



Health  
Innovation  
**Manchester**

# ANNUAL REPORT

## 2017 - 2018

 Discover

 Develop

 Deploy

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Our vision is to be a recognised  
international leader in  
accelerating innovation that  
transforms citizens'  
health and wellbeing.

## FOREWORD

Positioning Greater Manchester  
as an internationally renowned  
location for life science, med-tech  
and digital healthcare research and  
innovation.

We are delighted to bring you the first annual report from Health Innovation Manchester.

2017/2018 has been a year of major transition as we brought Manchester Academic Health Science Centre (MAHSC) and Greater Manchester Academic Health Science Network (GMAHSN) under the single umbrella of Health Innovation Manchester in October 2017.

Despite the challenges of a major transition, we have continued to successfully maintain traction on all existing programmes. This has been in parallel to securing a new Academic Health Science Network licence agreement from NHS England, and preparing for the re-accreditation as an Academic Health Science Centre

In addition to 'business as usual' we have also made significant inroads in creating key infrastructure, governance and decision-making mechanisms critical to injecting innovation into the health and social care system.

This has included the formation of the new Health Innovation Manchester Board which draws on expertise from across the NHS, social care, industry and academia; work to establish the Innovation, Monitoring and Prioritisation Committee (IMPC), which will prioritise and oversee the innovation and improvement work programme, the development of the innovation pathway to simplify the landscape for industry innovations, and paved the way for digital interoperability and innovation hubs that will improve the care we provide to patients now and in the future.

2017/2018 has also been one of new collaborations. In 2017 we signed a memorandum of understanding with the Association of British

Pharmaceutical Industries (ABPI) - the first of its kind in the UK. This is a new, yet already blossoming relationship which has led to some truly innovative projects around the elimination of Hepatitis C, pricing models for mental health medication, and improving the health of COPD patients. Some of these are outlined in our delivery programme snapshot on page 16.

We also had the pleasure of addressing senior representatives from the pharmaceutical industry during the ABPI's Annual Conference which has already yielded some very interesting potential projects.

In addition to the ABPI, we have also started the process of agreeing a similar memorandum of Understanding with the Association of British Healthcare Industries (ABHI). We expect the signing formalities to be completed in the 2018/2019 financial year.

As illustrated throughout this report, Health Innovation Manchester is delivering a huge portfolio of programmes and projects that will have, and are already having a profound effect, not just on the health and wellbeing of our 2.8m citizens, but also nationally through our work with the AHSN Network (see page 7).

Finally, as we move into 2018/2019 we look forward to forging new partnerships and collaborations with system stakeholders and industry innovators while delivering a diverse range of exciting programmes and embedding the mechanisms, infrastructure, and culture across the system to create an environment where innovation flourishes - enabling Greater Manchester to become an international leader in accelerating innovation that transforms citizens' health and wellbeing.



**Professor Ben Bridgewater**  
Chief Executive Officer  
Health Innovation Manchester



**Rowena Burns**  
Chair  
Health Innovation Manchester

# Contributing to national and international health and life science policy.

## ABOUT HEALTH INNOVATION MANCHESTER

As an academic health science and innovation system, Health Innovation Manchester is at the forefront of transforming the health and wellbeing of Greater Manchester's 2.8 million citizens.

It was formed in October 2017 by bringing together the former Academic Health Science Network and Academic Health Science Centre under one single umbrella, which also represents Greater Manchester's wider research and innovation system.

Here in Greater Manchester, we have the unique ability to deliver innovation into frontline care at pace and scale thanks to our £6bn devolved health and social care system, unrivalled digital assets and ambitions, exceptional academic and research capability and thriving industry partnerships.

Our collective ambition is to make Greater Manchester one of the best places in the world to grow up, get on and grow old.

Despite having one of the fastest growing economies in the country, people here die younger than those in other parts of England. Cardiovascular and respiratory illnesses mean people become ill at a younger age and live with their illness longer than in other parts of the country. Our growing number of older people often have many long-term health issues to manage.

Therefore, Health Innovation Manchester has a pivotal role in bringing forward a constant flow of targeted innovations and putting them through an effective but streamlined evaluation process so they are adopted at pace and scale across our 10 localities.

We do this by harnessing the assets of our world-leading researchers, fostering partnerships with industry and supporting our NHS and social care providers to adopt innovation, such as through digital technology, changes to practice or optimising medication.

In 2017/18 our three business objectives were:

- Positioning Greater Manchester as an internationally renowned location for life science, med-tech and digital healthcare research and innovation.
- Accelerating the discovery, development and deployment of innovation that improves our populations health and wellbeing
- Contributing to national and international health and life science policy.

Although Health Innovation Manchester is an organisation which directly employs people, we represent research and innovation agencies working across Greater Manchester.

The success of Health Innovation Manchester is intertwined with the success of our partners, so we work as one system. This includes commissioners, providers, Universities, the Biomedical Research Centre, Collaboration for Leadership in Applied Health Research and Care (CLAHRC), Clinical Research Network, industry, national bodies and investment agencies.

An overview of our system partners can be found on the Health Innovation Manchester website.

As a reflection of this dynamic system, the Health Innovation Manchester Board is made up of leaders from health and social care, academia, research and industry. This ensures we have system-wide buy in of our strategy and plans. You can read more about who the Board are on page 29.

The Board is underpinned by two main committees – the Innovation Prioritisation and Monitoring Committee, as well as the Research and Education Committee. These committees also include nominated representatives from across Greater Manchester to ensure we have the agreement and commitment from all. This supports quicker decision making and speeds up the innovation pathway.

We receive national funding from NHS England as part of our Academic Health Science Network license and attract considerable investment due to our Academic Health Science Centre status. We also receive funding from our Greater Manchester system partners. A more detailed overview of our finances can be found on page 29.

In April 2018 Health Innovation Manchester became hosted by Manchester University NHS Foundation Trust, ensuring our work is underpinned by the robust governance, transparency and standards expected of a public body.

## Our Journey

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# 2009

MANCHESTER ACADEMIC HEALTH SCIENCE CENTRE (AHSC) DESIGNATED

Manchester became one of six accredited AHSC's in England. The role of AHSC was awarded in recognition of depth and breadth of clinical and academic excellence.

# 2013

15 ACADEMIC HEALTH SCIENCE NETWORKS CREATED

In 2013 NHS England licenced 15 Academic Health Science Networks to spread innovation at pace and scale - putting innovation at the heart of the NHS to improve patient outcomes as well as contribute to economic growth.

The development of AHSNs was recommended in Sir David Nicholsons December 2011 report Innovation, Health and Wealth

# 2014

GREATER MANCHESTER DEVOLUTION AGREEMENT SIGNED

Greater Manchester signed a ground-breaking health and social care agreement to give Greater Manchester and local NHS services much more control of the regions £6 billion health and social care budget.

