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# Enabling, Connecting and Empowering: Care in the Digital Age

Scotland's Digital Health and Care Strategy

Scottish Government and COSLA



Digital Health  
& Care Scotland

# Joint Foreword

In 2018, Scotland's first Digital Health and Care Strategy was published. It was a bold and ambitious strategy that recognised the health and wellbeing of the people of Scotland can, and should, be enhanced and transformed through the use of digital technology. We echo and extend the sentiment made in the foreword to that strategy: digital technology is an essential component of fit for purpose health and care services in a modern, dynamic Scotland.

What no-one could have envisaged then is the pace and scale of change brought about by the coronavirus pandemic. Organisations across Scotland have used digital technologies to work differently, both to respond to Covid-19 and to sustain essential health and care services, at great speed and under incredible pressure. Continued innovation will be supported by our refreshed strategy, ensuring Scotland remains well-placed to develop, design and adopt new technologies.

Just as digital technology was at the forefront of our response to the pandemic, it will be central to how we re-build and remobilise the health and social care system as part

of the recovery from Covid-19. As outlined in the recently published NHS Recovery Plan, digital technologies can support us to address backlogs in healthcare and increase capacity in the NHS. Beyond the NHS, digital technology also remains critical to how we embed and sustain health and social care integration, ensuring that technology enables people to interact seamlessly across health and care services. Health boards, local authorities, health and social care partnerships, housing organisations, industry, third and independent sector organisations have all been central to the design, development and delivery of our ambitions. .

In line with the refresh of the overall [Digital Strategy for Scotland](#), we recognise the problems that come from digital exclusion. Digital inclusion, now more than ever, must be at the heart of what we do. We heard time and again throughout the engagement process for this strategy the need to tackle digital exclusion and provide 'digital choice'. As we continue to develop digital service choice for our citizens, this strategy recognises the imperative to do digital right. Whilst technology can and does transform lives for the better, we must ensure that no one is left behind.

Historically, an emphasis has been placed on how the system uses technology in the health and social care sector, as opposed to how people use technology. Continuing in the same vein as its predecessor, this is a strategy that seeks to put people first – whilst also recognising our impact on the planet. Many digital technologies can help us address the climate emergency, from smart sensors in the home through to greater use of remote technology that reduces travel, and it is imperative that health & care plays its part.

The time is right to refresh Scotland's Digital Health and Care Strategy, to build on and embed the rapid advances that have been made, and to really focus on enhancing and enabling citizens' access not only to services, but to their health and care data as well.

**Our thanks go to everyone who has helped to deliver on these successes.**



**Humza Yousaf**

Cabinet Secretary for  
Health and Social Care  
Scottish Government



**Councillor Stuart Currie**

COSLA Spokesperson for  
Health and Social Care  
COSLA

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# Background

**Our Vision: 'To improve the care and wellbeing of people in Scotland by making best use of digital technologies in the design and delivery of services.'**

Scotland's 2018 Digital Health and Care Strategy recognised the transformative potential of technology and set out an ambitious strategic direction to embrace the opportunities that it presents. The response to Covid-19 was facilitated by the work undertaken as part of it.

The pandemic, and our response to it, has accelerated the pace of digital transformation, whilst highlighting the challenges faced by people who find themselves excluded from the digital world. It also highlighted some of the gaps that existed within it, most notably around inclusion, equalities, ethics and data. It is for these reasons that we set out to refresh our Digital Health and Care Strategy for Scotland, building on the progress that has been made to date, whilst taking account of

the opportunities and challenges brought about by the changed landscape that we now live in.

People should have the opportunity to access technology, understand its benefits and limitations, develop the skills they need and have control over how their personal information is used. To do this, we must tackle digital exclusion and support the development of skills. Furthermore, people across Scotland need to be involved at every stage of the innovation, design and delivery process. Experience tells us that the best services and initiatives, and those most used, are those which have been designed and developed in this inclusive way.

A person-centred approach to digital health and care is also one that promotes choice.

Choice for citizens means digital and non-digital options offered in parallel, on an equal footing. People will not be forced to use a digital service if it is not right for them, but it will be made available to those who want it.

We also recognise that digital transformation in health and social care has implications beyond Scotland's health and wellbeing ambitions. Digital technologies can ensure that care is delivered in a way, place and time that works best for people, furthering our ambitions to support personal and community-led decision making.

As such, the strategy supports the aims of the NHS recovery plan ([NHS Recovery Plan - gov.scot \(www.gov.scot\)](https://www.gov.scot/nhs-recovery-plan)) in its ambition to address the backlog in care and meet ongoing healthcare needs for people across Scotland. It will support reform of the care system, including better integration of health and care services. It outlines the health and care contribution to the overarching Digital Strategy ([A changing nation: how Scotland will thrive in a digital world - gov.scot www.gov.scot](https://www.gov.scot/a-changing-nation-how-scotland-will-thrive-in-a-digital-world)).

Digital technology can also contribute to our efforts to address the climate change crisis for example by, reducing travel to appointments and reducing our reliance on large data warehouses via our commitment to rolling out cloud infrastructure. We are committed to developing and embedding a culture which takes into account how we can positively impact on climate change through our project developments, procurement processes and equipment life span.

This refreshed strategy also provides the framework for the development of Scotland's first Data Strategy for Health and Social Care. The Data Strategy will ensure that health and care data supports the delivery of health and care services and that it does so in a way that empowers citizens and supports innovation and research. This refreshed Strategy is also set within the wider context set out by the Digital Strategy for Scotland: it acts as a support to it and confirms how our health and care services will adopt and embed its principles and approaches.

