The Scottish Government
Riaghaltas na h-Alba

DRIVING IMPROVEMENT, DELIVERING RESULTS

THE SCOTTISH HEALTHCARE SCIENCE NATIONAL DELIVERY PLAN 2015–2020







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The Scottish Government, Edinburgh 2015

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FOREWORD BY THE CABINET SECRETARY FOR HEALTH, WELLBEING AND SPORT

Healthcare scientists are integral to today's multi-disciplinary healthcare team, contributing to prevention, diagnosis, treatment and rehabilitation services.

This Scottish Healthcare Science National Delivery Plan 2015–2020 highlights the appetite and drive to maximise the contribution healthcare science makes to NHSScotland by building on the current solid platform of service improvements.

The Delivery Plan sets out service improvement programmes that will deliver high-quality, sustainable health and care services for Scotland, articulating with NHSScotland's quality agenda and recognising the need to ensure best value for services going forward. The programmes will be delivered through a pace of change that meets the overall ambitions of the service in alignment with our 2020 Vision for achieving quality in Scotland's health care and the national improvement agenda.

The deliverables are logical and relevant to the three strands of healthcare science – life sciences, physical sciences and physiological sciences – and have the potential to significantly enhance healthcare delivery and drive high-impact changes that will create improvements in people's health and wellbeing. Their implementation will, I believe, make a step-change shift in levels of understanding of the added value healthcare science brings to the delivery of our "Triple Aim" for public services in Scotland – improving quality, safety and experiences of care, increasing population health, wellbeing and equity, and ensuring best value from resources.

The delivery of healthcare is changing, and our healthcare science workforce and services must adapt accordingly to meet the challenges of the future. I commend this Delivery Plan to healthcare scientists and stakeholders and invite and encourage them to take the opportunity to use their expertise to contribute to new thinking, new solutions and new ways of working to ensure sustainable, affordable and effective services for the people of Scotland.

Shona Robison, MSP
Cabinet Secretary for Health, Wellbeing and Sport

EXECUTIVE SUMMARY

The overall aim of the Scottish Healthcare Science National Delivery Plan 2015–2020 is to drive improvement and maximise the contribution of healthcare science to the delivery of sustainable and coherent teams and services that will promote the overall ambitions of NHSScotland.

The Delivery Plan creates the framework for improvement programmes that will take their place within the national culture of improvement in Scotland. Improvement programmes in streamlining health technology management, point-of-care testing, demand optimisation, developing sustainable services and creating a new integrated model for clinical physiology are described, with timescales for delivery between 2015 and 2020. The programmes will make a real contribution to achieving high-quality, sustainable and effective health and care services.

Table ES1 summarises the deliverables for the five improvement programmes, detailing responsibilities for NHS boards and their healthcare science leads, managers and heads of service.

Table ES1. National improvement programmes 2015–2020

Improvement programme	Deliverables	Full implementation by end of:
Streamlining health technology management	**Deliverable 1** NHS board healthcare science leads will work with stakeholders to deliver a high-quality, sustainable, coherent and whole-systems approach to the management of health technology.	2020
Point-of-care testing	**Deliverable 2** NHS board healthcare science leads 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.	2020
Demand optimisation	**Deliverable 3** NHS board healthcare science leads will work with stakeholders to develop local improvement plans to reduce unnecessary testing across primary and secondary care. 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.	2019
Developing sustainable services	**Deliverable 4** NHS board healthcare science leads 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.	2019
A new integrated model for clinical physiology services	**Deliverable 5** NHS board healthcare science leads will work with stakeholders to develop a sustainable integrated service model to enhance clinical physiology service delivery and quality.	2020

Support for implementation in NHS boards will be provided by the National Healthcare Science Officer and the three national healthcare science leads, who will work collaboratively with NHS board healthcare science leads and the healthcare science workforce.

INTRODUCTION BY THE CHIEF HEALTH PROFESSIONS OFFICER

THE HEALTHCARE SCIENCE WORKFORCE

The healthcare science workforce is the fourth largest clinical group in NHSScotland, with approximately 6000 scientists, practitioners and technologists working across acute and primary care settings. It is hugely diverse, comprising more than 50 disciplines. Collectively, they undertake over 60 million laboratory tests (at a cost of £61 million) and 730 000 clinical physiological measurements per year, and have responsibility for the management of medical equipment with a replacement value in excess of £940 million (Scottish Government, 2014). Their work underpins 80% of all clinical diagnoses.

