



IMPACT REPORT

2020-2021

ACCELERATING HEALTH INNOVATION
DURING COVID-19

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FOREWORD

FROM THE CHAIR AND CHIEF EXECUTIVE

The health and care sector at all levels has this year faced one of its biggest ever challenges in responding to the COVID-19 pandemic, spanning from research and science, to care and treatment. It has meant a need to adapt, innovate and work together in new ways. In Greater Manchester we have risen to this challenge and there has been an extraordinary effort across direct care, research, digital innovation and industry partnerships.

As the pandemic progressed in the first few months of 2020 and began to impact our NHS and care services, we needed to rapidly mobilise and play an integral part of the COVID-19 response. Health Innovation Manchester has worked hard to stand up and play its part in this as an integrated academic health science and innovation system, working on behalf of the Greater Manchester city region. Having HInM as a single organisation working

across academia, industry engagement and healthcare innovation, aligned to the needs of our region meant GM was ahead of the game when COVID-19 began.

We had been taking an increasing digital focus on our activities prior to COVID-19, and this was massively accelerated through the response, including full deployment of the GM Care Record to inform direct care and COVID-19 research; supporting the deployment of digital primary care solutions; and developing a novel COVID-19 symptom tracker and outbreak management tool for use in care homes.

We were able to make progress in months rather than years, and the reasons for this include acting to a clear set of priorities agreed across the whole system, ownership of the digital agenda at the highest levels of leadership, effective system-wide governance and a small amount of additional resource around the edges.



From a research perspective, within weeks of the pandemic starting GM had linked our research, academic and clinical expertise to create the Research Rapid Response Group to prioritise COVID-19 the research response. This included understanding how the disease spread, how best to treat it and using data science to predict demand, with around 200 research projects being processed and around £3.97m of funding leveraged via the UKRI COVID-19 Research Call.

We would like to thank all our partners for their cooperation and collaboration during the pandemic, as well as continuing to share vital learnings and insights in order for us to constantly improve and develop as a system. This was particularly apparent in December as system partners collaborated with HInM for an impact report on Greater Manchester's collective research and innovation response during the first six months of the COVID-19 pandemic. [The report](#) features examples of new innovations, case studies and interviews with system leaders in GM as they reflected on the pandemic.

Internally within HInM, COVID-19 has enabled us to use the resources and talents within our staff, including our backgrounds, experiences and different way of viewing problems, to join behind specific priorities. It means the various elements of our work and key capabilities have been aligned to common goals and projects in a way we haven't done before and it is something we'll be looking to continue.

We've also adapted to new technology and systems within our organisation, recognising the value of remote networking channels and collaboration tools as we work remotely, across teams and organisations. We would like to take this opportunity to thank all staff at HInM for their hard work and dedication for continuing to accelerate innovation and make this a year of success, despite the many challenges we have all faced both professionally and personally.

As we look ahead to 2021-22, we developed a balanced portfolio of innovation projects to meet the priorities and needs of the city region. We are also continuing to enhance our internal operating model to ensure that we are as effective and efficient as possible to maximise the benefits delivered for our stakeholders.

Partnership working, setting clear goals and aligning work to the priorities of the system are not new ideas, but the value they provide within innovation has never been felt more acutely as it has during the COVID-19 pandemic.

Rowena Burns
Chair
Health Innovation Manchester

Professor Ben Bridgewater
Chief Executive Officer
Health Innovation Manchester

ABOUT HEALTH INNOVATION MANCHESTER

Formed in 2017

Home to
4 Universities



One of 15

Academic Health
Science Networks
(AHSN)

One of 8

academic health science
centres (AHSC)
designated until 2025

Only joined-up innovation system

featuring AHSC, AHSN and ARC



More than
**100 partner
organisations**

£6.6 billion

devolved health and social care budget since 2016 –
The NHS and councils are united to help people
to start well, live well and age well



5 Business Aims

- 1 Ensure a constant innovation pipeline into health and social care.
- 2 Prioritise and monitor innovations that meet the needs of Greater Manchester.
- 3 Accelerate delivery of innovation into health, care and wellness.
- 4 Amplify existing academic and industry value propositions.
- 5 Influence national and international policy.



Diverse innovation portfolio

23 major GM innovation programmes



6 national innovation programmes

5 values



- | | | |
|---|------------------|---|
| 1 | Visionary | ✓ |
| 2 | Citizen-focussed | ✓ |
| 3 | Respect | ✓ |
| 4 | Everyone Matters | ✓ |
| 5 | Accountability | ✓ |

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.

Health Innovation Manchester (HInM) was formed in October 2017 by bringing together the former Greater Manchester academic health science network (GM AHSN) and Manchester academic health science centre (MAHSC) under a single umbrella.

In October 2019, the NIHR Applied Research Collaboration Greater Manchester (ARC-GM) also joined HInM, conducting pivotal research into new and better ways of promoting health, delivering care and supporting the economic sustainability of the system.

As the region's academic health science and innovation system, HInM also brings together the expertise from our NHS, social care, local government and industry partners as well as the academic and research experience from Greater Manchester's four universities, and research active Trusts and commissioners.

Greater Manchester has a unique opportunity and ability to deliver innovation into frontline care at pace and scale thanks to our £6bn devolved health and social care system, exceptional digital assets and ambitions,

world class academic and research capability and thriving industry partnerships.

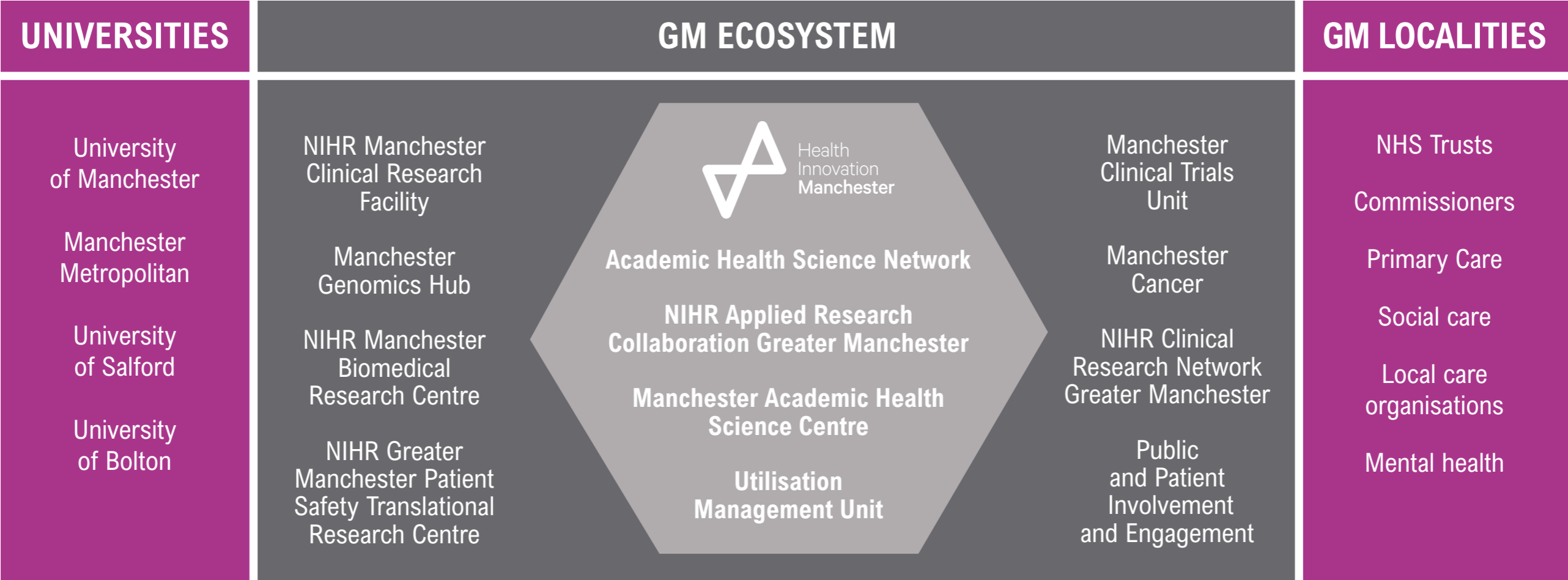
HInM works alongside the Greater Manchester Health and Social Care Partnership and Greater Manchester Combined Authority to improve services, support population health and unlock economic potential to create jobs, growth and prosperity. Our collective ambition is to make Greater Manchester one of the best places in the world to grow up, get on and grow old.

HInM has a pivotal role in bringing forward a constant flow of targeted innovations designed to address the needs of Greater Manchester's population and services and putting them through our pipeline process. New services, med-tech, medicine optimisation, digital solutions and innovative platforms are tested, developed and evaluated before we look to adopt and spread the best new solutions at pace and scale across the city-region.

We are Health Innovation Manchester.



GREATER MANCHESTER'S INTEGRATED ACADEMIC HEALTH SCIENCE AND INNOVATION SYSTEM



Manchester is a leading international centre of excellence in education, research, healthcare, industry collaboration and the translation of cutting-edge developments in science into care and treatment.

HInM brings together the region's world leading academic, research and NHS ecosystem to work together and drive health research aligned to our local priorities, set out by regional commissioners.

RESPONDING TO COVID-19



Research

9 NHS clinicians

named MAHSC Honorary
Clinical Chairs

More than £200,000

awarded in MAHSC pump-priming
research funding competitions

11 MAHSC seminars held

– attracting thousands of viewers
from across the globe

GM Research Rapid Response
Group support partners secure

£8.5million of UKRI funding

**9 GM Research Rapid
Response Group
COVID-19** priority areas

GM Care Record

3.1 million

patient records
available in the
GM Care Record

Scaled across

**500 health and
care providers**

More than

10,000 frontline users

accessing data for direct care
each month

More than 100,000

patient records accessed each month

6 research studies

approved for use of deidentified
patient data from the GMCR

Digital

**449
responses**

to the GM Primary
Care Survey

4,260

residents
across 151
care homes

supported
on the Digital
Care Homes COVID-19 tracker

369,870

resident assessments
completed since
April 2020

Industry partners

£140,000

Momentum funding
awarded to

**3 innovation
projects**



222 companies

supported through the Innovation Nexus

**2 GM health accelerator
programmes launched**

Healthcare Innovations

100% of CCGs

established a fully operational
COVID Oximetry @home pathway

**3 tracheostomy
safety elements**

rolled out in GM

**100%
of maternity
units in GM**

using PIGF testing
to spot pre-eclampsia



**8,045
young people**

accessed mental health
support through Kooth

**10,625
users**

across GM have
accessed SilverCloud
mental health support

DIGITAL DISRUPTERS

The advancement and rapid development of digital technology is undoubtedly opening up more opportunities across every aspect of our lives.