This refreshed Digital Health and Care Strategy will be accompanied by a rolling three-year delivery plan, updated each year from April 2022, which will provide the detailed map for our journey towards realising the ambition of this strategy. It will outline the 'how', 'what', 'who' and 'when' of the high-level commitments outlined in this document.

The delivery of this strategy will be a collective effort across health and care partners working in the statutory, third, innovation, academic and private sectors. This strategy was developed in consultation and collaboration with these partners and our thanks go to all who contributed.



# Our Vision

'To improve the care and wellbeing of people in Scotland by making best use of digital technologies in the design and delivery of services.'

Right care, right place, right time



## Aims

This is a strategy that sets out how we will work together to improve the lives of people in the context of the Scottish Government and COSLA's broader vision for national wellbeing across society and in line with the National Performance Framework. Building on the ambitions of the 2018 Digital Health and Care Strategy, we will deliver our vision through the key aims detailed below.



**Aim 1:** Citizens have access to, and greater control over, their own health and care data – as well as access to the digital information, tools and services they need to help maintain and improve their health and wellbeing.



**Aim 2:** Health and care services are built on people-centred, safe, secure and ethical digital foundations which allow staff to record, access and share relevant information across the health and care system, and feel confident in their use of digital technology, in order to improve the delivery of care.



**Aim 3:** Health and care planners, researchers and innovators have secure access to the data they need in order to increase the efficiency of our health and care systems, and develop new and improved ways of working.

## Our Priorities

Of course, delivering on these aims in and of itself does not guarantee improved outcomes for people: the health and care system as whole – and its partners in wider society – need to continue to embrace the change required. This includes but is not limited to:

- ◆ Committing to constantly improve, innovate and evolve – and sometimes change completely.
- ◆ Making better use of the data, both that already held and data which is not routinely held at present.
- ◆ Involving people and staff in the design of tools, technologies and services that support them, noting that those that have been designed with users are more likely to deliver meaningful and lasting change that improves outcomes.

To achieve our aims, and ultimately our vision, we will focus on six priority areas.



### Digital access

- ◆ People have flexible digital access to information, their own data and services which support their health and wellbeing, wherever they are.

### Digital services

- ◆ Digital options are increasingly available as a choice for people accessing services and staff delivering them.

### Digital foundations

- ◆ The infrastructure, systems, regulation, standards, and governance are in place to ensure robust and secure delivery.

### Digital skills and leadership

- ◆ Digital skills are seen as core skills for the workforce across the health and care sector.

### Digital futures

- ◆ Our wellbeing and economy benefits as Scotland remains at the heart of digital innovation and development.

### Data-driven services and insight

- ◆ Data is harnessed to the benefit of citizens, services and innovation.

While all the action areas contribute to the aims of this strategy, their main alignment is outlined below:

## Aim:

## Achieved through:



Citizens have access to, and greater control over, their own health and care data – as well as access to the digital information, tools and services they need to help maintain and improve their health and wellbeing.

**Digital access**  
**Digital services**  
**Data-driven services and insight**



Health and care services are built on people-centred, safe, secure and ethical digital foundations which allow staff to record, access and share relevant information across the health and care system, and feel confident in their use of digital technology, in order to improve the delivery of care.

**Digital services**  
**Digital foundations**  
**Digital skills and leadership**  
**Data-driven services and insight**



Health and care planners, researchers and innovators have secure access to the data they need in order to increase the efficiency of our health and care systems, and develop new and improved ways of working.

**Digital futures**  
**Data-driven insight**  
**Digital foundations**  
**Digital access**

# Digital Access

**Priority one: People have digital access to information, their own data and services which support their health and wellbeing, wherever they are.**

Society has seen fundamental changes over the past decade in how technology is used to support access to services, and the ways in which they are offered. People want and expect to have greater choice and control over how – and increasingly when – they access their care, support and services. This means offering digital and non-digital options.

The response to Covid-19 has accelerated the pace of change across health and care, with services moving quickly and innovatively to provide better access to flexible and digitally enabled support. For many people, this has increased choice and flexibility. For services, it has eased pressures, freeing up time and capacity for services which cannot be delivered digitally.

## Near Me

**Around 300 people a week were using video conferencing technology** to access health and care services/ appointments at the start of **2020**.

**By mid-2020**, this number had risen to approximately **20,000 appointments every week**, via the Near Me video consultation service.

**In July 2021**, over **1 million appointments** had been delivered virtually.

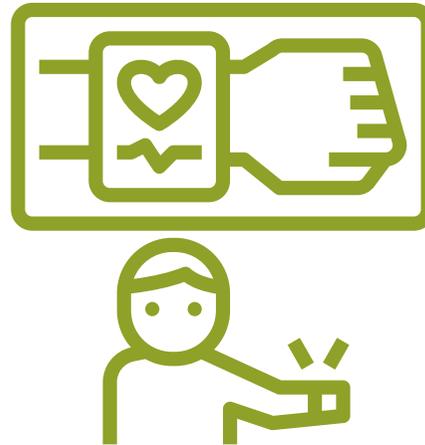
**Our ambition in 2018 was merely to spread its use: now we want to build on this and make it a choice that is available in every relevant health and social care interaction for every member of society.**



For many people across Scotland digital exclusion remains an issue. This may be due to a lack of access to an appropriate device or a lack of skills and confidence to use digital services and to take advantage of the opportunities and benefits that come from being digitally connected. Supporting the development of digital skills in health and care and ensuring that everyone, regardless of their geography or background, can choose to access digital services across health and care is essential to ensuring that they really are for everyone. It is also in line with Scotland's overriding aim to achieve world-leading levels of digital inclusion.

