



This report summarises discussions that took place at the University of Liverpool's Vice-Chancellor's Conference on the theme 'The Future of Healthcare'. The event, held at The Spine in Liverpool's Knowledge Quarter on 18 November 2024, included a keynote speech by Professor the Lord Darzi of Denham and was attended by speakers and audience members drawn from a variety of health and social care organisations, academia, the private and third sectors.

The University would like to thank the conference speakers for sharing their time and expertise so generously, and conference delegates for their valued involvement in the plenary, workshop and networking sessions that took place throughout the day.

Thank you also to the University colleagues involved in delivering the conference and this report including Professor Louise Kenny, Professor Catherine Durose, Dr James Hickson, Debra Nicholls, Tim Seamans, the External Relations department and the Heseltine Institute for Public Policy, Practice and Place.

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Foreword

The Liverpool City Region has a remarkable history of innovation in health, and I hope that this short report helps to highlight why this attribute must continue to be an important part of its future. Liverpool created the first municipal public health department in 1847, and novel approaches have continued ever since. In recent years, this was evident not only locally but across the United Kingdom and around the world in Liverpool's groundbreaking piloting of the UK's first COVID-19 mass testing scheme. In turn, this was key to the creation of Liverpool's Pandemic Institute that now places the city region at the heart of the nation's future pandemic preparedness.

Achievements like these have been made possible by the presence in the city region of some essential ingredients for innovation, including outstanding practice in both academic research and the delivery of health and social care services. Of equal importance is the willingness of key partners and leaders across the city region to collaborate in order to achieve the best possible outcomes for our communities. And our communities in themselves have a vital role – communities full of spirit, talent, warmth and potential, but ones that experience too much poor health and significant health inequalities.

This context led us to choose The Future of Healthcare as the theme for the University of Liverpool's second Vice-Chancellor's Conference. Health and healthcare are part of the fabric of the University's identity. Our research across multiple related disciplines is world-leading and, with teaching across a comprehensive range of health-related disciplines, we are proud to have trained a high proportion of the doctors, nurses and allied health professionals working in the region. We are also proud of our many and highly valued partnerships with NHS trusts and other important partners in health and social care, in the public, private and third sectors.

Strong partnerships and the city region's future potential were really apparent at the conference itself. It was a privilege to host an event attended by representatives of so many influential organisations in health and social care, all with shared goals in mind. Professor the Lord Darzi of Denham set the tone for the day with an excellent, thought-provoking keynote speech that left no doubt about the critical role of innovation, technology and data in transforming health and healthcare. The expert contributions in the plenary and workshops demonstrated that, collectively, we have what it takes to put the city region at the heart of that transformation.

I would like to thank everyone involved in delivering and participating in the conference, and hope this report will support us in embracing the many challenges and opportunities ahead together.

Professor Tim Jones, Vice-Chancellor, University of Liverpool

KEYNOTE ADDRESS

Future of Healthcare: the moment for change

Lord Darzi's address at the Vice-Chancellor's Conference presented a vision for the future of healthcare rooted in innovation and technological advancement and called for a transformation from a reactive to a more preemptive model of healthcare.

Professor the Lord Darzi of Denham



The State of the Current UK Healthcare System

Lord Darzi began his address by acknowledging the profound challenges faced by the National Health Service (NHS), which he has been actively involved in reviewing on behalf of the Government. He highlighted the growing crisis of waiting times, including in emergency departments and for mental health services, emphasising that the healthcare system as a whole is now "hanging by a thread." These challenges have reached a scale that even the most pessimistic forecasts could not have previously anticipated, with hundreds of thousands of patients, including children, enduring unacceptable waiting times for essential services.

The causes of these systemic failures, according to Lord Darzi, are multifaceted, including underinvestment, inefficiencies, and outdated models of service delivery. However, he argued that the most crucial step forward is to reimagine how care is delivered, especially in light of new technological possibilities. He highlighted that the NHS, beyond receiving increased funding, needs to leverage every tool available to improve efficiency, productivity, and the quality of care provided to patients.

Science and Technology: Catalysts for Transformation

A central theme in Lord Darzi's address was the transformative power of science and technology. He drew attention to the rapid advancements in biological sciences and technology, particularly in the wake of the COVID-19 pandemic. The global crisis, he argued, was a stark reminder of how vulnerable humanity is to infectious diseases, but it also revealed the extraordinary potential of modern science to respond quickly and effectively to new threats. The development of novel mRNA vaccines, which were produced and deployed in record time, served as a prime example of this potential.

However, the mRNA vaccine, Lord Darzi explained, was not a sudden breakthrough but rather the result of decades of research, experimentation, and investment in foundational science. This technological leap not only saved millions of lives during the pandemic but also opened up new possibilities for personalised medicine, including cancer immunotherapies and variant-proof vaccines.

There's never been a greater need to consider the future of healthcare, nor a greater appetite for enacting changes required to deliver better health for all.

We will need to reimagine the way we deliver care if we are to rebuild our health system.

Imagination is essential to innovation. The first step of creating a new future is to imagine it.

To ask yourself 'what if?'

Lord Darzi also highlighted the growing importance of artificial intelligence (AI) and deep learning in biological research and healthcare. He referred to the groundbreaking work by <u>Demis Hassabis and</u> DeepMind, whose Al systems have solved one of the most complex problems in biology: protein folding. By applying deep learning to multi-omics data,

scientists are now able to understand human biology at unprecedented levels of detail, allowing for earlier disease detection, more accurate diagnostics, and the development of novel therapies.

As well as transforming how treatments are developed, technology can also transform how they are administered. In particular, Lord Darzi pointed to advancements in robotics which have enabled significant improvements in surgery, helping to make procedures safer and more precise. Further developments in surgical robotics and augmented reality will revolutionise this further, with the potential for micro robots to deliver therapies at a cellular level.

A Shift to Pre-emptive and Personalised Medicine

One of the most profound shifts in Lord Darzi's vision for the future of healthcare, arises in work done through Flagship Pioneering, to transition from a reactive, illness-based model of care to a proactive, pre-emptive one. Traditionally, healthcare systems have focused on treating patients once they become symptomatic. However, Lord Darzi argued that technological advancements now allow us to intervene before symptoms appear. This shift in thinking is particularly evident in the development of wearable sensors, advanced diagnostic tools, and AI algorithms that can detect early signs of disease.

However, this pre-emptive approach is not limited to identifying and monitoring chronic conditions such as diabetes or heart disease. Lord Darzi envisions a future where healthcare systems actively work to slow down, reverse, or even eliminate the transition from health to disease in the first place. The potential for AI to recognise subtle shifts in an individual's biology could mean that conditions are diagnosed and treated at a much earlier stage, possibly before they manifest in full-blown illness.

He highlighted how deep learning and other AI technologies also have the potential to enable personalised treatment plans that are tailored to an individual's unique genetic and biological makeup. By leveraging these advances, healthcare providers can target specific cellular pathways involved in diseases, delivering treatments with greater precision and fewer side effects.

The Role of Digital Health and Remote Care

The future of healthcare, according to Lord Darzi, will be increasingly digital. He envisions a world where, thanks to advances in technology, healthcare is not confined to hospitals or clinics but is delivered remotely, in people's homes and local communities. Digital therapeutics, including wearable devices and smartphone apps, will allow for continuous monitoring of patients' health and the delivery of treatments remotely. This could vastly reduce the burden on hospitals and GP surgeries while also making healthcare more accessible to people in rural or underserved areas.

This shift toward digital health is already underway. Lord Darzi referenced ongoing trials of Al-assisted diagnostic tools, such as deep learning algorithms for breast cancer screening that are now being tested in NHS workflows, including in Liverpool. If successful, these tools could not only improve diagnostic accuracy but also increase access to life-saving screening, ultimately leading to better health outcomes.