# 2015

LANDMARK AGREEMENT CREATES HEALTH INNOVATION MANCHESTER

Key Greater Manchester system partners sign landmark Memorandum of Understanding to create Health Innovation Manchester.

The role of Health Innovation Manchester was to leverage the exceptional assets of the city region to in partnership with industry to drive research and proven Innovation into health and social care services at pace.

# 2016

GREATER MANCHESTER DEVOLUTION

A single locally accountable body, the Greater Manchester Health and Social Care Partnership took control of policy and expenditure across all NHS, population health and social care provision for its 2.8m citizens.

This created the opportunity to take a system-wide view of the most pressing health needs and enabled streamlined governance arrangements with joint provider-commissioner priority setting and decision making at system level.

# 2017

HEALTH INNOVATION MANCHESTER LAUNCHES

Greater Manchester Academic Health Science Network (GMAHSN) and Academic Health Science Centre (MAHSC) came together within the city-regions Academic Health Science and Innovation System - Health Innovation Manchester.

# NATIONAL IMPACT: THE AHSN NETWORK

## WORKING IN PARTNERSHIP

The Academic Health Science Network (AHSN) was established in 2013 as a response to the 2011 Innovation, Health and Wealth report.

By connecting the NHS with innovators, not only has the AHSN Network enabled the development of solutions to some of the most challenging problems in healthcare, it has also stimulated economic growth.

2017/18 marked the end of the initial AHSN license period, however the Office of Life Sciences is keen to build on the success of the AHSN network and has committed £39m to AHSNs over the next three years to establish Innovation Exchanges (a core deliverable of the Accelerated Access Review).

Moving forward, the AHSN Network will be driven by nine key priorities which will form the basis for 'Innovation National Networks', (INNs). These include:

- Innovation and Economic Growth.
- Innovation Exchange.
- Medicines Optimisation.
- Medical Technology (MedTech).
- Digital and Artificial Intelligence.
- Genomics, Advanced Diagnostics and Personalised Medicine.
- Patient Safety.
- Quality Improvement.
- Research.

The INNs will enable a consistent approach to delivering impact across the 15 AHSNs, operating as communities of expertise; working with stakeholders to identify and share innovations and prioritise those ready for national spread. The aim is to stimulate connections within and beyond AHSNs and influence national policy.

**22**  
MILLION

Patients have benefitted from AHSN input.

**5.5**  
MILLION

Patients have benefited from our Patient Safety Collaborative Work.

**332**  
INNOVATIONS

Have been introduced and spread through significant AHSN influence.

**£330**  
MILLION

Investment to improve health and support our NHS, care, and industry partners

**15**  
MILLION

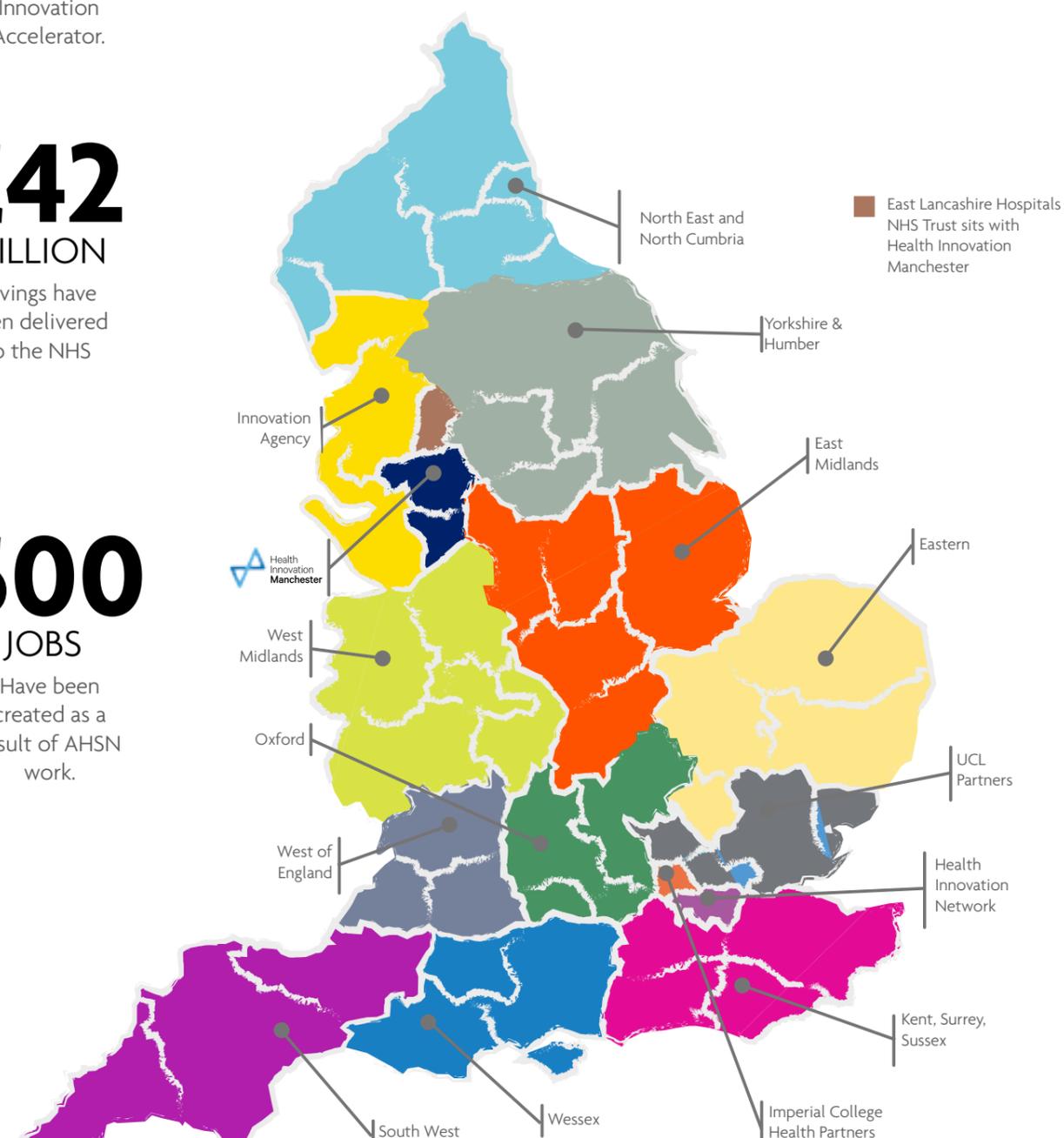
People have benefitted from the NHS Innovation Accelerator.