Our underlying focus remains on addressing inequalities and improving citizen experience, making digital services as accessible as possible. This means services which communicate with each other across our integrated health and care system, but also digital options that are available in a range of formats and recognise that people have different accessibility needs.

Ensuring digital access for all is an essential element of shifting the focus of health and care systems from crisis intervention towards prevention, early intervention, enablement and supported self-management. Achieving our ambitions will support people to not only access support, but to manage and control their own health and care needs.



## Our Commitments:

To improve digital access we will:

- ◆ Build on our Transforming Local Systems Pathfinders and involve citizens at all stages in the design and delivery of digital services to increase engagement and improve data quality, in line with the Scottish Approach to Service Design.
- ◆ Work with [Connecting Scotland](#) to ensure everyone is supported to access the devices, data and support they need to be able to use digital technology.
- ◆ Work with partners to ensure patients and residents of health and care services have full access to free Wi-Fi, both bedside and in public areas within healthcare settings.
- ◆ Make video-based access via the Near Me service a choice available for all appropriate appointments and services across health and care. This includes increasing the number of ways people can access the care, support and information they need, including opening up video-based access to group consultations, educational resources and peer support groups for all.

- ◆ Provide access to, and enable citizens to have control over, their own health and care information – including the ability to view and update information contained in their records, and access information such as test results, letters and treatment/care plans.
- ◆ Provide 24-hour digital access to services through asynchronous communication (the ability to ‘chat’ with services any time, when an instant response is not required, such as via email and online).
- ◆ Further develop and implement online triage so that people can be better supported/directed to information that allows them to access the most appropriate service depending on their needs, including self-service, Pharmacy First and others.
- ◆ Increase the number of ways whereby people can access the care, support and information they need, including through social prescribing.
- ◆ Ensure people understand their rights and responsibilities for using digital means to access information and services, and support people to embrace existing, new and emerging technologies.
- ◆ Continue to work closely with the Digital Equality and Inclusion Group to ensure work covered by this strategy recognises the diversity of Scotland’s people and their accessibility needs, and embeds equality approaches.

# Digital Services

## Priority two: Digital options are increasingly available as a choice for people accessing services and staff delivering them.

The ways care is delivered is changing, with an increasing number of services becoming digital, either fully or in part. These range from basic services, such as ordering repeat prescriptions, booking appointments and accessing trusted online information, to the digital tools and products to help people manage their own health and wellbeing at home. Over the coming years, digital services will become the first point of contact with health and care services for many people, and will inform how many will choose to engage with health and care services on an ongoing basis. Coupled with the work on digital access, this will result in an overt 'digital citizen', who is suitably empowered and enabled to use digital technology to support their individual needs.

Some of this is about building on the significant growth in people going online to access trusted information. For example, there were well over 8 million visits to NHS Inform in April 2021, up from under 2 million in April 2018. NHS Inform currently offers digital access to information; however, a growing number of services, such as appointment scheduling for Covid-19 vaccines, are also offered. Linking it and Care Information Scotland into the wider health and care system, there is an opportunity to develop it as a 'front door' service in its own right to a far greater range of services and support across the whole of health and care.

### The Digital Front Door

This strategy commits to developing a new streamlined approach to how people navigate their way through services, which will include a safe, simple and secure digital app. This will support people to access information and services directly – like a 'digital front door' – as well as self-manage, and access and contribute to their own health and care information. This new service will be built on a common approach to online identity where personal data is controlled by the individual and people are able to authenticate their identity. It will enhance access and convenience, providing a better, consistent service experience to users. It will also reduce the administrative workload on staff and services.

We recognise that these ambitions will require service re-design, not just at a national level but at a local level too. This is particularly important as we consider the wider steps that should be taken as we recover and re-mobilise from Covid-19 and proceed with ambitious reforms of the care system, including the development of a National Care Service.

Health and care support not only takes place in a variety of formal settings, but increasingly also in the community, in people's homes or in libraries and community hubs. Supporting the shift in balance of care into community settings, by delivering more care at home and reducing rates of admission to acute hospital services is essential to how we plan services of the future. Supporting the adoption of digital practices, including through collaboration with partners across the third, independent and housing sectors, is a central component of how we can achieve this ambition.

