

DRIVING IMPROVEMENT, DELIVERING RESULTS

THE SCOTTISH HEALTHCARE SCIENCE
NATIONAL DELIVERY PLAN 2015-2020:
FINAL REPORT

June 2022



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Foreword

The Final Report for the Healthcare Science Delivery Plan came at a time when the NHS is recovering from the greatest health challenge it has ever faced. The impact of COVID-19 has tested every part of our infrastructure, particularly the NHS. The global pandemic limited access to services, disrupted workforce education and training and exposed longstanding health inequalities. The time needed to recover is significant and the pressures from the pandemic will be felt beyond 2021.

The Final Report for Scotland's Healthcare Science National Delivery Plan *Driving Improvement, Delivering Results 2015–2020*, therefore puts a welcome spotlight on how innovation can take place to ensure sustainable recovery of NHS Scotland so that, in the following decades of the 21st century, the skills of the Healthcare Science workforce are not only maximised but also used most effectively to meet the changing needs of the population in Scotland.

The Delivery Plan introduced a series of deliverables and programmes to maximise the Healthcare Science contribution to achieving high-quality, sustainable and effective health and care services. This report provides key overview of successes and learning from the last six years. In particular the report illustrates a range of initiatives in which system leaders across Health Boards may be interested in building on as part of their efforts to support Realistic Medicine principles such as the National Demand Optimisation Programme. In the course of the final report and my first year in Government as Chief Officer, I have liaised with a great number of people who instinctively recognise this potential including NHS Board Chief Executives, Healthcare Science Leads and members of the workforce across all specialisms.

At present the challenges the workforce and system are facing every day are immense and the report highlights the added value achieved for the people of Scotland when effective clinical governance, new ways of working and innovative approaches are in place and encouraged. The key messages of leadership, value based healthcare and partnership working encourage us to build on this momentum for change, as we continue to drive improvement and deliver results.

There are many people I want to thank for their contribution to the work of this delivery plan. First, I am thankful to Karen Stewart, the Scottish Government Healthcare Science Officer who, as National Policy Lead has been the driving force behind this work, supported by the leadership of Healthcare Science Leads in Health Boards and further endorsed by the Chief Medical Officer. The delivery plan was also greatly assisted by officials from the Chief Nursing Officer Directorate and the Chief Medical Officer Directorate.

The unstinting effort and enthusiasm from all stakeholders towards delivery of the five improvement programmes has been exemplary. I trust that this report will be of great value to you all.

Catherine Ross

Chief Healthcare Science Officer, Scottish Government

1. Acknowledgements

We would like to thank Healthcare Science (HCS) Leads within NHS Boards for their contributions to the work of the National Delivery Plan (NDP).

We would also like to acknowledge the collaborative engagement of the three Healthcare Science National Leads, who worked with all Healthcare Science Leads and wider stakeholders, in supporting implementation of the ambitions of the National Delivery Plan.

2. Executive Summary

Healthcare Scientists are an essential part of the NHS workforce and are the fourth largest clinical group in NHS Scotland covering the four specialist areas; Life Sciences, Physical Sciences and Clinical Engineering, Physiological Sciences, and Clinical Bioinformatics. The Healthcare Science workforce in Scotland number approximately 6,000 which cover the profession titles of scientists, practitioners and technologists, and comprises more than 50 disciplines. This professional group works in both acute and primary care settings, and contribute to the entire patient pathway, from prevention, diagnostics, intervention and rehabilitation. Collectively the Healthcare Science workforce contribute to over 80% of all diagnostics performed.

The Scottish [Healthcare Science National Delivery Plan](#) 2015 - 2020 *Driving Improvement, Delivering Results* was published in May 2015 to recognise and maximise the contribution Healthcare Science makes to NHS Scotland and Scottish Government policy priorities by building on the existing platform of service improvement.

The NDP set out clear service improvement programmes to achieve high-quality, sustainable health and care services for Scotland, in line with NHS Scotland's quality agenda <https://www.gov.scot/publications/healthcare-quality-strategy-nhsscotland/>. The plan included five deliverables as priority areas for the Healthcare Science profession. Support for implementation in NHS Boards was provided by the Scottish Government Healthcare Science Officer and three National Healthcare Science Leads seconded into Government, who worked collaboratively with NHS Board Healthcare Science Professional Leads and the wider Healthcare Science Workforce.

Commissioned by the then Chief Health Professions Officer and led by the Healthcare Science Officer, the work was initially governed by the Scottish Government Diagnostic Steering Group but then overseen by the Scottish Government Healthcare Science Leads Group. The then Chief Health Professions Officer also provided strategic leadership alongside the Healthcare Science Officer.

