the increased capacity and capability for the OLS-commissioned Innovation Exchange, we expanded our team in 2018, increasing resources in system navigation, evaluation, technical product management, patient and public involvement and marketing.

More collective working across the AHSN Network will maximise programme efficiency, for instance through the Innovation Exchange, supporting others to adopt innovations from the North West Coast and proactively seeking evidence-based solutions from other AHSNs to adopt locally.

Working in collaboration with the Northern Health Science Alliance, we will promote digital health assets from innovation and incubation centres, university and science parks, NHS Test Beds, Global Digital Exemplars, Connected Health Cities and the economic prosperity of highly digitally skilled SMEs.

The NHS Long Term Plan highlights the role of the AHSN Network in speeding up the adoption of innovations. Working nationally, we will help to spread a number of products and services selected from our local regions after agreement with our commissioners. There is a particular focus in the Long Term Plan on prevention of illness and digital empowerment of patients and digital transformation of the NHS, which is part of our plans.

Our Coaching Academy strives to support a workforce skilled in change management methodologies and to cultivate Q members, Clinical Evidence Champions and Innovation Scouts. This will nourish and sustain the innovation landscape across all North West Coast partners.

National context

NHS England established AHSNs 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 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.

In January 2019 NHS England published the NHS Long Term Plan which described the national AHSN Network and local AHSNs as integral to its delivery; and AHSNs were relicensed for a further five years.

Confidence in AHSNs also led to the OLS commissioning AHSNs to deliver Innovation Exchanges, which will support the AAC. The Innovation Agency adapted its delivery plan and associated staffing to support partners to adopt innovations that will help achieve the Long Term Plan and deliver the Innovation Exchange.

The CEO of the Innovation Agency has been a member of the AAC Board on behalf of the AHSN Network, developing and shaping this important work-stream.

Local context

We are addressing major health and care challenges in the region by supporting two systems, their 14 place-based integrated care programmes and five Global Digital Exemplar trusts. We have supported the Lancashire and South Cumbria Innovation Alliance Wave 1 and 1.5 Test Bed and other regional initiatives to deliver NHS England's vision for effective and efficient health for the region's 4.1million residents.

We are working with the Liverpool City Region Combined Authority, our four LEPs, the Northern Health Science Alliance, Well North and other regional and national partners to deliver the goals of the UK Industrial Strategy in our region, building on the recent Science and Innovation Audits covering infection, high performance computing, health data and precision medicine. We are looking forward to the growing focus on efficiency and prevention and we are engaging with 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 are in Appendix 4.

The Innovation Agency has a business support team and a transformation team and by using their skills and expertise, we will complete a three-year programme of support for regional businesses and health and care organisations, part funded by the EU in 2019. Six staff joined the Innovation Agency commercial team to deliver this programme, and regional delivery partners recruited a further six staff, to help 264 SMEs access the healthcare market.

Our goals

Until 2018/19, our work focused on five goals, which were 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. From 2019/20, we have added a sixth goal to recognise the importance of our work with partners to embed an innovation culture. This sixth goal does not represent a new activity for the Innovation Agency but formally recognises our high-impact work to support a culture for innovation.

We refer to the region's Health Care Partnership (HCP) and Integrated Care System (ICS) plans and priorities throughout the goals, as we continue to work closely with and commit to meeting their needs, dedicated to improving the health and wellbeing of the region's 4.1 million citizens.

Summary of our approach:

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

6.   Support a culture where innovation can thrive (new in 2019)

SECTION 2:
MEASURING AND DELIVERING IMPACT

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.

We will continue to work collaboratively 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 Small Business Research Initiative (SBRI) Health. We will learn from the first two years' experience of delivering Innovation and Technology Tariff/Payment products and apply that to continue to support the rollout of those products and the new rapid uptake products endorsed by the Accelerated Access Collaborative. We will strive to integrate the innovations and products from these programmes into our six goals, to ensure alignment of national AHSN Network activities with our local landscape.

Delivery and projected outcomes for the AHSN Network 2018/2020

Across 2018/2020, 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

- Increase usage of nationally supported products that increase patient benefit across a range of services

- Save the NHS and social care over £200million

- Support £60m of investment and the creation of 250 jobs

Measuring impact

To support our two systems, Lancashire and South Cumbria Integrated Care System (ICS) and Cheshire and Mersey Health and Care Partnership (HCP), we will agree a set of quality metrics which measure our success in introducing innovation. Supported by robust improvement methodology, these will include processes, outcomes and balancing measures.

Using the same improvement methodology, we will measure our impact on delivering the national programmes that all 15 AHSNs have agreed with NHS England. The measures will foucs on adoption, implementation and outco mes of these evidence-based innovations. We will continue to publish high-impact case studies to share with a wider audience.

Goal 1: Support system transformation through the adoption of innovations that enhance quality and value

This goal recognises that the NHS does not articulate its needs as product requirements; therefore, our 2019/2020 focus is to understand better the needs of all our systems. This allows us to align the best local, national and regional innovations with our HCP and ICS priorities, enabling us to present our partners with a curated package of support. We will create value propositions for place-based systems that set out innovative approaches to meet their challenges.

From the ITP, AAC, NIA and SBRI, we scope the most innovative practice that will have the greatest impact. This prompts the system to think about how existing solutions can help them with their challenges. We will sit alongside partners as they develop improvement plans, and anchor a process of innovation, giving a spread and adoption oversight.