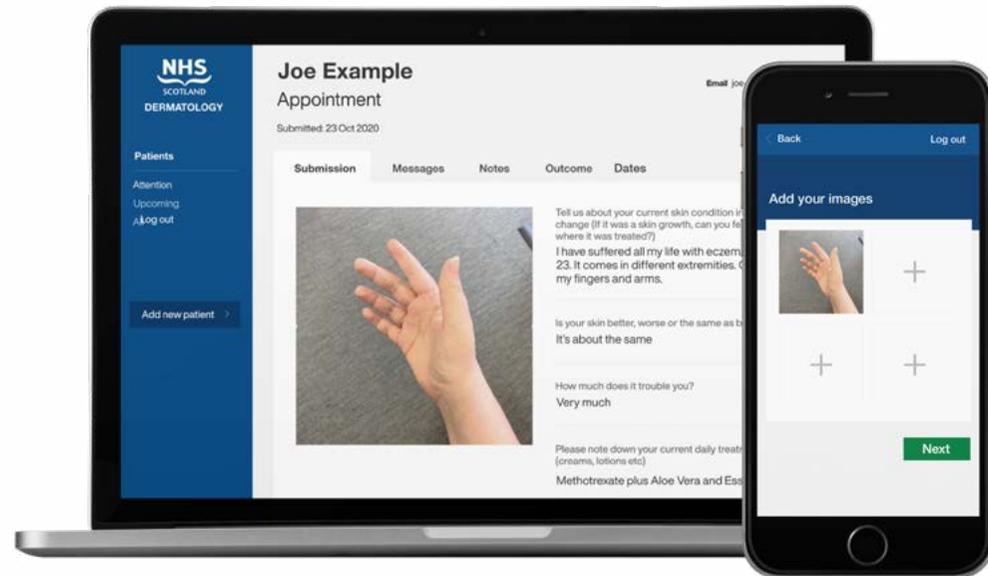
All this is about improving services for people. We recognise that people want services that are accessible and simple to use. They want them to be inclusive, designed around their needs and responsive to changes in circumstances. That is why we will ensure that

we are designing services around the needs of the people who use them and will support people to play a full and active part in this process from the outset.

## Remote Health Pathways: Digital Dermatology

This service lets people upload images of their skin and report on their condition from a convenient place and at a time that suits them. The service allows two-way messaging between the patient and

clinician and the information can be shared with people supporting the patient (where consent is given). It stops unnecessary travel to appointments and saves time for patients and staff.



## Supporting People At Home

Telecare services currently support around 182,000 people in Scotland to live independently and safely at home.

Telecare devices relay information from a person's home or community to a 24/7 monitoring centre, to be acted on in some way. Telecare services help prevent unsafe conditions developing and enable a quick response should an incident – such as a fire or a fall – occur. Monitoring centres in Scotland handle around 5 million calls each year.

The introduction of digital telecare will support a shift to a more proactive and preventative approach with the potential to integrate and use citizens' data to assess, anticipate and even predict needs enabling earlier intervention and improved resilience and wellbeing.



## Digital Mental Health Therapy Services

Eighteen evidence-based digital mental health CBT treatments are currently available covering a range of conditions such as depression and anxiety disorders. Supporting patients and Health and Care staff over 46,000 referrals and self-referrals have been received by digital therapy services in the last twelve months.

Treatment is completed in patients' homes at a time which suits them and is offered with minimal delay greatly increasing availability of service across the population of Scotland.



## Our Commitments:

To improve digital services we will:

- ◆ Develop a fully interactive 'Front Door', both online and via mobile, into a range of different services across health and care. This will be a way in to both digital and physical services across the statutory, third and independent sectors, making it more convenient to access timely services across a choice of channels.
- ◆ Continue to enable prevention, independent living and healthy ageing through the provision of digital services in the home, such as telecare and the use of smart sensors.
- ◆ Facilitate and develop opportunities for digital services as part of social care reform, including in support of residents in care homes and those in receipt of care at home.
- ◆ Enable people to book/rearrange appointments online, order prescriptions, update their details and generally conduct all routine 'transactions' online.
- ◆ Provide the ability for people to use digital products and services to manage their condition(s). This means being able to access health assessments, diagnosis, monitoring and treatments, making it an option for everyone with a long term condition to use digital tools.
- ◆ Expand the range of fully digital clinical and care services, treatment and support available, based on the latest evidence.
- ◆ Increase access to evidence-based digital mental health treatments, products and services. For example, build on computerised cognitive behavioural therapies (cCBT) to expand treatment choice, while enabling people to better manage their own mental health and wellbeing.
- ◆ Continue to look to bridge the digital divide by supporting the overall national approach to digital inclusion, building upon the success of the [Digital in Care Home Action Plan](#) and working to improve digital health literacy, including promoting the use of trusted online health and care information.
- ◆ Provide software which is intuitive, safe and supports work-planning across the health and care system.
- ◆ Ensure all staff have the devices and equipment they need to do their job, including the ability to work remotely/flexibly.
- ◆ Ensure there is one single and secure way for staff to sign in to clinical and care systems and data. This will both improve safe access, and ensure staff have the same experience of, and access to, core digital tools throughout the health and care system.
- ◆ Provide user-friendly, role-appropriate information and resources to support the individual being cared for.
- ◆ Develop and publish a framework for the development and implementation of digital services.
- ◆ Provide better access to appropriate data, to better analyse, understand and improve processes and services at different levels and better inform strategic planning priorities.

# Digital Foundations

## Priority three: The infrastructure, systems, regulation, standards and governance are in place to ensure robust and secure delivery.

Alongside our people and our services, digital technology provides the foundation on which our health and care system is built upon. Some of what we have needs modernising or improving. It might still be effective at doing what it was designed for but is not capable of supporting the way we want our modern integrated health and care system to function.

For people interacting with services, and for the staff who work in them, there still exists a fragmentation of experience across the system. We need aligned infrastructure, systems, regulation, standards, procurement and governance to be in place across all services to ensure their effective delivery. This extends to the standards that are used within those systems, and the cyber resilience of what is in place.

Addressing these issues means investing in the development of modern cloud-based infrastructure that adheres to today's standards, and is as secure and resilient as possible. We also need to make sure our systems comply with legislative standards. This includes the need to comply with regulatory requirements where some health and care software and digital products can be classed as medical devices. This approach will help ensure the best features of design, deployment, maintenance, monitoring, as well as the clinical/care safety, are present for our IT systems across health and care. Adhering to recognised global standards will also enable easier data sharing and privacy controls.