**£42**  
MILLION

Savings have been delivered to the NHS

**500**  
JOBS

Have been created as a result of AHSN work.



# ALIGNING CLINICAL RESEARCH TO SYSTEM NEED AND ACCELERATING THE LEARNING INTO PRACTICE



## Clinical research excellence

The Greater Manchester Research Hub, Health Innovation Manchester supports research generation and delivery through connection to state of the art research infrastructure, academic expertise, a research-savvy workforce and streamlined processes including costing and contracting.

Our close collaboration with North West EHealth also provides opportunities to empower the life science industry to run cost effective clinical trials from feasibility studies to full clinical trial management and delivery.

In addition, Health Innovation Manchester enjoys a productive relationship with the GM Local Clinical Research Network (LCRN) which is number one nationally (allowing for population size) for recruitment to life-science industry clinical trials. Consequently, the GM LCRN is a preferred provider for a number of pharmaceutical companies and Contract Research Organisations (CROs).

We are developing a pipeline of new treatments and pathways that will address the health needs of our population in years to come.

Through recognised world leading experimental medicine studies in inflammatory diseases and cancer, our position as one of only three Patient Safety Translational Research Centres linked to the NHSI Patient Safety Collaboratives, and our ongoing relationship with the NIHR CLAHRC in Greater Manchester; Health Innovation Manchester is ideally placed to deliver innovation that truly spans the discovery-care continuum.

## In 2017 / 2018 we have:

- Established the Greater Manchester Research Hub to provide an integrated approach for research delivery across the city-region. This provides a one-stop for interested parties to access clinical trials expertise and infrastructure.
- Developed an enhanced Clinical Trials Unit (CTU) to support the next generation of clinical trials (including real world trials) that are more responsive to the needs of the private sector.
- Created a Health Innovation Manchester - National Institute for Health and Care Excellence (NICE) DataLab. Linking different data-sets together and using state-of-the-art analytics, the DataLab is testing how big data can provide evidence relating to the effectiveness of new and existing treatments, and produce new health insights.
- Led and delivered underpinning infrastructure in clinical research excellence, precision medicine and academic informatics. This approach leverages the maximum value of industry (and other) partnerships to support commercial inward investment and business growth from basic research to market access. We have already established 40 separate company relationships across multiple areas including major pharmaceutical companies.
- Successfully secured circa £90m of funding including NIHR Biomedical Research Centre (£28.5m), Clinical Research Facility (£12.5m), Patient Safety Translational Research Centre (£6.67m), gained CRUK Major Centre Status (£39m) and ECMC funding (£2.75m)
- Linked the Patient Safety Collaborative (PSC) to cutting edge translational research from our NIHR Patient Safety Translational Research Centre. This enables us to influence local policy, by ensuring policy makers have access to robust scientific evidence arising from the local universities of Greater Manchester to inform health and social care strategies which in 2017/18 included Greater Manchester Diabetes and Medicines Optimisation Strategies.
- Increased the number of NIHR Senior Investigators; Greater Manchester now has the highest number of NIHR Investigators in the North of England.
- Secured Innovate Manchester Advanced Therapy Centre Hub (MATCH) £9m award from Innovate UK to establish one of three Advanced Therapy Treatment Centres.

# UNLOCKING THE VALUE OF INTEGRATED DATA SYSTEMS ACROSS HEALTH AND SOCIAL CARE



## Informatics and analytics

In Greater Manchester we enjoy an internationally leading position in the integration of data and the use of real-world evidence to drive policy, research and delivery of care.

Health Innovation Manchester is building on these strengths, joining up health and social care information so that we can create:

- A region-wide learning health system that optimises the delivery of care based on continuous system evidence. This includes a near real-time view of healthcare utilisation to ensure we optimise care pathways and value for money (Utilisation Management).
- Data-rich observational studies, precision medicine capability and discovery science, trials and economic evaluations of medicines and devices as well as other interventions that can be undertaken across the population quickly at low cost.

Our reputation has also attracted interest and demand nationally and internationally. In 2017/2018 our Utilisation Management Unit completed commissions from the wider healthcare systems particularly in relation to urgent and emergency care - generating over £1m in revenue to invest back into the system.

## In 2017 / 2018 we have:

- Continued the roll-out of DataWell across the system. 12 NHS organisations are now connected to DataWell and 886,563 patient records have been mapped. DataWell is a key component of the Greater Manchester Digital Interoperability Hub.
- Worked in partnership with system stakeholders to establish the Greater Manchester Health and Social Care Digital Board. This board is overseeing ambitious plans to create an Interoperability Hub and Innovation Hub. The Innovation Hub will allow health and care providers to exchange data more easily and safely across all 10 localities. The Innovation Hub will enhance how we use data to transform services and enable ground-breaking research and innovation projects that will attract industry partners and enable implementation of change at pace and scale.
- Successfully secured a contract from NHS England to work in collaboration with Oxford AHSN and Arden and Greater East Midlands Commissioning Support Unit to develop a Connected Care Assessment Tool to assess place-based digital maturity. The toolkit was successfully piloted across two Sustainability Transformation Partnerships (STP's) and a wider rollout is planned for 2018/2019.
- Utilisation Management Unit shortlisted for the HSJ Value Award in the category of emergency, urgent and trauma care in recognition of the contribution and change driven by the 100% challenges that have been delivered over 2017/2018.
- Worked with 15 hospital sites to improve performance against the 4-hour Accident and Emergency target for waiting times; resulting in an average 23.09 % improvement in A&E against the target as well as a 15% improvement in patient satisfaction.

# TRANSFORMING THE HEALTH AND WELLBEING OF OUR 2.8M CITIZENS



## Health and implementation

Health Innovation Manchester is delivering a large and diverse range of projects in partnership with industry, health and social care commissioners and providers, and the national AHSN Network to:

- Improve health outcomes across the Health Innovation Manchester footprint through the systematic reduction of the number of deaths.
- Spread at pace selected innovations that will improve the health of the populations we serve and create a sustainable AHSN for Greater Manchester.
- Create a climate and supporting infrastructure for entrepreneurs and innovators to develop ideas within the NHS, thereby creating health and wealth.
- Support our members and stakeholders in their related priorities and ambition.

Over 2017/2018 we have been progressing projects across a multitude of areas, which include cardiovascular disease (CVD), mental health, emergency medicine, cancer, respiratory and national AHSN programmes - many of which are highlighted in 'current delivery programmes' on pages 16 to 22

The management team also works very closely with the Patient Safety Collaborative Team, with both areas synergising projects where there is merit.

