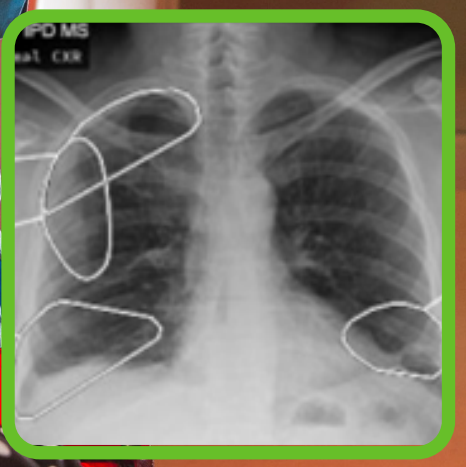
NHS
Greater Glasgow and Clyde

NHSGGC Research and Innovation Strategy

2024 - 2029

Innovate • Improve • Evaluate



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1. Foreword

I am delighted to present the new NHS Greater Glasgow and Clyde (NHSGGC) Research and Innovation Strategy for 2024–2029. As we change and transition following the COVID-19 pandemic it is even more important to rapidly identify and adopt new treatments and innovations, which are cost-effective, improve outcomes and improve patients' experiences.

Our vision is to continue building on our strengths and maximise the opportunities for our patients and staff to take part in high quality, world leading clinical research and innovation that will deliver health and economic benefits for our population.

Our strategy has been clinically led and informed by our strong collaborations with partners across academia, industry and the charitable sector. We have a healthy basis for this in our Glasgow Health Sciences Partnership and we are reassured that our vision and objectives are shared by all.

It is clear that a strong culture of research and innovation delivers a better patient and staff experience, achieves improved quality of care, better clinical outcomes for patients, and generates economic growth within the local area. Across NHSGGC our communities cover a widespread and diverse population with very differing needs. It is therefore essential that our research and innovation programme supports all our communities to engage and reap the benefits of research and innovation.

Working with our partners we aim to achieve this in a number of ways with exciting developments in infrastructure and technology. We will use new 'hub and spoke' delivery models that will bring research closer to communities, and we will build on our use of novel digital technology, including Artificial Intelligence, to streamline service delivery. We will continue to invest in our staff, providing more opportunities and support for staff to experience and develop skills in research and innovation. At the heart of everything we do we will promote inclusive patient and public engagement, with an emphasis on involving communities that have not traditionally been part of research and innovation.

We look forward to continuing to play a key role as a powerful driver of research and innovation and to take advantage of new opportunities over the next five years to deliver positive outcomes for our patients.

Jane Grant
Chief Executive, NHSGGC

2. Introduction

NHSGGC has an outstanding research and innovation ecosystem with a wealth of knowledge and expertise delivering complex, innovative and high impact clinical research. This covers the spectrum of disease and includes:

Precision medicine
tailoring prevention, early diagnosis and targeted treatment to the individual patient based on their characteristics

Evaluation of new and developing drugs, therapies and medical devices

Evaluation of new technologies,
including artificial intelligence (AI), and the impact on patient care and workforce utilisation.

This strategy sets out our vision to continue to build on our strengths and maximise the opportunities for our patients and staff to take part in high quality, world leading clinical research and innovation that will deliver health and economic benefits for our population.

Collaboration is fundamental to this high-quality research and innovation. NHSGGC is part of NHS Research Scotland (NRS), a partnership of Scottish NHS Boards and the Scottish Government Chief Scientist Office. NRS promotes and supports excellence in clinical and translational research so that patients can benefit from new and better treatments across Scotland.

NHSGGC recognises the importance of our strong relationships across a wide range of partners in health, academia, industry and the charitable sector. An example of this is the Glasgow Health Sciences Partnership (GHSP) established in 2018 to better integrate world-leading research, top quality education, and expertise in clinical practice between Glasgow University and NHSGGC.

NHSGGC also has established academic collaborations with Strathclyde, Glasgow Caledonian, West of Scotland, and Stirling Universities and others across Scotland and the UK. Alongside collaborations with industry and academia, the 'triple helix', it is also important to note the very significant impact of charity supported clinical research and innovation on improving patient outcomes. Examples are many and varied across NHSGGC, and include:

- **The Beatson Cancer Charity** working in close partnership with clinicians and researchers at The Beatson Cancer Centre and The Beatson Institute for Cancer Research
- **The Glasgow Children's Hospital Charity** working in close partnership with clinicians and researchers to help bridge the gap between scientific discoveries and real-world application to help care for Scotland's children and has recently launched 'HI Scotland - Children's Healthcare Innovation'.

> **"As a family being part of research in Glasgow we can't thank everyone involved enough, please continue and hopefully more families will have the same positive outcome we have had."**

A central element threading through this strategy is the importance of continuing to nurture and build on the strong relationships with all our research and innovation partners for the longer term health and economic benefit of our patients, communities and economy.

The Benefits of Research and Innovation

Impact for Our Patients

There is strong evidence that investment and involvement in clinical research and innovation leads to improved quality of care, better outcomes and more cost-effective treatments for patients[1]. In addition, hospitals with active clinical research programmes have been shown to have higher patient survival rates[2,3]. It is therefore essential that we make it as easy as possible for our patients, staff and the public to learn about, and take part in, clinical research and innovation and that we deploy innovative trial designs to enable this.

Service Impact

In the post-pandemic era research, innovation and the redesign of services are at the heart of the NHS Scotland Recovery Plan. The pressures and challenges currently facing the delivery of health and social care will only be addressed if we can rapidly identify and adopt new treatments and innovative technology which is cost-effective, improves outcomes for patients, and improves patient and staff experiences.

Impact for Our Workforce

Building the workforce is also at the heart of the NHS Scotland Recovery Plan. Research and innovation provides staff with opportunities for professional growth and skill enhancement, allowing staff to expand their knowledge, skills and expertise. Studies have shown that staff who participate in research have reduced level of burnout and emotional exhaustion, improved morale and job satisfaction[4,5,6]. Workplaces that are active in research and innovation find it easier to retain and recruit staff[7,8].

Economic Impact

Generating high quality research and innovation delivered to time and to recruitment target has the potential to lead to economic growth through collaboration with academia and industry[9,10]. Evaluation shows that for every £1 spent on research and innovation by the National Institute of Health Research, over £19 is generated in total economic return[11]. Commercial clinical research also generates savings for the NHS with a 2019 report estimating an average of £9,000 income revenue generated per patient recruited, and where a drug trial replaced standard of care treatment, £6,000 pharmaceutical cost savings were made per patient recruited for the NHS[9].

The case study below from NHSGGC provides an example where positive impact has been demonstrated across all these benefit areas and will lead to a change in practice:

ATTEST-2-Study **Case Study**

NHSGGC and University of Glasgow co-sponsored trial

Chief Investigator:	Prof Keith Muir
Funder:	Stroke Association (£1m)
Trial:	Early intravenous thrombolysis has been shown to increase recovery in patients who have had a stroke. Comparison of Tenecteplase (novel intervention) to Alteplase (standard of care) for intravenous thrombolysis.
Outcome:	Tenecteplase was just as effective, but less expensive and easier to use.

NHSGGC is well placed to play a key role as a powerful driver of research and innovation and to take advantage of new opportunities that will shape the future. Providing process driven support for the design and delivery of impactful clinical research and innovation allows the generation of high impact evidence that will influence guideline changes and adoption into clinical practice.