### National Digital Platform

A core commitment in the last strategy was to develop a 'National Digital Platform' (NDP). This is not a single product but a collaborative and integrated approach to delivering cloud-based digital components and capabilities that will play a significant role in our health and care digital ecosystem, underpinning our commitment to improve the availability and accessibility of health and care information and services. Whereas the 2018 Strategy had one section focusing on the NDP, in this version it is integrated throughout and is seen in the focus on new architecture, the development of a cloud strategy and the increased focus on shared standards.

And as we open up access to data and services, we will ensure we are only providing access to those who are able to prove they have the right to do so. This requires both our staff and our citizens to be able to authenticate/verify their identity. The roll out of Office 365 across much of the public sector – and all of the NHS – means staff now possess this capability. However, this is not the case for everybody in Scotland and for many of our partners in the third and independent sectors. This must be addressed if we are to achieve a fully integrated health and care approach for citizens.

A digital approach is about more than just the technology and systems, it is about a cultural shift toward thinking and planning as digital organisations. The Digital Maturity Assessments committed to in this strategy will provide the foundation for how we learn, share and prioritise improvements. An assessment of digital maturity undertaken in 2019 was a key early deliverable from the 2018 Strategy and the findings from the previous assessment have informed the content of this strategy.

By ensuring the correct digital foundations are in place in line with the commitments set out in this strategy, we can improve the overall experience for everyone who uses health and care services.



## SNOMED: digital working behind the scenes for staff and patients

**SNOMED** is a clinical coding system for use in electronic health records. **SNOMED** gives clinical and care IT systems a single shared language. It contains all the terms needed, from procedures and symptoms through to clinical diagnoses and medications. This enables data to be recorded consistently and accurately which, in turn, makes exchanging information between systems easier, safer and more accurate. We will roll out the use of **SNOMED** across Scotland. We will explore opportunities for its use in the care sector. There will be a strong focus on training and support for users to learn and use the new codes for patient care.

## Our Commitments:

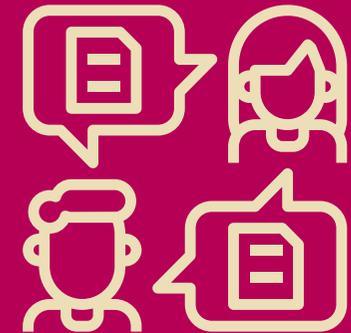
- ◆ Work with the digital identity programme to adopt a common approach to online identity where personal data is controlled by the individual.
- ◆ Develop and provide support for organisations to have access to the basic resources required to develop as digital organisations.
- ◆ Review the current digital funding delivery model in Scotland to support all of our organisations, regardless of size, to reach their digital potential.
- ◆ Put in place a regular assurance process for reporting and regular discussions to support our organisations with planning, strategy development and other key decision making as appropriate.
- ◆ Further embed Office 365 across the health and care system, to support staff working across organisational boundaries so that they can better work in multi-disciplinary teams.
- ◆ Publish a cloud-first strategy that details our approach across health and care to national infrastructure, data hosting and architecture, including how the development of a digital platform will contribute to the twin aims of citizen and staff access to relevant real-time information.
- ◆ Develop and embed a standards based approach to clinical and care safety cases for all major systems.
- ◆ Publish, and review on a regular basis, details of our approach to ensuring compliance with a range of technical, data and design standards.
- ◆ Develop a commercial and procurement strategy that covers all national, regional and local approaches to developing and buying digital products, including requiring all suppliers to demonstrate their commitment to citizen/user needs/design.
- ◆ Modernise our core business systems to support our workforce and ensure safe staffing.
- ◆ Conduct digital maturity exercises across our health and care delivery landscape every two years, with funding to support identified areas of improvement, both nationally and locally.
- ◆ Develop a model for 'what good looks like' for Scotland, building on other maturity models globally, that showcases the incremental steps required for digital progression.
- ◆ Only fund initiatives that are secure by design: we will improve the security capabilities and resilience of our services by protecting the digital systems that support Scotland's health and care infrastructure and essential services and ensuring a secure-by-design approach is adopted across the supply chain.
- ◆ Streamline the information governance landscape setting out the roles of key organisations, and building on our learning from the response to Covid-19.

# Digital Skills and Leadership

## Priority four: Digital skills are seen as core skills for the workforce across the health and care sector.

The success of digital transformation is entirely reliant on people's ability to know when, why and crucially how to use digital. Workforce development in digital skills, leadership and capabilities across the whole health and care sector underpins the successful uptake and use of digital technologies. The delivery of safe and effective care demands it – from the specialist skills that are essential for the development and running of our digital systems, to the core skills that all frontline health and care professionals need to fully realise the benefits that these systems offer. This is more than developing skills of staff across the sector in relation to technical skills, though this vital, it is also about how staff engage with people who use health and care services.

In order to embed digital transformation, leaders across health and care must be equipped with the necessary digital skills. That extends to the skills required to identify where digital could be used, rather than just how to use digital. This requires us to continue building knowledge and skills within the health and care system to support and deliver digital transformation. This starts from the top of an organisation, from Board-level down.