Among many other services, this workforce provides:

- leading-edge technological services, such as positron emission tomography and magnetic resonance imaging
- advanced laboratory diagnostics
- innovative genomic services that have the potential to change how health care science is delivered in the future
- patient-facing aspects of physiological and physical sciences, including the diagnosis and treatment of hearing disorders, the optimal programming of pacemakers, provision of rehabilitation and assistive technology, and the management of medical equipment in hospitals and community.

It's easy to see, then, that no modern evidence-based healthcare service could operate without the core services healthcare scientists provide.

THE CHALLENGE, AND THE OPPORTUNITY

In common with other developed nations, Scotland is facing challenges on how healthcare is, and will be, delivered. The Scottish Government is committed to ensuring that everyone is able to *"live longer, healthier lives at home or in a homely setting"*, as the *Route Map to the 2020 Vision for Health and Social Care* (Scottish Government, 2012)[1] explains. But this aspiration is being delivered against a backdrop of increasing public expectations, changes in lifestyles, an ageing population, new opportunities from developments in technology and a challenging economic climate, each of which places strains on the system.

The model of healthcare is changing, with a greater focus on prevention, anticipatory care and supported self-management. The *Report of the Commission on the Future Delivery of Public Services in Scotland* (Christie Commission, 2011) suggests that as much as 40% of public service spending goes to interventions that could be avoided by prioritising a preventive approach.

The Scottish Government is driving a preventive approach through its major policy initiatives, including:

- the *Healthcare Quality Strategy for NHSScotland* (Scottish Government, 2010), with its ambitions of providing safe, effective and person-centred care for all

1 The Scottish Government announced in January 2015 its intention to produce a refreshed plan to reach the 2020 Vision and describe how services will look in 5, 10 and 15 years' time.

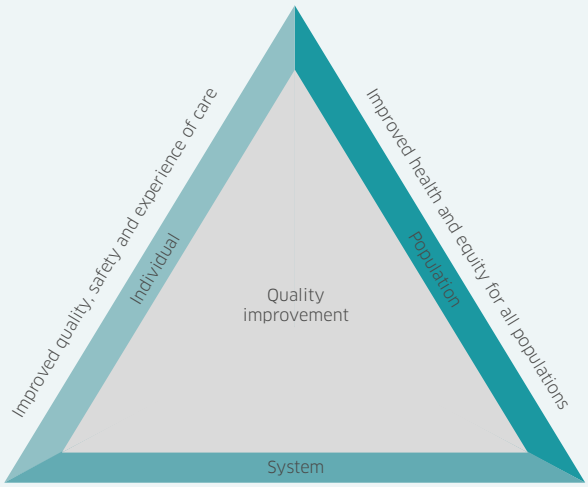
- the *Route Map to the 2020 Vision for Health and Social Care* (Scottish Government, 2012), which describes 12 priority action areas for high-quality sustainable health and care services across three domains – quality of care experience, population health and equity, and value and financial sustainability – the "Triple Aim"
- the companion workforce policy *Everyone Matters: 2020 Workforce Vision* (Scottish Government, 2013), which defines the five key priorities of a healthy organisational culture, a sustainable workforce, a capable workforce, a workforce delivering integrated services, and effective leadership and management.

THE HEALTHCARE SCIENCE CONTRIBUTION

Each domain of the "Triple Aim" (shown in Figure 1) has defined priority areas for action that often build on existing work. All require focused attention and acceleration. Healthcare scientists can make a real impact on their implementation, particularly in areas such as service delivery in rural parts of Scotland, working within integrated health and social care settings and delivering seven-day services. As the interim report of the Sustainability and Seven Day Services Taskforce states: *"Delivering sustainable services across seven days will require successful diagnostic services to be at the centre of service transformation"* (Scottish Government, 2015).