3. Engagement

This strategy has been guided by engagement with a wide range of stakeholders including patients, public, staff, academia and the Chief Scientist Office who fund key research and innovation infrastructure in NHSGGC and across Scotland.

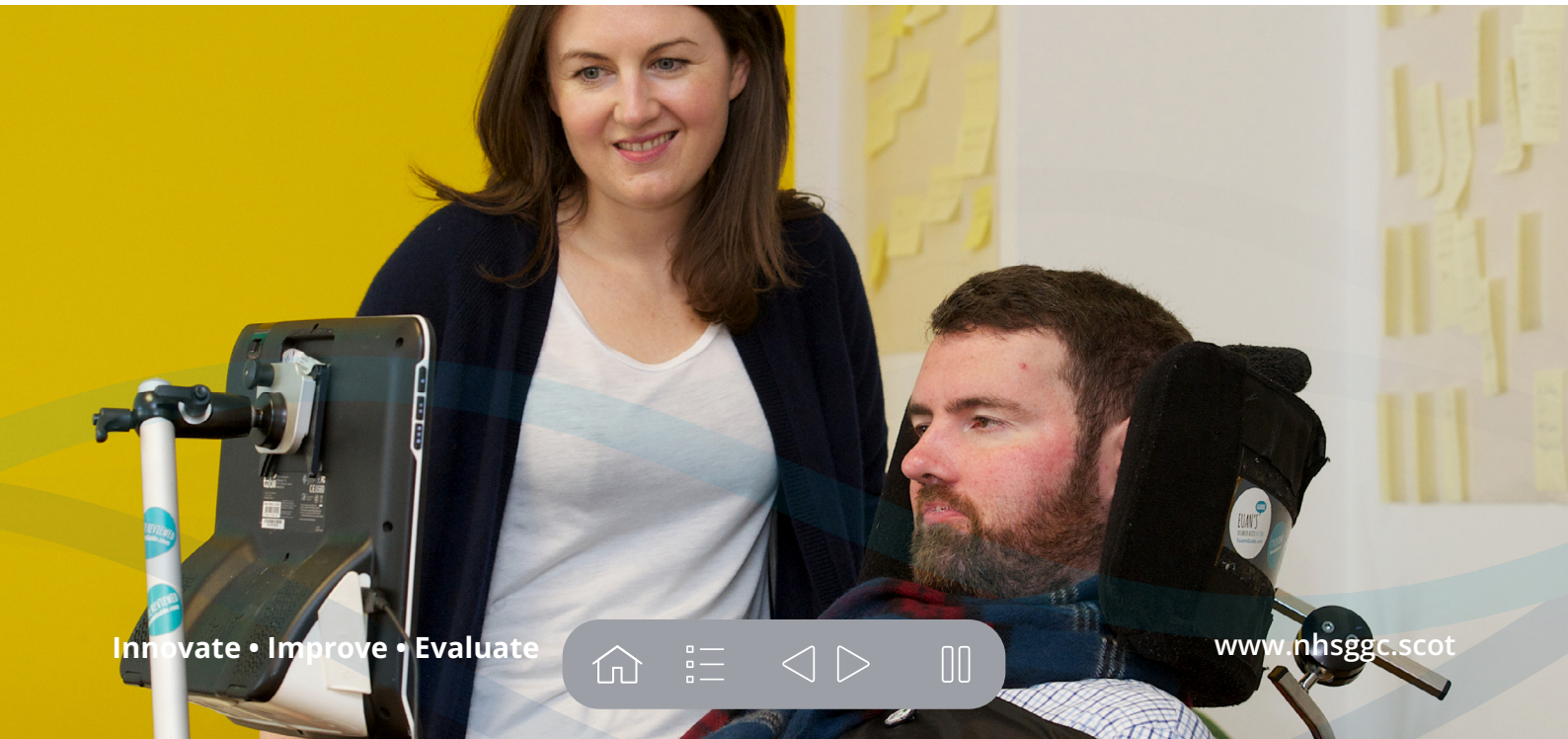
The processes for engagement with patients are built into all stages of research and innovation, listening and incorporating feedback to inform research design, priorities, and understanding what outcomes are important for patients. Following participation in research studies patients are also invited to provide feedback.

> **“I felt fully informed during the process and supported by the research team.”**

The information these processes provide has helped to inform our strategy. This has been used alongside feedback received from patient and public representatives on the groups which oversee individual trials performance and the four West of Scotland (WoS) Ethical Boards. Through our collaborations we are continually listening and learning from our staff and our partners about what's important and how we should be prioritising and delivering research and innovation in the future.

> **“Research and new drugs are not just about fixing the physical problem, Jamie's mental health and all round attitude to life has changed dramatically!”**

In particular we are working with patient, public and staff groups to assess the human and workforce factors of using digital technology (including software and AI as medical devices) in healthcare. Working together through research co-design and meaningful involvement will help develop technology with positive impact for those delivering and receiving healthcare treatment.



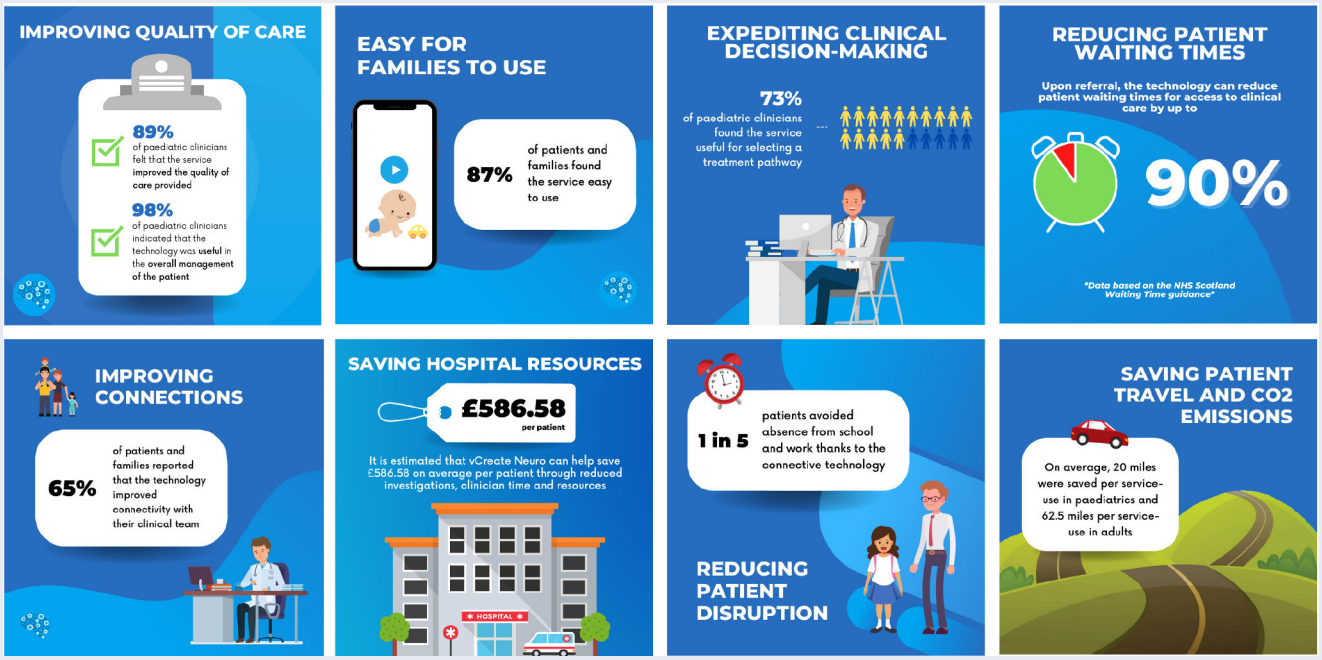
Asynchronous Video "vCreate Neuro" Pathway **Case Study**

NHSGGC sponsored; Industry collaborator: vCreate Ltd (Windsor, UK)

Clinical Leads: **Dr Neil Patel/Sameer Zuberi**

Trial: Standard in-person clinic pathway replaced with patients able to upload video and structured data from a smartphone onto vCreateNeuro cloud service; this is subsequently reviewed by a specialist clinician.