The aim of this report is to provide an overview of achievements made since the publication of the National Delivery Plan in May 2015 and a look forward to the future of the Healthcare Science Profession in Scotland.

The final report outlines there has been clear progress through implementation of the NDP including evidence of extensive engagement, collaboration and partnership working with stakeholders such as National Services Scotland (NSS), NHS Education for Scotland (NES) and the Diagnostic Networks. This includes engagement with the wider workforce beyond people working in Healthcare Science through delivery of stakeholder engagement events, annual HCS events and numerous workshops focusing on the NDP deliverables. There is also evidence of substantial partnership with Healthcare Science Leads, other Healthcare Professionals and Scottish Government policy areas with overlapping interests.

It is clear that service improvement has been made and many of the intended strategic aims have been realised. The NDP has enabled establishment of local Point of Care (POC) committees in NHS Boards, developed a National Demand Optimisation Programme, enabled role expansion for Healthcare Scientists and supported creation of the Clinical Physiology Executive Board. The range of activity over the lifetime of the NDP has enhanced and promoted the contribution of the Healthcare Science profession to the achievement of strategic priorities set out by the Scottish Government. The specific achievements made have been described further in section 4.0.

In reviewing achievements made, the final report has also provided opportunity to review processes involved in delivering the plan. In doing so, it is recognised there is also opportunity for future learning related to implementation processes at Board level including operational and strategic leadership and the importance of sufficient resources (time, personnel, funding) to support delivery of any subsequent strategy or delivery plan.

3. Introduction

3.1 Introduction to the Final Report

The key strategic aim of the HCS National Delivery Plan was to maximise the contribution that the Healthcare Science profession makes to NHSScotland and across Scottish Government policy priorities.

As described in section 2.0, to support the realisation of this vision, the plan included five deliverables relevant to three specialist areas of Healthcare Science – life sciences, physical sciences and physiological sciences. It was envisioned this focus had the potential to significantly enhance healthcare delivery and drive high-impact changes to support improvement in people’s health and wellbeing.

Over the past six years, much effort has gone into developing and implementing these deliverables. What has been achieved, and recommendations for building on these achievements, has been set out in this final report.

Although the coronavirus (COVID-19) pandemic impacted delivery to a degree, the pandemic has further highlighted the contribution made by the Healthcare Science workforce. For instance, the pandemic reinforced the imperative for effective actions to reduce unnecessary variation in testing. Within this context, the findings and conclusions of this final report are intended to provide a timely contribution to reflecting on progress made. They also offer learning to inform the development and implementation of any future strategy or delivery plan.

3.2 The deliverables and actions of the NDP

The NDP set out the actions that national and local leaders must take to achieve each deliverable – each of the five improvement programmes.

From the time of publication, support for implementation in NHS Boards was provided by the Scottish Government Healthcare Science Officer and the three appointed National Healthcare Science Leads, who worked collaboratively with NHS Board Healthcare Science Leads and the wider Healthcare Science Workforce.

The role of the Delivery Leads included developing and implementing agreed plans to achieve the aims of the deliverables for which they held responsibility. Delivery Leads met regularly and reported to Scottish Government on a monthly basis to review progress, share thinking and forge cross-collaborative working. Those who undertook the Delivery Lead role, and the organisations from which they were drawn, reflect the knowledge and skills that was required to achieve the intended objectives of the deliverable.

A summary of the deliverables, Leads and associated actions is referenced below. As this table indicates, some of these actions were specific, while others were more 'thematic' cross-cutting actions.

Improvement programme	Actions
Deliverable 1 Streamlining health technology management	NHS Boards will support Healthcare Science Leads, managers and heads of service to work with the Physical Science National Lead.
	National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will work with stakeholders to deliver a high-quality, sustainable, coherent and whole systems approach to the management of health technology.
	Scottish Government will work with partnership organisations, universities, public health, social care, industry and the Health Improvement Scotland (HIS) Scottish Health Technologies Group (SHTG) to encourage the development of an evidence base for the use of health technology in the community and the adaptation and spread of proven technology and good practice.
Deliverable 2 Point-of-care testing	NHS Boards will participate in the national POCT programme on the use of POCT in primary and secondary care in Scotland (as described by the Scottish Medical and Scientific Advisory Committee), implementing local plans to ensure cost-effective implementation and governance of POCT systems and sharing knowledge across Boards on how POCT technology benefits patient-pathway outcomes. Led by the HCS National Lead in Life Science.
	National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will work with medical directors and clinical teams to develop a local implementation plan that ensures clinical governance and effective roll-out of point-of-care testing.
	National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will work across disciplines to instigate whole-system improvements in the delivery of POCT in acute and secondary care settings.
Deliverable 3 Demand optimisation	NHS Boards will support Healthcare Science Leads, managers and heads of service to work with the National Healthcare Science Leads and diagnostic networks in collectively progressing this improvement work. Led by the HCS National Lead in Life Science.