The Need for Systemic Change

While the technologies Lord Darzi highlighted are groundbreaking, he stressed that their potential will not be fully realised unless healthcare systems themselves undergo significant transformation. He pointed out that the current structure of healthcare systems, which has largely remained unchanged for centuries, is now unsustainable. The focus on reactive care—waiting for people to become sick before providing treatmentmust be replaced with a focus on prevention, early intervention, and personalised treatment. This requires not only a cultural shift within healthcare institutions but also policy reforms, public investment, and greater collaboration between scientists, technologists, and healthcare providers.

Conclusion: A Vision for the Future

Lord Darzi concluded his address by reiterating the importance of imagination in shaping the future of healthcare. He urged the audience to envision a world where health is continually monitored, disease is detected and prevented before it manifests, and treatments are personalised and delivered with precision. He framed this as the dawn of a "biological era" in which healthcare is reimagined to improve both the quality and longevity of life. In this future, technology can liberate us from the constraints of disease, offering a world where people can live fuller, healthier lives and experience fewer years of illness. This, Lord Darzi believes, is the promise of the future of healthcare.

Lord Darzi is a globally recognised leader in the field of surgery and healthcare innovation, renowned for his pioneering work in the advancement of minimally invasive surgery, and for his contributions to the improvement of global health systems. Throughout his distinguished career he has combined his expertise as a surgeon and academic to influence healthcare policy both in the UK and internationally.

He has served as a key advisor to several UK governments on health and innovation, including his role as the parliamentary undersecretary of state for health from 2007 to 2009, during which time he led a major review of the NHS that laid the groundwork for patient-centred and quality-focused reforms. In July 2024 he was asked by the new government to conduct an independent investigation into the NHS in England, which was subsequently published in September 2024.

OPPORTUNITIES AND CHALLENGES IN NAVIGATING THE FUTURE OF UK HEALTHCARE

Responding to Lord Darzi's keynote address, a panel of leading voices from across the healthcare ecosystem shared their perspectives on the key challenges and opportunities facing the future of healthcare in the United Kingdom.

Dr Jennifer Harris, UK Policy Lead, AstraZeneca



Dr Jennifer Harris focused on the role of AstraZeneca, a leading UK biopharmaceutical company, in shaping the future of healthcare through partnerships and innovations in medicine, diagnosis, and digital tools. She began by acknowledging the challenges faced by the NHS, particularly the need for innovation in healthcare delivery, and emphasised the company's commitment to improving health outcomes. Drawing from Lord Darzi's earlier remarks, Dr Harris highlighted the importance of adopting technologies such as AI and digital tools to better understand health and disease and improve care.

AstraZeneca, with over 700 partnerships in the UK, recognises the urgency of addressing the challenges faced by the NHS. Dr Harris highlighted that some 1.2 million patients are missing out on access to four major classes of medicines due to three critical challenges within the healthcare ecosystem: (1) the development of medicines, (2) the delivery of these medicines to the NHS, and (3) the access of patients to these medicines. She pointed out that participation in UK clinical trials has decreased by 35% over the past six years, which undermines the development of new treatments. Additionally, the slower uptake of innovative medicines in the NHS, compared to other developed nations, is a barrier to improving patient access.

Another challenge is the delay in updating clinical guidelines at national and local levels, which contribute to inequities in access to care. These issues exacerbate health inequalities, particularly for disadvantaged populations. Dr Harris suggested that overcoming these barriers could significantly improve patient outcomes, citing a PwC report, which estimates that improving the uptake of medicines could lead to 429,000 additional quality-adjusted life years (QALYs) for patients and nearly £18 billion in productivity gains for the UK.

The uptake of technologies will be critical if we're to better understand health and disease, and also transform care and outcomes."

Beyond medicines, Dr Harris underscored the broader role that AstraZeneca and the pharmaceutical industry can play in transforming healthcare. The company collaborates with the NHS and patient groups on various initiatives, such as pathway redesign, quality improvement programmes, and the implementation of data and digital tools. These partnerships, she argues, are crucial for driving the systemic change needed to meet the ambitious healthcare goals set by the government.

Dr Harris also discussed the importance of the <u>2024</u> <u>Voluntary Scheme for Branded Medicines Pricing</u>, <u>Access and Growth (VPAG)</u>, a negotiated agreement between the pharmaceutical industry, government, and the NHS. AstraZeneca has committed £450 million through this scheme to support clinical trials, net-zero manufacturing, and the implementation of innovative practices.

Finally, Dr Harris emphasised the importance of collaboration at both national and regional levels to tackle the challenges facing the healthcare system. She reiterated AstraZeneca's readiness to work with stakeholders to ensure that the NHS can harness the full potential of innovation in healthcare to improve outcomes for patients and strengthen the UK's position as a global leader in life sciences.

Dr Jennifer Harris is the UK Policy Lead at AstraZeneca UK, where she leads on advancing policy change to reform healthcare and ensure patients in the UK can access innovative medicines when they need them.

Dr Kath Mackay, **Chief Scientific Officer, Bruntwood SciTech**



In her remarks, Dr Kath Mackay highlighted the role of business and the life sciences industry in driving healthcare improvements in the UK, emphasising the need for stronger collaboration between the health system, business, and innovation ecosystems.

She referred to Lord Darzi's view on the potential of science and innovation to transform healthcare, as well as comments from Health Secretary Wes Streeting regarding the intersection of health and economic growth. Streeting's statement about expanding the remit of the Department of Health and Social Care (DHSC) to include workforce productivity and the life sciences industry reflects a growing recognition of the economic potential of health and life sciences. This offers a powerful opportunity to harness the business sector, particularly the life sciences industry, to drive meaningful improvements in health outcomes.

Dr Mackay highlighted the impressive scale of the UK's life sciences industry, with over 6,850 businesses employing more than 300,000 people. The life sciences sector also contributes heavily to the UK's research and development efforts, contributing £1 in every £5

spent on R&D. However, the industry faces significant challenges. Industry clinical trials are declining, and businesses often struggle to get their products into the health system, access valuable data, and gain approval for new innovations. For the life sciences sector to fulfil its potential, there must be greater alignment and collaboration between business and the healthcare system to ensure a truly symbiotic relationship.

Think about how we can use business and the life science industry to be a force for change and health improvement.

Also discussed was the importance of innovation ecosystems - defined as the convergence of healthcare, academia, business, investment communities, and entrepreneurs in specific locations. Integrating these sectors at a local level is critical to driving innovation. The NHS is a decentralised system composed of Integrated Care Boards (ICBs) and hospital trusts, each innovating and delivering services at a local level. Stronger partnerships between businesses and local health systems are essential for creating impactful, place-based innovation.

However, the government's current approach is insufficient. The Innovation Accelerators programme, launched 18 months ago, delivers a total investment of just £100 million, spread across numerous research and innovation projects in Manchester, Glasgow, and the West Midlands. Without sustained and consistent investment in such innovation ecosystems, the potential for significant impact will be limited.



Dr Kath Mackay is Chief Scientific Officer of Bruntwood SciTech - a joint venture between leading property developer Bruntwood, Legal & General, and Greater Manchester Pension Fund - the UK's leading creator and developer of innovation districts driving growth of the UK science and technology sector.

Professor Sir Munir Pirmohamed, **David Weatherall Chair in Medicine** at the University of Liverpool



In his remarks, Professor Sir Munir Pirmohamed provided a comprehensive overview of the challenges facing the NHS, drawing on his extensive experience as an NHS clinician, clinical academic, and member of various healthcare boards.