The Delivery Plan's goals and ambitions align with the national shared services agenda being led by National Services Scotland to ensure sustainability of current service provision, keep pace with innovation and enable the ability to work flexibly to achieve cost savings over time.

Figure 1. The "Triple Aim"



This figure reproduced, by permission, from: Mental Health Commission (New Zealand) (2012) *Blueprint II: Improving mental health and well being for all New Zealanders – making change happen*. Auckland, Mental Health Commission (**http://www.hdc.org.nz/media/207639/blueprint%20ii%20making%20change%20happen.pdf**).

Originator of "Triple Aim" concept: Institute for Healthcare Improvement (2015) *IHI Triple Aim Initiative* [website]. Cambridge, MA: Institute for Healthcare Improvement (**http://www.ihi.org/Engage/Initiatives/TripleAim/pages/default.aspx**).

The Mental Health Commission (New Zealand) version of the Triple Aim differs from the IHI original version in that:

- the right side is "improved health and equity for ALL populations"
- the base is "best value from the public system resources".

Radical changes in the demand for health services require healthcare scientists to be bold in visualising the contribution they can make to ensuring NHSScotland meets the needs of the future sustainably and affordably. In discussion with healthcare science leads in Scotland, it has become clear that they share a vision in which *"healthcare scientists work with health and care teams and patients across the whole health system, driving proactive and flexible seven-day services that provide diagnostic and service solutions throughout patients' pathways and life-course"*. They envision healthcare science supporting public health and prevention measures and initiatives to improve patient experience, safety, efficiency and productivity.

This vision confirms that the full engagement of healthcare science staff is key to the proposed transformation of service delivery. They must be enabled and empowered to take responsibility for continuous service improvement.

The Diagnostic Workforce Short-life Working Group reported in 2013 that healthcare scientists should work to *"role extension appropriate to task"* and that this should be *"applied across all diagnostic specialties"*. Healthcare scientists working to the top of their clinical capability across the whole patient pathway will make a significant difference to the delivery of sustainable services and improvements in patient care.

The ability to broaden the focus of healthcare science-supported technology from secondary to primary and community settings will allow services to provide person-centred, timely and effective treatment. This will facilitate a refocusing on anticipatory care, reductions in inappropriate referrals to secondary care and the prevention of unplanned admissions to hospital or long-term settings. The immediate provision of accurate and reliable test results can improve patient experiences and reduce the number of clinic visits.

A real opportunity now exists for healthcare scientists to play a key role in shaping the evolution of services locally and nationally, leading on national service improvement programmes to transform service delivery, including diagnostic networks. Working collaboratively within a distributed model of leadership and as part of multi-disciplinary teams, they can lead in areas such as the transformation of patient pathways. To do so, they need to be visible and accountable for the services they provide.

The Scottish Government strongly supports this direction of travel and will continue to work with stakeholders such as NHS boards, National Services Scotland (NSS), NHS Education for Scotland (NES) and the diagnostic managed networks to successfully deliver our service improvement programmes. Building on previous work, we will collaborate with these stakeholders to identify national demonstrator sites to take forward the deliverables set out in this Delivery Plan.

THE DELIVERY PLAN

The Scottish Government consulted with the workforce and a range of stakeholders in 2014 on the development of this Scottish Healthcare Science National Delivery Plan 2015–2020. Potential proposals over a number of workstreams were presented, with 87% of respondents supporting the proposals.[2]

The Delivery Plan has therefore been developed with strong support from stakeholders. It presents five improvement programmes with deliverables that describe how healthcare scientists will contribute to the achievement of wider NHSScotland priorities. NHS board healthcare science leads will be pivotal for the implementation of this Delivery Plan.

CONCLUSION

The healthcare science improvement programmes and deliverables set out in this Delivery Plan are built on a solid basis of success in national improvement initiatives in Scotland, such as the Scottish Patient Safety Programme and the work of the Healthcare Associated Infection Task Force. Healthcare scientists are well equipped to contribute meaningfully to the improvement agenda. The Delivery Plan provides an opportunity to develop a cadre of leaders in NHS boards and at national level who will drive the healthcare sciences beyond the confines of quality assurance to a focus on quality improvement, working in partnership to deliver innovative solutions not only for individuals and groups of patients, but also for the overall system.

