

### Introduction from our Chair

Looking back over the last year, I'm very proud of the Northern Health Science Alliance's journey. The capabilities of the UK health and life sciences landscape have been tested and scrutinised like never before during the pandemic. This has brought into sharp focus the importance of maintaining our research, clinical and industrial innovation capabilities. It has also highlighted the need for investment and new ways of working to improve the health of people across the North and to drive economic growth.

In response, we have seen policy developments in terms of the Government's levelling up agenda and the Life Sciences Vision which will shape the landscape of the NHSA and our member organisations for the foreseeable future.

In this context, it is crucial that we ensure the NHSA remains focused and fit-for-purpose. To this end, we have dedicated much of the last 12 months to establishing and developing expert networks that bring together and add value for clinicians, academics and industry across areas such as advanced therapies, diagnostics and medtech, healthy ageing, data and Al, mental health and health inequalities.

These networks of excellence are both nationally and internationally important. The potential of these networks to be an investible asset to drive economic growth has been identified by the NP11 and the opportunities that arise have been set out in the joint NP11-NHSA report. The continued development of this relationship with NP11 and its focus on areas of strategic importance will be pivotal in the NHSA's mission to unlock the potential of the North of England's health research and innovation assets for the benefit of the people and the economy.

We are mindful too of the fact that none of us exist in isolation and the NHSA continues to build visibility, connectivity and partnership on a national and global scale. Our work with MedCity is developing at pace as part of our Research England-funded activity; in areas such as advanced therapies and international representation we are now seeing tangible benefits for the UK as well as NHSA member organisations.

In this brief retrospective report for the AGM, we have showcased some highlights from 2020-21 across these key programmes and expert networks. In the AGM meeting itself I look forward to getting your input into our priorities for the coming year and beyond. I would like to thank all of our member organisations for their continued support over the last year, it is only with your mandate that the NHSA has the ability to convene and act. My thanks also to the Board for their input and guidance. The Board refresh over the last year and a half has given a significant boost to all of our activity. Lastly, my thanks to the team for all their hard work on behalf of us all.

**Professor David Burn** Chair of the Northern Health Science Alliance







Richard Stubbs **Executive Director** 



Sarah Scally **International Project Manager** 

### Looking back over the last 12 months

Over the last 12 months, we have mobilised clinical and academic excellence across the North of England through the creation of expert networks across the following programme areas: advanced therapies; diagnostics and medtech; healthy ageing; data and Al; mental health; and health inequalities. We have summarised below highlights during the last year from each of these programmes of work.

### **Advanced therapies**

## Growth of the Northern Advanced Therapies Network in 2021

- The NHSA has continued to grow a network of experts to ensure the North's cell and gene therapy excellence is at the forefront of the UK's global advanced therapy medicinal products (ATMP) strategy.
- We are working closely with organisations across the North and now, increasingly, Scotland also.
- We have brought together academic, clinical and industry leaders in ATMPs to coordinate activities, share knowledge and bolster existing strategic alliances such as those forged by the NA-ATTC and iMATCH Advanced Therapy Treatment Centres (ATTCs).
- Our network includes organisations with interests ranging from ATMP discovery and pre-clinical research, through translational development and clinical evaluation, to adoption and spread in the NHS.
- We have formalised the purpose, membership and outputs of the network this year through consultation and agreement to our shared Terms of Reference.

### Supporting advanced therapies funding applications

- Having provided letters of support to each of our members bidding for MRC/LifeArc funding this year, we are delighted to be a strategic partner in The University of Sheffield Gene Therapy Innovation Manufacturing Centre (GTIMC), which forms a vital component of the northern advanced therapies expertise, resources and infrastructure.
- Led by our network Chair, Professor Mimoun Azzouz, the GTIMC includes a new state-of-the-art modular good manufacturing practice (GMP) manufacturing facility, located at the University of Sheffield's Innovation District, that will support gene therapy projects emerging from UK universities.

#### **Research England Connecting Capability Funding**

- A partner in the award of £1.3m of Research England Connecting Capability Funding, led by London Advanced Therapies, to develop a UK-wide collaborative network that connects existing regional clusters of excellence.
- The funding provides for a one-year programme of activity with a view to strengthening the collective offer for a further bid for longer term funding of UK Advanced Therapies from 2022 onwards.

# The NHSA as a founding partner in UK Advanced Therapies for 2021-22

■ By working in partnership across the North, we have improved the visibility of the region's ATMPs strength with policy makers, industry

and health leaders.

- We have identified and coordinated collaborative funding opportunities and sought funds to bring state-of-the-art technologies and facilities to the North, promoting fast progress of advanced therapies to benefit patients and commercialisation.
- Through the NHSA's Northern Advanced Therapies Network, London Advanced Therapies secured collaborators across the North of England and Scotland to support the bid for additional funding from Research England for the next year.
- We have joined the UK Advanced Therapies Advisory Board as a founding partner, which will scale up our pan-northern activity to maximise the collective capabilities across the UK and accelerate advanced therapies for the benefit of patients and the economy.