	<p>National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will work with NHS Boards and diagnostic networks to reduce unnecessary testing and measure overall impacts on patient outcomes. This will free-up capacity to address rising demand and deliver testing that positively affects the patient pathway, supports primary care preventive measures and reduces hospital referrals and admissions.</p>
<p>Deliverable 4</p> <p>Developing sustainable services</p>	<p>NHS Boards will further develop and strengthen the use of extended interpretive roles and clinical reporting in laboratory medicine, with a focus on histopathology.</p>
	<p>NHS Boards will support the recommendation of the Diagnostic Workforce Short-life Working Group that “redesign, skill mix and role extension appropriate to task should be applied across all diagnostic specialties.”</p>
	<p>National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will work with stakeholders to explore new and developing Healthcare Science roles that support areas of service pressure and have the potential to free-up medical capacity, with the initial focus on histopathology services.</p>
	<p>Scottish Government will build on achievements to date to further develop excellence in extending interpretive roles and support growth in clinical reporting.</p>
	<p>Scottish Government will develop work plans to ensure Healthcare Science workforce data are accurately reflected, providing good-quality data to support appropriate multi-disciplinary workforce planning.</p>
<p>Deliverable 5</p> <p>A new integrated model for clinical physiology services</p>	<p>NHS Boards will support Healthcare Science Leads, clinical leaders and managers and heads of service to work with the Clinical Physiology Science National Lead to explore a more integrated approach to service leadership and delivery of clinical physiology services to create more sustainable and coherent quality services for the future.</p>
	<p>National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will work collaboratively with senior management to develop integrated models of service provision.</p>
	<p>National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will establish a network across the clinical physiology workforce.</p>
	<p>National Healthcare Science Leads and NHS Board Healthcare Science Leads, managers and heads of services will support a community of practice to drive improvement.</p>

3.3 Key roles in the oversight of delivery

The Healthcare Science Leads Group (HCS Leads), first established by the Scottish Government in August 2010, was agreed as the most appropriate group to ensure oversight and delivery of the plan. Additional membership included Healthcare Science National Leads seconded to the Scottish Government to lead on specific NDP deliverables. Monitoring of reporting was via the governance structure of the HCS Leads Group.

The terms of reference, group membership, minutes and other publications of interest are available online at the NHS Education for Scotland Knowledge Network <http://www.knowledge.scot.nhs.uk/hcsleadscommunity.aspx>.

Due to the expansion of the third deliverable – Demand Optimisation – has become a Scottish Government nationally commissioned programme of work. Governance was initially provided by the Scottish Government Diagnostic Steering Group (DSG), until the formation in 2019 of the Diagnostic in Scotland Strategic Group (DiSSG). The Diagnostic in Scotland Strategic Group ensures the ongoing, coherent development and delivery of high-quality services, taking into account the strategic direction set by the Health and Social Care Delivery Plan and the National Clinical Strategy. <https://www.demandoptimisation.scot.nhs.uk/>.

However the Scottish Government Chief Nursing Officer's Directorate has maintained oversight via the Strategy and Policy Team in the Chief Nursing Officer's Directorate. This team has provided policy support for the HCS NDP, as well as financial oversight of any budget proposals and spend. The Policy Team also provided the link between the Cabinet Secretary for Health and Sport and the HCS Leads.