Healthcare has been traditionally slow to adopt new technology, but the COVID-19 pandemic has highlighted how digital can be used to solve urgent and emerging problems.

During the past year, HInM has continued to accelerate and advocate for digital solutions, working in partnership with Greater Manchester Health and Social Care Partnership and the Greater Manchester Combined Authority. A vital part of this has been continuing to build a solid foundation of trust and collaborative partnerships across the system.

HInM has been part of the GM COVID-19 Health and Care Digital Coordination Group, established to set digital priorities and oversee the work taking place. This included resolving information governance challenges to enable data to be shared at the point of care, supporting primary care with digital access to care and how technology could support residents with long-term conditions or in the care sector.

HInM has also continued to look beyond the digital technology itself throughout the pandemic, focussing on the people, process and cultural factors involved in implementing and embedding digital solutions within the health and care sectors.

Digital programmes are having a vital impact in the response to COVID-19 and through the pandemic, enabled by agreed priorities, clear governance and engagement across the system, including with clinicians, patients and technology experts.



OUR DIGITAL RESPONSE TO COVID-19

Working closely with our health and social care partners across Greater Manchester we have delivered:



GM Care Record:
Accelerating Data Sharing, pathway transformation and research

Digital Mental Health:
Optimising deployment of remote support tools



COVID-19 Vaccination:
Deployment of an online booking system in GM to facilitate health and care workforce appointments.
331,000 bookings made via tool



Digital Primary Care:
Outcomes framework



Support for staff:
Remote working at scale



Digital transformation:
Engaged with 120 people across the GM system to develop future digital investment priorities to support service transformation



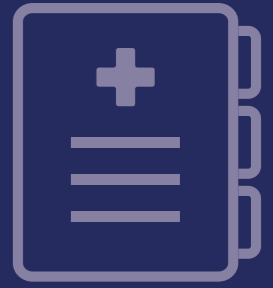
Digital Care Homes:
Symptom tracker and signs of deterioration



Remote monitoring:
Secured £1.67m bid to support creation and development of remote monitoring tools in heart failure, COVID and Maternity care



Urgent Care by Appointment:
Call before you go digital system and clinical triage at the front door of A&E deployed in GM





ACCELERATING VITAL DATA SHARING THROUGH THE GM CARE RECORD

As part of the COVID-19 response, it became vital to accelerate work already underway to deploy a single joined-up record for all citizens in Greater Manchester to ensure no matter where patients were being treated, clinicians had the information they needed. Until recently, this information was held locally in existing borough-based care records and not shared across the locality boundaries. Instead, the system relied on patients repeating their medical history to each professional they encountered within the health and care system, creating risk and inefficiencies.

The GM Care Record project has been overseen by HInM and the GM Health and Social Care Partnership, working on behalf of GM's devolved health and care partners. Rapid progress to rollout the shared care record was made in weeks rather than months at the start of the pandemic as part of the city region's COVID-19 digital response plan and collaborative effort.

In total, 3.1 million patient records from 443 GP practices in GM and data feeds from all mental health NHS Trusts and all NHS acute trusts are now flowing into the GM Care Record. It also includes information about when a patient has been tested or diagnosed with COVID-19, allowing GM to track and understand the impact of COVID-19 and to develop programmes of work to counter the pandemic. The system has been developed by tech company Graphnet, which specialises in developing health and care IT solutions.

.....
Since launching in May 2020, the number of unique users per month has grown from 4,599 to more than 10,000 and more than 100,000 patient records are being accessed each month.
.....



The ability to share data through the GM Care Record is backed by a GM-wide approach to data protection and information sharing in accordance with national guidance, such as defining under which circumstances professionals can access the record. It is also underpinned by collaborative engagement and strong governance across GM.

The GM Care Record has become a major digital asset with significant potential to support programmes to tackle health inequalities and transform care. It is now being taken beyond the basic ability to share information, to supporting innovation, research and the transformation of care and citizen outcomes. The care record is now also being used to

support the transformation of care pathways through new use case development, including COVID-19 virtual wards, heart failure, and dementia and frailty.

“The GM Care Record will have a direct impact on the quality and precision of care we are able to provide patients, particularly those with complex needs across multiple specialties. Sharing this information has never been more important as it will greatly aid clinical decision making and will reduce the burden on both patients and clinicians.”

Karen James OBE, Chief Executive of Tameside Integrated Care NHS Foundation Trust and member of the GM Provider Federation Board

“As a person with multiple co-morbidities, it would certainly benefit me if patient information was shared. For example, the hospital I see my specialists at is Salford Royal, but my nearest A&E is Stockport. If I need A&E and I am not conscious, how will they know what meds I am on and the possible side effects of mixing meds?”

GM patient

HOW IS THE GM CARE RECORD MAKING A DIFFERENCE?

Supporting end of life care

The GM Care Record is supporting healthcare professionals to provide the best possible end of life care for patients. In one case study, a patient was in the terminal stages of cancer and was being looked after by her family who contacted the hospice-at-home coordinator one Friday evening for more advice on how to care for her over the weekend and to avoid a hospital admission. Neither the on-call doctor or the hospice doctor had any prior knowledge of the patient, but using the GM Care Record via their EMIS Web system, they were able to gain an in-depth understanding of the clinical situation and enable a safe plan to be made for the patient that allowed her to remain at home, as per their wishes.

Approved COVID-19 related research using deidentified patient data from the GM Care Record

As well as being able to access information for direct care, deidentified data in relation to COVID-19 can be used for research and planning purposes to gain a greater understanding of COVID-19, how best to tackle it and the type of services that need to be in place. All 10 GM localities have approved that the COVID-19 Expert Review Group (ERG) can consider and authorise requests for COVID-19-related secondary uses and university research using GMCR data during a rigorous review process.

During 2020-2021, six studies were approved by the ERG, with a further fifteen in the pipeline. Approved studies include:

- Healthcare utilisation across GM during the COVID-19 Pandemic – To study how the healthcare system in Greater Manchester has been used throughout the pandemic. This will give important insights into bottlenecks in the system that will help with planning for subsequent waves and future pandemics.
- The equitability of the UK government's COVID-19 vaccination strategy – Using GM Care Record data to test whether the government vaccination plan meets the goal of giving equal priority to people with equal vulnerability to COVID-19.
- COVID-19 incidence, hospital admission and death in cancer patients in GM. – The GM Care Record will be used to determine the risks and factors associated with COVID-19 diagnosis, hospital admission and death in cancer patients and will help inform individual management decisions for cancer patients.



UK-FIRST COVID-19 TRACKER SUPPORTING CARE HOME RESIDENTS

As cases of coronavirus began to rise dramatically at the start of the COVID-19 pandemic, the ability of the virus to rapidly spread within care homes and put some of the most vulnerable in society at risk became an urgent issue to solve. Care home staff needed support to track outbreaks among their residents and coordinate care with GP practices, social care, and hospitals to optimally support vulnerable residents.

HInM worked with health and care professionals from across Greater Manchester and tech company Safe Steps to solve this issue, creating a UK-first digital innovation in the process. The COVID-19 tracker allows care homes staff to input information about a resident's COVID-19 related symptoms into a digital platform, which can be shared directly with the resident's GP and NHS community response team to ensure that a swift assessment and response can be put in place. It also meant that the NHS could more closely monitor how care homes are doing thanks to a visual dashboard that displays the information at an aggregate level.

After a successful rollout in Tameside and Glossop in April 2020, the COVID-19 tracker has been adopted by 151 care homes across 7 localities. In total more than 4,200 residents are being supported through the tracker, with over 360,000 assessments taking place since April 2020.

As the pandemic progressed, the digital tracker was adapted to also be able to record COVID-19 vaccination consent and when a vaccine has been given to a care home resident. It allowed a real time dashboard view of each care home and their vaccination status, contributing to national efforts to vaccinate the most vulnerable and care home residents. The approach taken has garnered national and international interest for adoption and spread, and HInM has brokered a commercial incentive model to ensure GM benefits from any further growth and development.

.....
**4,260 care home residents benefitting,
369,870 assessments since April 2020.**
.....



“The care homes data dashboard provides invaluable information to GPs about the most up to date status of their patients allowing proactive management and care for the most vulnerable in our society. By empowering carers, who know their residents best and can spot symptoms or signs of deterioration, we can easily identify those patients who need advanced care planning by picking up signs of deterioration as soon as they start to happen.”

Dr Saif Ahmed, GP and Clinical Lead for the project.



REDUCING THE ADMIN BURDEN ON MIDWIVES WITH THE SMOKEFREE PREGNANCY DIGITAL PLATFORM

The Greater Manchester Smokefree Pregnancy Programme is now using a digital platform which enables specialist midwives to spend more time helping pregnant smokers to quit smoking and less time on time-consuming admin tasks.

HInM has worked with Greater Manchester Health and Social Care Partnership and digital transformation specialists Objectivity to develop the digital platform, which has been rolled out across Greater Manchester during the COVID-19 pandemic.

The platform enables midwives to view information about the pregnant women in their care, including information about their pregnancy, progress in quitting smoking and record their carbon monoxide levels. Midwives can also use the platform to schedule appointments and send motivational text messages and appointment reminders to support women on their quit journey.