The Carter at Scale/Model Hospital programmes in the HCP and a cost-reduction programme in the ICS offers the opportunity to facilitate greater advisory alignment with Right Care and Getting it Right First Time programmes.

Furthermore, we use our knowledge of HCP and ICS priorities to direct our support to local SMEs. Where there are gaps, we will stimulate the market to respond to local needs.

Seven national programmes

The AHSN Network is supporting seven national programmes in 2018/2020. The Innovation Agency activity to date is as follows:

Since 2018, we have performed over 8,000 pulse-screening checks and distributed more than 500 mobile ECG devices through our **Atrial Fibrillation** programme. Our award-winning work with fire and rescue services continues to steer our focus on the 'detect, protect and correct' strategy.

During 2018/2019, we have successfully recruited a multidisciplinary cohort of professionals from seven organisations to deliver the **EscapePain** programme. We now have 21 sites live and plan to recruit another 11 in 2018/2019.

For **Serenity Integrated Mentoring (SIM)** we have worked with our three police forces to assess how this programme maps into their existing services for high-intensity users of mental health services. In Cheshire, we are launching a pilot in Warrington; in Lancashire and South Cumbria, we are delivering work in partnership with the ICS.

Across 13 trusts, the National Emergency Laparotomy Audit (NELA) leads have established an **Emergency Laparotomy Collaborative**. We have appointed a consultant anaesthetist to coordinate data sharing and best practice across the clinical community.

Eight trusts have made 11,000 electronic referrals to community pharmacies under the **Transfer of Care Around Medicines (TCAM)** programme. Our aim is to expand the reach of TCAM to include every trust in 2019/2020.

PINCER (Pharmacist-led information technology intervention for reducing clinically important errors in medicine management) is primary care root cause analysis to prevent patient harm. The 19/20 Quality and Outcomes Framework for general practice names the pharmacist-led information technology intervention for reducing clinically important errors in medicine management (PINCER) method, which we aim to deliver to 200 practices in 2019/2020.

PreCePT reduces the risk of cerebral palsy in babies by ensuring that mothers in preterm labour can receive the medication magnesium sulphate. We work with all eight maternity units in our region. Five are live and we aim to

deliver a stretch target of 95 per cent of eligible mothers receiving treatment by the end of 2019/2020.

Centrally funded innovations

We also deliver the national Innovation Technology Tariff (ITT) and Innovation Technology Payment (ITP) programmes, facilitating deployment of centrally funded medical technologies to improve care to specific patient populations.

For 2019-2020 there is 12 months' continued funding for the following products:

- Episcissors
- Non-Injectable arterial Connector (NIC)
- PneuX
- UroLift
- Endocuff Vision
- Heartflow
- SecurAcath
- DrDoctor

Funding for 18 months is now available for:

- gammaCore: a non-invasive vagus nerve stimulation therapy for the treatment of cluster headaches
- SpaceOAR Hydrogel: an absorbable spacer to reduce rectum radiation exposure during prostate cancer radiation therapy
- PLGF ratio and triage tests: two placental growth factor (PLGF) blood tests for the rule-out of pre-eclampsia
- Elecsys Troponin T high-sensitive assay and ARCHITECT STAT high-sensitive Troponin-I assay: two blood tests to use in rapid rule-out protocols for acute myocardial infarction
- Faecal Microbiota Transplantation: transfer of healthy bacteria for recurrent clostridium difficile bacterial infections

Several promising digital products were selected under three themes for support through the evidence generation fund, where we support a more limited rollout with more intensive evaluation.

These themes are still subject to commercial discussions and will be launched in the summer:

- Parenting app with physical and mental health information through pregnancy to six months after birth
- Digital apps to support emergency/crisis mental health assessment
- Interoperable personal health and care record tool

We will deliver the AAC Rapid Uptake Products as they are agreed with the AHSN Network and our delivery partners NICE, NHS England, NHS Improvement, NIHR, AMRC, National Voices, ABHI, ABPI, MHRA, RMOCs and other regional and national agencies as appropriate to the product/service (Appendix 1).

Four of the ITT and ITP innovations are also supported through the AAC RUP programme: UroLift, Heartflow, PLGF and High Sensitivity Troponin assays. Three additional AAC RUP innovations will also be supported: Faecal Immunochemical Test (FIT) for earlier detection of bowel cancer; Cladribine for better management of severe relapsing remitting Multiple Sclerosis and PCSK9 cholesterol inhibitors.

Improving uptake of national programmes, ITP and AAC products also contribute to Goal 2.

Goal 2: Deliver an Innovation Exchange to accelerate innovation into practice and drive economic growth

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 OLS. Supporting commerce and economic growth is a priority for AHSNs. This has resulted in 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

Identifying need and communicating demand

- In our role as HCP and ICS innovation partner, we will link our innovative businesses to 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 HCP and ICS partners and elevate their visibility where appropriate

- Having a timely reference process to the continuously evolving articulation of the needs and priorities for our HCP and ICS areas

- Classifying our product knowledge into a system that holds the products using language that describes system need rather than disease, allowing us to curate bespoke requests for innovation support more effectively

- Creating combinatorial product advice to our system leaders on specific priority areas either as a direct response to a request or as a provoking 'thought piece' to a known problem

- Increasing uptake of innovation across the HCP and ICS by aligning pathways to adoption with existing or emerging transformational priorities and support each organisation or system programme to put innovation into practice; reducing risks to investors and funders as innovations become commercially viable. An innovation oversight report gives uptake levels on national programmes across all system organisations to the ICS and HCP executive teams

- Building on our existing successful programme of events to share the best innovations across the region and showcase innovations that are market-ready.