He began by acknowledging the discussions around improving NHS productivity and efficiency, referencing Lord Darzi's report, which identified delayed discharges as a significant factor reducing hospital flow and productivity. Professor Pirmohamed emphasised that while NHS staff are working harder than ever, improving productivity will remain difficult unless the issue of social care is addressed. Without sorting out social care, the NHS will continue to face these severe bottlenecks and struggle to improve productivity.

Unless social care is sorted out, we will never be able to sort out some of the issues with productivity and improving the state of the NHS.

Professor Pirmohamed noted that the UK is a global leader in science and innovation, with major companies such as AstraZeneca and GSK, but warns that these companies will not continue to collaborate with the NHS unless the healthcare system can deliver results. He advocated for a more research-intensive NHS, stressing that organisations that prioritise research achieve better outcomes. He believes every patient should have the opportunity to be involved in research, and the NHS must be restructured to integrate research as a central component of patient care.

Also discussed was the growing complexity of patient care. Patients who suffer from multiple conditions often require visits to various specialists, hospitals, and ancillary services, leading to a massive strain on resources. Professor Pirmohamed gave the example of one patient who has six diseases and visits the hospital twice a week, which is unsustainable on a large scale. With an aging population, the NHS must rethink its models of care, and shift towards more communitybased care, better integration across services, and more efficient hospital workflows.

Additionally, the high costs associated with medicines require attention. Medicines are the second biggest budget line for the NHS, with £20 billion spent per year. With new advanced therapies coming through, maintaining affordability and access will be critical. Likewise, safety must always be paramount. Professor Pirmohamed highlighted a significant number of hospital admissions due to adverse drug reactions (ADRs). In some hospitals, 15.5% of admissions are due to ADRs, costing the NHS £2.2 billion annually, with half of these reactions being avoidable. Reducing such costs would free up funds for innovative therapies, improving patient access to new treatments.

Finally, Professor Pirmohamed addressed the importance of prevention, acknowledging the challenges in shifting from sickness care to health promotion. Hypertension is a key example, with 4.2 million adults in the UK undiagnosed, and nearly a third of people with hypertension unaware of their condition. While efforts are underway to identify these individuals, neither the NHS nor our existing regulatory pathways for medicine are currently equipped to manage the shift to such a large-scale preventive initiative.

Professor Sir Munir Pirmohamed is David Weatherall Chair in Medicine at the University of Liverpool, NHS Chair of Pharmacogenetics, and a Consultant Physician at the Royal Liverpool University Hospital. He is Director of the Centre for Drug Safety Sciences, and Director of the Wolfson Centre for Personalised Medicine. He is also Director of Health Data Research UK North. He is an inaugural National Institute for Health and Care Research Senior Investigator, Fellow of the Academy of Medical Sciences in the UK, and Chair of the Commission on Human Medicines.

Louise Shepherd CBE, **Regional Director for NHS England's North West Region**



In her remarks, Louise Shepherd reflected on the evolving approach within NHS England to address the health challenges facing the UK, emphasising that the shift required to address these challenges is substantial.

Echoing Lord Darzi, she agreed that the NHS must move towards a more sustainable model focused on improving the health of the population, particularly in the face of financial constraints that show no signs of easing in the immediate term. Moving forward will require a fundamental shift, with three core priorities recently laid out by the Health Secretary: moving to a population health-led approach, shifting care out of hospitals, and embracing digital innovation, all while focusing on prevention.

The need to work in partnership is the critical message.

However, while these priorities are supported, how they can be practically achieved still remains unclear. It is not enough to simply design these changes within the current structures of the NHS. Instead, the NHS will need to engage with a broader ecosystem, including business, industry, and particularly academia.

A key part of this shift is moving from a hospitalcentric model to one focused on population health, which requires a radical change in thinking. Shepherd reflected on her own experience working with children in the Liverpool City Region at Alder Hey, noting that delivering healthcare for children requires a very different approach than the current paradigm. She stresses that this move to population health is a massive shift for the NHS, one that involves fundamentally rethinking how healthcare services are provided, especially in terms of prevention and care outside traditional hospital settings.

However, NHS England does not have all the answers and collaborative partnerships with a wide range of sectors and communities will be necessary to help shape and implement these changes. The upcoming 10-year plan consultation, led by Sally Warren, was highlighted as a key opportunity for stakeholders to come together and start thinking about how these priorities can be practically applied on the ground.

In conclusion, Shepherd's message was clear: the NHS is at a crossroads, and the necessary changes cannot be achieved by the healthcare sector alone. The shift towards a population health-focused, preventative, and digital-first healthcare system requires broad collaboration, innovative thinking, and a willingness to embrace new ideas from outside the traditional NHS structures. All stakeholders will need to engage in this critical conversation and contribute to building the future of healthcare.



Louise Shepherd CBE joined NHS England in November 2023 as Regional Director for the North West. Previously to joining NHS England, Louise was Chief Executive at Alder Hey and successfully led the Trust through a major transformation into Europe's only Children's Health Park, designed by and for children and young people and opened by Her Majesty Queen Élizabeth in 2016.

James Sumner, Chief Executive, University Hospitals of Liverpool Group



In his remarks, James Sumner reflected on the opportunities and challenges facing the NHS as it seeks to adapt and improve in response to the pressures of the post-COVID era. He began by recalling the early days of the pandemic, when there was a widespread consensus on the need to "reset" the NHS. This was a moment of reflection, with discussions about reimagining healthcare delivery. However, this ambition to reset quickly shifted into a more traditional approach of restarting the old systems, which led to the continued expansion of hospital services, particularly acute hospitals, and a corresponding neglect of primary and community care.

The result, Sumner argues, is that local communities and services outside the hospital system have suffered due to the prioritisation of acute care. Despite this, the recent clarity from the Secretary of State on the shift towards a greater focus on prevention and community health is welcome, though concerns about the financial realities remain.

With limited funding and no multi-year financial settlements in sight, Sumner warns that the NHS may be facing a "hard left shift" towards a new model of care without the gradual, sustainable transition that many had hoped for.

Here in Liverpool we've got a fantastic front door with Liverpool Health Partners, where we all come together to think about how we can start to work differently.

A major part of this transformation will require significant improvements in productivity within the NHS. Sumner agrees that productivity is key to reducing the cost burden on acute hospitals but stressed that the issue is not a lack of effort from frontline staff. Instead, the problem lies in the infrastructure and the complexity of patient populations, which makes it harder to achieve the same productivity levels as before the pandemic. To address this, Sumner explained that in Liverpool, efforts are underway to reduce the overall cost of the acute sector and support colleagues in leading the shift towards community and population health.

Looking to the future, the potential of data and digital innovation are key opportunities. As the NHS continues to integrate electronic records and bring together acute and specialist services, there is a growing opportunity to leverage data across the system. However, primary care, community care, and mental health services must not be left behind in this digital transformation. The Darzi Report emphasised the underinvestment in these areas, particularly when it comes to IT infrastructure and data capabilities. Strengthening these areas will be essential to successfully achieving a broader shift towards prevention and improving overall population health.

The rise of the NHS app, in particular is a major opportunity for both healthcare delivery and research. Sumner noted that it has been downloaded more times than Netflix in the UK, which underscores the potential for using digital tools not only to improve patient care but also to engage the population in research activities. This could contribute to precision medicine and prevention strategies, which ought to be seen as complementary rather than mutually exclusive.

However, a challenge identified by Sumner is the declining participation of the NHS in commercial clinical trials, which he attributes to a lack of commercial acumen within the NHS and the difficulty for private sector companies to interact with NHS organisations. He believes that improving these relationships, particularly through platforms like <u>Liverpool Health Partners</u>, could help the NHS recover its position in the global research landscape.