Governance Infrastructure for all Life Course Programmes

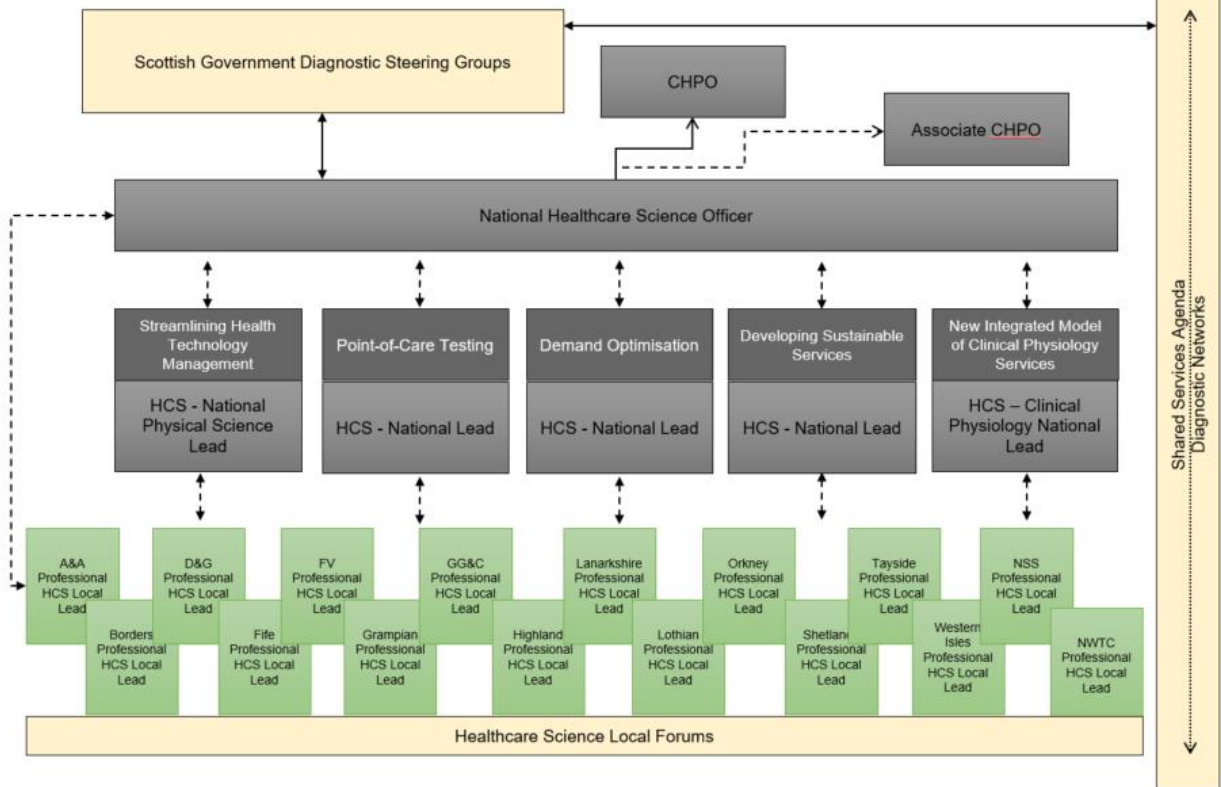


Diagram 1: Organisational flow chart for the Scottish Government Diagnostic Steering Group's governance for all life course programmes (2015).

4. Summary of Achievements

The NDP provided an ambitious programme of work for the Healthcare Science profession and brought together a range of professionals to jointly deliver on key policy priorities for the people of Scotland. Since publication, we have seen continued progress in improved services and delivery of safe, effective and person-centred care.

Innovation Fund

The Healthcare Science Innovation Fund formed part of the Scottish Government's investment to test and develop innovative ideas aligned to deliverables 1, 2, 4 and 5 of the NDP and 3 NHS Boards were awarded funding in September 2018 to progress three projects testing new approaches to drive improvement and deliver results. The focus was on learning of national significance which could, potentially, inform future services across Scotland. Although delivery of projects was impacted by the COVID-19 pandemic response, key learning from projects is discussed below.

- The fund supported NHS Greater Glasgow and Clyde in the development of a Physiologist led 3D Echo service whereby echocardiographers were trained to perform the acquisition and rendering of 3D cardiac ultra sound images. This pilot funding supported the development of referral criteria and pathway for 3D Echo services and transformed a service previously led by Cardiology Consultants.
- NHS Greater Glasgow and Clyde also worked to establish a continuous Innovation Programme in a Clinical Physiology Sleep and Breathing Support Service. This funding validated point-of-care testing, supported the transforming roles agenda and demonstrated value in emerging wearable technologies. Overall, this funding has provided insight into user experience and digital service models and enabled delivery of digital consultations through NHS "Attend Anywhere." With increased demand during the COVID-19 pandemic, there has been clear applicability of this digital service model.
- NHS Lothian set out to implement Next Generation Sequencing (NGS) of lymphoid malignancies in Scotland using a custom designed panel. The overarching aim was to aid diagnosis, streamline therapy stratification and improve the patient pathway. A short life working group (SLWG) was established to select genes of clinical significance for testing and test 50 patient samples to complete clinical audit. The lymphoid NGS panel has been approved by the Molecular Pathology consortium and the Molecular Pathology steering group to be implemented for routine diagnostics of patient with lymphoid malignancies in Scotland.

The NDP has demonstrated the appetite for innovation and the potential to scale up successful projects, using ongoing work where needed to accelerate progress in these areas.

[4.1 Deliverable 1 - Streamlining health technology management](#)

Introduction

Medical devices and equipment are critical in many areas of healthcare, including intensive care and neonatal units. The management of health technology equipment often involves a range of healthcare professionals and systems and processes vary across NHS Boards and localities and can impact on quality and potentially patient safety.

The NDP recognised the opportunity for innovation and developments in portable and wireless networking technology to deepen and widen the range of Healthcare Science-supported technology in the community for improved patient safety and outcomes.