Signposting

- Delivering a business support function to industry partners and (through our ERDF match-funded programme) SMEs in our region including social enterprises

- Acting 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

- Supporting local SMEs to access European markets through the European Institute of Innovation and Technology (EIT) Health programme and provide business support to three European SMEs, funded by EIT Health

- Identifying and supporting funding opportunities and applications

- Recommending products, as appropriate to the AHSN Network, the assessment panel for the AAC, ITP scheme, for potential national rollout

- Supporting the NIA, signposting, and supporting our entrepreneurs who want to apply

- Supporting the clinical and social entrepreneurs who work in our region to develop their products and services

- Providing a local support mechanism for local colleagues on the national Clinical Entrepreneur Programme. We will develop a community of practice during 2019/2020 that includes clinicians and social entrepreneurs at all levels of their development

- Continuing to develop the Innovation Exchange online portal shared with Yorkshire and Humber AHSN to showcase innovations we are supporting in the region; launching an enhanced portal in 2019

- Trawling for visibility of existing innovative practice from our partners and sharing across the patch/nationally

- Actively contributing to the central system established to deliver the Innovation Exchange programme nationally; supporting others to adopt innovations we have in the North West Coast and proactively seek evidence-based solutions from other AHSNs to adopt in our region

- Subject to successful funding applications, we will launch three new business support projects across Lancashire, Liverpool City Region and Cheshire and Warrington, including real world validation for those with market-ready innovations that meet the needs of our HCP and ICS

- 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 2019/20 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

- 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

- 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:

  - Ritmocore – remote monitoring for patients with implanted cardiac devices (€1.1million to fund procurement of innovative medical devices)

  - Product/market Fit – funded support in 2018 for EU SMEs with innovations relevant to the NHS

  - Bridgehead - funded support in 2019 for EU SMEs with innovations relevant to the NHS

  - Continuing to support the Global Digital Exemplars having supported them to secure £45million of total investment

Evaluation in practice

- Supporting two Innovation Exchange projects, that are match-funded by the system, to validate solutions aimed at enabling successful discharge from service and reducing readmissions.

- Subject to successful European Regional Development Funding (ERDF) applications, we will support around 25 SMEs with evaluations of their innovations in practice with match funding from ERDF and university partners

- Continuing to evaluate a range of system-led innovation implementations commenced in 2018

- Completing the evaluation of the projects from our 2017 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.

Spread and adoption

- Providing a programme of coaching for system leaders to increase capability in the adoption of innovation

- Facilitating 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

- Having a Community of Practice for North West Coast clinical entrepreneurs and social entrepreneurs that supports them with coaching and core business skills in their early stage development

- Organising Ecosystem events each quarter that bring together academia, NHS and industry on a single topic that is identified as a system need. This year, our ecosystem events will become an anchor point to a quarterly theme. The event will be complemented by targeting system programme leaders with roundtable events, publications related to the theme and targeted spread of the content by all Innovation Agency teams into their networks that enable dissemination of the messages to the wider NHS and social care audience each quarter

- Taking a strategic approach to spread and adoption, building on the best academic research in this area and informed by the innovation exchange network

- Collaborating with the procurement hubs across our region and with the model hospital/carter at scale and cost-reduction work streams of our HCP and ICS.

New HealthTec Cluster

In 2018, we established a HealthTec Cluster, sharing funding with the Science and Technology Facilities Council (STFC) and appointed a leader for this cluster. Medical technology industry makes a vital contribution to economic growth in our country, employing 95,000 people in 2,500 companies, mostly SMEs.

In partnership with our 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. The cluster launched in May 2019 and we look forward to working with an extended range of medtech and digital businesses in future years.

European programmes

In 2016/2017, working with partners across the region, we secured £6.5million, including £3million from the ERDF, to support SMEs. Our programmes help businesses to develop and commercialise health innovations from which

citizens across the region benefit, as well as developing 14 innovations, and commercialising 50 new products and services. In 2019, we hope to extend all of these projects for a further three years, working with university partners to include real world validation for eligible SMEs. One of the 2018/2019 programmes has confirmed funding and the other programmes await approval in 2019.

In addition, we delivered 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 2017/2018, we upgraded our membership of the EIT health programme from associate partner to core partner status. This enables us to gain more investment opportunities for our SMEs and partner organisations throughout 2018 to 2020. In 2019, we were successful in joining a new EIT catalyst programme (Bridgehead) and now support six European SMEs access the UK market.

We jointly fund a post with Liverpool LEP and 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 £180million of economic investment.

We have successfully delivered a €1.1million EU-funded innovation project, Ritmocore, which enables remote monitoring for patients with implanted cardiac devices. Winning additional income from national and international opportunities such as Horizon 2020, SBRI and EIT Health and the new Shared Prosperity Fund, we will submit or support at least eight applications to EIT Health for 2019/2020 funding.

We will continue to signpost and support applications for various European, national and local funding opportunities. Through our business support partnerships, our European funding bids will continue to have an impact on the local economy and build on our record of accomplishment of securing grants, revenue and capital funding for local SMEs and small partnerships.