## In 2017 / 2018 we have:

- Worked collaboratively with the Atrial Fibrillation (AF) AHSN network to deliver national and local improvements around AF management and detection. This has already prevented an estimated 13 strokes in Greater Manchester and resulted in 468 patients being offered treatment with specialist pharmacists, and where necessary assessment in primary care.
- Delivery of the first Atrial Fibrillation CCG pharmacy-led anticoagulation clinic which identified 6,059 patients across the city of Manchester with a 'read code' of atrial fibrillation. Of these 1,603 patients were 'known not treated' which equates to 52 expected strokes. We are now funding a work-stream in 2018/19 to tackle this.
- Deployment of ERAS+, a pre-and post operative surgery programme to optimise patient recovery. Implementation at one trust has reduced post-surgery pulmonary complications by 50% resulting in a 3 day reduction in length of stay and annual savings of over £0.5m. A £500k grant award has been secured from the Health Foundation to take this work forward including the roll-out across six trusts in Greater Manchester.
- Delivered a control trial of a Troponin-only Manchester Acute Coronary Syndromes (T-MACS) decision aid tool that was developed in Greater Manchester. This has already resulted in a benefit to patients suspected of Acute Coronary Syndrome and financial savings. This is now being deployed across Greater Manchester and the wider UK.
- Delivered the first Rainbow Clinic - a specialist service for women and their families in a subsequent pregnancy following a stillbirth or perinatal death. This has already benefited 140 families, prevented 9 like-for-like still births (Contributed 2.19% of the avoided stillbirths nationwide during operation) and has generated an 8 fold return on investment. This is now being deployed across Greater Manchester.
- Incorporated PINCER: (pharmacist-led information technology intervention for medication errors), an audit software package which helps GP practices review patient case loads and highlight patients who may be at risk of prescribing errors into GM Primary Care Medical Standards. This is resulting in a reduction in medication safety incidents and reducing unwarranted variation - improving health outcomes for our patient population.

Accelerating the discovery,  
development and deployment  
of innovation that improves  
our population's health and  
and wellbeing.



A brief overview of some of the 50+ projects being delivered by Health Innovation  
Manchester over 2017/2018 that will continue into 2018/2019

## CURRENT DELIVERY PROGRAMMES

### IMPROVING CARE FOR PEOPLE WITH COPD

Health Innovation Manchester is working with health and industry partners to develop and implement an ambitious plan to radically improve the care and treatment of people with COPD across the 10 localities of Greater Manchester.

COPD is the fifth biggest killer in the UK. Patients with COPD suffer with severe breathing difficulties, often resulting in hospitalisation. There are around 67,000 patients diagnosed with COPD living in Greater Manchester and there are likely to be hundreds more unknowingly struggling with the disease.

The cost of managing COPD-related hospital admissions and medications for Greater Manchester is around £73 million each year, with further indirect costs estimated to be as much as £1.8

billion. In fact, the city-region has the second highest admission rates for COPD in England, as well as poor outcomes and unwanted variation between GP Practices and localities.

The programme builds on the ground-breaking Salford Lung Study, which examined the safety and efficacy of new medications to treat respiratory illness.

This was the world's first digitally enhanced randomised real-world trial to include a broad and inclusive population of patients in an everyday clinical practice setting - made possible by the single electronic medical record.

The aim of the COPD programme is to improve the health of COPD patients through clinically appropriate and cost-

effective treatment using inhalers. This will be achieved through:

- Reviewing patients' existing triple therapy prescribing to identify those who can safely 'step down' from the corticosteroid element of their medication,
- Reviewing patients receiving medication which is not in line with the latest Greater Manchester Medicines Management Group (GMMMG) guidelines to enable patients to switch to recommended alternatives where clinically safe to do so.

### ERAS+ ENHANCED RECOVERY AFTER SURGERY

Patients undergoing surgery at six Greater Manchester hospitals will be prepared for the experience in the best possible way using the Enhanced Recovery After Surgery (ERAS+) programme.

The surgical pathway builds on the success of the in-hospital programme but expands it to include six weeks of pre-surgery patient preparation and post-hospital recovery six weeks after, with patients and their family supported through a Surgery School.

There are around 250,000 high-risk elective major surgeries a year in England and Wales and there is a post-operative

pulmonary complication risk (PPC) of up to 30%. Complications, such as respiratory failure or pneumonia, can increase the length of stay in hospital and reduce life expectancy after surgery.

The ERAS+ programme places the patient at the centre of their own recovery and supports them to be dynamic in their own care. It encourages increased activity, better nutrition, oral healthcare and the practice of chest exercises to help reduce chest problems.

It aims to reduce complications post-surgery, with evidence suggesting a reduction in pulmonary complications

by 50%, reduce the length of stay in hospital by around three days and improve quality of life for patients for six to 12 months after major surgery.

Trusts participating in ERAS+ are Manchester University NHS Foundation Trust, Stockport NHS Foundation Trust, Bolton NHS Foundation Trust, The Pennine Acute Hospitals NHS Trust, Salford Royal NHS Foundation Trust and The Christie NHS Foundation Trust.

### ELIMINATION OF HEPATITIS C

Greater Manchester has the ambitious aim to become the first UK city region to eliminate Hepatitis C by 2021.

The virus, which affects the liver, can sometimes cause serious and potentially life-threatening damage if left untreated.

There are estimated to be around 17,450 people in Greater Manchester living with the infection, including around 7,000 who are undiagnosed. Of those diagnosed, only 28% are engaged with specialist services.

The Health Innovation Manchester

project aims to eliminate Hepatitis C by using a networked and phased approach.

Community pharmacies will deliver point of care testing and dry blood spot testing to maximise the number of people tested and identify high risk patients as well as providing treatment in a more convenient location for the individual.

Pharmacies will be targeted in terms of methadone dispensing and opiate replacement therapy as well as those operating a safe needle exchange.

Following an initial pilot, the project will look to test and treat the wider population groups at high risk of infection and a rapid testing and treatment regime will also be implemented for those in or entering prison.

The project aims to bring specialist services to the patient at the point of need and develop a new, more cost-effective testing and treatment infrastructure. It would also result in a reduction in associated healthcare costs and a better quality of life for patients.

### HEALTHY HEARTS: SYSTEMATIC IDENTIFICATION OF HIGH-RISK CVD PATIENTS

Healthy Hearts is an innovative programme aiming to reduce deaths from Cardiovascular Disease (CVD) through better identification of those at risk of heart attack or stroke in Greater Manchester.

The project will work closely with Clinical Commissioning Groups to find those at highest risk of CVD, including those with high blood pressure and high cholesterol in a systematic and targeted approach. The programme will also link with targeted health checks and lifestyle interventions. Data shows that if each CCG in the area reached the level of the

five best similar CCGs, there would be 356 fewer deaths for under 75-year-olds each year.