Individuals on the pathway are also provided with carbon monoxide monitors which link to smartphones, allowing them to complete screenings at home, rather than attending a clinic in person, and report their readings to the specialist midwives.

It aims to reduce the amount of time spent inputting and collating information, creating more time for midwives to provide care. It also standardises data collection across GM, enabling a clearer picture of the programme's impact and where improvements can be made.

Smoking in pregnancy exposes developing babies to carbon monoxide, a poisonous gas which significantly increases the risk of stillbirth, premature birth and cot death. Since the Greater Manchester Smokefree Pregnancy programme began in 2018, an additional 510 babies have been born smokefree.

“This new digital platform is providing benefits to our maternity teams across Greater Manchester, releasing more time for them to care for individuals and increasing capacity. It is also allowing us to engage with more pregnant individuals and their partners, advise them about the dangers of smoking while pregnant and give them personalised support to quit.” Jane Coyne, Strategic Lead for Smokefree Pregnancy programme at GMHSC Partnership

HEALTH AND CARE CATALYSTS

It is undeniable that COVID-19 has accelerated innovation within health and care – from rapidly mobilising the use of virtual consultations to developing new practices to improve patient safety.

During the pandemic, HInM has worked with partners at a local, regional and national level to rollout vital new innovations and embed them within the system.

Organisation across Greater Manchester have worked together on common goals and priorities during COVID-19 with a ground-up approach to innovation – creating solutions to the problems the system has faced during COVID-19. GM has been aided in this journey by the variety of health boards, networks, and patient/citizen groups collaborating together and connecting the innovations to the correct needs and priorities.

Being linked to national networks, such as The AHSN Network and Patient Safety Collaboratives, has also enabled HInM to share successes, learnings and challenges on a national scale while also learning from our innovation partners and commissioners.

Working together as part of the NHS Confederation Reset work and the NHSX Innovation Collaborative has allowed HInM the opportunity to share work even further and with more organisations and health care systems.

An essential part of this has been getting to the frontline clinicians, the carers, the patients and citizens themselves to make sure that it is a person-centred transformation. It has given HInM the chance to feed into the priorities they have identified and ensure that innovation connects to their needs.



MENTAL HEALTH: A GREATER MANCHESTER RESPONSE

COVID-19 brought high levels of uncertainty, anxiety and worry into the lives of citizens in Greater Manchester. Lockdown left many feeling lonely and isolated, separated from friends, families and colleagues and additional pressure was placed on mental health services.

Within weeks of the first lockdown in March, a city-region response on mental health, announced by Mayor of Greater Manchester Andy Burnham and the Greater Manchester Health and Social Care (GMHSC) Partnership was launched to complement work already happening at a local level. This included the launch of a range of digital services and online support for children and adults across Greater Manchester to minimise the need for people to attend GP surgeries or hospital. It aimed to provide those people already experiencing mental health issues and anyone struggling during the pandemic with access to rapid mental health support from their own home.

A review of the digital innovations, prepared by HInM, found that thousands of people across Greater Manchester have used one of the digital mental health services during the pandemic.



THE INNOVATIONS

Kooth

An online counselling and emotional wellbeing platform for children and young people.

8,045 young people
accessed support through Kooth

64,000 logins recorded

33,200 messages
on the platform

15,000 article views

94% of users said they would recommend Kooth to their friends

Kooth user feedback:
“I feel so much more positive about myself now. I feel like a different person. I feel supported and valued and as a result I’m making changes in my life.”



SilverCloud

An online therapy programme for adults proven to help with stress, anxiety, low-mood and depression.

10,625 users
across GM have accessed SilverCloud

On average 94% of users
found the modules to helpful

SilverCloud user feedback:
“Very enlightening and liberating! I can’t solve or change the past. But I can enjoy the present and have hope for the future.”



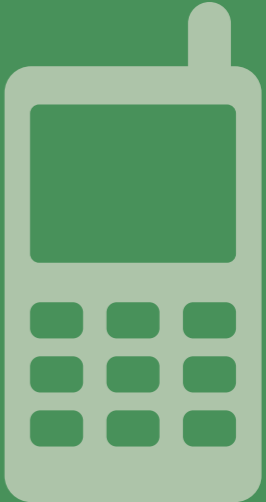
SHOUT

A confidential 24/7 text service operated by trained crisis volunteers who will chat using text responses.

338 conversations
have taken place with people from GM

90% of respondents
found the conversation to be helpful

SHOUT user feedback:
“I really appreciate all the help offered. It was nice to be able to tell someone what happened to me without feeling ashamed of it.”



HInM have also been involved in further Mental Health projects during the past year, including completing a snapshot review to help inform the Greater Manchester Mental Health recovery planning and prioritisation process focusing on emerging needs in communities/localities due to the COVID-19 crisis. Information was captured from across the GM system, including mental health provider Trusts, CCGs, Local Authorities, Social Care, charities, communities and service users.

HInM also worked with GMHSC Partnership and The University of Manchester to aid wider spread and adoption of Paediatric Autism Communication Therapy (PACT) evidence-based intervention in which therapists work with parent/carers to enhance social communication with their young child with autism spectrum disorder. HInM undertook barriers and enablers activity, capturing information through data collection and interviews and online surveys, to feed into learning of progress being made with adoption. HInM also produced an implementation pack, bringing together key resources as a reference guide to adopting PACT.





COLLABORATING AS PART OF THE AHSN NETWORK

As an Academic Health Science Network, HInM has joined with the 14 other AHSNs to spread national innovations and support the response to COVID-19.

Innovations rolled out during the pandemic have included new initiatives as well as acceleration or adaptations of existing initiatives. Innovations supported include:

- Supporting people with breathing difficulties including chronic obstructive pulmonary disorder with [resources to help individuals manage their condition at home](#) and reduce readmissions to hospital.
- Providing [resources to care homes to help monitor signs of deterioration](#), including using RESTORE2 to spot soft signs of deterioration and a 12-point checklist to record condition changes.
- HInM has worked with health and wellbeing charity Everybody Sport and Recreation in Cheshire East to support [online delivery of the ESCAPE-pain rehabilitation programme](#) for people with chronic joint pain.
- Continuing to rollout the [Transfers of Care Around Medicines project](#), an electronic pharmacy referral system, to support patients who need additional support taking their prescribed medicines following a hospital stay, including those patients who have recovered from COVID-19.

During 2020-21, HInM has also begun engagement on three new national AHSN adoption and spread programmes commissioned by NHS England:

Early Intervention Eating Disorders

Supporting mental health teams across England to speed up diagnosis and treatment of eating disorders in young people aged 16 to 25. One approach in use is FREED (First episode Rapid Early intervention for Eating Disorders), an evidence-based, specialist care package for 16 to 25-year-olds with a first episode eating disorder of less than three years' duration. Broadly based on the early intervention model for psychosis, it overcomes barriers to early treatment and recovery and provides highly coordinated early care, with a central focus on reducing the duration of an untreated eating disorder. HInM has already supported the [rollout of FREED to Salford and Manchester](#).

Focus ADHD

AHSNs are working with mental health trusts and community paediatric services across England to improve the assessment process for Attention Deficit Hyperactivity Disorder (ADHD) for children and young people. The core element of this programme will involve work with trusts to implement an objective assessment tool (measuring attention, impulsivity and activity) to supplement



current clinical assessment processes. Research has shown that the use of objective assessment tools alongside other clinical information, can provide a more rapid diagnosis after fewer patient visits, improving patient, family and clinician experience.

Lipid management and FH

The aim of this joint AAC and AHSN Network programme is to support primary care in the prevention and management of CVD, introducing targeted interventions for people with high cholesterol, including identifying and treating people with familial hypercholesterolaemia (FH). This programme will support work already underway by HInM with the [FH cascade testing service](#) and delivery of a novel therapies for CVD programme.

Patient Safety

As an AHSN, HInM is also hosts the Greater Manchester and East Cheshire Patient Safety Collaborative and supports delivery of the National Patient Safety Improvement Programmes. These programmes include reducing deterioration associated harm, improving maternity and neonatal safety, reducing severe avoidable medication-related harm and improving mental health care.

[Read more](#)

Accelerated Access Collaborative

HInM is also a member of the Accelerated Access Collaborative, the umbrella organisation for UK health innovation, and supports stronger adoption and spread of proven innovations. Innovations supported during 2020-2021 include FeNO testing as a method to assist in the diagnosis of asthma, using Tamoxifen for the prevention of breast cancer for women at known risk and biological therapies for treating severe asthma.

NHSX Innovation Collaborative

NHSX has also partnered with the national AHSN Network to establish a national Innovation Collaborative, creating a connected network to rapidly share learning and best practice in digital transformation across the NHS and care sector. Working closely with the regional teams, the collaborative has provided support to frontline teams to identify, implement and evaluate the rapid scale of

innovation using quality improvement science and other methodologies. Through this work HInM is supporting the rollout of digital tools to transform the care pathway for patients with heart failure alongside progressing the COVID-19 tracker in care homes and rollout of COVID Oximetry @home.



COVID OXIMETRY @HOME

Patients at risk from COVID-19 in Greater Manchester have been supported through a national programme designed to provide an early-warning system if their condition worsens. COVID Oximetry @home uses pulse oximeters for patients to safely self-monitor their condition at home, providing an opportunity to detect a decline in their condition that might require hospital review and admission.

The programme was managed by NHS England and NHS Improvement, in partnership with NHSX and NHS Digital. It has been supported by England's 15 Patient Safety Collaboratives, including Greater Manchester and Eastern Cheshire Patient Safety Collaborative.

In Greater Manchester 100% of CCGs established a fully operational COVID Oximetry @home pathway, with HInM supporting the rapid spread of this programme through intense collaboration with the region, access to training and resources, data collection and evaluation and by facilitating a learning network. The COVID virtual ward model, a secondary-care-led initiative using remote pulse oximetry monitoring to support early

and safe discharge from hospital (step-down care) for COVID patients, has also been rolled out across GM during the pandemic. The Greater Manchester system has also worked together to rapidly develop a COVID-19 home monitoring digital platform for patients on a COVID Oximetry @home programme or COVID virtual ward. The platform records the health status, including pulse oximeter readings, for patients being supported through the programme and includes a myGM Care app which will enable patients to directly input their readings. Clinicians can view the readings for their patients and act if the patient needs prompt intervention. It also provides a digital platform and dashboard report to enable teams to manage and monitor the group of citizens in a local area.