Expected local impacts, measures and benefit value:

Expected impact	Measures	Benefit value
Alongside our delivery partners we will support 264 SMEs across three ERDF business support projects (2016/2019)	• # 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 14 new healthcare products in the market and 50 new products and services for SMEs.
Win and increase investment in grants and private capital.	• £ 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.
Successful delivery of EU funded innovation projects: • Ritmocore • P/M Fit • EIT Accelerator	• # innovations adopted • # organisations adopting innovations • # contracts for SMEs • £ funding into region	€1million 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.
Secure further ERDF projects for 2019/2022 to continue business support for local SMEs and introduce funded real-world validation for their innovations	• # new contracts with Ministry of Housing, Culture and Local Government • Match funding from delivery partners and ERDF	Continuation of business support for more than 200 SMEs over the next three years with real world validation for over 100 SMEs

Goal 3: Develop and connect the digital health and care sector

We support our partners to be part of national digital transformation programmes and we provide a solution finding service in which we match proven digital innovations and products with identified needs. Most solutions involve a digital application and there will be a digital stream throughout all our six goals.

The St Helens and Knowsley Teaching Hospitals' video appointments for stroke patients, Alder Hey Children's Hospital patient chatbot and the remote monitoring of patients in the Lancashire and South Cumbria test bed are all excellent local examples of the benefits of digital technology and artificial intelligence.

We are entering the final phase of the Connected Health Cities programme, which has demonstrated the power of sharing data in order to improve care pathways. Having successfully established a Trusted Research Environment with an industry partner, we will continue to provide analytics to our health system and refine our algorithm.

We remain members of digital steering groups for both Cheshire and Merseyside and Lancashire and South Cumbria; we belong to the Pennine Lancashire Care Digital Health Board and continue to provide constructive input to the shaping and delivery of their related portfolios of initiatives.

We will continue to support the Empower the Person and primary care transformation objective including the rollout of the NHS Login, NHS App, the digital child health record eRedbook, common accessed personal health record, patient activation measure scoring, polygenic scores, eConsult and point of care testing. We will promote the NHS App Library and work with NHS partners to support and encourage effective social prescribing of validated health and care apps.

We continue to support the Share2Care interoperability programme for our region and the Liverpool City Region 5G test bed programme. We provided funding towards the Lancashire and South Cumbria digital discharge bag which will be launched in 2019 at East Lancashire Teaching Hospitals. We plan to bid for a Digital Innovation Hub and we are supporting a consortia bid for funding to build projects around the Industrial Strategy Grand Challenge on healthy ageing.

We continue to co-ordinate bi-monthly meetings of our Digital Expert Group, which acts as a forum to share, explore and form perspectives around national policy and programmes. We invite selected SMEs to explore their offer to the health and care system and draw on the latest progress, challenges and opportunities from members within local health and care organisations and universities. We expect that with the changing health and care landscape, this group will have a further iteration in 2019.

We will complete the evaluation of projects from our 2017 Transformation through Innovation Fund and Digital Investment Fund. This will support our HCP and ICS to deliver the 30 per cent reduction in physical outpatient appointments required in the Long Term Plan, through more use of digital technologies.

Our collaboration with the Telecare Services Association (TSA) helps to connect providers of assistive technology with mainstream healthcare. We will again support the TSA in running a national conference.

We will support the development of digital leaders through the North West Skills Development Network and Digital Academy and establish a programme with Health Education England to create a place-based integrated care workforce model with digital optimisation.

Goal 4: Deliver the national Patient Safety Collaborative programme

This goal is dependent on effective engagement across all 15 AHSN-based Patient Safety Collaboratives (PSCs), all our stakeholders and partner organisations. The PSC is a national programme offering staff, service users, carers and patients the opportunity to work together to tackle specific patient safety problems, improve the safety of systems of care, build patient safety improvement capability and focus on actions that make the biggest difference using evidence-based improvement methodologies.

Our North West Coast vision is to ensure that patient safety outcomes are the best in the world. We achieve this through adoption and spread of evidence-based patient safety innovation and by delivering four national work streams:

1. Improved recognition of physical deterioration, including sepsis and Acute Kidney Injury

2. Improving maternal and neonatal safety

3. Improving safety relating to medicines

4. Adoption and spread of evidence-based interventions, namely:

    -   Chronic Obstructive Pulmonary Disease (COPD) Discharge Bundle

    -   Emergency Department Checklist

    -   Emergency Laparotomy Collaborative

    -   Magnesium sulphate administration in pre-term labour (PreCePT)

Healthy ageing

Another aspect of the PSC work is Active and Healthy Ageing North (AHA North). The award of Reference Site Status led to the four Northern AHSNs creating a framework for formal collaboration with the NHSA. To launch the start of the pan-Northern programme, we held a shared event to display award-winning examples in older population health from across the North of England. 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.

Goal 5: Collaborate with the national AHSN network

Working with fellow AHSNs in our national Network we help to spread a number of products and services selected from our local regions and agreed with our commissioners. There is a particular focus in the Long Term Plan on prevention of illness and digital empowerment of patients and the NHS and our plans already reflect these focus areas.

We are commissioned to collectively support seven national innovation programmes, which were initially developed by local regions, as well as adoption of the innovations funded through the Innovation Technology Tariff/Payment programmes plus the Rapid Uptake products identified by the Accelerated Access Collaborative. We also collectively support the NHS England Test Bed programme.

The Office for Life Sciences (OLS) commissioned AHSNs to deliver Innovation Exchanges, which operate regionally and nationally to identify needs, signpost innovators to relevant support, validate innovations in practice and drive spread and adoption. The infrastructure, processes and resources for the Innovation Exchanges also support the national Accelerated Access Collaborative and uptake of the 'Rapid Uptake Products'.

The Patient Safety Collaborative commissioned by NHS Improvement similarly includes four national programmes delivered by all 15 AHSNs within their regions.