Outcome: Accelerated triage, prioritisation, remote diagnosis and therapy compared to standard in-person pathway, and greater patient empowerment.



An example of this engagement is the 2023 survey undertaken by the NHSGGC Research and Innovation Department canvassing views from staff, patients, and carers on innovation priorities in cancer care. **121** patients/carers and **100** staff gave their feedback. Staff focused on diagnostic pathways, resources, information and outcomes whereas patients focus was on the care experience in the here and now, information, support and integrated care.

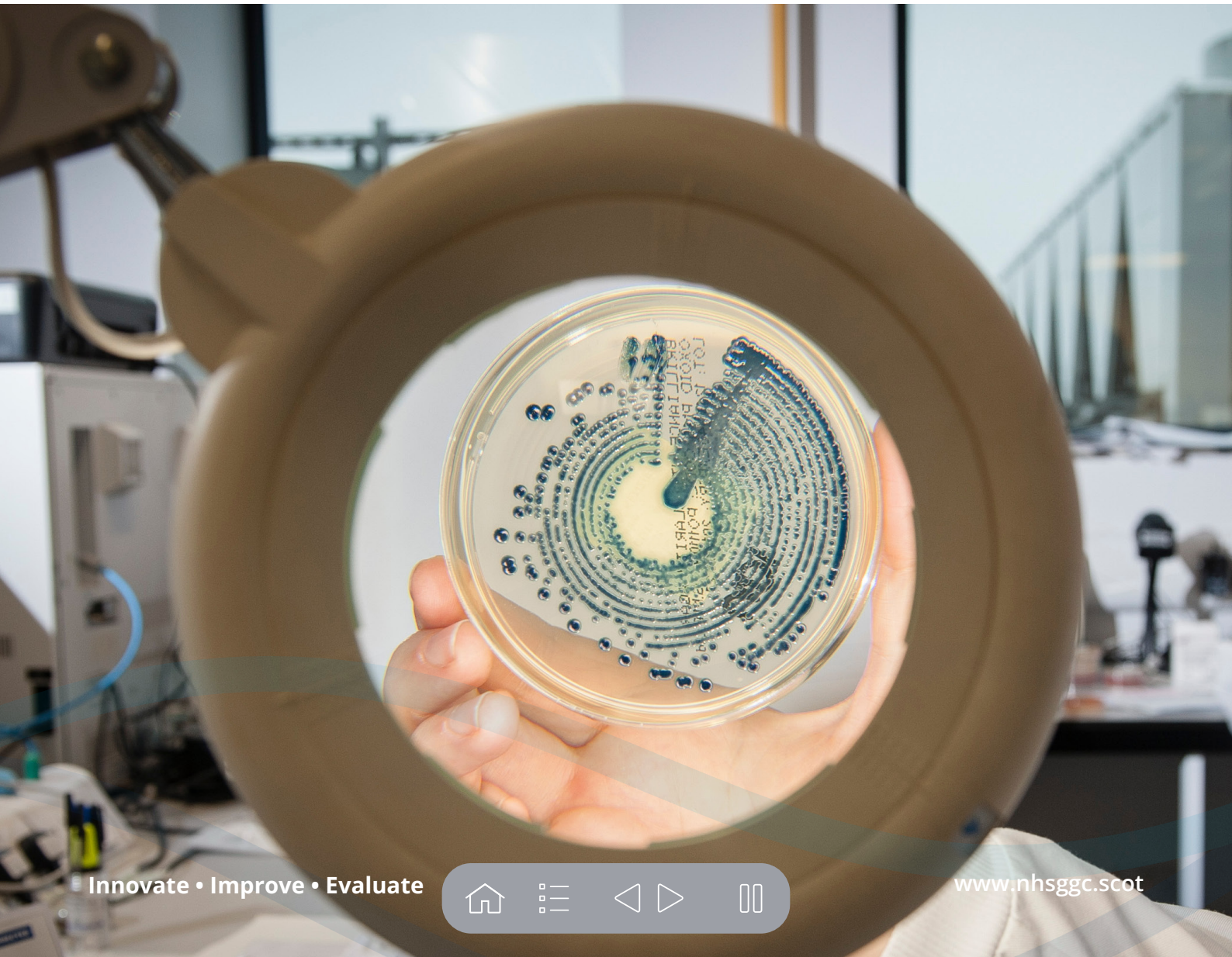
> **"It's helped me because I'm getting constant checks. The staff were brilliant."**

We are aware that there are some communities across NHSGGC reflected across Scotland who currently find it harder to participate in research and innovation and therefore whose views will have had less influence on this strategy. For example patients from more socially deprived backgrounds and those with protected characteristics are less likely to take part in clinical research and innovation, in part due to the costs and burden associated with travel.

We recognise that we need to do more to ensure that participation in research and innovation is inclusive and avoids increasing gaps in inequality. Within our strategy we are committing over the next five years to developing a more agile approach to research and innovation teams. Working in a hub and spoke model we will bring research and innovation projects closer to these communities. In doing this we aim to broaden the participation of all patient groups from our more socially deprived communities, to build awareness and trust, and reduce the time and costs involved in participation. Through this approach we will be able to deepen our understanding from a broader section of our population and continue to strengthen the relevance of research and innovation for all our staff, patients and communities.

Moving forward, we will ask our investigators in Glasgow-led studies to collate and report on data relating to protected characteristics of those participating and those who have declined to take part in research and innovation projects. In addition our investigators will be expected to consider diversity and inclusion when designing their research proposals, in line with the guidelines of funders such as the Medical Research Council[12].

Our priority is to work with patients and clinical research teams to understand the barriers to participation and inform our approaches to enhance access and reduce health inequalities.