“Across Greater Manchester we came together as a team to do something novel. This approach has enabled us to remotely monitor patients with acute COVID in the comfort of their own home with the reassurance of their loved ones close by. The hospital virtual wards enable us to discharge patients home sooner with the same remote monitoring so that should any deterioration occur, patients are escalated to promptly without delay to the most appropriate setting.”

Dr Bushra Alam, clinical lead for GM CO@H programme

“The whole process of being discharged to the COVID virtual ward was great from start to finish, everything was set up for me before I went home, and the nurses rang me every day to check on me. I also had a contact number for the hospital team if I had any questions. The whole system just works brilliantly and I can't thank the hospital staff enough.”

Patient supported on the Oldham COVID virtual ward



IMPROVING TRACHEOSTOMY CARE DURING COVID-19

The COVID-19 pandemic has placed unprecedented pressure onto the healthcare system, with a surge in critically ill patients requiring ventilation support and temporary tracheostomies, an artificial opening in the front of the neck to support breathing, as they recover. While the tracheostomy tube is in place it needs to be cared for to keep the airway clear and prevent complications, and patients need additional support for communication, eating and drinking.

Working with the AHSNs, including HInM, and the Patient Safety Collaboratives, a Safer Tracheostomy Care toolkit was to support staff and clinicians to care for patients with temporary tracheostomies. It included three key safety elements 1) A standardised tracheostomy daily care bundle. 2) Bedhead signs with key information about the procedure to support rapid communication in an emergency and 3) Standardised 'bedside' tracheostomy emergency equipment available at all times.

The toolkit, which was rapidly rolled out nationally, aimed to improve patient care for those with temporary tracheostomies and support clinicians who may have been unfamiliar with treating patients with tracheostomies by providing education, resources and access to equipment.

In the past quality improvement in tracheostomy has typically been driven by an individual or an individual hospital team, or in response to an isolated incident which highlights the need for improvements. But through the national programme, AHSNs have been able to rapidly spread the knowledge and improvements across all teams and deliver that change when it has been most needed. It also built on work which started over 10 years here in Manchester, with the aim to improve tracheostomy care and grew into the National Tracheostomy Safety Project, taking the best experiences from not only the UK but globally, to develop the tools and resources which are being used around the world.



“During the pandemic we’ve had anecdotes from patients which highlight why improving tracheostomy care is making a difference to them – the joy of being able to drink their first cup of tea after being critically ill for six weeks or telling their family they love them once their voice returned.”

Dr Brendan McGrath, national clinical advisor for the National Patient Safety Improvement Programmes’ COVID-19 safe tracheostomy care response and intensive care consultant at Manchester University NHS Foundation Trust

SUPPORTING PREGNANT WOMEN AT RISK OF PRE-ECLAMPSIA WITH RAPID TESTING AND REMOTE BLOOD PRESSURE MONITORING



Pregnant women across Greater Manchester are benefiting from a quick, accurate blood test to identify pre-eclampsia, a condition which can lead to serious complications if not monitored and treated. During 2020-21 and supported by HInM, all NHS maternity sites across Greater Manchester rolled out Placental Growth Factor (PIGF)-based testing, a blood test which can confirm or exclude pre-eclampsia and assess the risk for complications.

Pre-eclampsia affects around 3 per cent of pregnant women and the condition can lead to severe complications for both mother and baby if it is not monitored and treated. The earlier pre-eclampsia is diagnosed and monitored, the better the outlook for mother and baby.

The new test, part of a national initiative through the Accelerated Access Collaborative Rapid Uptake Products, offers clinical teams the ability to better manage risk, improve patient safety through faster and accurate diagnosis and ensure the women and their unborn baby receive appropriate care.

During the pandemic, HInM has also supported some maternity services to enable remote blood pressure monitoring services for pregnant women at risk of pre-eclampsia. Pregnant women have been identified as a vulnerable group and therefore it is essential that, where possible, hospital attendances are avoided to minimise virus transmission.

Avoiding face-to-face appointments posed significant challenges for antenatal services as many women receive vital care during these clinics, including blood pressure

measurement. An early sign of pre-eclampsia is having high blood pressure (hypertension), which is usually picked-up during routine antenatal appointments and requires regular monitoring.

Through the remote monitoring rollout, pregnant women have been given blood pressure monitors which allows them to take their blood pressure measurements at home and record them in an app or by telephone to their midwives. Midwives can monitor the results and escalate for additional treatment if there is a need. HInM has also worked with technology company Graphnet to support the development of the MyMaternityCare app, which enables women to input their readings directly into an app, which can be viewed by their midwives. It is also set to be integrated into the GM Care Record.

Patient story

“The Placental Growth Factor test enables us to make the right decisions for the women in our maternity care. We can ensure that those with pre-eclampsia or who are at the highest risk of developing pre-eclampsia are getting the care they need, when they need it. By also being able to remotely monitor our pregnant women we can continue their care and limit the number of people needing to attend hospital during the pandemic.”

Clinical lead Professor Jenny Myers, Consultant Obstetrician at Saint Mary’s Hospital and Professor of Obstetrics and Maternal Medicine at The University of Manchester



Faye, a patient at Saint Mary’s Hospital, part of Manchester University NHS Foundation Trust (MFT), had two pregnancies complicated by pre-eclampsia.

When the PIGF-based test placed her in an intermediate risk of pre-eclampsia, clinicians were able to increase her monitoring and ensure she gave birth to a healthy baby boy. Faye said:

“I was really grateful that extra monitoring and blood tests are now available, it’s really different to my first pregnancy. The blood tests in this pregnancy made a big difference, I was so worried given everything we’d been through before.”

.....
100% of maternity units
now able to offer PIGF-testing
.....

GROUNDBREAKING RESEARCHERS

HInM continues to work with local research partners to focus activity on addressing the health and social care priorities of the city region, as well as secure further funding and advance translational research delivery into frontline care.

During the COVID-19 pandemic these partnerships have rapidly responded to minimise lives lost and reduce the impact of the pandemic on Greater Manchester's health and social care system and the wider community. This has included the creation of a COVID-19 Research Rapid Response Group, harnessing the power of hundreds of researchers and clinical colleagues to provide cutting-edge research, and recruiting thousands of participants to COVID-19 research studies.

Across the city-region, all of the NHS hospital trusts have supported and delivered vital research, helping their patients to take part. There has been a unified, coordinated approach to recruitment to clinical studies with 30,600 people in Greater Manchester taking part in over 40 nationally prioritised COVID-19 studies, supported by the National Institute for Health Research (NIHR) Clinical Research Network Greater Manchester. The studies have focused on data, observations, and treatment to help stop the virus or improve care for patients.

These efforts have enabled world-leading research into successful treatments, such as dexamethasone and tocilizumab, which are now helping the sickest patients get better. NHS partners have also played a pivotal role in COVID-19 vaccine studies, such as the Novavax vaccine trial, where Greater Manchester was one of the top recruiting regions nationally, with over 1,240 of our local citizens taking part. GM partners have also played significant roles in ground-breaking platform studies such as RECOVERY, PRINCIPLE and REMAP-CAP, which have made an important contribution to the global understanding of COVID-19.



SUPPORTING GREATER MANCHESTER RESEARCH RAPID RESPONSE GROUP

The Greater Manchester Research Rapid Response Group (GM R3G) was established in March 2020 and brought together hundreds of researchers from GM universities with clinical colleagues from the region's NHS Trusts.

The work was backed by HInM and NIHR bodies and included work into new treatments, understanding the disease mechanisms, prevention/vaccination and use of data science.

The group was a vital part of Greater Manchester's research response and worked across organisational boundaries to prioritise research that would have an immediate impact in the pandemic response. It was led by Professor Ian Bruce, Director of the NIHR Manchester Biomedical Research Centre and HInM's Academic Director.

During the initial stages of the pandemic, the group reviewed COVID-19 related research projects to ensure the most effective use of resources, and co-ordinated the deployment of specialist equipment and volunteer technical staff to assist in the mass testing efforts. The group also supported

efforts to mobilise clinical academic staff to the NHS frontline and reviewed a number of projects to optimise the quality and scientific rigour required to maximise UKRI funding. As a result of this reviewing process, GM partners secured over £8.5million of UKRI funding.

The R3G also supported policy response within GM, including local decision making and advising where resources would be best placed in the system. An example of this is the GM Mass Testing Expert Group (MTEG). Through MTEG, academic and clinical communities were brought together to provide considered expert advice to guide the development and implementation of the strategy using the very best academic, clinical and sectoral expertise available. The adoption of this advice:

- Accelerated innovation in the test-trace-isolate plan.
- Improved quality and safety of this plan.
- Ensured links with other relevant health and care interventions.
- Facilitated a harmonisation of testing strategies across the GM city/region.

Similarly, academics and key opinion leaders have contributed opinions to a House of Lords enquiry in areas related to digital technologies and contact tracing, antiviral vaccines, clinical trials, public health and new diagnostics.

“The Research Rapid Response Group allowed us to focus on what was most urgent, support the research leads by removing the barriers that slow down progress and allow the experts in different fields to thrive. People have worked together in a collaborative way and some of the big ideas that have been supported by the group are now having national impact.”

Professor Ian Bruce



MANCHESTER ACADEMIC HEALTH SCIENCE CENTRE MAHSC

2020/21 marked the first year of a new five-year designation period for MAHSC after being formally designated as an Academic Health Science Centre by NHS England and NHS Improvement and the NIHR for demonstrating excellence in health research, health education and patient care.

MAHSC brings together world leading academic and NHS partners and is now one of only eight academic health science centres (AHSCs) in England – and one of only two in the North.