Finally, Sumner expressed optimism about the evolving role of Integrated Care Boards (ICBs) and the clarity emerging around the future role of hospitals. He stressed that collaboration with the private sector and other partners is crucial for moving forward, and that the key challenge will be ensuring that these relationships are not hindered by bureaucratic or institutional barriers. Through better cooperation and clearer roles, he believes that the NHS can overcome its current challenges and embrace new opportunities for transformation.

James Sumner was appointed as University Hospitals of Liverpool Group Chief Executive on 1 November 2024. He joined University Hospitals of Liverpool Group as Chief Executive in May 2022. He was appointed as a Joint Chief Executive between the Trust and Liverpool Women's NHS Foundation Trust in December 2023.

Sarah Woolnough, Chief Executive, The King's Fund



Sarah Woolnough began by emphasising her support for the three key shifts identified by Lord Darzi - moving healthcare closer to home, shifting the focus from sickness to prevention, and engaging the public more effectively in health initiatives. However, while she agrees with this overarching direction, Woolnough stressed that the real difficulty lies in figuring out how to implement these shifts within the current context of the NHS.

There has been a long-standing ambition to move healthcare out of acute settings and into community care. However, though this shift has been repeatedly promised by successive governments, it has not materialised - largely because funding has continued to flow towards acute hospitals, rather than being directed to primary care, preventative services, and early interventions. This failure to adequately invest in community-based care has created a cycle of "invisibility", where services outside of hospitals are often not measured, reported, or prioritised. This needs to change and will require both financial and systemic incentives to shift the system towards community and preventative care.

A recent King's Fund report, Making Care Closer to Home a Reality, recognised this imbalance in funding and called for a "rewiring" of the system to support the shift. This, she suggests, could be enabled by initiatives like the government's proposal for a "health mission," which would align policies across sectors - housing, environment, education, and others — with health outcomes. This kind of "health in all policies" approach could help tackle the broader determinants of health and shift the focus away from just treating illness to preventing it.

We must think about how do we take people, the public, patients with us on this journey. "

However, Woolnough also touched on the growing dissatisfaction among the public with the NHS and social care, as evidenced by data from the King's Fund and the Nuffield Trust. Public satisfaction is at its lowest point in over 40 years, though people continue to support the NHS's founding principles. She stressed the importance of engaging the public in the changes needed, ensuring that they are not only aware of but also actively involved in the transformation of the system.

To illustrate the real-world implications of these challenges, Woolnough shared her experience of spending a morning with the London Ambulance Service. During her shift, she witnessed the acute challenges faced by both the ambulance service and the patients they served. Over seven and a half hours, she saw three patients admitted to hospital, all of which could have been avoided by delivering care closer to home, strengthening social care, and prioritising prevention within the healthcare system.

She concluded by reiterating that while the shifts in the NHS are widely supported, the true challenge lies in making them happen. This will require creative thinking, incentivising change, and a concerted effort across the system to collaborate effectively. By aligning financial incentives with desired outcomes and fostering a system-wide approach, the NHS stands the best chance of achieving meaningful transformation.



Sarah Woolnough is the Chief Executive of The King's Fund, an independent think tank working to improve health and care across England. Previously, Sarah was the Chief Executive of Asthma + Lung UK, the national respiratory charity, having overseen the merger of the two leading lung health charities, where she developed a new strategy, brand and successful operating model.

Summary of discussion

Following the plenary session, a Q&A discussion with panellists and conference participants focused on the challenges and opportunities within the healthcare system, addressing topics such as the need for prioritisation, the integration of health and social care, regional funding disparities, and the role of innovation in transforming healthcare. The discussion brought together perspectives from a range of discussants, including healthcare leaders, academics, policy experts, and local government representatives.

Greater Prioritisation and Collaboration within the Healthcare System

The discussion underscored the difficulties of prioritising within a resource-constrained system. Participants argued for a balance between responding to immediate, "foundational" performance metrics — such as ambulance wait times — and setting longer-term strategic goals, including the ambition to shift to a more preventative approach to healthcare.

The concept of collaboration emerged as central to achieving this clearer sense of prioritisation. Participants highlighted how local partnerships – such as the Cheshire and Merseyside Health and Care Partnership – can help to identify key barriers, opportunities and communicate what is required from the NHS England to address them. However, they also highlighted the need for greater political collaboration at the national level, with a cross-party approach to healthcare required to provide longer-term strategic stability.

The Role of Social Care

It was argued that social care needs to be reframed as a crucial component of the healthcare system, rather than a "problem". Participants stressed the need for integration between health and social care systems to enhance preventive measures, streamline patient journeys, and improve the efficiency of public spending. However, it was suggested that a "broader societal conversation" may still be needed to raise public understanding of the challenges facing social care and increase its political profile.

Enabling Patient-Centric Care

The discussion emphasised the need to redefine the patient-doctor relationship as one of partnership, empowering patients to actively participate in their care. Participants suggested this could be enabled through better use of technologies, such as smartphone apps and voice-based AI tools, that can increase how people access and understand their healthcare. Noted examples included apps to help patients to monitor their own blood pressure, helping them to play a more active role in their treatment.

Doing so can not only help to increase accessibility to healthcare, but also enable patients to act as "the cement between different parts of the healthcare system".

Drawing on examples from oncology, the importance of patient engagement in health research was also highlighted as a way to drive progress and significantly improve outcomes for patients.

Regional Disparities

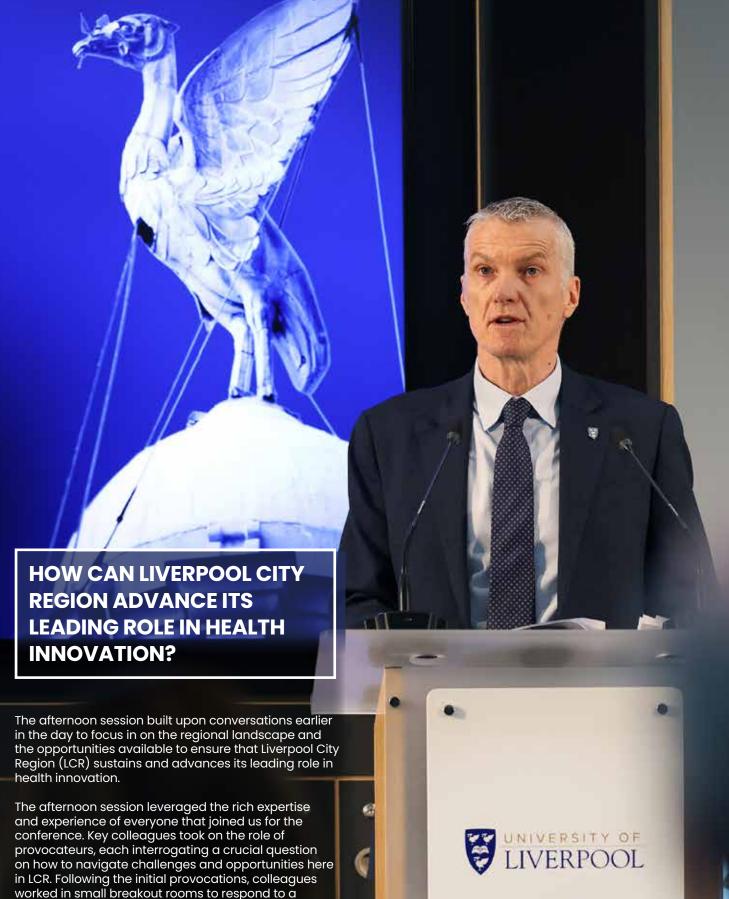
Health inequalities, especially in Liverpool City Region, were a recurring theme. Participants linked these disparities to wider systemic issues - in particular, poor housing – which are widely understood to impact health and wellbeing. They argued for targeted interventions that address specific needs, rather than a one-size-fits-all approach, underpinned by a focus on prevention, to improve outcomes at a community level. In addition to unequal health outcomes, the stark disparities in research infrastructure funding were also a key theme within the discussion. Northern healthcare institutions face significant funding gaps compared to prominent institutions in London and the South East. Participants highlighted the need to articulate regional strengths more confidently and effectively, demonstrating genuine competitiveness to attract investment. It was suggested that regions with pronounced health inequalities, like Liverpool, should be prioritised for research funding to achieve more equitable health outcomes and address systemic challenges.