It is estimated that ideal control of diagnosed hypertensives – those patients with high blood pressure – could save 470 heart attacks and 700 strokes over three years in Greater Manchester, a financial saving of over £13.2 million.

The project aims to reduce deaths from CVD by at least 600 by 2021 and identify those at highest risk of CVD to enable treatment, lifestyle interventions and

self-management opportunities. Health Innovation Manchester has also provided practices in Greater Manchester with access to the AliveCor Kardia hand-held Atrial Fibrillation (AF) detection device to improve care for people with AF and reduce AF-related strokes.

The mobile ECG devices help with the detection of people with AF in clinical and/or community settings.

## CURRENT DELIVERY PROGRAMMES

### GREATER MANCHESTER & EASTERN CHESHIRE PATIENT SAFETY COLLABORATIVE

Safety and ensuring patients are not harmed within a health and social care setting is everyone's responsibility and Greater Manchester is in a unique position to be able to support and create a smooth pathway to improvement.

Through the Patient Safety Collaborative, a joint initiative funded and coordinated by NHS Improvement and delivered by Health Innovation Manchester, we can work directly with local teams, supporting them to make sure they have the right skills and resources to implement improvements.

We can also share good practice across the health system, focus on people-centred care and build relationships with

NHS staff, business and academia to stimulate innovation and improvement. The PSC will focus on three national areas of work:

- Deteriorating Patients: To reduce harm and enhance the outcomes and experience of patients who are deteriorating.
- Culture and Leadership: To help create the conditions that will enable healthcare organisations to nurture and develop a culture of safety.
- Maternity and Neonatal: To improve maternity and neonatal care, specifically reducing the rate of stillbirth, neonatal death and brain injuries occurring during or soon after birth by 20% by 2020.

The PSC has been set up to support, connect and provide initiatives and activities to drive improvement and ensure patient safety is embedded throughout the Greater Manchester health and social care community.

### RAINBOW CLINIC: SPECIALIST ANTENATAL SERVICE

Becoming pregnant again after a stillbirth is an incredibly daunting prospect for women and families, often characterised by the fear of repeating the experience.

Women who have had a stillbirth are at increased risk of complications in subsequent pregnancies, including stillbirth, pre-eclampsia, placental abruption and low birth weight.

It is also associated with increased psychological, emotional and social challenges.

The Rainbow Clinic, at Saint Mary's Hospital, is a specialist service for

women and their families during a subsequent pregnancy following a stillbirth or perinatal death.

It cares for families from the time of the postnatal appointment onwards and into a subsequent pregnancy.

It engages with women early, ensuring they are on the right treatment, making any necessary referrals and providing more detailed ultrasound scanning.

The additional tests and continuity of care, provided by a small team of specialist doctors and midwives, result in improved outcomes for the baby as well

as improved psychological well-being for parent and better use of NHS resources.

Health Innovation Manchester will support the scale-up across Greater Manchester maternity units, aiming to reduce the rates of maternal deaths, stillbirths, neonatal deaths and brain injuries that occur during or soon after birth by 20% by 2020 and then by 50% by 2030.

The charity Tommy's is also giving additional financial support as validation of the clinical progress to ensure scale and spread of the project.

### REDUCTION OF FRAILTY-RELATED FALLS AND FRACTURES

For older people living with frailty, a fall or fracture can result in a rapid deterioration in health and significant loss of independence.

There are approximately 65,000 hip fractures taking place in the UK each year, costing the health and social care system around £2 billion. It is imperative that systems are in place to help identify people who are at risk of falls and fractures to ensure there are appropriate treatment and services that meet their needs.

The Health Innovation Manchester project aims to reduce falls and fractures related to frailty across Greater Manchester through early intervention, treatment and management of at-risk patients.

The project will support primary care by finding at-risk patients so that they

can be treated with appropriate bone-sparing therapies, including medication to strengthen bones, and supported with services in the community to help manage their condition.

Through early and increased identification of osteoporosis and other high-risk factors, the established use of fracture risk assessment tools in primary care as well as patient behavioural and lifestyle changes through education programmes, it is hoped there will be a reduction in fractures and associated costs.

Phase one is being undertaken in Tameside and Glossop Locality with the Dukinfield, Stalybridge and Mossley Frailty Multidisciplinary Team (MDT) pilot launched on 31 January 2018.

It has been set up as a vehicle to support the identification, review and

management of severely frail patients using the electronic Frailty Index and fracture and falls risk assessment IT tools.

Once a patient is identified as being severely frail the MDT members discuss and agree on a set of appropriate outcomes and actions to suit the needs of the patient which can include several clinical and non-clinical interventions.

This may include referrals to community groups, physiotherapy, Community Response Service, Extensivist service, social prescribing, prescription of bone strengthening medication, etc.

Eight weeks after the MDT meeting a follow up is carried out to ensure that all agreed outcomes and actions have been achieved.

### MENTAL HEALTH PRICING REVIEW MODEL

Health Innovation Manchester aims to demonstrate innovation in the field of mental health through the testing of an outcomes based pricing model for schizophrenia treatments.

Second-generation antipsychotics (SGAs) represent an advance in the long-term management of schizophrenia, particularly regarding extrapyramidal motor safety and subjective tolerability.

However, the evidence that the medications are effective for maintenance and stability is limited.

As a relapse in schizophrenia can cost between £12,000 and £25,000, industry

partner Janssen have developed an outcomes payment scheme and rebate to demonstrate their belief that their medicines can play a role in preventing relapse and the key cost that goes with it.

Working in partnership with Health Innovation Manchester, Janssen offered Mental Health Trusts in Greater Manchester access to the rebate scheme which reimburses the provider if the treatment doesn't work as planned.

The scheme proposes a refund for the cost of the injection should the person, prescribed the injection, fail to achieve the required outcome.

The scheme has provided real-world data as to whether the second-generation antipsychotic injections prevent relapse and admission as well as potential financial savings of £10,000 against medication costs for 2017, with the scheme in place for two trusts until June 2021.

The anticipation is that the tracking of the patient journey and understanding discontinuation and relapse will lead to better care with improved outcomes.

## CURRENT DELIVERY PROGRAMMES

### DEMENTIA

Greater Manchester is aiming to be “the best place to live with dementia in the world” and Health Innovation Manchester is committed to supporting work towards this vision.

It is estimated that there are currently over 30,000 people living with dementia in Greater Manchester with the city region spending £270million a year treating and caring for people with dementia.

With an ageing population and rising numbers of people being diagnosed with dementia, it is one of the greatest health challenges facing the country and Greater Manchester.

The Dementia United Operational Group are working with partners across Greater Manchester to improve the experiences of people with dementia and their carers, and reduce pressure on the health and social care system.