The MAHSC discovery and translation strategy is delivered by six domains, each jointly led by an academic and an NHS clinician and chaired by a CEO from a partner Trusts. The domains are: Cancer, Cardiovascular & Diabetes, Inflammation & Repair, Mental Health, Neuroscience and Women & Children. These are underpinned by expertise in applied health and care research linked to our NIHR Applied Research Collaboration (ARC), as well as the cross-cutting aims to:

- Innovate within a GM Person-centred Health Service
- Expand Manchester's capacity & capability
- Integrate our Digital Infrastructure

Membership of MAHSC includes research-intensive NHS partners: Manchester University NHS Foundation Trust, The Christie NHS Foundation Trust, Salford Royal NHS Foundation Trust, Greater Manchester Mental Health NHS Foundation Trust and The University of Manchester. MAHSC also works in close collaboration with Greater Manchester's thriving scientific community and research infrastructure and higher education institutions.

During the COVID-19 pandemic it has been vitally important to continue sharing knowledge. To support this, MAHSC created a seminar series in order to showcase the great discovery and clinical science being undertaken and its impact on the health of the local population. The series gives a platform to the nationally and internationally renowned scientists of MAHSC to share their work with the wider scientific community, clinical colleagues and the public.



Many sessions within the series focussed on COVID-19, including insights into the immunological response, approaches to diagnosis and treatment and mathematical modelling of COVID-19. Later sessions within the series featured a wider selection of topics including mental health, cancer, maternity care, commercial engagement and the science of implementation.

Key impacts:

6 MAHSC Domains

9 NHS clinicians named MAHSC Honorary Clinical Chairs

More than £200,000 awarded in pump-priming research funding competitions

11 MAHSC seminars held – attracting thousands of viewers from across the globe



NIHR APPLIED RESEARCH COLLABORATION GREATER MANCHESTER (NIHR ARC-GM)

NIHR | Applied Research Collaboration
Greater Manchester

NIHR Applied Research Collaborations (NIHR ARCs) undertake applied health and care research to meet local and national need. The NIHR ARC Greater Manchester became a core component of HInM in October 2019, integrating with the academic health science network) and academic health science centre.

NIHR ARC-GM was set up to design and deliver applied health and care research that responds to, and meets, the needs of local populations and the GM health and care system. It is one of 15 ARCs across England, part of a £135 million investment by the NIHR to improve the health and care of patients and the public. ARC-GM conducts research in five core research themes, which were selected to reflect key challenges in GM:

- Digital Health
- Economic Sustainability
- Healthy Ageing
- Mental Health
- Organising Care

And four cross-cutting themes:

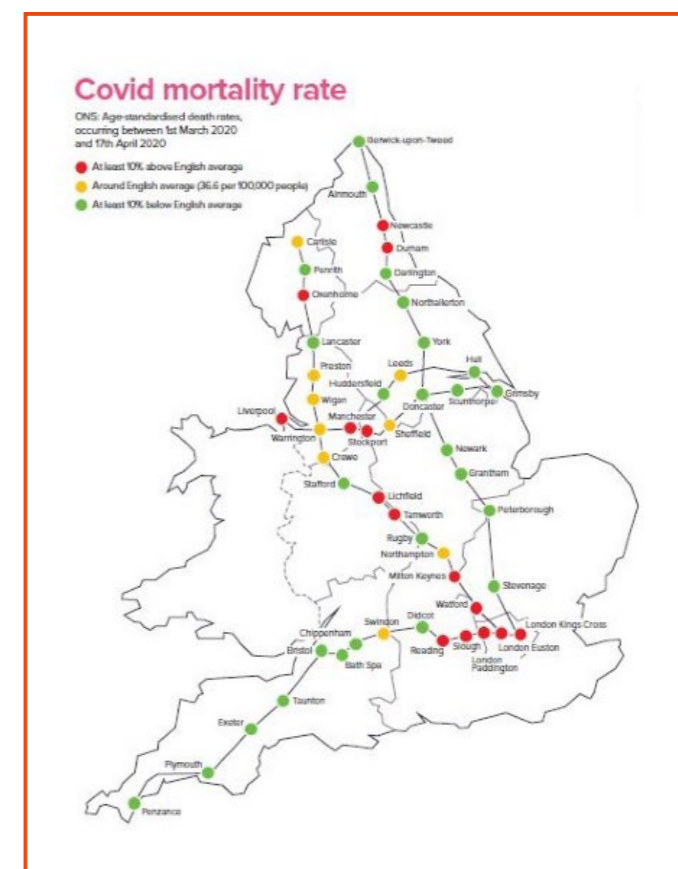
- Evaluation
- Implementation Science
- Capacity Building
- Public and Community Involvement and Engagement (PCIE).

When COVID-19 began, the ARC-GM was not yet six months old and much of the work was still in the set-up phase. The team looked to support the COVID-19 response where possible as well as retain sufficient resource and capacity to conduct other research. However, now 18 months old, ARC-GM has more than 50 active applied health research projects, including both GM and national studies, and has a wide range of research infrastructure collaborators.

During 2020/21, NIHR ARC-GM has conducted important research and evaluation:

Within the Economic Sustainability theme, colleagues have examined health inequalities and have worked with the

Northern Health Science Alliance and ARC North East & North Cumbria on the impact of COVID-19 on unemployment and mortality. The research analysed data to discover that COVID-19 is hitting the North the hardest and that its effects are likely to last longer in the region.





ARC-GM played an important role in the [evaluation of the Keeping Well at Home booklet](#), which was produced, printed and distributed across Greater Manchester by The University of Manchester's Healthy Ageing Research Group with the Greater Manchester Ageing Hub at the Greater Manchester Combined Authority. The booklet aimed to support those who are self-isolating during COVID-19. A survey of nearly 500 respondents found 92% agreeing that the information was helpful. Around 50% of respondents did

not have access to the internet; 65% agreed that they would not have had access to this information if they hadn't received the booklet, and 90% agreed that the booklet had helped older adults to stay healthy during lockdown. The ARC-GM evaluation of the booklet revealed that not everyone is online and those that are do not necessarily access information digitally. Therefore information, support and services must be made available in an offline equivalent and proactively disseminated to reach those who otherwise would not have access to it.

Public member Elaine, who was involved in the development of the booklet said:

“Older people are the recipients of this booklet. If we are involved, we have got shared experiences of older people and also we can help promote it. I particularly saw myself as a partner in this, not as a “you” and them”. I felt very much involved, and that our contribution was taken on board.”

Researchers within ARC-GM have worked with the Department of Mathematics in the University of Manchester, to support Public Health England in looking at outbreaks of COVID-19 in care homes across England. This has involved the careful application of mathematical and statistical techniques

to national data to look at the characteristics of care homes that were linked to increased COVID-19 outbreaks. This enabled colleagues to identify patterns and, crucially, the factors which seem to be linked to more outbreaks, for example staff sharing cars to travel between homes or PPE availability.



INDUSTRY PARTNERS

Healthcare and technology businesses across the UK have been pivotal in supporting national efforts to tackle the virus and support NHS staff and patients. Investment and support for this growing sector has never been so crucial with HInM continuing an industry support offer and accelerating innovations that will improve health outcomes for citizens.

HInM has worked nationally as part of the AHSN Network and a coordinated NHS response to identify and enable the implementation of technologies that respond to areas of highest priority action for COVID-19.

Locally, HInM has also supported Greater Manchester innovators through our ongoing SME support programmes, new accelerators and funding calls, all of which have been delivered online during the pandemic.

This year, our work has included:

- **222 companies** supported through the Innovation Nexus online portal and business support service including:
- **57 SMEs** supported through the Greater Manchester European Regional Development Fund (ERDF) sectors programme.
- **50 companies** across 4 cohorts completing the STEP INto Healthcare programme which provides education and training for SMEs on understanding the NHS landscape, the GM healthcare ecosystem and prepares them for the NHS procurement and pitching process.
- **20 SMEs** supported through our Cheshire and Warrington Fund ERDF Health Matters programme.
- **3 new digital healthcare projects** successful in securing Momentum Innovation Funding for evaluations in Greater Manchester



A new [Research and Innovation Health Accelerator programme](#) has also been launched in 2020/21 for companies looking to accelerate commercialisation of their product or service into the health and care system. SMEs will be able to access expertise and support to help progress their products and services and build lasting research collaborations between SMEs, researchers, Greater Manchester universities, NHS organisations and the broader health innovation community. The project is led by HInM in partnership with The University of Manchester (UoM), Manchester City Council, Bionow and The University of Manchester Innovation Factory. It is part-funded by the European Regional Development Fund (ERDF).

HInM is also partnering with [Danaher Diagnostics on a health accelerator programme](#) to support innovations that provide remote management of patients leaving hospital care and/or patients with long-term conditions at home. Under the Danaher Health Accelerator HInM aim to support companies with identifying and filling in any gaps in their clinical and business development and utilise HInM's expertise and knowledge of the local system and health care market along with Danaher's research and development expertise to develop their solutions and clinical value proposition.

HInM is also part of the [Christabel Pankhurst institute for health technology research and innovation](#) in Manchester consortium. Launched in January 2021, the institute will build on Manchester's academic strengths in digital health and advanced materials to discover innovative health and care solutions. It is part of an ambitious plan set out in the Greater Manchester Local Industrial Strategy to boost the city-region's provision in this area and follows a £5million Local Growth Fund award from Greater Manchester Local Enterprise Partnership and Greater Manchester Combined Authority (GMCA). The consortium is made up of the University of Manchester, Manchester Science Partnerships Manchester University NHS Foundation Trust and HInM.

Greater Manchester has also been named as a [High Potential Opportunity for health innovation in healthy ageing](#) by the Department for International Trade. HInM worked with MIDAS and the GMCA on the development of the application, which will help raise the profile of the city region in this key area of Greater Manchester's Local Industrial Strategy, with the ultimate aim to boost the local economy during the 'recovery' phase and Build Back Better at this crucial time.