### **Diagnostics and medtech**

# Establishing an informal diagnostics and MedTech network





- We have refined our focus to areas where the NHSA can have the most impact, which culminated in the NP11 report describing the opportunity the UK has to position itself as the pre-eminent location for co-development with industry of game-changing diagnostics and medical technologies.
- We intend to build upon this work, taking learning from the rapid COVID-19 diagnostic evaluation programmes, and exploring how environmental impact assessments can help NHS decision makers work towards meeting their sustainability criteria.

# Showcasing and developing the diagnostic and medtech expertise in the region

- In early 2021, we hosted the Northern MedTech Summit, in partnership with the Surgical MedTech and In-Vitro Diagnostic Cooperative. The one-day virtual conference attracted over 250 attendees from 24 countries, meeting our goal of raising the profile of the NHSA's MedTech expertise.
- Over the summer we worked in partnership with Diagnostics North East to host a roundtable session on P4 Medicine, exploring the lessons learned from COVID, the issues underlying the 'precision

gap' in different clinical areas, looking at what the NHS would need to deliver the promise of P4 Medicine, and how NHSA members could drive the UK diagnostics industry strategy. Expect to see a report and call to action on this in the coming months

# Facilitating business development with Israeli SMEs

- We have established an NHSA network to consult with on the development of the NHSA-Israel foreign direct investment programmes.
- Across this work we aim to

"We could not have organised the programme of events without the close support and guidance of the NHSA, the Yorkshire & Humber Academic Health Science Network, and other organisations which took part in the 'Israel Healthcare Innovation Week'. We are looking forward to working with these organisations again in the future."

Ofer Fohrer, Head of Economic and Trade Mission to the UK, Foreign Trade Administration matchmake between unmet NHS need and innovative solutions in Israel. We have done this via a number of programmes:

- The Dangoor Healthtech challenge competition call for innovation
- A virtual delegation to Mixii BioMed Israel 2021
- Facilitating a pitching event with the Foreign Trade Administration of Israel
- Supporting the development of the Leeds-Israel Healthtech corridor
- Working with the Department for Business, Energy & Industrial Strategy and the Office for Life Sciences to formalise a bilateral investment programme.

### **Healthy Ageing**

#### Refresh of programme activity

- We consulted with the Healthy Ageing network across the North of England and Canada to refresh our focus and priority, considering existing strengths and aspirations in the member organisations, funding streams suitable for large-scale propositions, and alignment with both policy and other NHSA programmes of work.
- We will maintain our existing programme strengths, namely our convening function, our international links, and links with national policy/funding bodies.
- Priority will focus on mobilising assets and expertise around two themes: 'Inequalities in the rate at which we age' and 'Use of data for research on multi-morbidity'. To read the full August 2021 programme briefing, please click here.

"The NHSA has a track-record of regional, national and international reach across the health and life sciences landscape, and I was delighted that we secured their support to the NIHR PRP - Nature based social prescribing bid led by University of York earlier this year. Not only does this give us a valuable opportunity to work with multiple NHSA programmes aligned with our objectives - health inequalities, mental health, and healthy ageing - but also, with enlisting Professor Nicola Wilson as a Co-I we can realise a future scale up ambition in terms of further connections to be made with clinicians and academics, population sizes, and industry engagement.

Additionally, membership of the healthy ageing network has catalysed partnerships between the University of York and the University of Central Lancashire to undertake exploratory work about the mental health of older adults living in coastal communities across Lancashire, Cumbria, East Riding of Yorkshire, and North Yorkshire. This work aligns with an emerging portfolio of work at UoY with a focus on the role of placed-based and nature-based assets in promoting mental and physical health, especially among older adults."

Dr Peter Coventry, Senior Lecturer in Health Services Research and Graduate Chair, Department of Health Sciences, University of York, Co-lead: Environment and Health, York Environmental Sustainability Institute

#### **Funding applications**

Three large-scale applications have been supported within the healthy ageing network over the last year:

- In July 2020, we supported the creation of the CO-HEALTH consortium (for ISCF Healthy Ageing Challenge Social, Behavioural and Design Research Programme), led by Lancaster University in partnership with Durham University, BAE Systems, Eric Wright Group, Lancashire County Council, and Red Ninja.
- In August 2020, we supported the creation of the TAGPLUS consortium (for EPSRC NeworkPlus), led by Durham University in partnership with South Tees NHS Trust, Lancaster University, Lancashire Teaching Hospitals NHS FT, Aston University, UCL, and Charing Cross Hospital.
- In June 2021, we were invited to join the CONNECT consortium led by the University of York and aligned to three of our programmes mental health, health inequalities, and healthy ageing for application to NIHR Policy Research Programme's Nature Based Social Prescribing call. The CONNECT proposal has been successfully shortlisted for full Stage 2 application, with decisions on Stage 2 due in January 2022.