Evidence-Based Decision-Making

Metrics were described as pivotal in guiding and focusing healthcare transformation. Participants stressed the need for robust data to validate programmes, secure funding, and scale innovations across regions. Examples were shared of successful NHS initiatives, including a range of chronic disease management programmes, that demonstrated the value of setting clear targets tied to measurable outcomes.

Conclusion

The discussion provided a clear snapshot of the pressing challenges and opportunities facing the healthcare system. Participants collectively called for greater innovation, systemic collaboration, and a shift toward preventive, patient-centred, and equitable care models. Addressing entrenched disparities and fostering research capacity in underfunded regions were highlighted as critical steps for ensuring sustainable improvements in health outcomes.



worked in small breakout rooms to respond to a specific provocation. The session concluded with the provocateur summarising these conversations to the whole conference.

Visual minutes were also used to record and summarise these conversations in an accessible way. Here, each of the provocateurs and provocations are introduced in turn, alongside a brief digest of the wider conversation each inspired.



How can we effectively collaborate with the private sector to ensure Liverpool City Region is at the forefront of innovation in health and life sciences?

Provocateur: Dr Jennifer Harris, UK Policy Lead, AstraZeneca



Provocation

In responding to this question, Dr Harris identified three 'ingredients' for a successful regional health innovation and life sciences ecosystem. First, on research and development (R&D) and manufacturing, Dr Harris highlighted how academia and small and medium enterprises provide a great driver for innovation within local regions, and that cross-sector collaboration acts as a cornerstone of any R&D ecosystem. Second, an appetite to innovate within the NHS that follows through into delivery and scale up, tackling health disparities and the needs of local communities, as well as demonstrating what is possible to support learning and national scale out. And third, skills and expertise and the ability to continue to develop that talent in the future. Partnership and the ability to deliver are vital to

Moving on to reflect on AstraZeneca's footprint in Liverpool, the ecosystem for innovation in health and life sciences here in Liverpool, and the foundations for growth. Dr Harris highlighted the strength and depth of expertise clinically, scientifically, and in R&D and manufacturing - in infectious diseases and other areas and how together this offers 'a model that others can look to'. She continued, noting that it's 'no surprise that AstraZeneca, Seqirus and

Dr Harris highlighted AstraZeneca's work in LCR with Everton Football Club's community-based heart and lung screening hub, which to date has screened over 1,000 people, identified 30 potential heart failure cases, and put forward 100 people for lung function tests. Also, AstraZeneca's <u>Active Science Programme</u> which educates school-age children here in Liverpool in science, technology, education and maths (STEM), fuelling their curiosity and encouraging them to get into these areas. Both offer models which could be scaled out more widely in the city region.



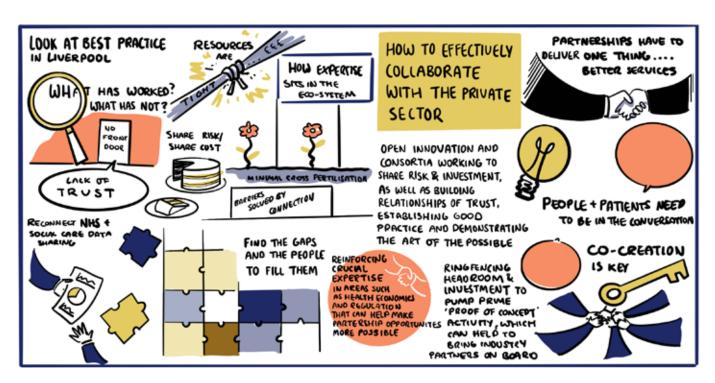
Summary of conversation

In reflecting on the wider conversation, Dr Harris highlighted examples of good practice in developing the health and life sciences ecosystem here in LCR. These include, iiCON which bridges between industry, academia and the NHS, to accelerate and support the discovery and development of innovative new anti-infectives, diagnostics and preventative products, to 3D Life Prints using 3D technology to provide real-time personalised surgical planning, and the Materials Innovation Factory, a collaboration between the University of Liverpool and Unilever to secure funding and infrastructure to get materials solutions to the marketplace.

Discussing these specific examples allowed colleagues to identify barriers and opportunities to build upon such innovations. Dr Harris fed back on a series of barriers to innovation highlighted by the group, including resource constraint, which prioritises short-term savings over longer-term return on investment and entrenches risk aversion; a silo-ing of expertise and communication within the innovation ecosystem which can inhibit commercialisation opportunities; and, a lack of trust within relationships. She however, noted several potential solutions relevant to Liverpool and beyond discussed by the group:

- Identifying shared priorities, understanding the patient and user perspectives, and 'boldly, unashamedly delivering against them'
- Recognising the importance of integrated systems and data in being able to identify and link together expertise and opportunities
- Open innovation and consortia working to share risk and investment, as well as building relationships of trust, establishing good practice and demonstrating the art of the possible
- Reinforcing crucial expertise in areas such as health economics and regulation that can help facilitate partnership opportunities
- Ringfencing headroom and investment to pump prime 'proof of concept' activity, which can help to then bring industry partners on board.

Dr Harris concluded by emphasising how a connected inclusive conversation - bringing together multiple partners, university representatives, ICB senior leads, with senior representatives from companies – is crucial to identifying the strategic opportunities for long-term partnerships with industry at scale.



Visual minutes provided by Nifty Fox

How can we ensure that social care is part of the innovation conversation?

Provocateur: Anne Marie Lubanski, Deputy Chief Executive and Corporate Director for Audit Social Care and Health, Liverpool City Council



Provocation

Ms Lubanski opened her provocation by calling for a new approach to social care reflecting, 'I always ask, would I want what we've got now if it was me? And often the answer is no. And that's the challenge that we all have to take away'. Ms Lubanski focused in on the need for innovation and to build individual aspiration.

On innovation, she highlighted the opportunity for system-thinking in addressing shared health and social care challenges. For example, the need to 'get the housing right' because poor quality housing informs demand for health and social care services.

Moving to a preventative approach was seen to drive individual aspiration. Ms Lubanski reflected on the

challenges of 'a very paternalistic approach, that means we are working with people's deficits rather than their strengths from the beginning, and we need to turn that around'. She highlighted opportunities in the system to do things differently, noting that 'when I talk to social workers, the first thing I say to them is "your first job is to stop us being needed by that person".

Ms Lubanski concluded by reflecting on the opportunities to shift the dial to a more preventative approach by getting the right interventions, engaging with people at the right point in their lives and ensuring social value from procurement.



Summary of conversation

Liverpool City Council's Deputy Chief Executive opened up the summary of the conversation by recognising that the current 'model of care isn't working, and it's unaffordable if you extrapolate it out over the next ten years'.

To address this, Ms Lubanski called for greater inclusivity in how this challenge is approached, ensuring that all relevant partners are at the table to be able to address local need in a holistic way. She went further in discussing how sharing data is crucial to enable this kind effective partnership-working and to join-up the system in a way that makes sense for the public.

The theme of paternalism was also returned to with Ms Lubanski asking if 'we do things for people that sometimes they don't need, because we can... and whether we should, that's the question'. She also reflected that the conversation had addressed people needing to take accountability for themselves, 'because we can't afford for more and more people to come into the service'.