Across all these programmes we actively engage and share learnings with the AHSN Network. We:

- Collate economic growth metrics around jobs created by collectively surveying and evaluating the businesses and stakeholders we work with to assess our impact

- Measure outputs/outcomes for residents and patients of the seven shared innovation programmes we are rolling out

- Produce and publicise case studies highlighting the impact of our support so that the programmes can be adopted/adapted in other regions

We work with the AHSN Network on national programmes and events such as the NHS Innovation Accelerator, Clinical Entrepreneurs programme, Health and Care Expo, 'Bridging the Gap' business development programmes, national programme events and the NHS Confederation Conference. In 2019 we will also be sponsoring the Health Efficiency Through Technology Event and the Northern Future Forum.

The Innovation Agency Executive team plays a full part in supporting the AHSN Network and our members have led or lead a number of national groups, including the leadership of the Innovation Exchanges, AAC development and oversight, leadership of the Commercial Directors Forum and of the Communication Directors Forum

In addition to collaborating at national level with all 15 AHSNs we work on a range of initiatives with multiple AHSNs, such as our Innovation Exchange portal with Yorkshire and Humber AHSN; the Northern Digital Ecosystem event in 2018 and the Excellence in Supply Awards and Medilink Awards in 2019 with Health Innovation Manchester and Yorkshire and Humber AHSN.

Goal 6: Supporting a culture where innovation can thrive

A partnership approach

Our Coaching Academy provides a rolling programme of Continuing Professional Development (CPD) accredited training courses for skills and knowledge for Putting Innovation into Practice. We will continue to work with academic partners to develop online offers, hosting them on our existing Moodle site and improving access to all. This work will be targeted at increasing capacity and capability in our HCP and ICS to adopt innovation.

We will continue to work with the North West Leadership and Development Collaborative which comprises the Advancing Quality Alliance (AQuA), North West Leadership Academy, North West Employers, Health Education England and Health Innovation Manchester, to provide a co-ordinated offer to regional 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 work with the Cheshire and Merseyside Local Workforce Action Board (LWAB) to understand the workforce and organisational development needs of the HCP and ICS.

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

We will focus our capabilities for coaching by progressing three key areas:

1.   Coaching for adoption and spread of innovation, taking a theme-based approach based on HCP and ICS priorities,

2.   Supporting a coached programme of Academy development in our ICS and HCP areas

3.   Offering a coach training programme for a continuously improving and safe culture, sponsored by our Patient Safety Collaborative.

Plans for developing priorities within our region include:

•   Providing 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.

•   Supporting system level Academy development to support system leaders with transformation (see page xx)

•   Taking a strategic approach to quality improvement that identifies need, champions innovation and develops capacity to adopt and implement solutions

•   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

•   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 and AQuA) 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 collaborate to produce a workforce skilled in change management methods and ready to adopt innovation. This will include our work to develop and support Quality Fellows, Clinical Evidence Champions, Innovation Scouts and through our 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 ICS in Lancashire and South Cumbria

- Offer hackathon and design-thinking events as appropriate

- Support ICS and HCP system development by offering expert facilitation and coaching to support newly formed groups to develop purpose and overcome conflict

- Work with the Health Foundation to coordinate and support growth and mobilisation of the community of Q 'quality improvers' in the North West Coast.

SECTION 3:
ENGAGING SYSTEM PARTNERS

Alignment with system partnerships

Since their inception, we have been an active supporter of our two system partnerships, Cheshire and Merseyside Health and Care Partnership (HCP) and Healthier Lancashire and South Cumbria Integrated Care System (ICS). We sit on Boards and working groups and offer a menu of support options and funding for region-wide programmes, such as the spread of health coaching.

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.

In 2019/2020, our focus will be to work with systems and identify where proven innovations and improvements can help them towards their long-term NHS plan design and delivery as well as ensuring targeted uptake of national innovation programmes. We will curate relevant established innovations for them to consider.

In each system, the Innovation Agency has worked with partners to establish an Innovation Agency team led by a Director of Transformation, with an Associate Director for Transformation for each area. This team is now fully established and is positioned within the system PMO teams to support their capacity, to navigate through the changing system and to capture needs and priorities. This is now producing results, with the Innovation Agency being seen as the lead innovation partner in each area. Success is also demonstrated through achieving uptake targets for all ITT/ITP products.

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

Workforce innovation programme

During 2018, we embarked on a two-year workforce innovation programme. This was commissioned by Health Education England to support each system's workforce programme. A programme manager was appointed in 2018 to lead this work.

The programme contains three projects:

- Developing a standardised integrated workforce build model for a primary care network with a focus on mental health and learning disabilities. This will test the hypothesis that this model can be replicated across any primary care network using population health demand data. If the test is successful the Local Workforce Action Boards (LWABs) will adopt and seek uptake of this method across their systems

- Developing new routes of access for psychology graduates into mental health roles to help close major workforce gaps. Psychology is one the largest graduate outputs in the UK but very few are able to take up training routes into the NHS because of structural barriers. In this project universities, service providers and psychologists are working together to develop recommendations to LWABs and Health Education England (HEE)

- Undertaking market research to identify the strategies the LWABs must take to become a more attractive employer to residents of the North West Coast and to attract a greater share of trained professionals nationally. Recommendations will be at the 'disruptive' end of strategic thinking for each LWAB to consider in their strategic planning.