#### Completion of the Northern Bone Health Project

- A joint-working arrangement between NHSA and AMGEN (in partnership with the four northern AHSNs, Interface Clinical Services, and University of Sunderland), the project was designed as a 'proof of concept' to provide evidence for a future-proof sustainable model of fragility fracture reduction in primary care.
- The project, which completed in July 2021, was delivered at 5 CCGs with 59 GP practices covering a registered practice population base of 541,469. If fully scaled up to the population level of the North's 16m, the project could demonstrate £35,163,642 in direct costs and £8,454,046 in residential costs.
- An interactive dissemination toolkit (including a return on investment calculator) aimed at healthcare professionals, policy makers and commissioners will be available soon.

### **Data and Al**

# Increasing our national visibility and cluster development in data for R&D



■ The online event brought together partners from industry, life sciences, the NHS, data science, charities and academia and explored how inter-sectoral and cross-regional partnerships can drive an enhanced research and innovation agenda. A blog and video recordings from the event are available here.

### Convening a new NHSA network of experts in Al

- We have real strengths across the North in 'big data' analytics and artificial intelligence (AI) and a track record of demonstrating the value of well-curated health data, with appropriate system and citizen engagement.
- Building on the success of Connected Health Cities, we have



expanded our network of health and civic data system leaders across the North.

- We are developing the vision for a pan-northern alliance of Civic Data Cooperatives and by bringing these together with our Al expert group, we are working to identify industry needs such as access to training and validation datasets for Al algorithm development, to position the North as a global health Al development hub. Providing the northern voice to the national Multi Agency Advisory Service (MAAS) for data-driven technologies
- We are collaborating with the National Institute for Health and Care Excellence (NICE) to provide a collective northern voice to the new national Multi Agency Advisory Service (MAAS) for Al and data-driven technologies, which will give innovators and technology adopters a one stop shop for support, information and guidance on the regulation and evaluation of Al technologies
- The NHSA will act as a conduit, through our data and Al programme, to connect the MAAS partners with our northern Integrated Care Systems (ICSs) in order to disseminate the education and training offer to healthcare professionals and others.

#### Mental health

#### Development of the NHSA Northern Mental Health Innovation Network





- The network has grown over the past year with invitations extended to the NHSA's university and NHS members as well as to all the northern mental health trusts via Chief Executives and Medical Directors
- Terms of Reference for the network are currently being developed and an asset mapping exercise has been initiated to identify existing expertise and activities relating to research, practice and innovation in mental health across the North.

# Development of the Northern Innovation Accelerator for Mental Health (NIAMH):

- The Northern Innovation Accelerator for Mental Health is one of five proposed developments put forward by the NHSA Connected Health North outline business case in September 2020.
- The Accelerator has been included in the NP11 report as one of two challenge-driven opportunities for investment. Given the predicted mental health crisis exacerbated by the pandemic, the Accelerator presents a core part of the North's post-COVID economic recovery.
- We have worked with a member-led steering group on the development of a detailed proposal for investment in the Accelerator, with the aim of establishing the North of England as a globally recognised site for the development, evaluation and adoption of mental health innovation.
- An industry reference group has been formed to identify the industry needs.
- A broader employer network has also been established. It is envisaged that this network will: inform on industry needs in relation to mental health and wellbeing in the workplace; serve as a test-best for new innovations; and establish a community of practice of workplace wellbeing practitioners across the North to share good practice.

- The Accelerator has received widespread interest and we have produced a briefing for MP Dame Rosie Winterton which has been shared with MPs across the board.
- The Accelerator will be showcased at a mental health roundtable scheduled for September 2021.

# Facilitating funding applications and international industry engagement

- Through the network and our member organisations we have facilitated pan-northern exploration of funding opportunities.
- We have convened meetings to discuss potential northern collaboration on funding applications, particularly on opportunities for collaboration between the NHSA's mental health and the data programmes.
- The network has also coordinated pan-northern support for a NIHR Research for Patient Benefit funding proposal focused on NHS workforce wellbeing.
- A number of international companies with mental health innovations have been introduced to our member organisations throughout the past year, particularly from Singapore.

### **Health inequalities**

### Covid-19 response

As a direct response to the pandemic the NHSA mobilised its health inequalities group to produce two reports.