Health Innovation Manchester will support Dementia United through the identification and implementation of suitable new innovations to support the overall objectives.

Working in partnership with industry, Health Innovation Manchester will deliver an early detection and diagnostics framework for dementia – building on the principles of pre-empt

and prevent to detect and intervene every early in the pathway of cognitive decline.

The vision is to improve outcomes by ensuring optimal access and uptake of innovative technologies and treatments for eligible people, as well as ensuring the health and care system is geared to provide the best support for people living with dementia.

### T-MACS: TROPONIN ONLY MANCHESTER ACUTE CORONARY SYNDROMES DECISION AID

Patients presenting with chest pain at the emergency department are the group most commonly requiring hospital admission. Troponins are a family of proteins found in heart muscles that produce a muscle contraction with serial troponin testing remaining the standard of care to rule out heart problems.

Troponin only Manchester Acute Coronary Syndromes (T-MACS) is a decision-aid, a computerised clinical prediction model which calculates each individual patient’s probability of acute coronary syndromes following a single blood test at the time of arrival. This probability is used to assign each patient

to the relevant risk group and suggest a course of action for the clinician to follow.

Since implementation at Manchester Royal Infirmary, over 3,500 patients have been treated using T-MACS, with the algorithm proving superior to NICE guidelines.

More than two-third of patients can be treated in an ambulatory care setting, such as outpatient clinics or emergency departments, with the vast majority discharged on the same day, compared to a two-day average stay with routine care.

T-MACS won Manchester Foundation Trust’s Transformation Prize in 2016 and Health Innovation Manchester aim to implement it across Greater Manchester to increase the quality and efficiency of healthcare provided to patient.

The project could result in improved quality of life for patients, due to quicker and more effective diagnosis and treatment, more appropriate triaging of patients and is projected to save £100million per year if rolled out across the NHS.

### QUALITY IMPROVEMENT - LIFE QI AND THE Q COMMUNITY

Health Innovation Manchester supports a system-wide approach to driving quality and improvement and offers a free tool to health and social care organisations across Greater Manchester.

Life QI is a web-based platform designed to assist front line staff running Quality and Safety improvement projects and connect with a community across the country to share best practice.

The tool, developed as part of the Patient Safety Collaborative in partnership with SeeData, supports frontline NHS and social care teams to plan, monitor and report progress of their improvement projects.

The flexible LifeQI application contains tools to help improvement work and make it easy to see progress. It allows

teams to create driver diagrams, conduct “Plan, Do, Study, Act” (PSDA) cycles and visualise results through charts, as well as creating a bank of QI projects which can be shared.

Users can also connect to a QI community of practice across the country, encouraging collaboration with teams working on similar challenges, avoiding duplication and sharing learning and success while building a network of people committed to improving care.

More than 140 people and organisations working on service improvement projects have already signed up to the Life QI tool through Health Innovation Manchester.

Health Innovation Manchester has also partnered with Advancing Quality

Alliance (AQuA) and The Health Foundation’s Q Community for the Q Book Club events.

The Q community is an initiative connecting people who have health and care improvement expertise across the UK with opportunities to share ideas, enhance skills and collaborate.

The Q Community Book Club will feature five sessions which will examine key quality improvement literature, hear from local and national improvement leaders and explore online tools to help Q community members share discussion and apply learning.

### GREATER MANCHESTER BIOLOGICS OPTIMISATION - VIRTUAL BIOLOGICS CLINIC

Health Innovation Manchester is supporting a system-wide approach to reducing unnecessary wastage of high-cost biologic drugs across Greater Manchester.

Currently there is a substantial spending on approved biologics, a class of medication that is not synthesized chemically but instead harvested directly from biology such as enzymes or antibodies, with an estimated £45-50 million spent across Greater Manchester.

Alongside this high spend, there are loose governance arrangements for their use, with poor mechanisms in place to

adequately track and record usage. A Virtual Biologics Clinic (VBC) was created at Manchester Royal Infirmary in order to ensure that the prescription of biologic therapies was based primarily on the needs of patients and not on cost and to increase the speed at which patients could gain access to the treatment and provide more opportunities for patients to participate in clinical research.

The VBC effectively implemented a pan-Manchester biologics pathway in Rheumatology at MRI with the innovations changing the department’s prescribing patterns and increasing

research recruitment. It also increased departmental efficiencies and generated cost savings through higher uptake of cheaper biologics therapies.

Developing a VBC and biologic optimisation initiatives in all Greater Manchester Trusts would create an effective way of delivering biologics for patients in the most cost-effective way.

# CREATING A SIMPLIFIED LANDSCAPE FOR INDUSTRY WITH MORE ASSURED ROUTES TO ADOPTION AND SPREAD

**200**  
AliveCor devices  
deployed across the  
GM system

**66%**  
of GM Maternity sites  
have adopted the  
Episcissors-60

**40**  
Months from Relvar  
Ellipta phase III  
clinical trial to  
adoption in  
GM

**1st**  
UK Memorandum of  
Understanding with  
the Pharmaceutical  
Industry

## Industry partnerships

Greater Manchester is the only city-region in England with control of its combined health and social care budgets.

A single accountable body with delegated responsibilities now controls policy and expenditure across all NHS, population health and social care provision for its 2.8m citizens.

This has created a unique and exciting opportunity to take a system-wide view of the region's most pressing health needs; joining up the work of all health and social care commissioners and providers to meet these needs in the most efficient and cost-effective way.

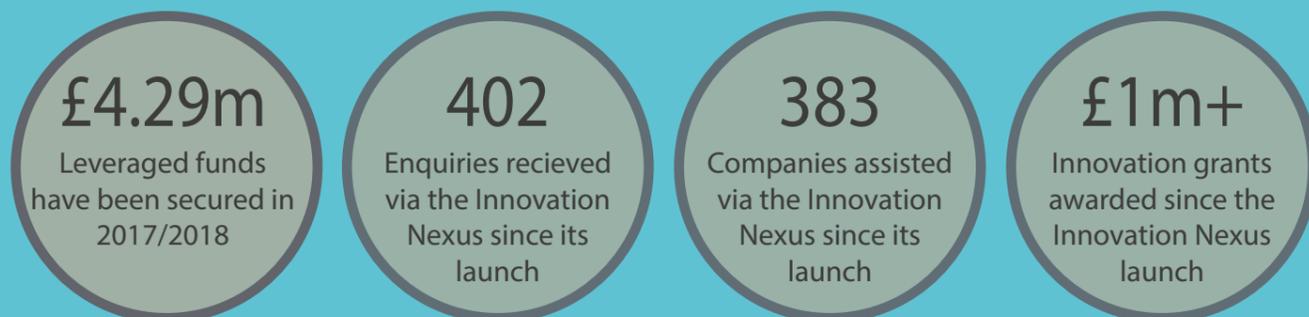
Empowered by this health and social care devolution, Health Innovation Manchester is providing a much simplified landscape for researchers and industry innovators.