## Our Commitments:

To support digital leadership we will:

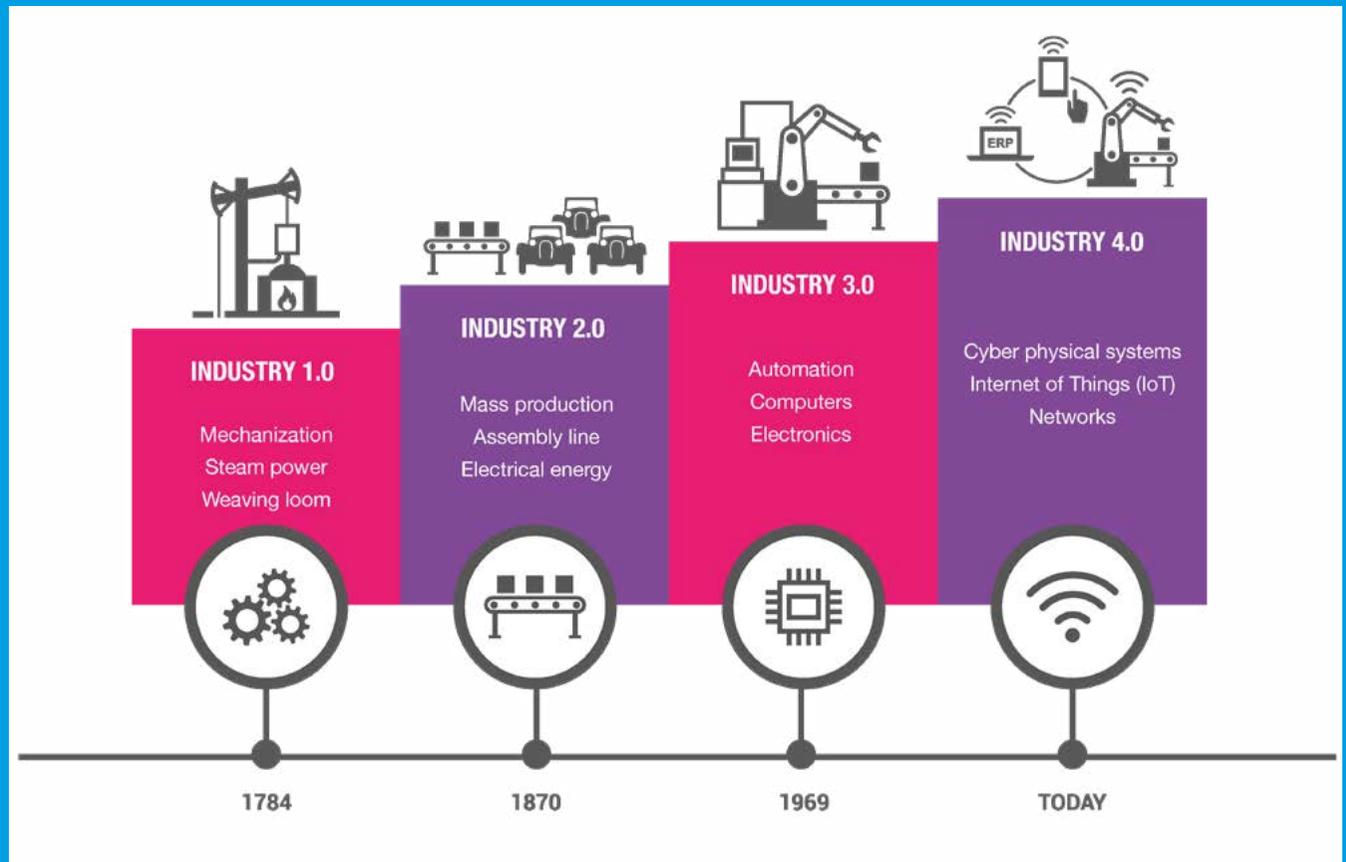
- ◆ Work with and support senior leaders (including executive and non-executive directors) to gain and further develop the skills to embed digital technology and literacy across their organisations. This means understanding of the potential implications of the digital agenda and increasing the confidence and capability to harness the opportunities it provides.
- ◆ Support and further develop and expand our specialist digital, data, design and technology (DDAT) professional workforce, including those working in clinical and care informatics, and information governance and cyber security professionals, ensuring that there is the appropriate level of leadership, skills and capacity, and an appropriately trained and resourced specialist workforce with career development opportunities across the system to support the design and delivery of enhanced digital services.
- ◆ Invest in information governance (IG) and cyber skills across our entire workforce by developing appropriate tools and training resources.
- ◆ Ensure all staff possess the essential digital skills they need to do their job. This includes providing consistent and tailored digital skills learning and development on accessible platforms for all health and care staff incorporating blended training approaches as necessary.
- ◆ Prepare the workforce to deliver different types of services in different (online) ways. In addition to digital skills this includes recognising cultural barriers, supporting citizens to use digital technology, applying safeguarding measures and support on-line.
- ◆ Equip our staff with the ability to understand and interrogate data-driven recommendations and decision support tools, including those powered by Artificial Intelligence.
- ◆ Further develop communities of practice and our learning network, sharing and learning together on what works and what does not.
- ◆ Consider the impact of digital technology on the workforce, including ways of working, job roles and responsibilities.
- ◆ Build on our collective response to Covid-19 by further developing and embedding approaches that enable flexible remote working for health and care staff.
- ◆ Work with our universities and colleges to shape the future workforce by ensuring curricula prepares students for a digitally enabled health and care environment and ensures graduates of the future for whom digital is a core skill.
- ◆ Ensure the Turas platform provides staff across health and care with the information they need.