- An analysis of mortality rates showing Covid-19 was hitting areas in the North of England due to health inequalities was published in summer 2020
- The Covid-19 in the Northern Powerhouse report was published in November 2020. Both received widespread media coverage with coverage in November from BBC's Today programme through to Newsnight, Sky News, ITV News and attention from parliament and metro mayors.
- Covid-19 in the Northern Powerhouse One Year On report will be published this month. Produced by NHSA, NIHR Northern ARCs and Policy@ Manchester with an event at the Conservative Party Conference

### Child of the North

■ The NHSA has come together with the N8 group of universities to produce the Child of the North: Impact of COVID-19 report, which is due to be published in October 2021. The lead authors are Professor Kate Pickett, University of York, and Professor David Taylor Robinson, The University of Liverpool. There are further authors from Durham, Lancaster,

"The NHSA's work bringing together health inequalities experts across the North of England has had a hugely significant impact on the ability of the region to work together quickly and effectively to make a real impact on policy. This was demonstrated by the quickness with which we were able to put out our COVID19 analysis showing the North was hardest hit by the pandemic and winning Northern leadership of the NIHR ARC Health and Care Inequalities Consortium,. We've a number of future projects and reports together with the NHSA which we're confident will continue to strengthen the region's voice in heath inequalities research and in holding the Government to account on its levelling up project."

Clare Bambra, Professor of Public Health at Newcastle University

## 6 Annual General Meeting 2021

Leeds, Liverpool, Manchester, Newcastle, Sheffield and York universities. The report will be discussed at events at both the Labour and Conservative Party Conferences with Policy@Manchester.

### **NIHR Health Inequalities ARC**

■ The NHSA, directly as a result of its work bringing together the region's public health experts, is now a named member of the national NIHR Health Inequalities ARC, lead by Newcastle and York but encompassing a nation-wide membership.

It will be a co-author of a piece of commissioned research: How can the NHS maximise its role as an anchor institution to boost local economies and reduce socioeconomic and health inequalities.

#### **Left Behind Neighbourhoods**

■ The NHSA health inequalities group has been commissioned to write a report on health inequalities in Left Behind Neighbourhoods together with the APPG for Left Behind Neighbourhoods, due for publication in September 2021.



### **Engagement with Government**

Meeting with James Phillips, No 10 and BEIS special advisor Attended roundtables with Secretary of State at the Department of Business, Energy and Industrial Strategy Kwasi Kwarteng and Levelling Up architect Neil O'Brien MP

Big Tent Festival event with George Freeman MP Onward Levelling Up event on clusters with Lord Bethell

Tory Party Conference (online) event with Lord Bethell and Lord O'Shaughnessy

Labour Party Conference event with Shadow Health Secretary Jon Ashworth and Shadow Education Emma Hardy MP

Meetings with Lord Prior and Lord O'Shaughnessy on international offering Meetings with senior officials from BEIS, OLS and CLGU on NP11 and Connected Health North proposals

### **Final word**

As David mentioned in his introduction, the health and life sciences environment is particularly complex at the moment. However, industry, academia, the NHS and our AHSNs continue to adapt and respond to the post-COVID and post-Brexit reality.

There is much learning to be taken from these challenges, such as in the way we understand the UK's options for positioning itself in the global economy and, perhaps above all, the incalculable value of a healthy science and clinical base to the UK's future.

We are starting to see important indicators of direction in policy papers from Government and we may soon know more about the commitment to levelling up. It is clear already however that the health and life sciences sector is going to be a big part of the Government's focus. It is also likely that interventions will be made primarily in support of industry need and growth.

It is more important than ever that the North showcases the potential of its health research and innovation assets to good effect. It is also imperative that we do so in a concerted way, both to get noticed by industry and Government, and to provide credible critical mass to augment the 'Golden Triangle' on the world stage. To do this we need to develop and promote areas of excellence and then showcase these in response to Government requirements.

That's the essence of what the NHSA has been doing for the past two years. As a result, the networks of expertise we have supported and outputs such as the NP11 report allow the North of England and organisations within the NHSA to respond in new ways to policy initiatives and other opportunities.

The partnership with NP11 has opened up the potential for a transformative systemwide approach to investment and partnership with industry in life sciences across the North. You can read more about this in the final NP11 report here.

For example, the MedTech and diagnostics network has mobilised NHS trusts, AHSNs and universities in support of opportunities to work with Israel at scale across the NHSA.

Similarly, the Northern Advanced Therapies Network is providing connectivity and visibility nationally for our researchers and clinicians working in an area that is a named strategic opportunity. Likewise, the work done in health inequalities has been highly influential and helped make the case for levelling up. All of these examples have academic, health and economic perspectives, so while these are challenging times, there are also exciting opportunities to be pursued.

So, I look forward to welcoming you at the AGM. As ever, the wisdom and insight into what we should be doing is likely to come from discussions with our member organisations. We look forward to those discussions and we will continue to do our very best to support your work and its collective potential.

Dr Séamus O'Neill NHSA Chief Executive

Seam Owell