HInM has also been an integral partner in establishing [The Innovation Partnership for Healthy Ageing \(IPHA\)](#) which was established to bring GM stakeholders together to facilitate the adoption of healthy ageing related innovations and unlock the economic potential of the ageing population to support productivity and growth across the city-region. Initiated in July 2020, HInM has worked on three core workstreams - developing a Healthy Ageing

Pipeline, supporting Business Engagement and establishing an Innovation Programme/incubator - all with the aim of exploring the viability of establishing a Healthy Ageing specific innovation programme in GM.

HInM also provides procurement advice and supports several national initiatives and events, including acting as a procurement mentor in the NHS Innovation Accelerator Fellows programme, supporting SBRI national funding

calls and delivering focussed masterclasses with the Office for Life Sciences. Locally, HInM also supports the Health 2.0 Manchester Chapter, a community focused on innovations in the delivery of digital healthcare and health related technology.

£140,000 FUNDING AWARDED TO ACCELERATE INNOVATIVE MED-TECH PRODUCTS

A digital platform to support remote monitoring of complex wounds, an app to help young adults and adolescents manage their type 1 diabetes and a speech recognition app with machine learning for people with speech impairments were successful as part of the 2020-2021 HInM Momentum Fund.

The innovation fund has been established to support the introduction and adoption of needs-led, evidence-based innovations into the healthcare system within Greater Manchester and East Cheshire. The latest funding call invited applications from innovations to support clinical management post COVID-19 and/or chronically ill patients at home.

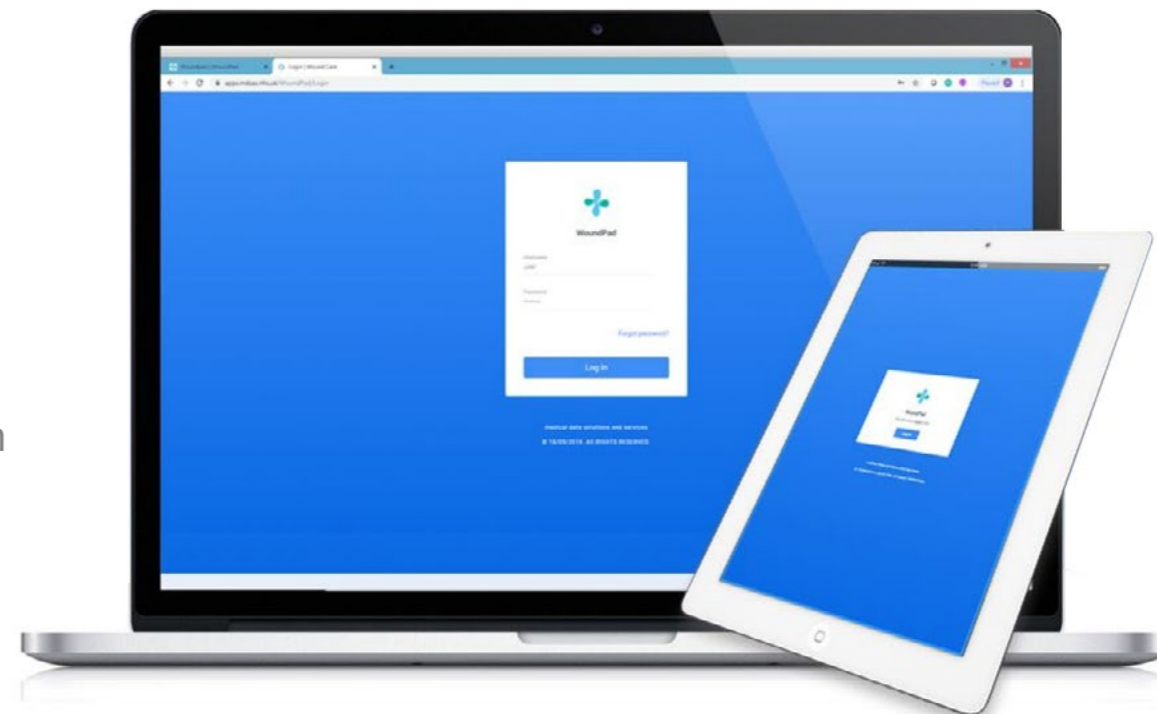
The successful innovations are:

WoundPad by MDSAS Ltd awarded £42,000. WoundPad is a digital platform that brings together all the different components required for the remote management of complex wounds in a community setting. The web-based innovation integrates with NHS networks and systems to facilitate

remote management at home, early intervention, triage and escalation of care for patients with complex wounds.

Nudg by LovedBy Ltd awarded £48,098. Nudg is an app platform developed to deliver positive behaviour change using artificial intelligence and personalised lessons, prompts and support to help adolescents to manage their type 1 diabetes.

Voiceitt by Technologies of Voice Interface Ltd awarded £50,000 Voiceitt's speech recognition technology is an accessible tool designed to recognize and translate non-standard speech patterns to improve independence and facilitate communication. The mobile app can be used to interpret a user's unique speech sounds and produce voice commands through artificial intelligence and the platform's algorithms.



.....
£140,000 amount of funding awarded
.....

3 projects funded
.....

INNOVATORS USING AI TO TRANSFORM DIABETES MANAGEMENT

Gendius developed Intellin® as an intelligent diabetes management platform that uses clinical data to predict the trajectory of an individual's diabetes and helps to mitigate progression through smart tips. Powered by sophisticated AI algorithms, Intellin® aims to change the way diabetes is managed.

HInM recognised the potential of the app early in its development and has supported Gendius throughout all stages of the innovation. This support has included bespoke business support such as user experience design and advice, brokering introductions to demo Intellin® and pitching for funding at a European/global scale at the HIMSS-Health 2.0 European Conference. The company has also been successful in two funding awards under the HInM Momentum Fund and HInM is supporting Real World Validation in partnership with University of Chester and NHS Oldham CCG.

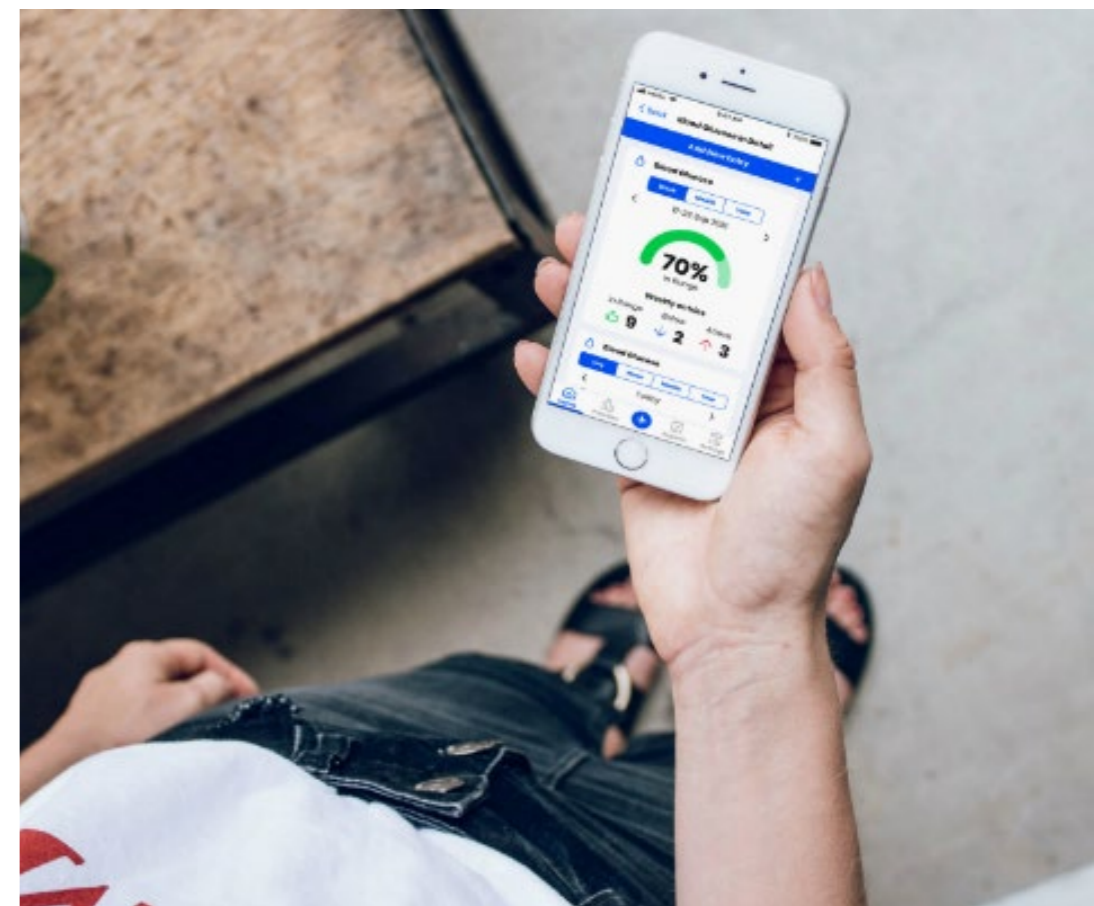
Following support from HInM, Gendius has attracted investment from a number of sources including Innovate UK, SBRI, venture capitalists, and crowd-funding with total investment close to £2m.

The company is also expanding exponentially, creating new roles during 2020 and the app was named 'Best Health Application of the Year' in the 2020 Healthcare and Pharmaceutical Awards.

Intellin® has already seen outstanding growth, with over 300,000 downloads worldwide, and more than 65,000 monthly active users. Demand for the Intellin® platform has grown during 2020-21 as healthcare systems across the world have struggled to help people with diabetes to manage their condition effectively during the COVID-19 pandemic.

“Our engagement with HInM has been invaluable. The support we have received has been multi-faceted, ranging across financial, introductions, advice and belief in what we are doing. Plotting a route into the NHS is one of the hardest challenges any start up faces, and HInM have enabled us to progress far quicker than we could have done without them.”