Tackling paternalism was recognised to require 'a big cultural shift' in how 'we work with people, we talk to people, and we give them tools to be as independent as possible, and only give them proportionate services to their needs'. Addressing paternalism was identified as crucial because as Ms Lubanski noted, 'if we don't, there is no room to do the innovation, because all we're doing is sustaining and paying'.

The summary was concluded by a call for a shift in the conversation around social care not only nationally, but locally towards asking the question "why wouldn't we" rather than "why we shouldn't?". With a challenge as difficult as health and social care system, Ms Lubanski noted that 'we need to actually create the solutions and get on with it rather than constantly seeking permission'.



Visual minutes provided by Nifty Fox

Anne Marie Lubanski is the Deputy Chief Executive for Liverpool City Council in addition to being responsible for driving transformation within Adult Social Care and Health. The role entails providing strategic support and deputising meetings and engagements as required. Anne Marie is responsible for managing a budget of over £300 million and is also Chair of the One Liverpool partnership.

How can health data science support us in driving regional health innovation?

Provocateurs: Professor Sir Munir Pirmohamed, David Weatherall Chair in Medicine at the University of Liverpool and Professor Iain E Buchan, W.H. Duncan Professor of Public Health Systems, University of Liverpool



Provocation

Professor Sir Munir Pirmohamed opened his provocation by referencing Lord Darzi's recent report that an essential step in delivering integrated care is to understand the regional population and their needs by using integrated datasets. He continued stating. 'it's a no brainer that we need regional data in order to be able to innovate and improve the health of our local population'.

Keen to highlight local successes, Professor Pirmohamed also called for a focus on identifying current data gaps and working towards an interconnected system able to draw on data from social and community care, as well as elsewhere, to develop a holistic understanding of need. Also, to

ensure that data is being put into action to support the local population.

Professor Pirmohamed emphasised the need to develop 'a learning health system' to drive continuous improvement and to upskill the NHS workforce. He noted that 'in the future we need clinicians, doctors, nurses, pharmacists, physiotherapists, occupational therapists, who are experts in data science'. He highlighted the opportunities here for the NHS to partner with the University of Liverpool.

He also highlighted the need for data not only to inform delivery, but also to drive research, and 'to develop new innovative ways of being able to help patients. Professor Pirmohamed recognised that to achieve this 'we need the patients and the public to be on our side. He argued for patients 'to be part of the conversation', and for them to 'understand what we're doing'. Crucial to achieving this is 'openness and transparency with the patients' and to 'codesign the pathways with our patients'.



Professor Iain E Buchan is W.H. Duncan Professor of Public Health Systems, Associate Pro-Vice-Chancellor for Innovation, and Director of Civic Health Innovation Labs (CHIL) at the University of Liverpool. He is a public health physician and data scientist with over 25 years of health tech experience, leading data science and Al across a range of global challenges. Professor Buchan has led over £230m in research activity and published over 350 works. He pioneered the world's first evaluation of mass rapid antigen testing, risk-mitigated reopening of mass events for UK COVID-19 responses and founded the UK's first Civic Data Cooperative.

Summary of conversation

Summarising the conversation, Professor Iain Buchan emphasised the 'hunger for action' that characterised the conversation, recognising that 'action speaks louder than data'. He noted that, 'When you start a conversation about mobilising data into action with why you need to use the data, people start thinking of solutions, and people start thinking of good governance to achieve those solutions quickly. This is more productive than circular debates about control of data, which often ensue when conversations start with data, not action'.

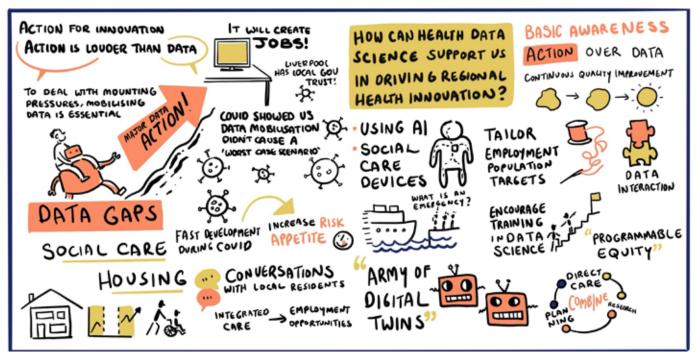
Professor Buchan highlighted local motivating examples where multiple agencies had come together to share data to solve shared problems. He noted how the UK's use of health data during the COVID-19 pandemic is now perceiving as a leading international example of how data was mobilised 'to tackle the immediate effects of COVID-19, and then to recover'.

He argued passionately that it would be 'immoral' to ignore the role that data mobilisation and 'flowing data' can play in addressing some of the most critical challenges in health and social care. Professor Buchan highlighted how mobilising data and harnessing new technologies that are data dependent creates high-value jobs. He gave an example of 'crossover technology' - specifically, how a home radar for spotting falls, can also be used to support early diagnostics and intervention - can create jobs across different sectors: healthcare, social care, digital.

However, Professor Buchan took care to recognise the ongoing 'nervousness about accountability', which places constraints on data sharing. But argued that the perception of risk shifts when the conversation about the use of health data includes those 'whose lives are affected by those actions, are in the room. Patients and public advisors often emphasise the risks of not sharing data when lives can be saved or improved with data insights, and they set this in a careful balance with safeguards against data being misused'.

Professor Buchan continued by posing the challenge of how to construct an appropriately 'data fluid' environment. Increasing the awareness of the health workforce over how they can use data better was seen to be crucial in achieving this. He noted Lord Darzi's challenge to health systems to 'shift left' to greater prevention, and that this requires data beyond the NHS, for example from local authorities, charity and voluntary sector organisations, and residents directly.

Professor Buchan highlighted the strengths of Liverpool City Region in this regard, in particular the track-record of using data to drive impactful COVID-19 responses, the political will and backing for data sharing, and the growing infrastructure, for example the Civic Data Cooperative at the Civic Health Innovation Labs (CHIL), which is the data science delivery partner for NHS Cheshire and Merseyside's Data into Action programme. He emphasised the work now happening to build on a social license for large-scale data sharing at a regional level, noting that 'within existing laws and regulations, we want the wheel clamps taken off for our health and care system in this region, to organise the efforts of society through data, and have a major data into action programme, where permission does not have to come from the centre, it is normal to flow data into action.' He concluded by stating that Liverpool City Region is 'ready to drive civic data into action for better health and wellbeing for all'.



Visual minutes provided by Nifty Fox

How can regional disparities in health investment and infrastructure be addressed?

Provocateur: Professor Reecha Sofat, Breckenridge Chair in Clinical Pharmacology and Therapeutics at the University of Liverpool



Provocation

Professor Sofat opened her provocation with an 'eyewatering' statistic from the Northern Health Science Alliance which highlighted the persistent regional imbalance in health research funding between the North and South. Specifically, that in 2022, the North received £405 million of research funding, compared to the £1.69 billion awarded to London, Oxford and Cambridge. Professor Sofat argued that this illustrates the depth of the challenge in 'advancing science and innovation in the North if we don't have the infrastructure funding'.

Professor Sofat highlighted the significance of infrastructure, such as a Biomedical Research Centre, and the 'palpable difference those types of

infrastructure can make to your day-to-day science', alongside creating an environment to train and nurture the next generation of clinical academics. She continued by arguing for the need for health research funding to be located in the regions where the burden of healthcare lies.

Professor Sofat posed the challenge to think about what can be done to secure greater infrastructural funding to our region. She highlighted key issues related to making the argument to funders around the need for national institutes to be located not just in the greater South East, but also here in the North. Further, how universities can work with other civic institutions, including local and devolved government to drive innovation.