Innovation Scouts and Innovation Exchange Network

We reviewed our Innovation Scouts programme during 2018/2019 in the light of ICS/HCP development, the emergence of many parts of the system that are not statutory organisations, ie programmes, places and networks and the emergence of national spread programmes. We will implement these changes during 2019/2020:

The Innovation Scouts will continue as a community of practice. We will open up membership to clinical and social entrepreneurs and we will offer development and training opportunities to them on a quarterly basis as well as opening up Innovation Agency events and sharing publications.

We will also develop a formalised Innovation Exchange Network. This will help to connect the Innovation Agency to each component of a system intelligence map. The components include NHS organisations, local authorities, GP federations/primary care networks, clinical networks and STP/ICS programme workstreams.

Network members will be senior connectors in their part of the system. They are our agents for horizon scanning for describing priorities and needs, for pull of their innovations into the Innovation Agency and for supporting the spread and adoption of innovations across the region. We will support them with an identified link person within the Innovation Agency, with bespoke offers such a solution finding, support for service improvement work and cultural support for development of innovative practices in their parts of the system.

Some individuals may be both a Scout and an Innovation Exchange Network member.

Supporting system Academies

We are a partner to our HCP and ICS in their developing 'Academy' structures. These are supported by NHS England and are aimed at developing the systems to accept, design and deliver the transformational changes that they need to make to services. We offer events, facilitation and coaching support to each Academy as well as innovation, strategy and planning support.

Collaborating with research partners

We are working with our research communities to translate population health research into practice. Our approach is to work with the NIHR Clinical Research Network (CRN) North West Coast and the partnership of the Northern CRNs to engage primary care services and clinicians to increase participation in research, and involvement in our regional and AHSN Network programmes, 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 of high value to the NHS and suitable for further evaluation or implementation.

Alongside the North West Coast CRN and ARC, we will leverage the region's research assets, 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 use The AHSN Network Research Needs Survey as a basis for discussion on a local strategy.

We will continue to work with the Northern Health Science Alliance (NHSA), Well North, the CLAHRC/ARC and our nine universities to shine a spotlight on health inequalities in the North.

We co-ordinate the Connected Health Cities research programme, covering three clinical pathways - COPD, epilepsy and alcohol-related care, 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.

Following a review of collaborative opportunities, we will:

- Develop and test a new process of integrated working between CRN and CLAHRC/ARC and the Innovation Agency, to systematise a seamless approach from primary research all the way to adoption and spread through the collaborative approach

- Use the ARC and universities as evaluation partners for our innovation work

- Contribute to the review and future development of Liverpool Health Partners' Research Hub to align research priorities around the needs of the local population

- Support the development of a Research and Innovation Alliance for the ICS, bringing together all Lancashire and South Cumbria universities to support NHS and care priorities with their research

- Run the annual North West Coast Research and Innovation Awards, organised in partnership with NIHR ARC 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

- Continue to support SMEs to work with universities in 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.

Events

We have a full programme of engagement activities to support our partners and connect them with relevant innovations and national NHS innovation programmes.

This includes a quarterly Digital Ecosystem event aligned to the priorities of local systems, bringing together innovators with health and social care partners to explore best practice and solutions to challenges.

These Eco events add real value to our business partners and health and social care organisations. Many other events are organised to support our programmes of work and a range of communication activities promotes our offer and highlights opportunities for our partners.

One of our business partners, Dignio, describes what happened after attending an Eco event:

"We attended Ecosystem '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 theme also encouraged us to look at how Technology Enabled Care could be re-purposed 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 owe so much to the Ecosystem event, we just wanted to say thank you."

Communications

In addition to events, we use a variety of media to communicate our work and examples of great work from our partners. These include videos posted on YouTube, many of which are short interviews with speakers at events, summarising key points. Podcasts are created from presentations at events so that the learning can be shared more widely.

We co-ordinate several communities of practice using dedicated Facebook groups. We produce case studies to highlight best practice and proven innovations; press releases, blogs, monthly e-newsletters, an Innovations magazine and other printed collateral to support all programmes of work. On social media, particularly Twitter, we join discussions and signpost followers to new resources.

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.

Patient and public involvement and engagement

We have established two Public/Patient Involvement and Engagement Senates, which comprise patients, carers, patient advocates and charities.

The Senates support our Connected Health Cities programme by developing feedback surveys about sharing data and have helped to develop a 'wizard' for patient consent as a first interface on apps. They are also testing two self-care apps and trying out the consent model.

We have recruited around 40 volunteer Atrial Fibrillation Ambassadors, carrying out pulse testing with portable devices and we will continue to recruit volunteers to carry out pulse tests in their workplaces and local communities.

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.

Senate members also 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 provide feedback about products on our Innovation Exchange portal.

SECTION 4:
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, medtech industry, pharma and marketing 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.

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

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 regional systems in the North West Coast. Job descriptions were co-produced with the STP/ICS leadership and NHS England regional leaders, with the aim of supporting the systems to deliver adoption and spread across their place-based structures. The Innovation Agency also employs a senior Quality Improvement leader to support the systems and commissioners with using evidence-based practice and coaching them to deploy innovation.

A network of Innovation Scouts supports the development of clinical and social entrepreneurs. An Innovation Exchange network has been established by the Innovation Agency to provide systematic connections with all parts of our system to support spread and adoption.

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 quarterly and has 45 members with representatives from NHS trusts, commissioners, Local Enterprise Partnerships, universities, trade bodies, the voluntary sector, NIHR infrastructure and local research organisations.