What we set out to do

- Reduce the risk of harm to patients and staff
- Reduce unnecessary variation
- Improve resilience and sustainability
- Reduce equipment replacement and repair costs.

Progress made

Funding NHS Forth Valley to use Radio-Frequency Identification (RFID) tagging in routine service provision demonstrated that utilising RFID technology can improve the management of medical equipment and have a positive impact on patient care, safety and team working. This investment allowed the project to develop with NHS Forth Valley being the first NHS Board in Scotland to test this approach and successfully learn how to improve the management of mobile medical devices and maximise their use in a clinical setting.

The Forth Valley RFID work has demonstrated a number of immediate benefits including the ability to locate mobile devices quickly when needed for clinical use and maintenance. It has improved the utilisation of existing devices and demonstrated immediate and long term financial savings. This includes the ability to inventory control 350 devices in a theatre recovery area in less than 3 minutes. In the past this would have taken significantly longer, and can now be done without disturbing patients. The time saved means that Forth Valley has now rolled out planned maintenance to its community hospitals when before they were only able to undertake repairs.

The learning from this work has been influential in developing interest amongst other NHS Boards in using the same technology.

The development of a national Medical Equipment Management system and the adoption of Global Standards Initiative (GSI) global standards, are being progressed as part of the NHS Scotland Scan for Safety Programme and will be key enablers to achieving a 'Once for Scotland' service to provide a joined up data view for the operational and strategic management of the medical equipment inventory across Scotland. The system will support decision making at local and national level in terms of equipment management, business intelligence, strategic and financial planning. Work is underway with NHS Boards to create the specification to enable the procurement of a system later in 2022.

Impact

Medical devices and equipment represent a substantial asset – and risk – for NHS Boards. Their effective management is vital to ensuring safe and high-quality care that minimises the risks of adverse events and unnecessary treatment delays.

The NDP has acted as a key enabler in prioritising the development of this specific policy area at a national level. It is recognised that technological developments will continue to impact on the use and management of medical devices and equipment and Scottish Government investment has provided learning around technological developments and their effective use.

[4.2 Deliverable 2 - Point of Care Testing](#)

Introduction

Near patient, or point of care, testing (NPT/POCT) is defined by the MHRA as 'any analytical test performed for a patient by a healthcare professional outside the conventional laboratory setting' and has the potential to expedite test results, treatment and patient experience and care.

What we set out to do

- Reduce unnecessary variation within and across NHS Boards
- Improve patient experience by reducing unnecessary secondary referrals
- Reduce repeat testing and associated costs
- Improve patient flow, access and monitoring

Progress made

The Scottish Medical Advisor's Scientific Advisory Group (SMASAC) recommendations for the safe and effective use of POCT were published in 2011

and acted as the driver for the NDP to work towards enhancing point of care (POC) governance across our NHS Boards in Scotland.

This included the formation of a Short Life Working Group which highlighted variable governance across NHS Boards and in particular further variation in primary and community care settings as opposed to secondary care settings. The NDP has been influential in ensuring that more NHS Boards establish local POC committees within their governance structures through its effective stakeholder engagement. National Diagnostic Networks also now have numerous POC projects within their own work plans.

In the context of the COVID-19 pandemic the need for further national governance policy on POCT was also identified, which resulted in the Scottish Government issuing its *Governance Policy for the role of Point of Care and Rapid Testing of COVID-19 in Clinical Management*, <https://www.gov.scot/publications/governance-policy-role-point-care-rapid-testing-covid-19-clinical-management/pages/1/>. This was approved for publication by the Cabinet Secretary for Health and Sport in 2020 and set out further recommendations around the use of POCT in the diagnosis and management of disease manifestations linked to SARS-CoV-2.

Further work is under development to establish a Near Patient Testing Programme Executive Board (NPTEB) to take forward the aims and ambitions of our national clinical policies and strategies around enhancing values-based healthcare and improving access to care through the safe and effective use of near patient testing solutions.

Impact

The ability to embed the use of Near Patient Testing NPT into patient pathways aligns with our policy ambition for values-based healthcare with a strong emphasis on shared decision-making and person centred care.

With such an approach there is the opportunity to diagnose, treat, and long-term manage a range of conditions without the individual ever having to leave their home. If applied appropriately near patient testing has the potential to enhance the patient's interaction with our health and social settings, as well as reducing attendances and admissions at secondary care establishments.

4.3 Deliverable 3 - National Demand Optimisation

Introduction

Demand Optimisation is defined as the process by which diagnostic test use is optimised to maximise clinical utility, which in turn optimises patient clinical care and drives more efficient use of associated scarce NHS resources.