Healthcare scientists already make a vital contribution to the delivery of health services in Scotland, but I believe their true potential as agents of change and a force for improvement is as yet largely untapped. The Delivery Plan and the distributed model of professional leadership developed to support its implementation offers a tremendous opportunity to capitalise on their vast array of skills and experience to bring about genuine improvements in service delivery that are effective, sustainable and affordable. I urge NHS boards and healthcare scientists to seize this opportunity and realise their significant potential to deliver results.

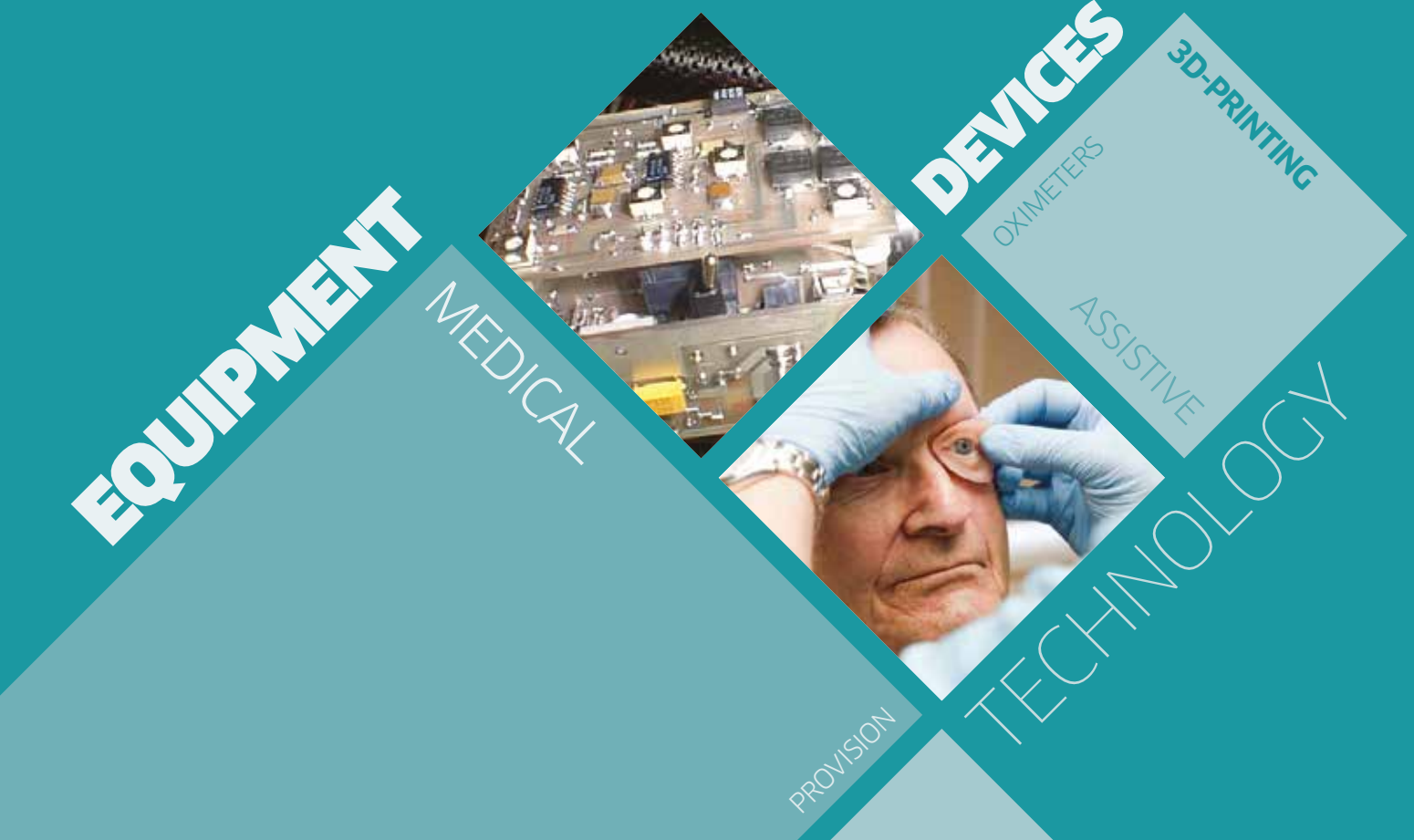
Jacqui Lunday Johnstone
Chief Health Professions Officer
Scottish Government