This includes a single gateway into the system with a single innovation pathway that capitalises on the city region's streamlined and accelerated decision-making structures; providing industry innovators with an enhanced level of assurance and speedier decision-making in terms of adoption following proof of concept.

## In 2017 / 2018 we have:

- Brought together Manchester Academic Health Science Centre (MAHSC) and Greater Manchester Academic Health Science Network (GMAHSN) into a single organisation - Health Innovation Manchester. This brings together the entire discovery-care continuum from research to implementation under the umbrella of a single entity; working in partnership with industry to drive research and innovation that is aligned to health and social care needs.
- Developed a single innovation pathway for the entire Greater Manchester health and care system - simplifying the landscape for researchers and industry innovators. This systematic approach ensures that the system has a balanced pipeline of innovation aligned to the city region's needs, and a more rapid and assured journey for innovations from discovery through to deployment.
- Began establishing the Innovation Prioritisation and Monitoring Committee (IPMC); a sub-Committee of the Health Innovation Manchester Board made up of stakeholders representing the whole system whose remit is to prioritise and oversee the innovation and improvement work programme across the Greater Manchester health and social care system. This ensures system-wide engagement prior to system-wide commissioning.
- Signed the UK's first Memorandum of Understanding with the Association of British Pharmaceuticals Industry (ABPI). This articulates how the Greater Manchester system will work collaboratively with pharmaceutical companies. Despite its infancy this has already led to some very innovative partnerships across areas such as COPD, Hepatitis C, virtual biologics and mental health.
- Laid the groundwork for a Memorandum of Understanding with the Association of British Healthcare Industries (ABHI). This will be signed in 2018 and enable us to drive forward partnership working with medical technology companies.

# SUPPORTING INDUSTRY TO TAKE INNOVATIVE PRODUCTS AND SERVICES INTO THE LIFE SCIENCES MARKET



## Industry and wealth

Health Innovation Manchester is actively targeting innovations that span the health and social care spectrum; both those that require trialling, or have already been trialled and those which require system-wide adoption.

In Greater Manchester we have an integrated innovation pathway that maximizes the benefits of our local ecosystem to entrepreneurs and allows them to access the advice, funding and partnerships that will be essential for their success.

Central to the delivery of the Innovation Pathway has been the delivery and on-going development of Health Innovation Manchester's Innovation Nexus web portal and advisory service, the winner of the North of England Business Service awards in 2016.

The Innovation Nexus enables companies to lodge enquiries with an intelligent interface and receive either signposting and/or guidance, or when appropriate, follow-on support services to assist with progression through the development pathway, from early stage clinical engagement, to assistance with adoption and procurement into the NHS.

Over the past financial year, Health Innovation Manchester has also been delivering a match funded European Regional Development Fund (ERDF) programme in eastern Cheshire.

This has involved working with SMEs with innovative products and services to provide support to work with the NHS and grow their business.

## In 2017 / 2018 we have:

- Provided £26,000 funding across 2 organisations for early stage development of innovative solutions via our 'Ignite' funding call.
- Distributed upwards of £98,000 funding to support market ready products and services through our 'Momentum' funding call, resulting in additional leveraged funding of £500,000 (venture capital).
- Provided assistance and support to over 108 industry innovators via our award winning Innovation Nexus; providing information, access and support to develop, test, and deliver innovative products and services in collaboration with the health and social care commissioners and providers.
- Worked collaboratively with NICE to develop a medical technology early technical assessment (META) gap analysis tool to help product developers understand what evidence is required to make a convincing case to payers and commissioners about their technology.
- Delivered the Step Into Health programme to 3 cohorts of 30 companies to help them improve their product pitch and increase their chances of procurement and success in the life sciences market.
- Delivered a regional digital health accelerator targeting innovative digital health businesses; providing successful applicants with opportunities to engage clinical and healthcare expertise and NHS procurement support, as well as helping them understand the health system and its needs, develop their business models, and refine their propositions.
- Acted as the lead partner on two SBRI calls for reducing pressure on urgent and emergency care and improved cancer diagnosis; defining the clinical need and providing business assessors.
- Engaged with upwards of 111 companies through the European Regional Development Fund (ERDF) Programme



# EMBEDDING THE SKILLS AND CREATING THE CULTURE WITHIN THE GM WORKFORCE TO INNOVATE

## Education and training

Greater Manchester is a city united through partnerships established for the benefit of our population and our local economy.

As a region of high disease burden and health inequality, it is essential that our citizens receive the highest quality health and social care provision, delivered by a highly trained workforce of health and social care professionals.

Through the opportunities provided by GM's health and social care devolution and the creation of Health Innovation Manchester, we now have a means of connecting health, social care, higher education insight, and industry organisations with the health and social care priorities of our population.

Through partnership working with our local HEIs we plan to develop Greater Manchester's first 'Ed-City'.

This initiative will provide an education and training ecosystem that brings together expertise in education, best practice initiatives from the Greater Manchester Health and Social Care Partnership, and learning infrastructure to enhance the education and training needs of our nursing and allied health professional workforce.

Adding value to the health and social care priorities of the Greater Manchester population, Ed-City will build bespoke programmes specifically designed and delivered to meet the evolving needs of our nursing and allied health professional workforce.

In so doing, we will create a learning environment that not only attracts individuals to our local Universities via a unique economy of scale but also provides life-long professional learning and research opportunities to ensure these individuals are at the forefront of the discovery-care continuum well into the next millennium.

## In 2017 / 2018 we have:

- Expanded our MRes in Cancer Experimental Medicine to include all themes of our Biomedical Research Centre and thereby build experimental medicine capacity more broadly. Furthermore, we have continued to recruit successfully to our comprehensive suite of programmes in Health Data Science, Bioinformatics and Genomics that range from accredited short courses to MSc/PhD levels. Accredited components of the above programmes coupled with specialty specific modules can be combined into flexible postgraduate programmes for clinical trainees.
- Delivered a new collaboration between with The Royal College of Physicians of Edinburgh (the RCPE) through the opening of an office in Manchester (RCPE Manchester) in June 2017. The RCPE is committed to promoting the highest clinical standards and the implementation of robust, evidence-based medical practice. The RCPE has hosted a new series of 'hot topic' events and international consensus conferences, developing blended learning opportunities and co-badged postgraduate qualifications and thereby increasing local training and CPD opportunities. The RCPE's existing network of national and international centres will be used to live-stream educational and training events around the world.
- Delivered a One Manchester Translational Research Training Day which was attended by over 100 Principal Investigators, Research Nurses and Research Programme Managers (RPMs) from across Greater Manchester.
- Designed an Innovative Developmental Framework that has been piloted by our Research Programme Manager Network (over 130 members) which specifies competency standards for each level of their appointment.
- Delivered a Clinical Bioinformatics Massive Online Open Course (MOOC) designed to provide skills to healthcare professionals to enable the analysis and interpretation of genomic data. This has attracted over 13,000 participants to date from across the world.