What we set out to do

The following key patient-centred outcomes were agreed to target action around Demand Optimisation:

- Minimising over-requesting and under-requesting, both of which can be damaging to patient care.
- Reducing unnecessary repeat requesting.
- Ensuring appropriate and useful test repertoires, are universally available across the healthcare system.
- Standardisation of test naming and coding to reduce unnecessary variation and allow automated data monitoring systems to extract laboratory test usage information in an efficient, consistent and timely manner.
- Internal standardisation of laboratory practice – to ensure the optimal processes, procedures and testing protocols are monitored and adhered to.

Progress made

The National Demand Optimisation Group (NDOG) was nationally commissioned in 2016 to review the third deliverable of the NDP and inform future improvement work around diagnostic test optimisation.

The design and delivery of four distinct phases of work have been completed to date, each building on momentum and success achieved in the previous phase. Work throughout Phases I-IV has highlighted ways to reduce unwarranted variation in laboratory diagnostic testing, contributing to improved patient outcomes.

Reports from Phase I-III are published on the Scottish Government website and detail the key achievements realised in each phase as well as recommendations for future work.

The report for Phase IV <https://www.gov.scot/publications/national-demand-optimisation-group-ndog-demand-optimisation-laboratory-medicine-phase-iv-report/> was published on 11 October 2021 and work on Phase V is underway.

Phase II focused on supporting the implementation of the key recommendations identified from the Phase I report. This included regular collection of data that captured diagnostic test requesting activity, presenting it in an easy accessible format, and coordinating with laboratory network clinical leads to initiate and progress quality improvement initiatives. Building on this work, Phase III saw the launch of the refined Atlas of Variation for Laboratory Diagnostics tests, extensive ongoing data collection and quality improvement initiatives within the diagnostic and primary care community. This prototype Atlas of Variation allowed professional groups to interrogate data to use as a basis to consider appropriate test use and availability.

National Demand Optimisation Delivery Phases:

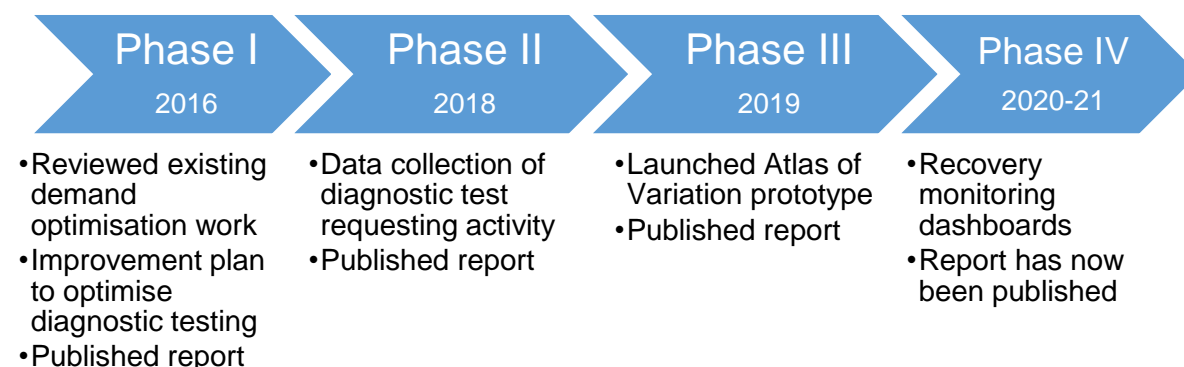


Diagram 2: National Demand Optimisation Delivery Phases.

Phase IV scope was adapted in response to the COVID-19 pandemic, producing interactive recovery monitoring dashboards, tracking diagnostic activity across Scotland during the pandemic and into recovery. This data acts as a direct surrogate metric for associated clinical activity, to be used to identify healthcare gaps, monitor recovery and enable evidence-informed decisions regarding the resumption and prioritisation of tests and pathways across NHS Boards.

Impact

In addition to more efficient use of resources within diagnostics, optimisation of diagnostic testing is associated with more effective patient care pathways, driving appropriate and timely patient diagnoses and impacting patient flow and treatment.

The work of the National Demand Optimisation Group (NDOG) aligns with the ethos of the Realistic Medicine approach; strengthening the relationships between those who provide and receive care, and ensuring that people receive appropriate and beneficial care that is evidence-based and in line with their preferences.

[4.4 Deliverable 4 - Developing Sustainable Services](#)

Introduction

It was recognised that our NHS requires sustainable multi-disciplinary teams to ensure effective, safe and quality driven services and healthcare scientists have the potential to lead scientific teams and care pathways and work in advanced practice roles.

Some areas of our NHS workforce have significant service pressures and the ability to be adaptive and flexible with our workforce has the opportunity to relieve and

support workforce pressure points by creating additional capacity and therefore improve patient outcomes.