Summary of conversation

In summarising the breakout conversation, Professor Sofat was keen to stress the strong foundations for shifting the conversation on regional health research infrastructure and funding to reduce disparities between UK regions. Professor Sofat reflected that she initially knew Liverpool's reputation for excellence in pharmacology, and infectious disease however, since joining the University of Liverpool she recognised that the city region's 'real strength is the civil society, the way the community comes together across Liverpool is really strong, and it's really rare'.



Professor Sofat continued by highlighting a number of opportunities available to help secure greater health infrastructure funding to the North:

Partnerships

Existing partnerships were highlighted as a strength along with the opportunity to work in a more inclusive way, particularly with the private sector. She used an analogy of the mission to land on the Moon: 'we have the vision, we want to get to the Moon, but we need to make everyone part of that mission and to see their role in helping get someone to the Moon'.

Distinctiveness

Professor Sofat emphasised the need for Liverpool to have a clear narrative on what it wants to be known for, how it may be differentiated from other regions, where collaboration can be mutually beneficial, and how this can be articulated through investible propositions that are compelling to potential partners and investors.

Professor Sofat highlighted the integrated use of regional health data as a potential differentiator. Drawing on her own area of expertise, Professor Sofat also emphasised Liverpool's distinctiveness in therapeutics, noting discovery, multiomics, trials and manufacturing as particular areas of strength. She also noted the opportunity to leverage and build upon existing infrastructure, such as the Clatterbridge's position as a leading cancer centre in the UK.

Pathway

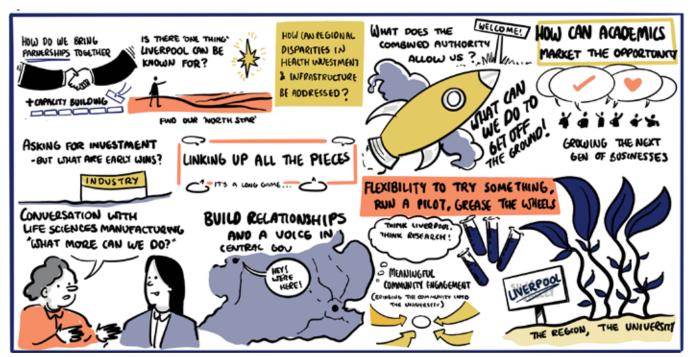
Professor Sofat also charted a pathway towards securing infrastructural investment, encouraging the building of collective intelligence in order to identify the 'earliest wins' along with the 'slower burns'. For example, she highlighted the need to encourage colleagues to apply for key metrics of esteem and to secure influential roles with funders, 'so that they also raise the bar'.

Relationships with government

Professor Sofat also recognised the need to 'socialise the science' and work with local, devolved and national government so that they understand the strengths of the region and can advocate for investment into it. She argued, 'we need central government to say if it can be done in the North, it should be done in the North' and then for the region to prime itself to be that partner.

Capacity building

Capacity building was noted as a further key theme, with Professor Sofat highlighting the need to build scientific skills across society.



Visual minutes provided by Nifty Fox

Professor Reecha Sofat is Breckenridge Chair in Clinical Pharmacology and Therapeutics at the University of Liverpool and an NIHR Research Professor. She is Vice President, Clinical at the British Pharmacological Society, Associate Director at the British Heart Foundation Data Science Centre which is led by Health Data Research UK. She has also recently taken up Chair of the Board at the Professional Record Standards Body.

How can we best navigate the current health landscape here in Liverpool City Region?

Provocateur: Graham Urwin, Chief Executive, NHS Cheshire and Merseyside Integrated Care System



Provocation

Graham Urwin began his provocation by reflecting on the purpose that integrated care boards and systems were established with four aims: 'One, to improve health and healthcare. Two, to improve productivity and value for money for the taxpayer. Three, to tackle health inequalities. And four, to help create social value within the systems within which we work.' Then acknowledging, 'All of those things are true today and will remain true going forward. But the reality is... delivering today crowds out our ability to get upstream and to deal with the future'.

Whilst supportive of the government's response to the recent Darzi report, Mr Urwin didn't shy away from the challenge at hand. He recognised the lack of new

discretionary funds in the short-term and the need to be clear when that does materialise how it should be spent. He also highlighted that the NHS is 'largely reactive... it responds to the patient that presents in front of us'. But, that 'what we're not so good at is working out who are the patients that we should be targeting and working with in an upstream fashion... [so] what do we do about truly getting upstream?' Mr Urwin identified a number of ideas from using data science to inform population health management to 'start to make a difference' and 'joining up' different parts of the system.



Summary of conversation

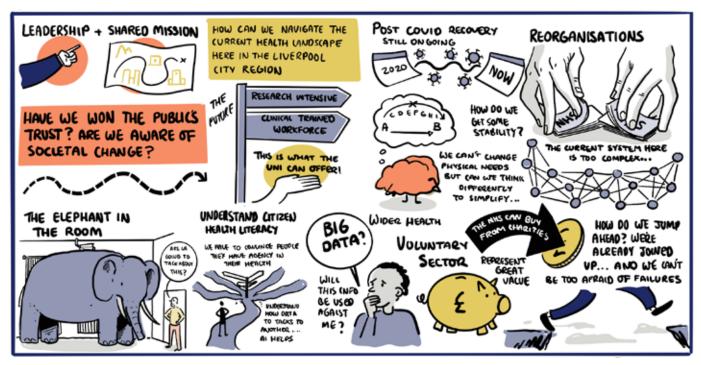
Mr Urwin opened his summary by reflecting on the idea that, 'you may think you understand the NHS, but you only understand it from the seat that you're sitting in' and the valuable conversation that the Vice-Chancellor's Conference enabled through the diverse range of stakeholders it brought together.

One theme of the conversation he highlighted was that 'any form of organisation or reorganisation will always be trumped by the courage and consistency of leadership' which was crucial to ensure that a shared mission prevailed.

A further theme of the need to 'shift the dial' to prevention was also emphasised by Mr Urwin, noting the discussion of the government's vision for a neighbourhood model for healthcare, and the need for this to be asset-based and engage 'every single one of our partners who could influence the future health of the people that we serve'.

He concluded with two sentiments. One was a challenge to everyone asking, have we 'done enough to win the public's trust about how we use and share their data?' He continued, questioning if 'we have been clear enough about what the "give and the get" for the public is, and the benefit of that data being used in that way. But also, are we sensitive enough to the health and the data literacy of the people we serve and are we keeping track of the type of changes that are happening in our society to do that?'

Mr Urwin also presented a challenge back to the University of Liverpool. Reflecting the clear feeling that the future has to be based on a research-intensive NHS and a clinical workforce able to work with data and technology, he concluded that the University has a crucial role to play in developing future healthcare professionals.



Visual minutes provided by Nifty Fox

Graham Urwin is Chief Executive of NHS Cheshire and Merseyside, one of the largest and most complex integrated care systems in England. He has a finance background in both local government and the NHS. He has worked at local, regional and national level and across both commissioning and provider organisations.



Concluding remarks

We heard from Lord Darzi of Denham that our NHS is not in great shape. We know this. We live in Liverpool, like other cities across the North we are always at the hard end of those national challenges. We know that things happen in Liverpool first, they happen harder, and they hurt more. But we also heard from Lord Darzi that this is a time of immense possibility, with every challenge comes an opportunity.

We also heard that Liverpool is up for a challenge. Liverpool is an agile community, it's a connected city, in which our anchor institutions not only talk to each other, but genuinely like each other and work together. I think adversity does have some advantages, and that is one of them. We heard that we are well placed to address some of the challenges, and make the most of the opportunities that will come our way as we pivot from a sick NHS, that is providing healthcare to those who are sickest at critical times, and often inadequately, to a system that is actually much more holistic, and focused on the prevention of those healthcare emergencies in the first place.