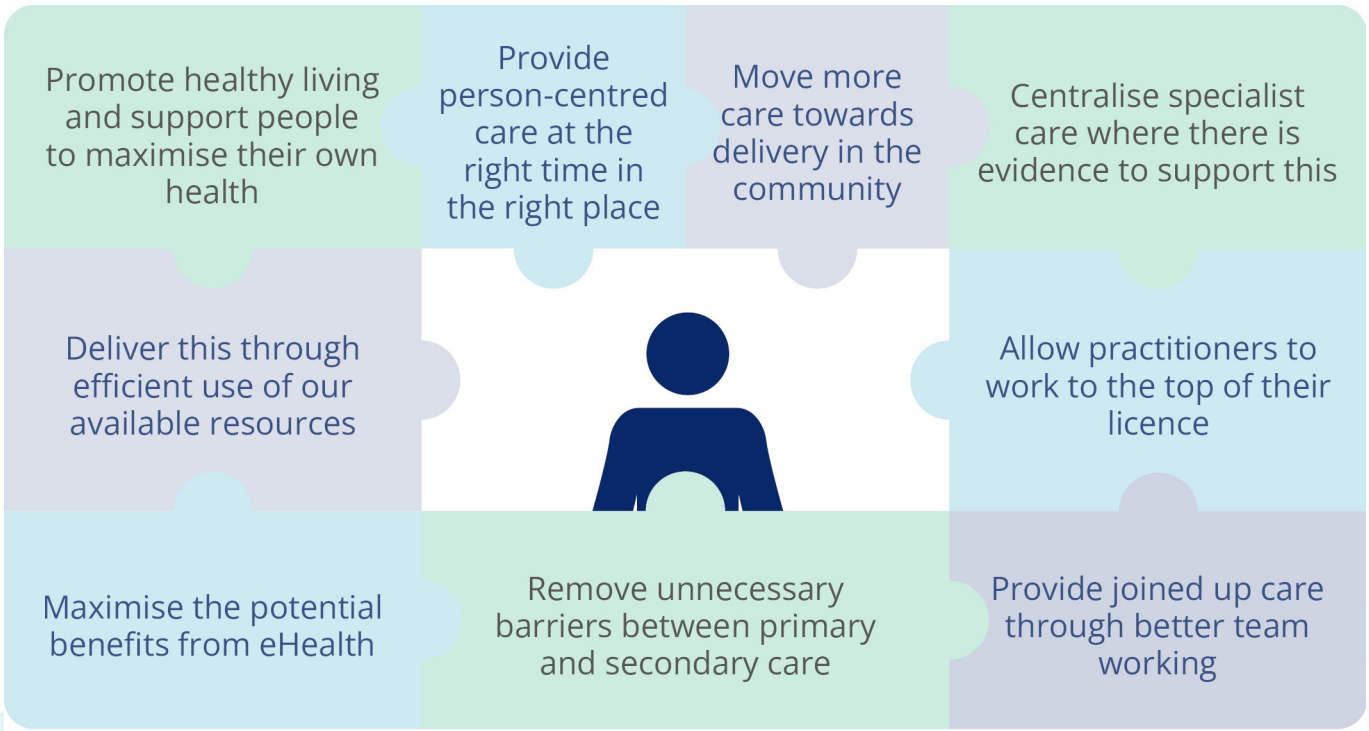
4. Strategic Context

'**Better Care**, **Better Health**, **Better Value** and **Better Workplace**' communicate the key corporate objectives of NHSGGC and provide the foundation for all strategies. These overarching objectives alongside a number of other key strategies and guidance have shaped this strategy. These main themes influencing our strategy are outlined below.

Better Care | **Better Health** | **Better Value** | **Better Workplace**

Moving Forward Together[13]

In 2018, NHS Greater Glasgow and Clyde approved and published a cross system clinical strategy 'Moving Forward Together'. The diagram below shows the key themes underpinning the clinical strategy. Each one of these themes is relevant to our approach to research and innovation, and our strategy will continue to support the implementation of 'Moving Forward Together' themes. This will be demonstrated through the key objectives and actions outlined in **section 6**.



NHSGGC Quality Strategy 2024-2029: Quality Everyone Everywhere[13]

Recognises 'Evidence and Research' as one of the five foundations in the quality model for safe and effective care that underpins all clinical pathways.

NHSGGC Digital Health and Care Strategy 2023-2028: Digital on Demand[13]

Recognises the strong track record in transformational innovation for research, co-design, co-development and delivery of new innovative solutions, and commits NHSGGC to building on this.

NHSGGC Primary Care Strategy 2024-2029[13]

Commits to enabling a step change in data and digital technology innovations to improve patient health and care outcomes.

Saving and Improving Lives: The Future of UK Clinical Research Delivery 2021[14]

This ambitious 10 year vision and four year implementation plan 2022-2025 aims to achieve a "**more patient-centred, pro-innovation and digitally enabled clinical research environment**". The five key objectives are:

- Clinical research embedded in the NHS
- Patient-centred research
- Streamlined, efficient and innovative research
- Research enabled by data and digital tools
- A sustainable and supported work plan.

O'Shaughnessy Report: Commercial Clinical Trials in the UK 2023[15]

Research and innovation activity relies on both commercial and non-commercial clinical trials. This independent review commissioned by the UK government addresses the falling level of activity in UK commercial clinical trials and the key challenges to conducting commercial clinical trials in the UK. The report proposes actions to:

- Reduce timelines for trial set up and approval processes
- Increase transparency and accountability
- Improve the promotion, ownership and visibility of research in the NHS
- Promote effective use of data and research in Primary Care.

Scotland Government National Innovation Strategy 2023-2033[16]

Aims to build on the outstanding track record of research excellence and cross sector collaboration in Scotland. Key priorities are Health and Life Sciences along with Data and Digital Technologies.

UK and Scotland Life Sciences Strategies[17,18]

Highlight the importance of healthcare innovation for both the economy and population health. They also recognise the role of the NHS as a powerful driver of innovation through collaboration with industry and academia to deliver improvement at scale and speed, enhance disease prevention, and provide a more resilient and skilled workforce.

Accelerated National Innovation Adoption (ANIA) Pathway[19]

Scottish Government initiative established to fast-track proven technology innovations into frontline healthcare on a Once for Scotland basis. The ANIA initiative links closely with the Centre for Sustainable Delivery (CfSD), a national unit designed to support the sustainable improvement and transformation of Scotland's health care system.

A number of the national research and innovation strategies and reports can be expected to lead to increased research and innovation opportunities within the NHS. This is particularly relevant to the evaluation and deployment of new technologies that change the way services work, but also in the demands for access to data at scale.

Impact of AI on clinical pathways

5. Current Position

Much has been achieved in the last six years over the course of the previous two research and innovation strategies. In 2020 the COVID-19 pandemic interrupted a number of existing programmes but provided new opportunity for others. Throughout the pandemic NHSGGC research and innovation embraced change, continued to innovate, and strived to evaluate novel therapies and technologies in order to enhance safe care for patients.

We have built on this momentum for change, delivering our recovery plans to support and ensure resilience of the clinical research and innovation workforce as illustrated by the key achievements in 2023:

Key achievements of 2023 include:

Over 330 new studies have commenced

Over 1,000 studies are recruiting or in follow-up in NHSGGC

Increase in the number of investigators and NIHR associate fellows

Overall recruitment to clinical trials has **increased by 14%** compared to 2022

30% increase in recruitment of patients to commercial trials

Centre of Excellence, complexity and impact of the portfolio

45% of clinical trials involve novel drug therapies

40% are cutting edge early phase trials I/II

59% are commercial trials

Early Cancer Medicine Centre Funding award (£2.2 Million over 5 years)

Increase in projects involving **artificial intelligence**

Realisation of the **benefits of digital pathology** for the service and research

Infrastructure Supporting our Research and Innovation

It is essential that NHSGGC harnesses the support of a range of internal and external stakeholders to deliver on our ambitions for research and innovation in NHSGGC. In recent years we have continued to strengthen our collaborations across Scotland, the UK and world-wide. With our partners, we have invested in infrastructure that helps to develop the culture of research and innovation. The diagram below provides a broad overview of the main facilities and infrastructure supporting research and innovation across academia, NHSGGC and industry:

Some of the highlights include:

- **Glasgow Health Sciences Partnership** (GHSP) established in 2018 between NHSGGC and Glasgow University, to better integrate world leading research, top quality education and expertise in clinical practice
- **Five Clinical Research Facilities** (QEUH, GRI, GGH, Beatson and Dental Hospital), with two more under development (RAH and the Commercial Research Delivery Centre), and a dedicated Clinical Research Imaging Facility
- **Glasgow University Clinical Trial Unit and Health Technology Assessment Unit**
- **The Early Cancer Medical Centre at the Beatson** funded by Cancer Research UK and the Chief Scientist Office, with funding secured for at least the next five years
- **A dedicated NHSGGC Research and Innovation Department** providing leadership, expertise and capacity in governance, project management and processes for research, including the WoS Innovation Hub

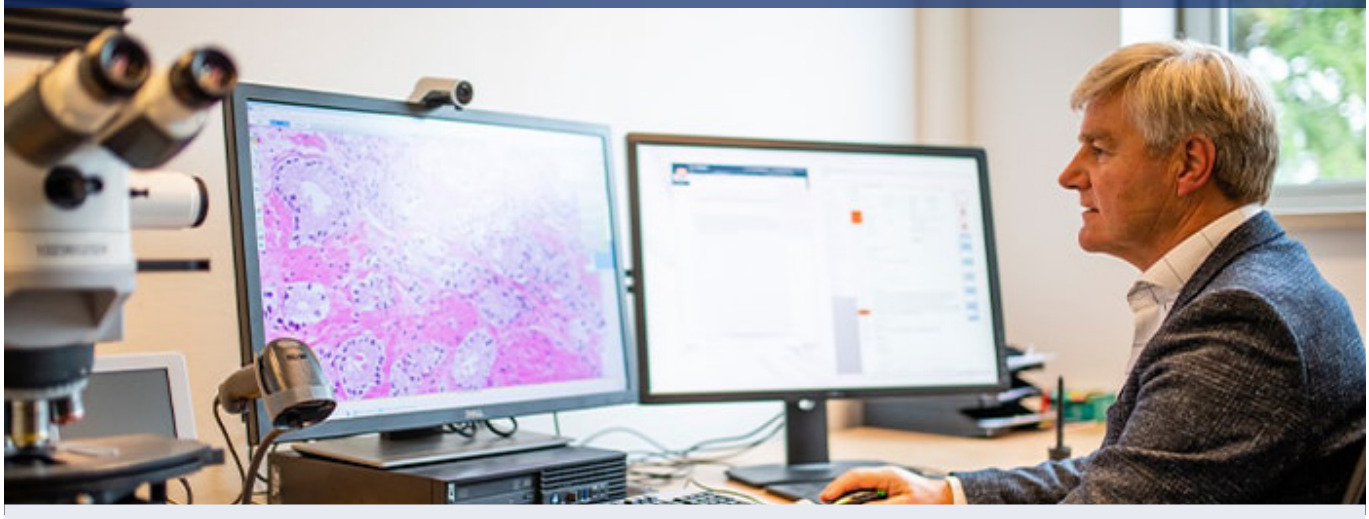
- **The West of Scotland (WoS) Safe Haven**, a partnership between NHSGGC and the University of Glasgow, providing safe, trusted and secure access for research and innovation to large NHS health datasets relating to citizens in the Glasgow region
- **The NHSGGC Biorepository** providing safe, trusted and secure access for research and innovation to a wide range of human tissue samples. The Biorepository supports tissue based studies requiring access to stored and fresh surplus diagnostic tissue, whilst also working as a central laboratory for processing and storage for several key international Glasgow-led clinical trials.

The WoS Innovation Hub

A key requirement for the NHSGGC Research and Innovation Strategy is to evaluate new digital technologies, devices and products which may substantially impact healthcare delivery pathways. The WoS Innovation Hub, founded in 2019-2020 and hosted by NHSGGC, is one of **three** regional Hubs funded through the Chief Scientist Office. The Innovation Hub oversees over **45** high impact innovation projects ranging from small business innovative research projects as well as large programme grants. Examples include the Industrial Centre for Artificial Intelligence Research in Digital Diagnostics (ICAIRD) funded via the UK Industrial Strategy Challenge, and the Living Laboratory (a dynamic precision medicine life sciences 'triple helix' cluster integrated within the QEUH).

The most impactful outcome of ICAIRD has been the digitalisation of the Pathology Department which has led to huge benefits to the department and a growth in AI projects aimed to aid diagnosis in several cancer types.

Digitalisation of Pathology Department — Case Study



- **98.2%** of all Hemotoxylin and Eosin cases now reported using digital pathology
- Overcomes inefficiencies of glass slides - handling/transfer, limited scalability
- Enables streamlined process, specimen tracking, improved safety
- Aids distribution of cases, remote access and increased collaboration.

Other AI projects supported by the WoS Innovation Hub involve patients with heart failure, chronic obstructive airways disease and osteoporosis.

A number of NHSGGC led digitally supported pathways developed by the WoS Innovation Hub are currently being assessed in conjunction with the Centre for Sustainable Delivery (CfSD) for national scale-up. Other NHSGGC led projects have already moved from development to business as usual at a number of Health Boards across Scotland (Lenus asynchronous appointments, TraumaApp, and vCreate).

It is essential we continue to strengthen effective collaboration internally within NHSGGC amongst the research and innovation department, eHealth and the various service management teams across NHSGGC. In this way we will deliver a robust and coordinated approach in our liaison with national structures such as the ANIA Pathway and the CfSD. This will help ensure innovation is driven in areas that meet the needs and priorities of NHSGGC, and are deliverable and affordable at scale.