# Digital Futures – Innovating and Enhancing Our Digital Nation

**Priority five: Our wellbeing and economy benefits as Scotland remains at the heart of digital innovation and development.**

Advances in technology, and the growth in its use, means we need a constant focus on what is coming next. Scotland is well placed to support the development, design, testing and – ultimately – the adoption of new technology. This ranges from advances in artificial intelligence (AI), 5G, Internet of Things (IoT), through to the apps, tools and products that we increasingly use in our everyday lives, such as smart connected devices in the home and the ever more powerful devices in our pockets.

How we work with and influence some of these important developments in technology will be key to ensuring that they put public wellbeing at their core. This will rely upon shared knowledge, expertise and understanding across a wide range of sectors. Scotland's Innovation Centres will play a key role, whilst continued knowledge



exchange and international collaboration can help us embrace new technologies that support our workforce, our people and our wider strategic ambitions.

We will seek to maximise opportunities for a pipeline of innovation through supporting the adoption and scaling up of initiatives that have the potential to reduce the already heavy burden on our workforce. This will also create new jobs and roles of tomorrow and strengthen how people interact and engage with health and care services. In keeping with our focus on getting it right for people and challenging inequalities, we will be mindful of the potential inherent biases being embedded in technology, whilst being rightly excited by the potential of advances in areas such as the use of AI to support fast diagnosis and prognosis for a growing range of illnesses.

## Our Commitments:

We will:

- ◆ Continue to place Scotland at the heart of international digital health and care business development with successful collaborative bids for UK, European and International funding opportunities to drive innovation locally and globally.
- ◆ Work with organisations including DHI and other Innovation Centres, 5G Centre, Centre for Cyber Resilience, Centre for Sustainable Delivery, and Public Health Scotland to realise the potential of digital health and care.
- ◆ Enhance our industry networks and clusters, collaborating to support our small and medium enterprises (SMEs) to be innovative and offering a clear product route from development to implementation at scale.

- ◆ Provide a permanent digital testing environment that allows potential new technology to be developed and tested in a safe environment, whilst providing greater opportunity for success.
- ◆ Provide an assurance process to ensure digital innovations are developed in an ethical, standards-based way.
- ◆ Promote and facilitate appropriate, safe and secure access to clinical, biomedical, care and other data for approved research, development and innovation in the public interest.



# Data-Driven Services and Insights

## Priority six: Data is harnessed to the benefit of citizens, services and innovation.

People wonder why their health and care records don't move with them when they move. They are surprised that hospitals and GPs can't share medication lists, or that their doctor doesn't link with their care support worker to coordinate support. They get frustrated that they are asked the same questions at every appointment with different workers in different parts of the health and care system. Data about an individual is often held in multiple different places, making it difficult for people providing support across health and care to access the most relevant, up-to-date information. This makes effective delivery of care, and continuity of care across different service providers and over time as care needs change, more challenging than it

needs to be. It also hampers planning and development of services, research, and continuous improvement.

If digital is the engine of our health and care system, data is its fuel. In our 2018 Strategy, we recognised the importance of data, particularly in relation to opening up access to citizens and staff, and how we managed access to health and care data for research and innovation. However, whilst we have some of the best world-class data resources at our disposal, there remain considerable data gaps and we are information poor in a number of areas. Covid-19 has exposed real gaps across health and social care which hindered the response to Covid-19. These are gaps we must address. There is also poor data collection in areas such as ethnicity and

inequalities, which has hampered our ability to design appropriately targeted support and to fully understand the impact of Covid-19 on different ethnic groups. As dependencies on AI and new algorithms to support health and care decision making grow, this will likely highlight further gaps that need to be addressed.

For example, aligned with our Women's Health Plan ([Women's Health Plan - gov.scot](http://www.gov.scot) ([www.gov.scot](http://www.gov.scot)), the gender data gap and its increasingly well documented detrimental impact on the delivery of high-quality timely healthcare, from diagnosis through to treatment methods, is a known gap in many areas that needs to be addressed.

While we have a wealth of data that exists through clinical trials on the safety and general efficacy of specific medicines/drugs, we need to better understand the real-world impact of our medicines, the outcomes they are facilitating, and an understanding of what drugs work best for which people.

Information Governance (IG), assurance, and cyber and data security lie at the heart of the work we do – without it data will not flow across the services, and people will not feel trust in our ability to keep data safe. This strategy depends on the development of a consistent and national approach to our IG landscape, and a clearly defined set of cybersecurity assurances will be at the heart of the Data Strategy. This strategy and accompanying programme of work, will set out how we improve access to data and digital technologies, resolve inconsistencies in decision-making and collectively manage risk, all built around citizen choice and control. This will resolve issues of lengthy waits to access data, improve our security capabilities, and help individuals to take ownership of IG.

## The Shielding List: good data can save lives

At the outset of the pandemic, we knew we needed to protect our most clinically vulnerable members of society. To do this, we created a national 'Shielding List', based on criteria agreed by the UK's four Chief Medical Officers. It quickly became clear, however, that implementation was going to be a challenge. Being able to identify, and notify, individuals at risk at a national level was not straightforward as there were differences in approach across different

health boards to recording data. This meant there was a need for urgent work to develop coding to generate the necessary data rapidly at a national level. There is now a well-functioning approach to identifying and notifying patients deemed to be at highest risk. Nonetheless, underlying issues of inconsistent coding remain – which our renewed focus on standards and a commitment to fully implement SNOMED (see page 19) will seek to resolve.