What we set out to do

- Create sustainable teams
- Improve patient pathways and experience
- Free-up medical capacity
- Reduce diagnostic turnaround times.

Progress made

Our ambition was to create sustainable teams; improve patient pathways and experience; free up medical capacity and reduce diagnostic turnaround times. To achieve our ambitions, NHS Board Healthcare Science Leads worked with stakeholders to explore new and developing Healthcare Science roles that support areas of service pressure and have the potential to free-up medical capacity.

At the time of publication, we said healthcare scientists should work to “role extension appropriate to task” and that this should be “applied across all diagnostic specialties.”

The NDP highlighted that healthcare scientists can be trained to undertake tasks traditionally performed by medically qualified Histopathologists. In particular, expanding the role of Biomedical Scientists (BMS) has been a key step towards the ambition to develop a sustainable service in histopathology.

The Scottish Pathology Network has developed a Scottish training school for BMS, to enable scientists to become tissue dissectors. Enabling BMS to undertake what has historically been a medical role has the potential to release medical time from tissue dissection work to diagnostic reporting or other clinical work, this also impacts positively on overall turnaround times. [BMS Dissection – Scottish Pathology Network](#)

Our scientific workforce has numerous examples of other HCS advanced roles that the NDP has promoted such as Clinical Physiologist-led sleep clinics, Cardiac Scientist Led Implantable devices advanced cardiac imaging and direct access audiology clinics. Several NHS Boards have developed their Physiological Scientists to implant cardiac loop recorders, this extended role of the Physiologist, has released Physician time and improved the overall waiting times for these procedures.

Impact

We are aware that advanced practice roles have freed up medical capacity and there is ample opportunity to build on this work and use learning to inform what we do next.

4.5 Deliverable 5 - Clinical Physiology Integrated Service Models

Introduction

Clinical Physiology is a highly specialised modality within Healthcare Science, with significant direct patient contact and working across various settings, such as hospitals, clinics, wards, theatres and also within our community environment. Changing demographics, individuals living longer with long term conditions have impacted on the demand for our Clinical Physiology services, this impact has been experienced across diagnosis, treatment and monitoring of our patients.

What we set out to do

- strengthen integrated local leadership infrastructure to underpin service change and improvement, leading to long-term sustainability of Clinical Physiology services
- ensure senior Clinical Physiologists expand their interpretative role in clinical services as part of multi-disciplinary teams
- support direct referrals from primary care to utilise the group's potential, releasing medical capacity in the system
- explore the development of a Clinical Physiology network to promote a collaborative approach to improvement
- develop a community of practice to support service sustainability, creating quality improvements across patient pathways.

Progress made

The NDP has brought our Clinical Physiology workforce together across Scotland across all specialities. The creation of the Clinical Physiology Executive Board (CPEB), accountable to the Diagnostics in Scotland Strategic Group (DiSSG), has delegated authority in relation to physiology services. The purpose of the Clinical Physiology Executive Board, is to agree and own the vision for service transformation, development and quality improvement in Scotland.

The CPEB will also provide a vehicle for service-led improvements. This will involve bringing a multi-disciplinary focus as well as national and regional perspectives to discussions and that the benefits for Clinical Physiology services as a whole in Scotland are realised and any risks managed.

4.6 Impact of COVID-19 on the NDP

In response to the COVID-19 pandemic and associated infection control measures, some of the NDP actions were paused and some were of necessity delayed. The need for different virtual ways of working was also noted and the need to address unnecessary testing across primary and secondary care meant that there was

increased opportunity for some areas of work such as Demand Optimisation. Addressing the challenges that COVID-19 has put on the NHS has also accelerated the requirements to embed near patient testing into our service delivery.

5. Conclusions

5.1 Summary and learning

As outlined in Section 4.0 of the report, the NDP has achieved many of the intended strategic aims and contributed to improved patient outcomes. The NDP has enabled establishment of local Point of Care (POC) committees in NHS Boards, developed a National Demand Optimisation Programme, enabled role expansion for Healthcare Scientists and supported creation of the Clinical Physiology Executive Board. The range of activity over the lifetime of the NDP has enhanced and promoted the contribution of the Healthcare Science profession to the achievement of strategic priorities set out by the Scottish Government.

In reviewing achievements made, the final report has also provided opportunity to review processes involved in delivering the plan. In doing so, it is recognised there is also opportunity for future learning related to implementation processes at Board level including operational and strategic leadership and the importance of sufficient resources (time, personnel, funding) to support delivery of any subsequent strategy or delivery plan.