6. Vision and Strategic Objectives

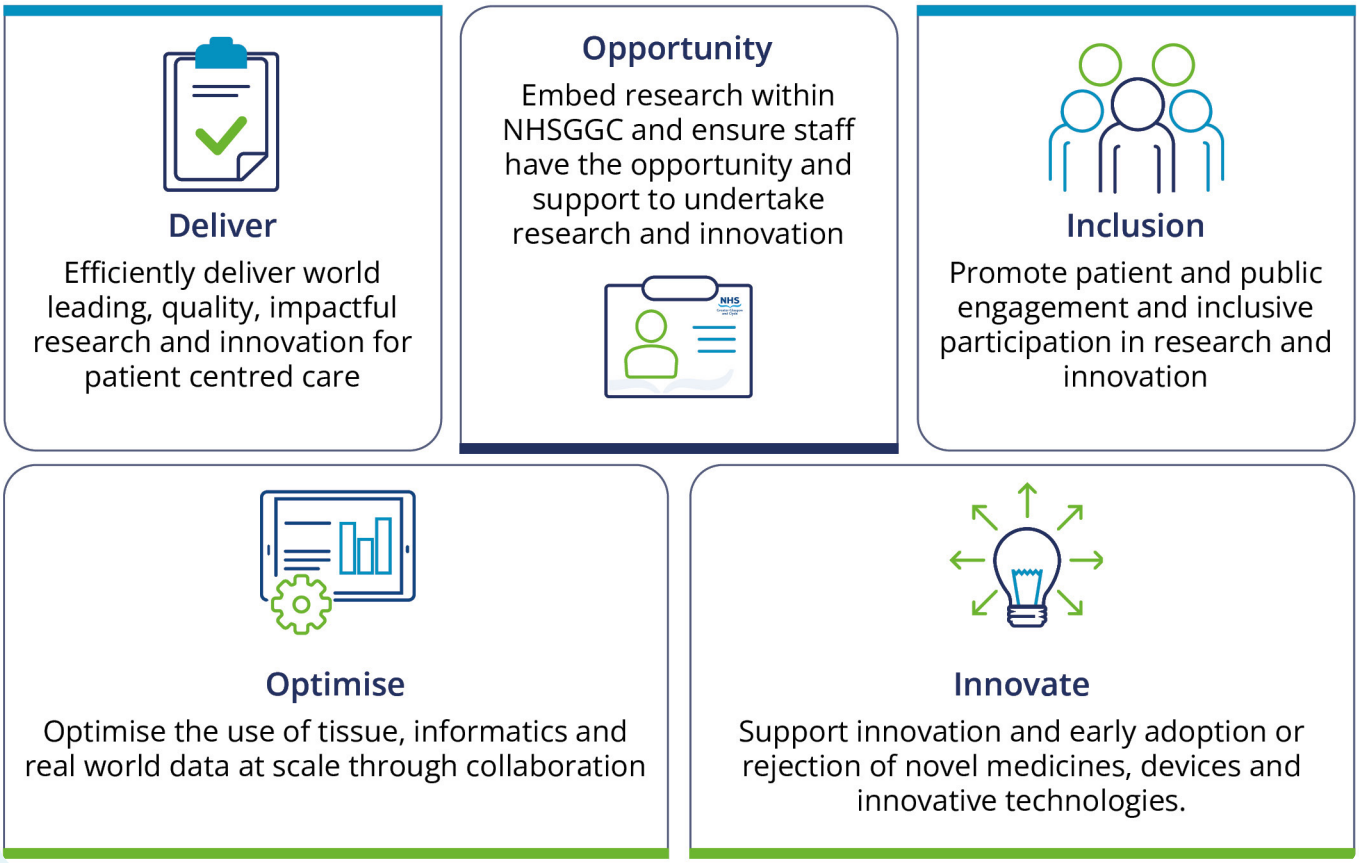
Vision

Our vision is to continue building on our strengths and maximise the opportunities for our patients and staff to take part in high quality, world leading clinical research and innovation that will deliver health and economic benefits for our population.

Strategic Objectives

To realise this vision we have five strategic objectives. These objectives cover the key areas of **deliver**, **opportunity**, **inclusion**, **optimise** and **innovate**. They have been chosen to encompass the important areas of development that are required to further overcome challenges, build on our strengths and take advantage, both locally and nationally, to become even better at high quality, experimental and world leading, impactful, innovative healthcare.

These strategic objectives support the NHSGGC corporate objectives and reflect what is important to patients.



7. Priorities and Actions to Achieve Our Strategic Objectives

Objective 1: Deliver

Efficiently deliver world leading, quality, impactful research and innovation for patient-centred care.

Priorities

- Simplify and streamline processes to reduce time to research approvals
- Drive further expansion in locally led studies
- Strengthen the infrastructure supporting feasibility, study set up, and delivery to time and to target.

A robust research and innovation infrastructure is an essential element of successful delivery across all stages from feasibility, to approval and study set up, through to delivery and completion. We have already made significant improvements and will continue to review key processes for further improvement. A robust performance management framework will be essential to monitoring delivery of benefits such as reductions in timelines for research approvals and set up, and delivery of key performance indicators for each trial.

The expansion of capacity in research and innovation will have a positive impact on all areas of study, including locally led research and recruitment for commercial novel drug studies. We have identified a number of areas for expansion, including:

- **The development and deployment of 'hub and spoke' models locally, regionally and nationally**. These work by locating as much of the patient related research activity as possible closer to patients in their communities. This increases efficiency by reducing the replication across multiple sites, increasing flexibility and agility of study programmes and increasing scalability.
- **The 'hub'**: a bespoke Commercial Research Delivery Centre will be established within Glasgow during 2024/25 funded through a national initiative and helping to increase capacity for commercial and non-commercial trials
- **The 'spokes'**: aligned to the 'hub', we will establish 'spoke' units in Primary Care and agile 'pop-up' units within difficult to reach communities funded through the national initiative
- **A new Clinical Research Facility** (CRF) will open over the course of this strategy at RAH with dedicated nursing, pharmacy and lab facilities. This expands our CRF model into the Clyde Sector providing more access to research across the Clyde area
- **The Beatson CRF** will move to larger bespoke premises within the Beatson.

Actions

1. Adopt national best practice for study set up, contracting and costing processes, and update governance and sponsor processes in line with new UK clinical trial legislation
2. Increase awareness of up and coming grant funding opportunities
3. Implement a comprehensive performance management framework for locally led studies linked to contracts, key research and innovation timelines, and underpinned with a clear reporting and governance structure
4. Undertake a review of document management systems for locally led studies to ensure continued safe and effective use of records in NHSGGC
5. Continue to develop facilities for clinical research across NHSGGC (eg Clinical Research Facility at RAH) and identify any other priority areas for development
6. Further develop the hub and spoke research delivery model in NHSGGC
7. Establish a Commercial Research Delivery Centre in NHSGGC
8. Improve transparency of commercial activity across NHSGGC and nationally
9. Help promote/increase use of Safe Haven and SHARE (the Scottish Health Research Register and Biobank) to streamline feasibility assessments and patient recruitment for research

Objective 2: Opportunity

Embed research within NHSGGC and ensure staff have the opportunity and support to undertake research and innovation.

Priorities

- Continue to build a culture of research and innovation across all professions to broaden the number and range of staff engaging with research and innovation
- Support, train and incentivise staff undertaking research and innovation
- Promote measures to build the future research and innovation workforce.

It is important that NHSGGC invests in building a sustainable and supported workforce in order to develop and deliver future research capacity. By exposing staff to research and innovation early in their career, and allowing staff throughout their career to gain experience of research and innovation, we will encourage more staff in the future into research and innovation.

NHSGGC has made good progress so far in increasing the number of Principal Investigators and in developing and rolling out of a wide range of training opportunities for different staff groups. These opportunities have included the National Institute for Health and Care Research Associate PI training scheme, Clinical Research Facility placements, a new UK Clinical Research Facility Network Student Tool Kit. This sits alongside the support and expertise provided through the NHSGGC Research and Innovation Department.

Moving forward we want to build on this success and through collaboration increase the opportunities for NHSGGC staff to take part in research and innovation. Raising awareness and communicating the impact of research and innovation will be an important element of increasing the numbers of staff across NHSGGC engaging with research and innovation.

Actions

1. Identify and use resources and investment from a wide range of sources to build capacity in the NHSGGC workforce for future research and innovation
2. Increase the knowledge, experience and skills in research and innovation across the NHSGGC workforce, promoting a 'research for all' approach
3. Use the Glasgow Biomedicine model to maximise reinvestment in building capacity for research and innovation within NHSGGC
4. Develop and implement a comprehensive Communications Strategy to support research and innovation in NHSGGC
5. Continue to support delivery of the UK Rare Diseases Framework
6. Support the development of innovative practices in research within NHSGGC; for example the newly established charity – HI Scotland: Children's Healthcare Innovation.