I would also observe as a women's healthcare researcher, I think that the pivot to a prevention economy has some low hanging fruit, some secondary prevention. We heard what some of those opportunities may be, and we are well placed to try and address them. But to make a really fundamental difference on some of the statistics that Matt Ashton has socialised extensively recently in his State of the City's Health 2040, we're going to need an intergenerational change. We know that baby girls born in the Liverpool Women Hospital's today on average will live 12 fewer years than baby girls born in Kensington in London on the same day and 20 of those years will be lived in poorer health; and that statistic is going in the wrong direction. To really make a change on this, we need an intergenerational effort focused on those first 1,000 days. That's a difficult place to find ourselves, because it's probably the most wicked of all the problems. But we mustn't lose sight of that as we address some of the low hanging fruit.

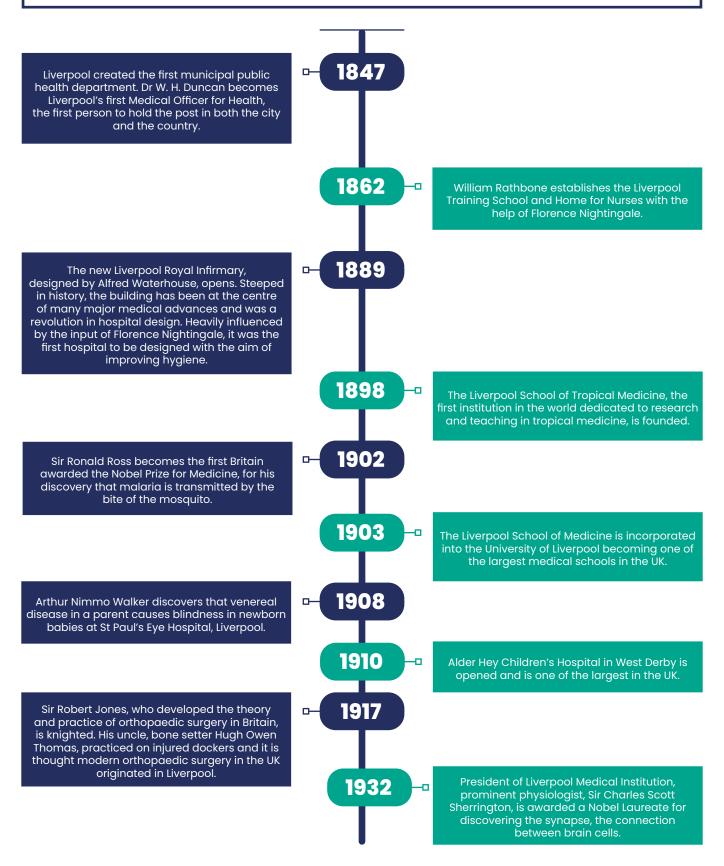
I want to conclude by reflecting that the way that we were able to convene this meeting, is a reflection on Liverpool and the people who work here. You couldn't do that anywhere else, a University like ours wouldn't have that convening power in another city in this country. This reflects on the fact that the hardest part of the challenge we don't need to address, we're already in good company, working in partnership. And as that old saying goes, if you want to go far, go together. We are already together.

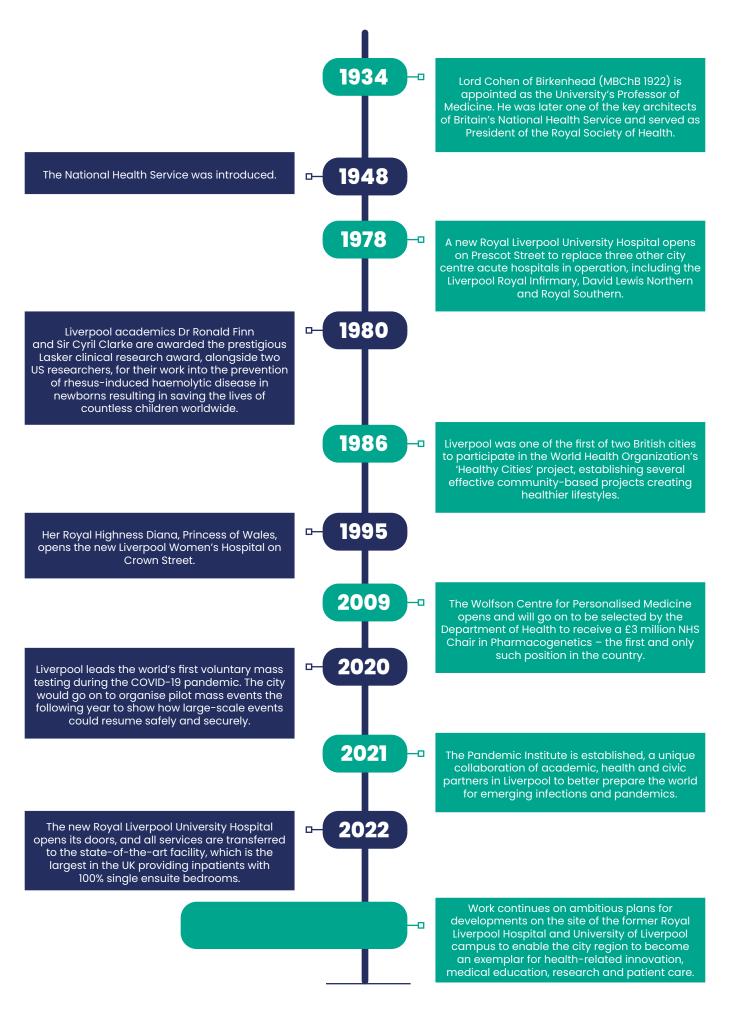
The conversations we have had at the Vice-Chancellor's Conference have offered a comprehensive overview of where we're at, where we need to get to, and how we achieve the ambitions set out in the Darzi report, which our local citizens need so badly from us.

Professor Louise Kenny, Executive Pro-Vice-Chancellor, Faculty of Health and Life Sciences, **University of Liverpool**

LIVERPOOL'S HISTORY OF HEALTH INNOVATION

Healthcare innovation has always played a prominent role in Liverpool's history and will in its future







Reimagining health innovation in Liverpool

A transformational centre for healthcare and medical innovation

In his conference speech, Professor Tim Jones, Vice-Chancellor of the University of Liverpool, presented an ambitious vision for an intergenerational step change in the Liverpool City Region's health and life sciences infrastructure.

Major proposed developments on the site of the former Royal Liverpool Hospital and adjacent areas of the University campus aim to create a thriving quadruple helix ecosystem involving academia, the public sector, industry and the local population, and enable the city region to become an exemplar for health-related innovation that transforms local communities' health, social and economic opportunities.

The approach aims to capitalise on the University's strengths in areas such as data intensive research and Artificial Intelligence-enabled innovation, along with outstanding local services and wide-ranging industry and community engagement across healthcare and health research. It would establish the city region as an international leader in coupling biomedical discovery with the development of smart diagnostics, prevention and med-tech solutions for protecting and improving health.

A key element in realising the vision would be a new development on the site of the former Royal Liverpool Hospital. The University of Liverpool and NHS University Hospitals of Liverpool Group have a memorandum of understanding in place for the development of the site as the focal point for a revolution in medical education, research and patient care. With a business case in development, work is underway to secure support for the model, including exploring major funding opportunities.

The vision also includes proposals for a major redevelopment of parts of the University's central Liverpool campus, which would provide facilities for students, researchers and industry to collaborate in groundbreaking research across the full spectrum of health and life sciences.

The University will continue to develop these proposals through discussions with partners, collaborators and potential funders, with further updates to follow later in the year.