2 The analysis of respondents' replies can be accessed at: http://www.gov.scot/healthcare-science-analysis-report

1_ IMPROVEMENT PROGRAMME TO STREAMLINE HEALTH TECHNOLOGY MANAGEMENT

WHY THIS MATTERS

Medical devices and equipment are critical in many areas of healthcare, including intensive care, neonatal and renal units. Examples in acute care settings include renal dialysis machines, while patients in the community benefit from assistive technologies (such as wheelchairs), pulse oximeters, syringe pumps and home oxygenators. All devices and pieces of equipment, regardless of setting, require healthcare science input.



The Medicine and Healthcare Products Regulatory Agency (MHRA) issued new guidance on the management of medical devices in April 2014 (MHRA, 2014) and the Institute of Mechanical Engineers' 2014 report *Biomedical Engineering: advancing UK healthcare* highlights the importance of this area (IME, 2014).

Traditionally, healthcare science services have relied on large, centralised, hospital-based facilities utilising complex and expensive equipment, but a substantial amount of activity, including electrocardiogram tests and provision of environmental controls, is now, and will continue to be, delivered in the community. Recent innovations and developments in portable and wireless networking technology have made it possible to deepen and widen the range of healthcare science-supported technology in the community. Portable ventilators have become smaller and are now equipped with long-life compact batteries, enabling users to safely be absent from mains power for longer periods and greatly enhancing their independence and quality of life. Portable ventilators are usually provided with clinical support from specialist nurses, but healthcare scientists and technologists evaluate their use, provide maintenance and repair services, investigate adverse incidents and deal with procurement.

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. Clear lines of accountability and leadership at board level are essential to ensure effective strategic management of medical devices and equipment from procurement to disposal, bringing the potential to reduce costs and improve health outcomes.

End users, whether NHS employees, patients or carers, must understand how to use medical devices and equipment correctly, yet one NHS board has estimated that 10% of reported faults and all adverse incidents related to infusion pumps are due to user error. Standardisation of equipment within and across NHS boards would help users in different settings to become more familiar and confident and reduce training costs, errors and the incorrect reporting of faults.

Technological developments will continue to impact on the use and management of medical devices and equipment. 3D printing, for example, offers the potential for the rapid manufacture of bespoke devices, such as maxillofacial implants for reconstructive surgery, and the local production of spare parts to eliminate delivery lead times and costs. Developments in IT connectivity offer opportunities for remote monitoring, automatic fault reporting and remote fault diagnosis. In this regard, it is vital that services keep abreast of technological developments and are supported by NHS boards to acquire and effectively deploy new and innovative medical devices and equipment.

Evidence is growing across all healthcare science fields that better clinical guidelines for use of specialist equipment in the community and harmonised management approaches improve quality, increase resilience and save resources. The increasing use of sophisticated health technologies by a range of professionals, and the consequent increased risk of inappropriate use, must nevertheless be recognised as a potential threat to patient safety. The healthcare science workforce is well placed to offer the required support and training to other professions to mitigate potential problems.

CURRENT SITUATION

The management of health technology equipment often involves a number of key players, including medical physicists, technologists, facilities managers, external contractors, equipment services personnel and others, such as social care staff. Systems and processes vary across NHS boards and localities, which can impact on quality, procurement and repairs procedures and potentially result in safety risks to patients and staff.

OUR AMBITIONS

We want to:

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

DELIVERABLE 1

To achieve our ambitions, NHS board healthcare science leads will work with stakeholders to deliver a high-quality, sustainable, coherent and whole-systems approach to the management of health technology by the end of 2017, with full implementation by the end of 2020.

ACHIEVING DELIVERABLE 1

NHS boards will:

- support healthcare science leads, managers and heads of service to work with the Physical Science National Lead.

National healthcare science leads, NHS board healthcare science leads, managers and heads of services will:

- work with NHS boards and relevant stakeholders to deliver a whole-systems approach to the management of health technology.