Objective 3: Inclusion

Promote patient and public engagement and inclusive participation in research and innovation.

Priorities

- Create opportunities to broaden the number of patients/ public involved in research and innovation
- Improve access to research and innovation in 'underserved' groups
- Ensure research and innovation is important and impactful for patients.

Participants in research and innovation studies generously give their time and commitment. Whilst recruitment to clinical trials involving patients in 2023 has exceeded that achieved pre-pandemic, we are aware there is more we could do to broaden the involvement of patients from all communities across NHSGGC.

The new 'hub and spoke' model described at objective one will provide ease of access and increased opportunities for patients to access clinical trials, particularly for underserved communities. Through our investigators and wider research teams we will aim to be more inclusive by raising awareness and providing the opportunity for patients to take part at every point in their healthcare journey, embedding research within the patient pathway across all specialties.

Actions

1. Continue our commitment to actively supporting patient and public involvement in the design and delivery of research and innovation studies
2. Provide an appropriate range of training opportunities for patients, public and staff in order to support more patients being involved in locally led studies
3. Further develop the range of approaches taken to make more patients aware of the opportunities to take part in research studies
4. Make collection and reporting of protected characteristics a requirement for all locally-led studies, both of patients participating and those declining to participate
5. Identify and remove/reduce barriers to participation in research and innovation studies, in particular for 'underserved' groups
6. Develop the 'spoke' model of delivery in communities across NHSGGC to help align research with existing patient pathways where possible
7. Help promote/increase awareness of SHARE (the Scottish Health Research Register and Biobank) with staff, patients and the general public to increase participation.

Objective 4: Optimise

Optimise the use of tissue, informatics and real world data at scale through collaboration.

Priorities

- Promote and increase the safe and effective use of patient data
- Drive further improvements in local capability and efficiency to deliver quick access to data and tissues
- Maximise the use of technology and continue to address barriers to safe and effective sharing.

The ability to provide accurate feasibility information on numbers of patients meeting inclusion criteria will help direct what studies we undertake in NHSGGC and help streamline patient recruitment. Safe Haven already provides this capability for NHSGGC and an expanded role will be facilitated by building on the excellent collaboration that exists between the WoS Safe Haven, Scotland Federation of Safe Havens and Research Data Scotland. This will also open up further enhanced options for collaborations with industry.

Across NHSGGC we have made significant developments in technology related research and innovation. The support from our eHealth and Diagnostics Directorates has been essential in delivering this and is a strength for NHSGGC. We will continue to build on this approach and in particular aim to expand our portfolio of work with Primary Care and in community settings. Our new Primary Care Lead Innovator role will help to further enhance this approach.

Actions

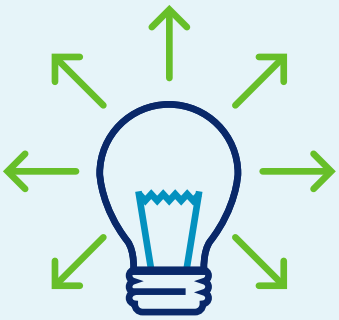
1. Improve and expand the awareness in researchers of data sets and opportunities provided through the WoS Safe Haven
2. Continue to promote access to electronic records for feasibility studies and use of data with appropriate governance for patient recruitment (e.g. Safe Haven)
3. Streamline the appropriate, safe and secure access to anonymised data for real world data driven studies
4. With a range of partners, continue to develop and invest in digital technology infrastructure for research and innovation
5. Overcome technical barriers to sharing data for research between primary and secondary care in NHSGGC
6. Build capacity and capability to deliver expanded use of digital pathology in research.

Objective 5: Innovate

Support innovation and early adoption or rejection of novel medicines, devices and innovative technologies.

Priorities

- Ensure research and innovation studies align with NHSGGC and patient priorities
- Continue to build collaborations and partnerships with academia, industry and charities
- Ensure early transparency of the impact for NHSGGC of any potential change to service delivery at scale.



Studies of novel medicines make up the majority of research and innovation programme activity in NHSGGC. This area of strength should continue to be nurtured and supported, maintaining NHSGGC an attractive partner for clinical trials.

The UK is already a world leader in AI, ranking first in Europe and third globally behind the USA and China[20]. It is estimated that AI has the potential to add £232bn to the UK economy by 2030[21]. With the wealth of experience across NHSGGC there is a real opportunity to take a national lead in the rigorous and objective evaluation of AI tools and machine learning prior to deployment in the wider NHS. In particular digital pathology, machine learning and clinical expertise has the potential to contribute to more accurate diagnosis, prognosis and individualised treatment in areas such as cancer care.

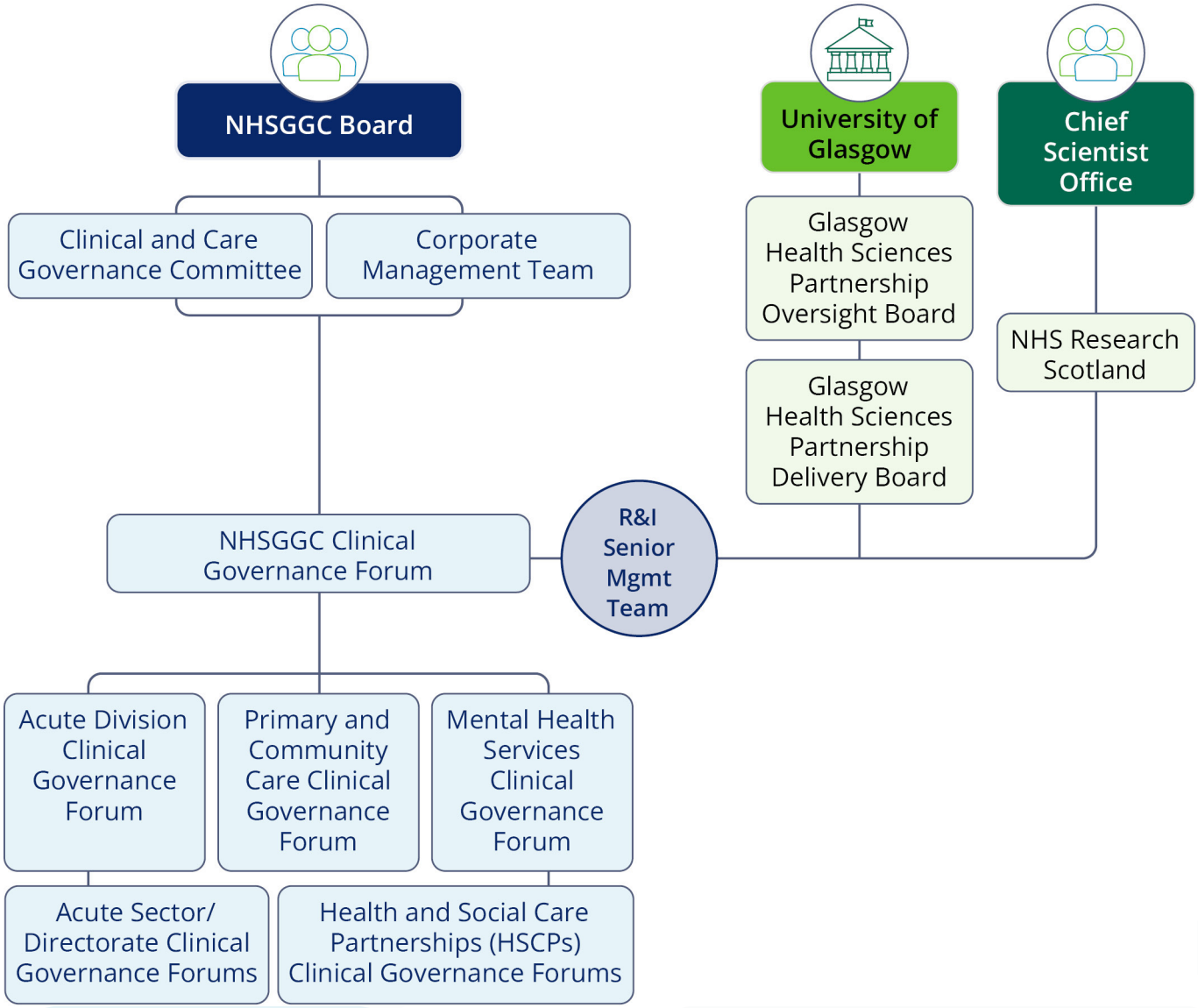
It is essential that our activity is concentrated towards NHSGGC priorities and avoids resulting in outcomes that widen inequality gaps or disadvantage potential benefactors because of a protected characteristic they have. Any longer term implications for new resource or service redesign must be understood and identified in a planned way in order that corporate support can be appropriately considered.