Chris Genders,
Co-Founder of Gendius



PUBLIC AND COMMUNITY INVOLVEMENT AND ENGAGEMENT

Engaging and involving public contributors and the Greater Manchester community is essential to improving health care and the general public remains a key enabler in the delivery of HInM's work around innovation and research. In collaboration with NIHR Applied Research Collaboration Greater Manchester (ARC-GM), HInM has been working with a range of public contributors as part of our Public and Community Involvement and Engagement (PCIE) work to ensure that the voices and lived experience of local people are at the heart of research and innovation. This partnership is crucial in helping us to ensure that the projects and programmes taken forward will address the health needs of our population and the diverse communities of Greater Manchester.

There are several ways that HInM works in partnership with the public to achieve this:

- **Engaging** with local people and diverse communities, including inviting the public to attend events or recruiting local people that are willing to share their experiences around a health-related issue or topic.
- **Involving** members of the public with relevant lived experience, skills or knowledge in our work in a partnership approach in projects or research. This partnership creates opportunities to help shape the direction of projects and influence decision making.
- **Participation** in research, such as recruiting members of the public with relevant lived experience to be interviewed by researchers and alongside other participants, providing feedback and insights.

During 2020-2021 HInM has utilised technology to enable public involvement and engagement to continue in a COVID-19 secure way, including virtual meetings and events as well as opportunities to provide feedback digitally. Whilst this has created some challenges, HInM have been proactive and utilised existing assets to continue to engage with seldom heard and marginalised groups. This has included utilising relationships, links and connections of PCIE Panel and Forum members to reach out, engage and involve more communities and people with more lived experience.

HInM's Public and Community Involvement and Engagement Panel has continued to play a vital role, with the 15 local members bringing a range of skills, knowledge and lived experience to represent the diverse communities of GM and act as a critical friend to improve projects and programmes. The panel also act community champions and have connections to other groups and valuable networks to ensure wider involvement and engagement.

HInM has also continued to be part of the [Greater Manchester Public Community Involvement & Engagement \(PCIE\) Forum](#) (formerly the One Manchester Forum), bringing together PCIE leads from our partner organisations, including NHS Trusts, Universities, research bodies, Greater Manchester Health and Social Care Partnership, the voluntary sector and other existing public experience groups, to share learning, maximise collaboration and form new cross-sector opportunities.

A key part of the GM PCIE Forum's work has been to discuss the impact of the COVID-19 pandemic on minority groups, existing inequalities and communities. The forum has also discussed experiences of health and healthcare during COVID-19 as well as digital literacy and exclusion. This work resulted in the creation of the ["Learning from Greater Manchester's People and Communities during the COVID-19 pandemic report"](#) which identified key themes and learnings from the pandemic.



PCIE Impacts:

Engaged with more than
524 public contributors

Digital primary care online survey
received **449 responses**

Held 11 discussion groups on a
range of topics including COVID-19,
digital primary care and mental health

6 public members contributed
to the shortlisting of the
Momentum Fund applications

12 PCIE panel meetings

What public contributors say about working with HInM

Mr Mistry, a family carer in Greater Manchester and member of the HInM PCIE Panel was part of the judging process for Momentum Fund. He said:

“It was a unique and invaluable opportunity to be involved in the decision making process for the awarding of seed, pump priming funding for potential innovative health solutions for Greater Manchester, whilst bringing a patient/carer/public perspective to the discussion.”

Russ Cowper, another member of the HInM PCIE Panel also commented:

“One of the proposals fell right under my personal experience and I was allowed time and courtesy to explain my thoughts although it was very much a team effort and it was reflected in the scores, as thoughtful points were given due consideration and evaluated without bias or preconception.”

INSIGHTS INTO DIGITAL PRIMARY CARE TRANSFORMATION

PCIE played a vital role in understanding the impact of digital transformation within primary care during the pandemic.

From video consultations to online consultation, GP practices rapidly adopted digital technology in order to continue to provide care to their patients while maintaining social distancing and shielding during COVID-19. Almost all GP practices across the city-region have now rolled out video consultations and online triage solutions, enabling them to care for patients without the need for an in-person appointment.

To ensure that practices and patients reap the full benefits of this new technology, HInM has worked on behalf of the COVID-19 Digital Coordination Group and the Digital Primary Care Board in GM to develop a set of standards and outcomes which all practices should work towards, regardless of what digital products they have implemented.

Developed through a series of workshops with representatives from the system including GPs, practice managers, technical experts



and members of the public, the digital primary care outcomes framework aims to support localities to make improvements to the quality of care and treatment they provide, enabled by digital technology.

This work was vitally informed by PCIE activity including focus groups and a survey to detail public attitudes to digital tools in primary care. In total more than 480 responses were received and helped to ensure the public voice in this work was heard. Overall, the report highlighted both positive experiences, negative experiences but more importantly areas for improvement within digital primary care.

Key themes from the feedback include, access to GP services with social distancing and virtually, how to access services and receiving personalised care, and empowerment and self-management.

.....
Key stats: 480 responses
to the public engagement
.....

UTILISATION MANAGEMENT

The Utilisation Management team works partnership with NHS organisations and other health and care settings. The UM team help to improve outcomes by making patients' care better, and health care professionals' lives easier.

The team comprises of highly qualified Information and Data Analysts, working alongside highly experienced senior Registered Nurses with Emergency and Acute Care experience, and quality improvement expertise. This enables the UM team to bring a blend of industry-leading analytics, frontline experience and an independent viewpoint to every situation.

The UM team have been part of the NHS since 2003 and have an established reputation as pioneers in the field of clinically-led analytics, delivering bespoke analytics and evidence-based strategies to aid place-based service and pathway improvement.

As part of HInM, the team taps into the latest technologies and innovations that are enhancing patient care, drawing on expertise across the huge network of the Greater Manchester health research community.



During 2020-2021, the team have been providing vital support to urgent and emergency care and COVID-19 coordination across Greater Manchester. This involved working collaboratively with multiple organisations across Greater Manchester to ensure pathways across urgent and emergency care are safe for patients and staff, as well as being and sustainable during and after COVID-19.

This has included the COVID-19 urgent and emergency care response in hospitals and the community, as well as supporting the Greater Manchester Clinical Assessment Service. The team have also provided clinical and analytical support to projects within HInM, including the acceleration of the GM Care Record and the digital care homes programme.

SUPPORTING LEARNING FROM THE COVID-19 PANDEMIC

The UM team collaborated with multiple organisations to examine the impact of COVID-19 and excess deaths during the first wave of the pandemic in order to facilitate learning and system improvements.

The team supported a detailed analysis of 543 'all cause' deaths occurring in the first peak of the pandemic, to highlight emerging themes that could inform future urgent and emergency care policy or guidelines. This included reviewing the circumstances surrounding the patient's death, including 111 or 999 calls, GP encounters and remote consultations, hospital records and community visits and providing a narrative summary and contributing factors. Cases were peer reviewed by a senior clinical panel including hospital consultants and general practitioners. Areas for improvement in the management and care of patients were identified, such as speed of COVID-19 testing, the importance of seeking early assessment from NHS services, the identification of at risk groups as well as areas of outstanding care.

The review supported a rapid locality and system response, including encouraging patients to use NHS services, adopting COVID Oximetry @home services and proactive monitoring or additional support for at-risk groups. The work is due to be published in a peer reviewed journal in 2021.

“This was a unique opportunity to review the comprehensive clinical records of the patients involved in this study, expertly collated, reviewed and presented by Utilisation Management Unit Senior Nurses. This enabled key insights to be fed back to the health and social care leadership in GM to ensure safer care. Valuable, insightful lessons were learned, and actions put into place regarding safety immediately, ensuring clinical assessment, decision making and compensating for social inequalities when planning service change could be actioned. There was also an acknowledgement that this review provided clear demonstration of the value of good, responsive end of life care.”

Dr David Ratcliffe, Urgent Care lead for Greater Manchester Health & Social Care Partnership



URGENT AND EMERGENCY CARE BY APPOINTMENT – IMPLEMENTATION OF A PRE-EMERGENCY DEPARTMENT ASSESSMENT SERVICE MODEL WITH GTD HEALTHCARE

In August 2020 the UM Unit were commissioned by gtd Healthcare to support their organisation with their contribution to the Oldham system Urgent and Emergency Care (UEC) by Appointment Programme of work, specifically the design and mobilisation of a Pre-Emergency Department (ED) Assessment Service in-line with recent GM regional guidance. This service would be required to rapidly assessment patients who self-present at the Royal Oldham Hospital, part of Pennine Acute Hospitals NHS Trust, with a requirement for urgent care and signpost these patients to an appropriate service in the Oldham system as clinically appropriate.

The UM Unit collaboratively engaged operational, clinical and managerial colleagues from gtd Healthcare, the NHS Trust and the Clinical Commissioning Group

to map patient pathways and design a clinically safe and effective Pre-ED Assessment Service model. The team utilised recent guidance and available patient activity data to develop a robust patient assessment process delivered by a team of highly experienced clinicians and administrative staff from gtd Healthcare.

In accordance with GM guidance, the resulting ‘two door model’ of assessment was mobilised which saw patients presenting to the hospital site, being rapidly assessed and directed to the gtd Healthcare clinicians in the Pre-ED Assessment Service (the Blue Door) or indeed as appropriate signposted directly to the emergency department (the Red Door) according to the acuity of their presentation. This provided a rapid, appropriate and clinically safe assessment process for patients self-presenting at the hospital site.



The GM regional team had set a standard requirement for Pre-ED Assessment of 25% of self-presenting patients should be assessed and signposted to services other than ED as clinically appropriate. The gtd Healthcare team in association with the Trust initially completed three ‘test of change’ days for the Pre-ED Assessment service model.

The data analysis for these three days showed a deflection of greater than 30% of patients who self-presented during the 12 hours of service operation on each of these days. The UM Unit provided an analysis report of these ‘test of change’ days and following review of this by Oldham CCG’s Urgent Care Board, the Pre-ED Assessment Service has been formally commissioned from gtd Healthcare.