The Innovation Agency commissions a bi-annual governance review with an external audit agency. This was last completed in 2018 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 non-executive, executive directors and a senior accountant from our host trust, meets before the board meeting to consider detailed finance and performance information. The Chief Executive of the Innovation Agency attends the host trust board annually to present the annual report and business plan of the Innovation Agency.

Figure 1: Our leadership structure
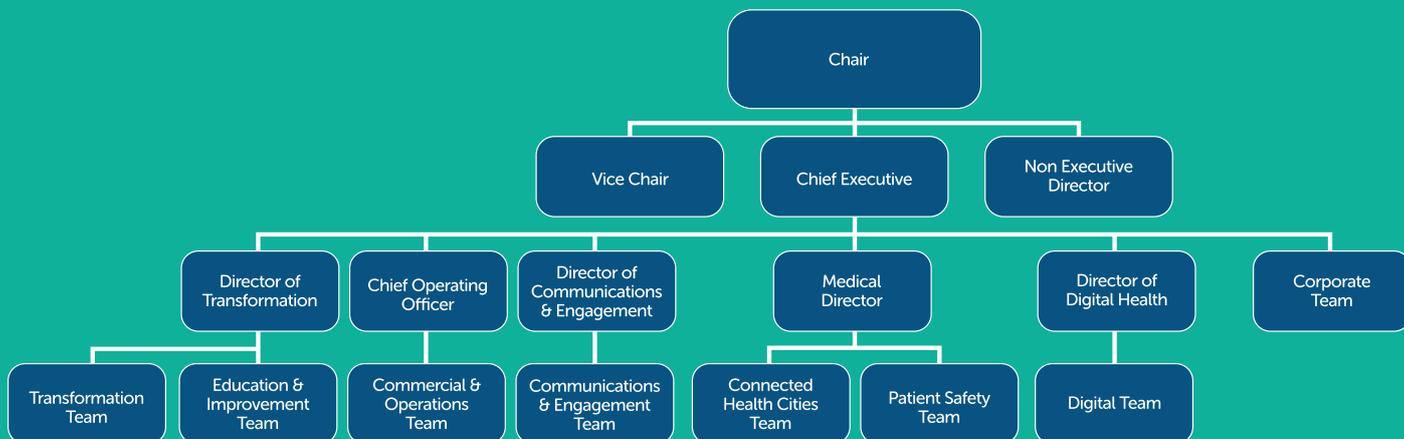
Figure 2: Our governance structure
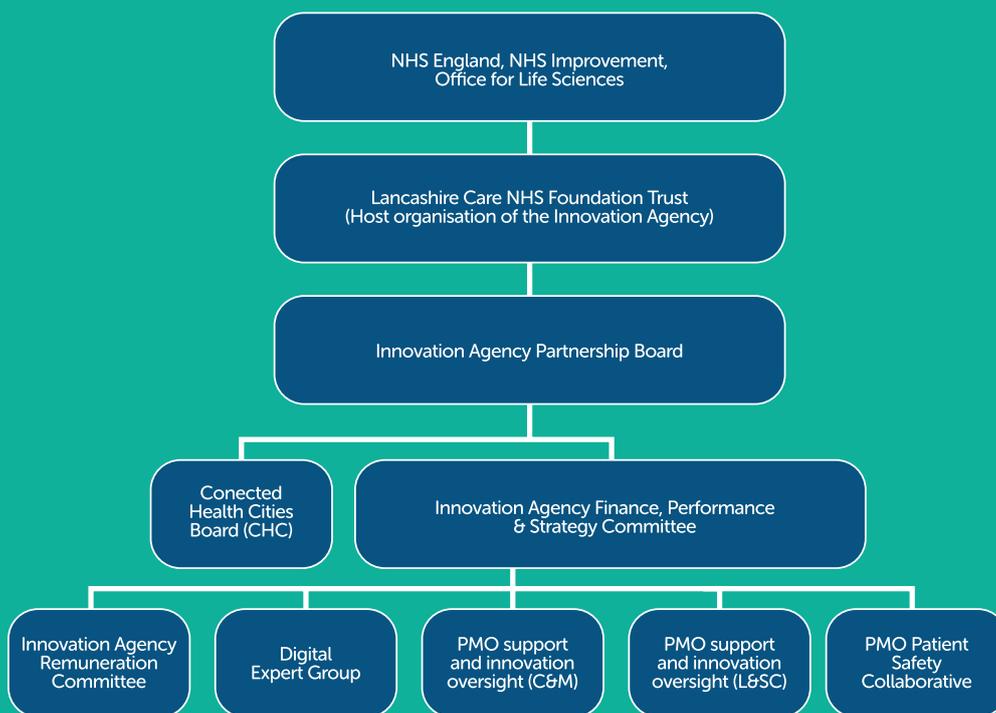
Performance monitoring, risks and mitigations

We use the AHSN-wide Verto system to ensure that we are monitoring our targets. We also have a number of sharing systems such as Kahootz and Moodle to enable staff to share knowledge and gain support.