Actions

1. Use NHSGGC governance structures to raise awareness of potential research impact at an early stage in order that implications (e.g. future resources and/or service redesign) can be identified and considered across all services in a timely manner
2. Actively engage with the Scottish Government to collaborate and influence innovation programmes emerging nationally and use robust internal processes to highlight any potential implications across NHSGGC at an early stage, e.g. ANIA pathway programme, CfSD etc.
3. Review and revise processes to accelerate set up of Phase One trials
4. Further develop capacity across NHSGGC to respond in an adaptable and agile manner to opportunities to engage in studies involving novel Advanced Therapies
5. Continue working with partners to identify areas where expansion of infrastructure may be indicated to enable evaluation of novel devices and technologies (including AI), and ensure opportunities are appropriately considered in line with NHSGGC priorities.

8. Delivering the Strategy

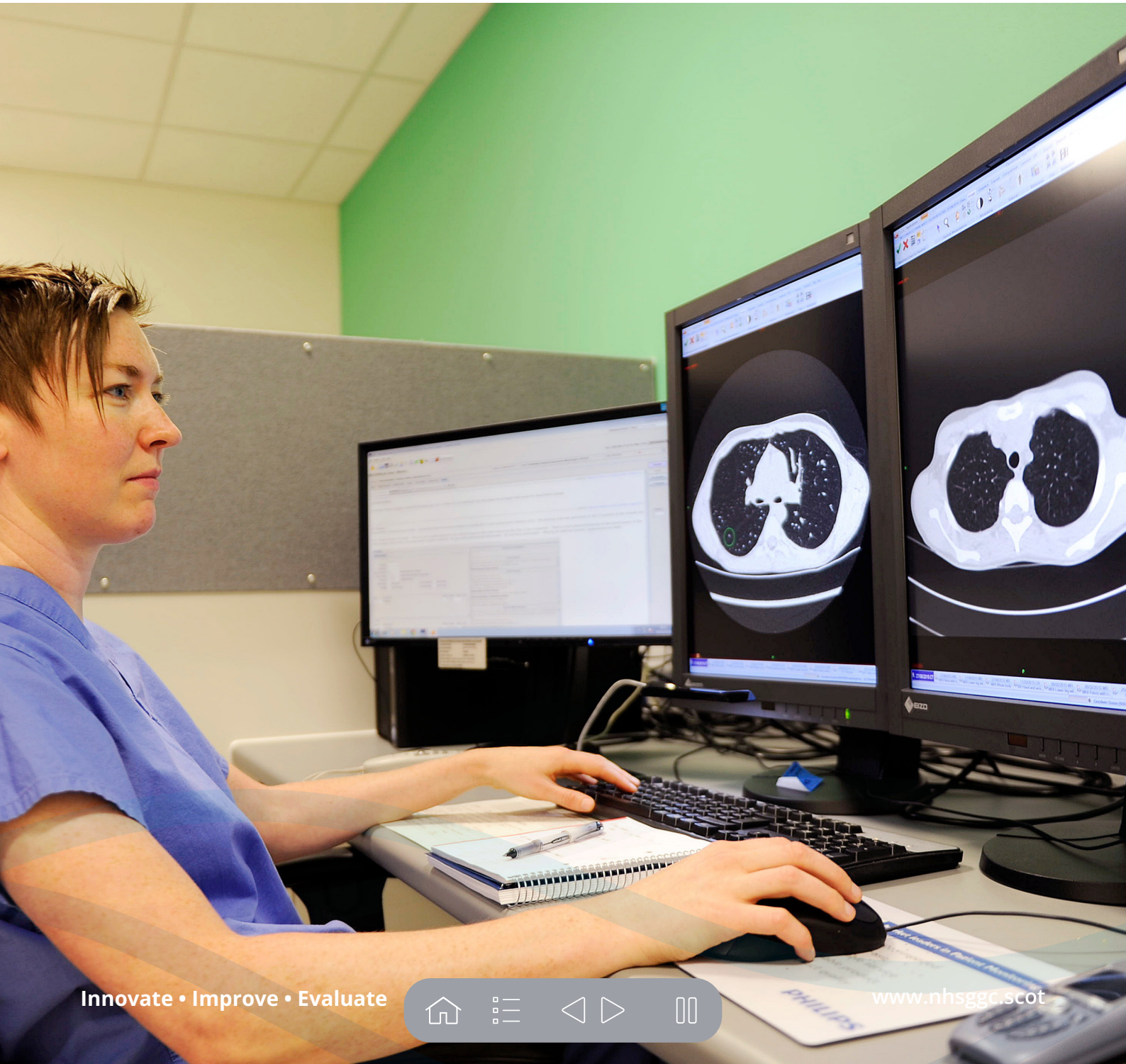
Implementation of the strategy will be overseen by the Research and Innovation Department senior management team, reporting into the NHSGGC Clinical Governance Forum and the Glasgow Health Sciences Partnership (GHSP) Delivery Board. At a corporate and executive level the strategy progress will be monitored via the Research and Innovation Annual Report to the Clinical and Care Governance Committee, the Corporate Management Team and the NHS Board. The governance structure for research and innovation is outlined below:



A detailed implementation plan will be developed covering actions for the first three years of the plan. Our robust governance arrangements will ensure the implementation plan delivers on the priorities and actions outlined in the strategy; mid-way through the strategy (2027) there will be a review of progress in order to agree actions for the final two years.

Funding for the implementation plan will be supported through our collaboration with a range of partners. The three new infrastructure developments in NHSGGC planned over the duration of this strategy – the Clinical Research Facility at RAH, the Commercial Research Delivery Centre and the new Beatson Clinical Research Facility – and the community based agile, pop-up spokes already have identified funding. NHSGGC has a strong track record in attracting funding streams and this will continue to be a focus throughout the lifetime of the strategy.

> **“I was just so glad they had a treatment I could try. And taking part in a trial has the potential to help others. It’s all about gathering information.”**



Appendix

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