DISCHARGE TO ASSESS - IMPACT OF COMMUNITY CAPACITY ON HOSPITAL FLOW

Greater Manchester Winter Gold command asked if it was possible to better understand the impact of changes in community capacity on patient flow and acute bed capacity. This followed recent events where significant amounts of capacity had been lost within the community due to COVID and the high likelihood that this would re-occur.

The UM Team was asked to develop a method of testing phase 3 planning assumptions using different scenarios at a locality level. The aim was to create a modelling tool that would help to support a whole system discussion and improve understanding of how small or large changes in community capacity would affect patients waiting for discharge and acute bed occupancy.

The UM Team developed an iterative tool for localities to run scenarios to see the impact of various changes in the availability of community bed and enablement pathways. These were based on the Discharge to Assess Pathways and a queuing model using R with a front-end Tableau dashboard was

created. Users can adjust number of daily discharges for each pathway, length of stay in community bed, daily caseload and duration of reablement. It enabled users to better understand the impact changes in community capacity could have on hospital flow and support contingency discussions.

“It helped people to understand the impact of what may seem a small number of beds out of hospital making a big difference to flow in hospital. It helped to support discussions of “what if?” contingencies. It has led to other discussions about issue relating to or impacting on flow and what can be done to support, for example how to flex IMC capacity, and ensure there is not double count IMC bed capacity when pushing community rapid response to step up, as it will mean less beds to step down into.”

Zeph Curwen, Divisional Managing Director, HMR Division of Integrated Care & Rochdale Infirmary

COMMITMENT TO EQUALITY, DIVERSITY AND INCLUSION

The NHS should represent and reflect the communities it serves. The way that innovations are developed and adopted must also serve all the population, and to ensure that the transformation of health service reduces, and not widens, health inequalities.

In light of the disproportionate impact of COVID-19 on different communities, in particular people from Black and Minority Ethnic (BAME) backgrounds, this agenda is more important than ever.

The AHSN Network launched a series of pledges in September 2019 to support diversity and inclusivity in healthcare innovation, with all AHSNs, including HInM, committing to this work.

AHSN Diversity Pledges

- We commit to implementing a recognised process to self-assess and improve equality performance in each of our organisations
- We commit to empowering and supporting our staff to be positive role models for equality and diversity
- We commit to understanding the impact of our work on all members of our communities and for our work to reflect the equality and diversity within these communities

During 2020-21, HInM has continued to support these pledges in a variety of ways. This has included establishing an Equality, Diversity and Inclusion Group within the organisation to lead this work. All staff within HInM have been encouraged to complete Unconscious Bias training and feedback from this will be gathered during a series of staff workshops in 2021-22 to understand the impact on staff. HInM has also implemented the NHS Fairer Recruitment policy, with a BAME colleague present on all recruitment panels for Band 8a roles and above.

The EDI group have also adopted the NHD EDI calendar and have successfully developed two EDI campaigns for staff and stakeholders to share.

- A celebration of LGBTQ+ history and heritage across Greater Manchester during LGBTQ+ history month – [Read the blog](#)
- A guest session by Respiratory Clinical Lead Dr Binita Kane who shared her South Asian heritage and how it's influenced her in her personal career as part of International Women's Day celebrations.



Our EDI work and pledges are also woven into the wider staff culture and values and behaviours at HInM. During the pandemic it has been vitally important to support staff during the challenging time, ensuring that HInM creates a culture where staff feel valued and recognised for their contributions and an environment where staff feel safe, cared for and supported.

This work is a continuing journey and there is more that can be done to ensure HInM embraces diversity and promotes inclusion the workforce and the innovation programmes undertaken.

STRATEGY AND GOVERNANCE

Health Innovation Manchester has continued to enhance and develop its operating model in order to best support the needs of the system during the COVID-19 pandemic. HInM has been well-placed to respond to the needs of the system as the single organisation working across academia, industry engagement and aligned to the needs of the Greater Manchester system. GM has been able to rapidly work together to adapt to the changing situation and align behind the same aims and objectives. This partnership working has been vital to delivering innovation during COVID-19.

The HInM Board, comprising leaders from the health and care system, academia and industry, has played a pivotal role in setting our strategies and plans against meeting GM priorities, enabling us to accelerate innovation which will result in improving outcomes for citizens, transform pathways and contribute to

economic growth. We have worked closely with the Board and partners across GM to define a new business plan (which will be published summer 2021) and agree the priorities for health innovation across GM, which we are using to inform the delivery portfolio for the year ahead:

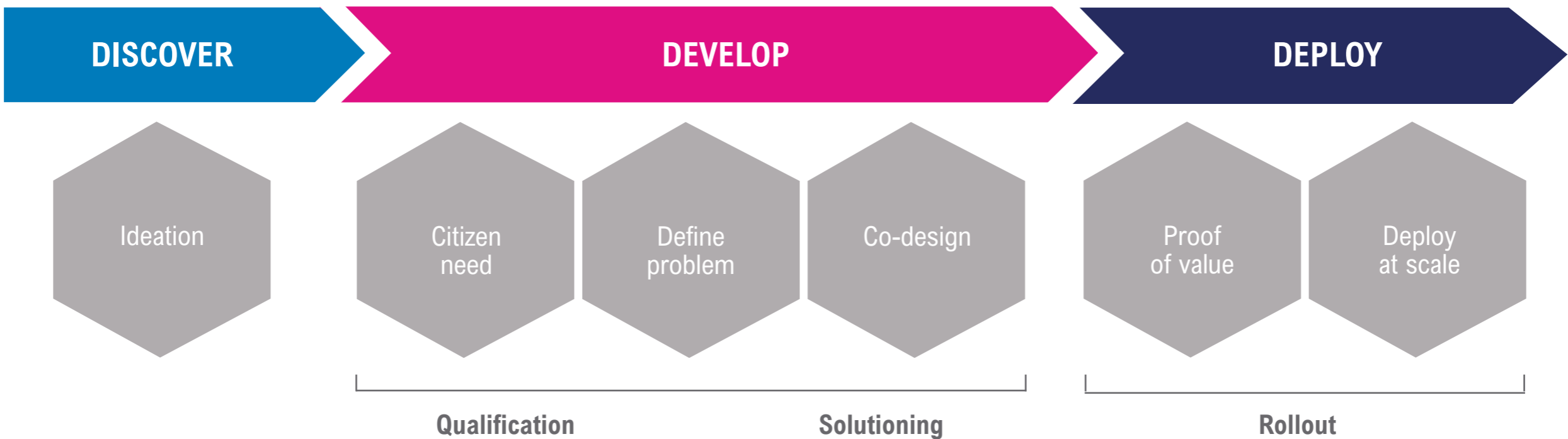
1. Accelerating innovation at pace and scale
2. Delivering traditional and real world studies
3. Data science, pathway analysis and transformation
4. Place-based transformation

We have also considerably strengthened our innovation method and pipeline approach by combining our unique skills and capabilities, to develop a deep understanding of citizen need, clearly define problems and co-design innovative solutions. This then leads to deployment at scale, leading to transformation of care pathways and citizen outcomes.



EVOLUTION OF OUR APPROACH AND RIGOROUS METHOD

By combining our unique skills and capabilities, we will develop a deep understanding of citizen need, clearly define problems and co-design innovative solutions. These are deployed at scale and lead to transformation of care pathways and citizen outcomes.



During 2020-2021, we have also led the roll out of the pipeline approach to innovation across the AHSN Network, including the mechanisms by which proposals are identified, assessed, prioritised, and supported through to deployment and adoption at scale. This work has included a baseline survey across all 15 AHSNs to identify the current pipeline approaches to determine

areas of consistency and diversity in adoption approaches. Following the survey, a phased rollout approach was implemented, with a series of workshops and development plans created for each AHSN to support rollout. AHSNs have also been supported to adapt the model to their local ecosystems and current operating models.

OUR BOARD

Rowena Burns

Chair of Health Innovation Manchester

Professor Ben Bridgewater

Chief Executive
Health Innovation Manchester

Amanda Risino

Chief Operating Officer
Health Innovation Manchester

Professor Peter Clayton

Chief Academic Officer
Health Innovation Manchester

Sir Howard Bernstein

Strategic Advisor

Dr Helen Routh

Strategic Advisor

Richard Topliss

Chair of The Growth Company

Eamonn Boylan

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Greater Manchester Combined Authority

Sir Mike Deegan

Chief Executive
Manchester University NHS
Foundation Trust

Steve Dixon

Chief Accountable Officer
NHS Salford Clinical Commissioning Group

Raj Jain

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Northern Care Alliance NHS Group

Sir Richard Leese

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The University of Manchester
and Dean of Faculty of Biology,
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Interim Chief Officer
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The University of Manchester

Dr Jeffrey Schryer

Chair
NHS Bury Clinical Commissioning Group

Roger Spencer

Chief Executive
The Christie NHS Foundation Trust

John Stageman OBE

Chairman
Bionow

We would like to thank Lord Peter Smith
for his time on the Board and wish him
well in the future.

OUR EXECUTIVE TEAM

Professor Ben Bridgewater
Chief Executive

Professor Peter Clayton
Chief Academic Officer

Amanda Risino
Chief Operating Officer

Dr Tracey Vell
Clinical Director

Professor Ian Bruce
Academic Director

Guy Lucchi
Digital Innovation Director

Laura Rooney
Director of Corporate
Affairs and Strategy



FINANCE

2020-21 Results	2020-21	2019-20
	£'000	£'000
Income	13,351	10,510
Expenditure		
Health and Implementation	3,838	2,978
Informatics	965	351
Industry and Wealth	1,931	1,477
Utilisation Management	867	863
Research and Development	2,534	1,399
Research Domains	774	774
Programme Management	2,432	2,665
Total expenditure	13,341	10,509
Net surplus	10	1

Our financial duty is to breakeven year on year.
2019-20 Figures include 6 months activity for GM ARC from 1 October.
2019, 2020/21 includes a full year of ARC activity.



WE ARE HEALTH INNOVATION MANCHESTER

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