Scottish Government and others 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.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2_ IMPROVEMENT PROGRAMME IN POINT-OF-CARE TESTING

WHY THIS MATTERS

Point-of-care testing (POCT), also known as near-patient testing, is used in primary care and acute units to facilitate local decision-making, improve patient safety and outcomes, and impact positively on patient flow. Good-quality POCT in primary care environments can improve patient experiences and avoid the need for secondary care referral. In secondary care, it facilitates clinical decision-making: in relation to effective management of norovirus outbreaks, for example, good-quality POCT reduces diagnosis times from 24 hours to 90 minutes, resulting in a 50% increase in bed availability and a reduction in ward closures, all of which supports earlier discharge of patients.

POCT carried out by staff who have not been adequately trained or are using inappropriately calibrated or non-functioning equipment can, however, lead to false results. Consequently, significant numbers of patients may be unnecessarily referred to secondary care for more complex and perhaps invasive investigations, causing avoidable distress and the potential for patient harm.

Where POCT in-vitro diagnostic (IVD) testing is provided, it is essential that it is appropriately quality-controlled. The MHRA guidance (2013) and the International Standard for POCT (ISO 22870:2006) specify healthcare science staff involvement in the selection and quality-assurance of POCT devices and training. The Royal College of Pathologists (2004), the MHRA (2013), Clinical Pathology Accreditation (2010) and the Institute of Biomedical Science (2004) have issued guidance on the management and governance of POCT services, and specific guidance for Scotland was produced by the Scottish Medical and Scientific Advisory Committee in 2011 (Scottish Government, 2011).

A recent audit commissioned by the Diagnostic Steering Group (unpublished) reported 1031 individual POCT services across 10 NHS boards providing 35 POCT tests, with an estimated annual workload of around 650 000 tests. Sixty-one per cent of the POCT services were situated in primary care locations and 39% in secondary settings. Recommendations were made in relation to improvements in clinical governance, the requirement to establish POCT committees, improved IT connectivity and better utilisation of healthcare science expertise. These recommendations are consistent with the ambitions of this improvement programme, which will accelerate actions from the audit.

The healthcare science workforce has the skills and expertise to improve POCT service delivery in the community by supporting quality assurance of investigations and the safe and effective use of equipment. Healthcare scientists need to share this expertise with wider primary care and community settings, providing guidance on procurement, maintenance, repairs and training to enhance the competencies of non-healthcare science staff using equipment and carrying out investigations in the community.


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CURRENT SITUATION

Roll-out and clinical governance of POCT (specifically in relation to quality control, application of MHRA guidance and overall healthcare science involvement) varies across NHS boards. This has significant implications for patient safety and patient flow.

OUR AMBITIONS

We want to:

- 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.

DELIVERABLE 2

To achieve our ambitions, NHS board healthcare science leads 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. This will be achieved by the end of 2017 in acute services and the end of 2018 in primary care, with full implementation by the end of 2020.

ACHIEVING DELIVERABLE 2

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 (Scottish Government, 2011)), 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.

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.

3_ IMPROVEMENT PROGRAMME FOR DEMAND OPTIMISATION

WHY THIS MATTERS

Demand optimisation is defined as the application of processes and tools to maximise the "return" of effectiveness of healthcare science interventions, consequently freeing-up capacity, particularly in the life sciences stream (Fryer & Smellie, 2013; Knowles & Barnes, 2013). Basically, it is about providing the right test at the right time to the right person in the right way, reducing or eliminating unnecessary testing and enhancing decision-making in patient care.

Anecdotally, work of this nature is going on locally in NHSScotland, but there is no hard evidence on which to base an overview of areas of good and bad practice or variability in approaches. Evidence and best practice are required to optimise investigation usage, as appropriate testing may avoid patients having to access hospital services and improve patient outcomes.

CURRENT SITUATION

Some NHS boards are reporting a 15% year-on-year increase in diagnostic testing activity and associated costs, but the review of pathology services in England (Department of Health, 2008) estimates that around 25% of diagnostic tests currently undertaken are inappropriate. This significant waste impacts on patient pathways and experiences, increases service workload and consumes precious resources. Variation in practice at NHS board level is evident across a range of variables, including costs, quality and patient experience.