A risk register is presented to our partnership board and finance, performance and strategy committee

SECTION 5:
FINANCE AND INVESTMENT

Plans for developing priorities in our region include:

In addition to the licence funding from our three national commissioners – NHS England, NHS Improvement and Office for Life Sciences - we grow and sustain our business by securing inward investment to benefit our stakeholders

We currently generate additional income from several sources including:

- Additional NHS England funding, for the Transfer of Care Around Medicines programme

- ERDF and EIT Health Product Market Fit and Bridgehead for SME support services

- Horizon 2020 for innovation procurement projects Stop & Go and Ritmocore

- Department of Health for Connected Heath Cities

- Companies, eg joint working agreements with pharmaceutical companies

- Health Foundation, a patient safety grant and scaling up grant

- Small-scale grants for European projects, for example in 2018/19 we have been participating in the Ritmocore Horizon 2020 project

- Health Education England, for a workforce innovation programme

- Q Programme funded support from Health Foundation

- North Wales Health Board, for strategy support

Our target for 2019/2020 is to maintain our total income and drive value from this resource, to extend and increase match funding from ERDF for business support and, subject to the impact of Brexit, to source additional income for 2019/20 onwards.

Appendix 1 - Our national programme plan

Name	Measure Description	Total 18/19 Target	Total 19/20 Target*
PINCER	Number of GP practices adopting PINCER	0	200
AF	Numbers of previously unknown AF patients diagnosed with AF	8,000	11,000
TCAM	Number of completed referrals using TCAM	14,000	30,000
ESCAPE-Pain	Number of people completing the ESCAPE-Pain programme	390	1,398
PReCePT	Number of additional mothers receiving MgSO4	29	58
Emergency laparotomy	Numbers of emergency laparotomies in hospitals adopting the programme	0	1,666
SIM	Number of high intensity users cover by SIM	0	12
SpaceOAR Hydrogel. ITP 19/20	TBC	n/a	*
gammaCore. ITP 19/20	TBC	n/a	*
Elecsys® Troponin T-high sensitivity assay. ITP 19/20	TBC	n/a	*
Placental Growth Factor Tests (PLGF): ratio and triage. ITP 19/20	TBC	n/a	*
Three EGF digital themes: parenting; mental health assessment; personal health records	TBC Funded via Evidence Generation Fund (EGF)	n/a	*
DrDoctor. ITP 19/20	TBC		
Heartflow. ITP 18/19, 19/20	Number of Heartflow scans appropriately used	240	*
SecurAcath ITP 18/19, 19/20	Number of units sold	5,962	*
Endocuff Vision ITP 18/19, 19/20	Number of units sold	2,220	*
NIC ITT 17/19, 19/20	Number of units sold	7,985	*
Episcissors60 ITT 17/19, 19/20	Number of episcissors used for guided episiotomy	2,484	*
UroLift ITT 17/19, 19/20	Number of cases performed	272	*
My COPD ITT 17/19, 19/20	Number of patient licences activated	**	*
PneuX ITT 17/19, 19/20	Number of units sold	**	*
Faecal Microbiota Transplant (FMT) ITT 17/19, 19/20	Number of transplants	**	*
Heartflow	Also supported via ITT/P	n/a	*
Urolift	Also supported via ITT/P	n/a	*
Placental Growth Factor Tests (PLGF): ratio and triage	Also supported via ITT/P	n/a	*
Elecsys® Troponin T-high sensitivity assay	Also supported via ITT/P	n/a	*
Faecal Immunochemical Test (FIT)	No target	n/a	n/a
Cladribine (Movenclad	No target	n/a	n/a
PCSK9 inhibitors	No target	n/a	n/a

* Target not yet set for 2019/20   ** No target nationally

Appendix 2 - Our partners and members

Our footprint includes 22 NHS providers, 19 CCGs, nine universities and many life science industry partners (See Appendix 4). The HCP and ICS leaders in the following areas have been directly involved in developing our business plan and priorities:

- Healthier Lancashire and South Cumbria – Dr Amanda Doyle, Blackpool CCG
- Cheshire and Merseyside Health and Care Partnership, England's third largest STP area - Mel Pickup, CEO of Warrington and Halton Hospitals NHS FT

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

Provider Trusts

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

Universities

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

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
19. NHS Wirral CCG

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)
- HealthTec Cluster with STFC

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
- Liverpool Health Partners

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

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 - £4million external investment in the development of a Learning Health System – the Connected Health Cities programme. Emergency unplanned care (COPD and epilepsy) and alcohol-related illness are the care pathways that we are focusing on in this programme which has been funded up to December 2019.

Example 2: Integrated Care System (ICS) – 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 3: Sustainability and Transformation Partnership (STP) - Cheshire and Merseyside Health and Care 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 4: Local Enterprise Partnerships (LEPs) - We have worked with our Local Enterprise Partnerships to align our health and life science sector activities and generate 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 £180million of investment in the Liverpool City Region over the past year. We will continue to fund this post 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 HCP (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.

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

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.

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. These will align closely with the relevant areas of the Innovation Agency business plan in both project and topic-specific elements where they are mutual. This will also happen with the more general implementation of science-building capacity across the CLAHRC partnership, as this will synergistically support Innovation Agency programmes.

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 to 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 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 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 and Halton 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, 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 £40million 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.

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, Diiatchi Sankyo, Lundbeck, Medtronic and Boehringher-Ingleheim.

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
Boehringher-Ingleheim Diiachi-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
CLAHRC	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.
HCP	Health and Care Partnership
HEE	Health Education England
HIN	Health Innovation Network
HPC	High Performance Computing
IBD	Inflammatory Bowel Disease
IBS	Irritable Bowel Syndrome
ICS	Integrated care system
IG	Information Governance
INR	International Normalised Ratios
ITT	Innovation and Technology Tariff
ITP	Innovation and Technology Payment
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 Sciences
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 or Medium Enterprise
STFC Daresbury	Science and Technology Facilities Council Daresbury
STP	Sustainability and Transformation Partnership
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 boosts productivity and earning power throughout the UK.

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