It is recognised that the required supporting infrastructure in all Boards may have enabled further capacity to maximise contribution to key agreed outcomes. Nevertheless the involvement and contribution of colleagues in NHS Boards in shaping implementation, and the range of other partners and professionals, drawn in to contribute to the evolving deliverables, actions and projects, suggests that the process of delivering on the NDP itself added momentum and has contributed to a strengthened professional identity.

6. Next steps

Development of the Healthcare Science Professional Leadership role in NHS Scotland

We will:

- Work in partnership with NHS Boards to increase the number of Healthcare Scientists in professional leadership roles to raise visibility and maximise their contribution;
- Work collaboratively with Healthcare Science Leads Group to explore the development of a national job description for a Healthcare Science Professional Lead role;
- Engage with CEO and Medical Directors at NHS Boards to build on opportunities of substantiated Professional Leadership roles for Healthcare Science in each NHS Board.

Workforce Data standards, coding arrangements and guidance for healthcare science

We will:

- Work in partnership with NHS Boards to review and improve data standards for healthcare science, to model and ultimately enable workforce planning for healthcare scientists;
- Work with NHS Education for Scotland to improve the current data on the specialty of healthcare science staff to support evidence based workforce modelling.

Healthcare Science Education and Workforce Scoping Review

We will:

- Work in partnership with key partners to take forward a Healthcare Science Education and Workforce review in order to:
- understand the workforce needs in order to understand the actions required to ensure a sustainable workforce for the future
- ensure that the ecosystem of diagnostics is supported by enabling existing Healthcare Scientists (HCSs) roles to be better understood and supported to maximise their development along with emerging roles that also have a valuable contribution to the delivery of health and social care priorities;
- Work with NHS Boards and NHS Education for Scotland to undertake a scoping exercise to determine the current provision and efficacy of education and training programmes for all healthcare science professions that are

utilised by each NHS Board, how these are funded and delivered, and by which higher education / further education institute;

- Work with NHS Education for Scotland to review whether the education and training programmes that are utilised by NHS Boards, provide the ability to attain professional, accredited and / or statutory registration;
- Work with partners to hear their views on whether the available education and training programmes support the emerging roles and the opportunities to extend roles due to remobilisation; new methodologies and technologies and further new ways of working and what more needs to be done to meet their needs.

Promoting research, development and innovation

We will:

- Create a strategic research priorities framework for Healthcare Scientists, providing clarity on 'what it is' currently and how it operates in Scotland;
- Identify future research that will place the professions in Scotland at the forefront of their field;
- Create a research infrastructure with a particular focus on capacity building and capability development, generating a clear set of objectives and actions to achieve this.

Building capacity in quality improvement and improving quality of services

We will:

- Work collaboratively with the National Demand Optimisation Group (NDOG) and NHS Boards to build upon the work of the National Demand Optimisation Programme across clinical pathways;
- Work in partnership with NHS Boards to improve quality and delivery of services by facilitating the implementation of interventions to drive more appropriate testing and use of resources and continue to build capacity in quality improvement;
- Work in partnership with Primary Care General Practice to develop a national process that highlights unwarranted variation across primary care:
- Nationally utilise the data in the Atlas of Variation to drive continuous quality improvements in primary care requesting;
- Work in partnership with NHS Boards to align the Atlas of Variation quality improvement tool to the NHS Recovery Plan.

Professional Healthcare Regulation

We will:

- Following the closing of the current UK-wide consultation, (published on 6 January 2022,) which considers ([Healthcare regulation: deciding when statutory regulation is appropriate - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/healthcare-regulation-deciding-when-statutory-regulation-is-appropriate)) we will use the policy opportunity to make an evidence-based case for further regulation to DHSC and the Devolved Administrations based on the level of risk presented by certain healthcare science professions.

7. List of abbreviations

BMS – Biomedical Scientists
CHPO – Chief Health Professions Officer
CNO – Chief Nursing Officer
COVID-19 – Coronavirus
CPEB - Clinical Physiology Executive Board
DiSSG - Diagnostics in Scotland Strategic Group
DSG – Diagnostic Steering Group
HCS – Healthcare Science
HCSO – Healthcare Science Officer
HSCDP – Health and Social Care Delivery Plan
NDOG – National Demand Optimisation Group
NDP – National Delivery Plan
NES – NHS Education Scotland
NGS – Next Generation Sequencing
NHS – National Health Service
NMDN – National Managed Diagnostic Networks
NPT – Near Patient Testing
NSS – National Services Scotland
POCT – Point of Care Testing
QI – Quality Improvement
SCBMDN - Scottish Clinical Biochemistry Managed Diagnostic Network
SHTG – Scottish Health Technologies Group
SLWG – Short Life Working Group
SMASAC – Scottish Medical and Scientific Advisory Committee
SPAN – Scottish Pathology Network



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Any enquiries regarding this publication should be sent to us at

The Scottish Government
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