OUR AMBITIONS

We want to:

- reduce unnecessary testing
- free capacity to address rising demand
- reduce hospital referrals and admissions by developing robust preventive testing that promotes primary care delivery.

DELIVERABLE 3

To achieve our ambitions, NHS board healthcare science leads will work with stakeholders to develop local improvement plans to reduce unnecessary testing across primary and secondary care. 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. This will be achieved by the end of 2017, with full implementation by the end of 2019.

ACHIEVING DELIVERABLE 3

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.

National healthcare science leads, 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.

4_ IMPROVEMENT PROGRAMME FOR DEVELOPING SUSTAINABLE SERVICES

WHY THIS MATTERS

To address changing needs in NHSScotland, the healthcare science workforce needs to adapt, acquire new knowledge and skills, and develop leadership structures to facilitate opportunities to assume leadership and decision-making roles. Future leaders are likely to find themselves working in a more distributed model of professional leadership, with a strong focus on multi-disciplinary teams and better integration of patient pathways. NHS board healthcare science leads will work closely with medical, allied health professional (AHP) and nurse directors to support clinical change and service improvements associated with the 2020 Vision and national priorities.

The health and care professions need strong leadership to drive participative and collaborative development of multi-disciplinary teams and solutions. Increases in cross-professional and multi-disciplinary working will underpin an effective, safe and quality-driven service in which care can be provided in environments closer to patients' homes.

Sustainable multi-disciplinary teams of the future will rely on the talents of the whole team. It is well recognised that healthcare scientists have the potential to lead scientific teams and care pathways and work in advanced practice roles. Histopathology is a good example of where staff roles in some NHS boards have already changed, with healthcare scientists now undertaking tasks traditionally performed by medically qualified histopathologists. This initiative is supported by the Royal College of Pathologists, in collaboration with the Institute of Biomedical Scientists.

Healthcare scientists undertaking new roles previously performed by medical staff are helping to relieve service pressures and support the medical workforce through creating additional capacity. Areas in which healthcare scientists have taken on such roles have found that the quality of the service has tended to be enhanced.

Building on achievements to date, redesign, skill-mix and role extension appropriate to task should be applied across all diagnostic specialties, for example in neurology and audiology, while ensuring cost-effective, efficient, high-quality and safe service delivery.

Senior scientific staff lead on research, innovation and service development, working closely with medical consultant colleagues to provide leadership and scientific clinical expertise. Clinical opinion, as opposed to technical reporting, is a vital element of their skill-set. For this reason, higher-level specialist scientific training development in the life sciences has always been overseen by medical royal colleges, enabling healthcare scientists to undertake the same examinations as medical professionals to achieve full Fellowship of the Royal College of Pathologists.

CURRENT SITUATION

Skill-mix requirements for many diagnostic teams require team members to take on new and sometimes expanded roles: this has been embraced to varying extents across NHS boards. There is a need to develop a sustainable clinical team model that focuses on shifting role responsibilities in the healthcare science workforce, freeing-up medical capacity and relieving service pressures.

OUR AMBITIONS

We want to:

- create sustainable teams
- improve patient pathways and experience
- free-up medical capacity
- reduce diagnostic turnaround times.

DELIVERABLE 4

To achieve our ambitions, NHS board healthcare science leads 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. The delivery target is the end of 2019.

ACHIEVING DELIVERABLE 4

NHS boards will:

- further develop and strengthen the use of extended interpretive roles and clinical reporting in laboratory medicine, with a focus on histopathology
- 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"*.

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.

Scottish Government and others will:

- build on achievements to date to further develop excellence in extending interpretive roles and support growth in clinical reporting
- develop work plans to ensure healthcare science workforce data are accurately reflected, providing good-quality data to support appropriate multi-disciplinary workforce planning.

5_ IMPROVEMENT PROGRAMME FOR A NEW INTEGRATED MODEL FOR CLINICAL PHYSIOLOGY SERVICES

WHY THIS MATTERS

There is significant variation in the infrastructure of clinical physiology specialties and services across NHS boards, often due to differences in the size and structures of departments and availability of appropriately trained staff. Variation impacts on service delivery and, ultimately, the patient pathway. Strengthening integrated local leadership infrastructure to underpin service change and improvement will contribute to developing patient pathways and substantially improve the long-term sustainability of service delivery.