100+

People attended our Translational Research Training Day'

130+

Members in our Research Programme Manager Network

13,000

Participants in our Clinical Bioinformatics online course

900

NHS Trainees undertook our 4-year DCLinSci education programme

# PUBLIC INVOLVEMENT AND ENGAGEMENT IS CENTRAL TO ALL OF OUR WORK PROGRAMMES

**100+**  
People attended our Translational Research Training Day'

**130+**  
Members in our Research Programme Manager Network

**13,000**  
Participants in our Clinical Bioinformatics online course

**900**  
NHS Trainees undertook our 4-year DClinSci education programme

## Public involvement & engagement

Health Innovation Manchester ensure that patient and public voices are at the heart of research and innovation across the entire translational pathway.

Our Patient Experience Group (PEG) continues to be invaluable resource that enables us to deliver programmes and projects which are grounded in the lived experience.

Throughout 2017/2018 PEG members have continued to be involved in a wide range of work underpinned by the following objectives:

- To be an organisation which values public involvement and develops the capacity and capability of its staff to involve, by supporting and promoting involvement and engagement, with attention to diversity and inclusivity.
- To form partnerships with key stakeholders to enhance our public involvement work, proactively sharing and acquiring learning from among existing networks.
- To make public involvement and engagement core business by embedding involvement at all levels.

Over 2017/2018 year all HInM Programme Leads and Projects Managers reviewed their portfolios to make clear the public involvement and engagement aspects and have been feeding this back in through the PEG group to access the required support for co-producing approaches to Health and Implementation.

PEG members have also been working closely with Health Innovation Manchester colleagues to highlighting the important of the PP&E agenda and support the organisation to work towards a true co-production model - which is Health Innovation Manchester's ambition.

## In 2017 / 2018 we have:

- Innovation and Prioritisation Committee (IPMC): PEG members were involvement in the HInM Innovation and Prioritisation Committee (IPMC) workshop, to develop the health and care 'systems' approach to prioritisation of system level innovations. A public member has now nominated and in position as part of the IPMC Membership.
- PEG members played a key part in Fuelling Ambition Creatively Together (FACT), this initiative was designed for young people to showcase their ideas for digital innovations in the world of health. PEG members sat as part of an expert panel, providing feedback and support for further development and refinement of ideas.
- PEG members attended the HInM Patient Safety, Maternity and Neonatal Learning System launch event to kick start public involvement and engagement agenda across PSC workstreams. The PSC team have now produced a plan for patient and public involvement and engagement across their work-streams.
- PEG members have been working with the Programme Manager of the European Regional Development Fund at HInM on Health 2.0. Health 2.0 is a meetup group focused on innovations in the delivery of healthcare and health related technology. This community aims to share, discuss, showcase and develop ideas to improve patient care.
- The development of an Early Detection and Diagnostic Dementia Framework for Greater Manchester has seen a PEG representative facilitating and leading discussions of the Public and Involvement workstream.
- PEG make up an important part of Health Innovation Manchester's Innovation Panel, offering feedback on innovation grants/ applications.
- PEG Public Co-Chair (Alan Campbell) has continued to attend and feedback from the National AHSN Involvement Leads meeting and working to influence the national agenda around involvement and engagement

# MEET THE HEALTH INNOVATION MANCHESTER BOARD



Sir Howard Bernstein  
Chair  
GM Strategic Partnership Board  
and Manchester Academic  
Health Science Centre



Professor Ben Bridgewater  
Chief Executive Officer -  
Health Innovation Manchester



Sir David Dalton  
Chief Executive  
Salford Royal NHS Foundation  
Trust and Pennine Acute  
Hospitals NHS Trust



Health  
Innovation  
Manchester

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



Sir Mike Deegan  
Chief Executive  
Manchester University NHS  
Foundation Trust



Lord Peter Smith  
Greater Manchester  
Combined Authority Leader  
with responsibility for Health  
and Social Care



Johnny Lundgren  
Chair  
Greater Manchester Academic  
Health Science Network



Dr Kiran Patel  
Chair  
Association of Greater  
Manchester Clinical  
Commissioning Groups

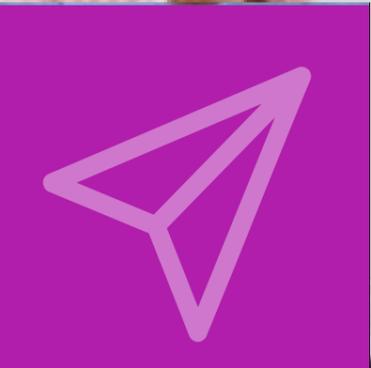


Jon Rouse  
Chief Officer  
Greater Manchester Health  
and Social Care Partnership

The Health Innovation Manchester board brings together a wealth of experience, expertise and insight from NHS and social care, academia and industry.



Amanda Risino  
Managing Director  
Greater Manchester Academic  
Health Science Network



Roger Spencer  
Chief Executive  
Christie NHS Foundation Trust,  
Chair of Clinical Research  
Network



Malcolm Press  
Vice Chancellor  
Manchester Metropolitan  
University



Dame Nancy Rothwell  
President  
University of Manchester



@healthinnovmcr



Ian Greer  
Vice President of the University  
of Manchester  
Dean - Faculty of Biology,  
Medicine & Health



Rowena Burns  
Chair  
Health Innovation Manchester  
Chief Executive  
Manchester Science  
Partnerships



John Stageman  
Chair  
Bionow



Richard Topliss  
Chair  
Manchester Growth  
Company

## FINANCIAL POSITION 2017/2018

	GMAHSN £'000s	MAHSC £'000s	HInM £'000s
INCOME	5,700	1,164	6,865
EXPENDITURE			
Health and Implementation	856	0	856
Informatics	454	0	454
Industry and Wealth	1,086	0	1,086
Utilisation Management	1,233	0	1,233
Research and Development	184	345	529
Research Domains	0	639	639
Corporate	1,082	141	1,943
TOTAL EXPENDITURE	5,615	1,125	6,740
NET SURPLUS	85	40	125

### NOTES:

GMAHSN results are for the year ended 31 March 2018

MAHSC results are for the period 01 August 2017 to 31 March 2018

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