As the new model of healthcare evolves, clinical physiology services are increasingly likely to be provided in primary care settings. Healthcare scientists need to share their expertise with primary and community settings, articulating the benefits of scientific interventions to enhance patient care and demonstrating an ongoing commitment to clinical effectiveness, improvement and quality. There is a real opportunity for clinical physiology to reap the benefits of clinical networking by sharing learning and knowledge via a community of practice to create a model of integrated delivery and quality improvement.

CURRENT SITUATION

Clinical physiology services depend on a small but highly trained workforce. Changing demographics are generating rising demand for cardiac, neurology and respiratory physiology services and audiology. Clinical physiology specialties are still a relatively fragmented group in NHS boards, and there is a need to focus their vision towards potential synergies between groups. Alongside exploration of changes to the configuration of skill-mix in the clinical physiology workforce, there is a need to ensure that a robust and sustainable approach to training is taken to secure future delivery of services.

OUR AMBITIONS

We want to:

- 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.

DELIVERABLE 5

To achieve our ambitions, NHS board healthcare science leads will work with stakeholders to develop a sustainable integrated service model to enhance clinical physiology service delivery and quality by the end of 2020.

ACHIEVING DELIVERABLE 5

NHS boards will:

- support clinical leaders and managers 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
- support healthcare science leads, managers and heads of service to work with the Clinical Physiology Science National Lead.

The National Healthcare Science Clinical Physiology Lead and NHS board healthcare science leads, managers and heads of services will:

- work collaboratively with senior management to develop integrated models of service provision
- establish a network across the clinical physiology workforce
- support a community of practice to drive improvement.

GOVERNANCE AND REPORTING ARRANGEMENTS

The governance structure for the Delivery Plan will sit in the Scottish Government Diagnostic Steering Group, ensuring connectivity and alignment with other national diagnostics initiatives.

NHS boards will be responsible for developing local implementation plans and NHS board healthcare science leads will be accountable for providing progress reports that will be monitored through a supporting framework developed by the Scottish Government around key performance indicators. This framework will be hosted on the Healthcare Science Knowledge Network.

The Chief Health Professions Officer will undertake reviews of progress against local implementation plans.

ANNEX. SUMMARY OF DELIVERABLES

NHS boards

Deliverable 1. Health technology management
Support healthcare science leads, managers and heads of service to work with the Physical Science National Lead
Deliverable 2. Point-of-care testing
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 (Scottish Government, 2011), 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
Deliverable 3. Demand optimisation
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
Deliverable 4. Developing sustainable services
Further develop and strengthen the use of extended interpretive roles and clinical reporting in laboratory medicine, with a focus on histopathology
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"*
Deliverable 5. A new integrated model for clinical physiology services
Support clinical leaders and managers 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
Support healthcare science leads, managers and heads of service to work with the Clinical Physiology Science National Lead

National healthcare science leads and NHS board healthcare science leads, managers and heads of services

Deliverable 1. Health technology management
Work with NHS boards and relevant stakeholders to deliver a whole-systems approach to the management of health technology
Deliverable 2. Point-of-care testing
Work across disciplines to instigate whole-system improvements in the delivery of POCT in acute and secondary care settings
Deliverable 3. Demand optimisation
Work with NHS boards and diagnostic networks to reduce unnecessary testing and measure overall impacts on patient outcomes
Deliverable 4. Developing sustainable services
Work with stakeholders to explore new and developing healthcare science roles
Deliverable 5. A new integrated model for clinical physiology services
Work collaboratively with senior management to develop integrated models of service provision
Establish a network across the clinical physiology workforce
Support a community of practice to drive improvement

Scottish Government and others

Deliverable 1. Health technology management
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 4. Developing sustainable services
Build on achievements to date to further develop excellence in extending interpretive roles and support growth in clinical reporting
Develop work plans to ensure healthcare science workforce data are accurately reflected, providing good-quality data to support appropriate multi-disciplinary workforce planning

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