**That is why this strategy commits to the development of Scotland's first-ever dedicated Data Strategy for Health and Social Care.**

This will include detailed consideration of how to increase citizens' trust and transparency in data sharing, how to unlock the value of health and care data and how the tricky challenges around safeguarding our data can be addressed, as well as consider aspects such as ethics, standards, relationship with industry and legislative requirements.

Key to successful delivery of the Data Strategy will be the ongoing public and professional dialogue that will be required throughout the process, building on our work over the past few years with NESTA on [Data dialogues](#) and in line with our Open Government commitments. Through NESTA, we are in the process of refining an online dialogue tool, and will utilise the research conducted through the data dialogues programme on approaches to participatory public engagement (e.g. immersive theatre, gamification, pop-up interactive exhibitions). Public trust in what we are doing, and growing public understanding in the value of data, is essential.



The Data Strategy will lay the groundwork for a radical shift in the power dynamic between the 'state' largely controlling how and when data is used, to one where citizens are in far greater control over their own data. Although we are talking about a Data Strategy for Health and Social Care, it will also encompass data from any sources that can better improve individual outcomes. Whilst that is the principal aim, we are also looking at improvements in how data is used more broadly. These include but are not limited to service delivery, innovations, research and economic benefits. The strategy will also outline the skills, information governance, legal and standards frameworks that need to be in place.

## Dialogues about data

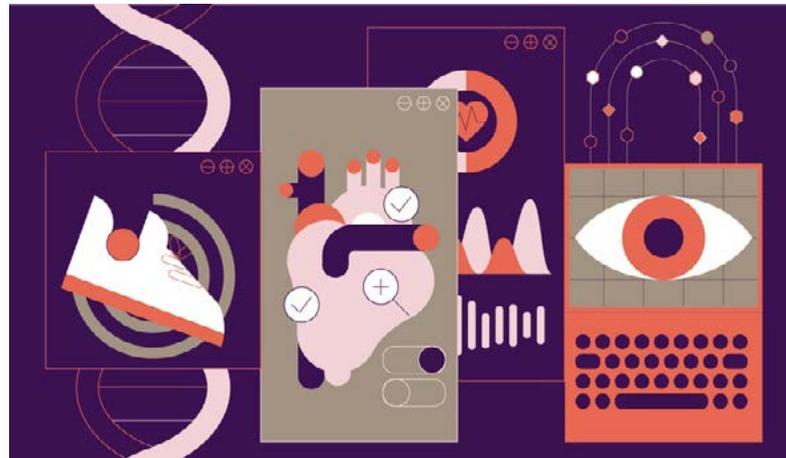
Our work with NESTA, and research elsewhere, suggests people have a complex relationship with data.

Some people recognise the value of sharing their data to improve the services they receive. Some people don't have a strong need for data sharing solutions and they don't recognise an immediate benefit to their lives. They are concerned with more abstract issues of autonomy, and worry about losing control of their own decisions.

Some think that data will only be used against them. In some cases this fear is

abstract but others have suffered at the hands of the system, have experienced prejudice in their healthcare, and feel the system isn't designed to help people like them. On the other end of the spectrum some people want their data to be shared all of the time, but most people sit somewhere in the middle.

It is important for some people to know how their data is being used to help people and that proper protections are in place to ensure an ethical and equitable system.



# Our Standards

## We are committed to developing and delivering services in an ethical way.

To support this ambition, we will publish a detailed standards document that establishes what is required to deliver secure, interoperable systems across health and care. These standards will direct and assure how data, including clinical data, is coded, stored and flows across the system, and how systems should be designed. We will modernise regulation and legislation where required to maximise the progress and benefits of digital technology. However, what the system looks like, and what services are developed, will be guided by the following standards.

1. Start with the [Scottish Approach to Service Design](#), so that the people of Scotland are supported and empowered to actively participate in the definition, design and delivery of their public services.
2. Develop using the [Digital Scotland Service Standard](#). This is the service standard that aims to make sure that services in Scotland are continually improving and that users are always the focus. It is made up of 14 criteria for all organisations in Scotland to work towards – including building in security and privacy from the start.
3. Use internationally recognised open technical standards to improve interoperability and workflows between systems. We will look to publish open source code where possible to support wider use of the software developed in Scotland.
4. Ensure clinical safety and security of our systems are embedded throughout, noting that all software classed as a medical device must be compliant with current UK regulations.
5. Build on [Scotland's Digital Participation Charter](#) to ensure that all employees and people across Scotland are able to develop the essential digital skills they need to do their jobs, live their lives, and use different digital services with confidence.
6. The technical and data standards we publish will be a core requirement for the digital systems we procure and develop.
7. Robust ethical and impact assessments will be conducted to ensure that we are trustworthy and transparent in the way we work.

# Aligning Our Work to Scotland's Priorities

Scotland's National Performance Framework (NPF) sets out our vision for how we create a more successful Scotland. It focuses on how the wellbeing of people living in Scotland can be increased across a range of economic, social and environmental factors. Most obviously, this strategy contributes to this vision in the areas of 'we are healthy and active', and 'we live in communities that are inclusive, empowered, resilient and safe', but it does more than that. For example, there are environmental advantages to embracing digital technology within health and care, such as a decrease in travel for both citizens and the workforce and therefore a decrease in carbon emissions. Our innovations in digital health and care contribute to the sustainability of our national economy as well as to achievements in the international arena. The potential for digital health and care solutions to contribute to the reduction in inequalities is also considerable.

Further detail on the National Performance Framework can be found at [National Performance Framework](#)

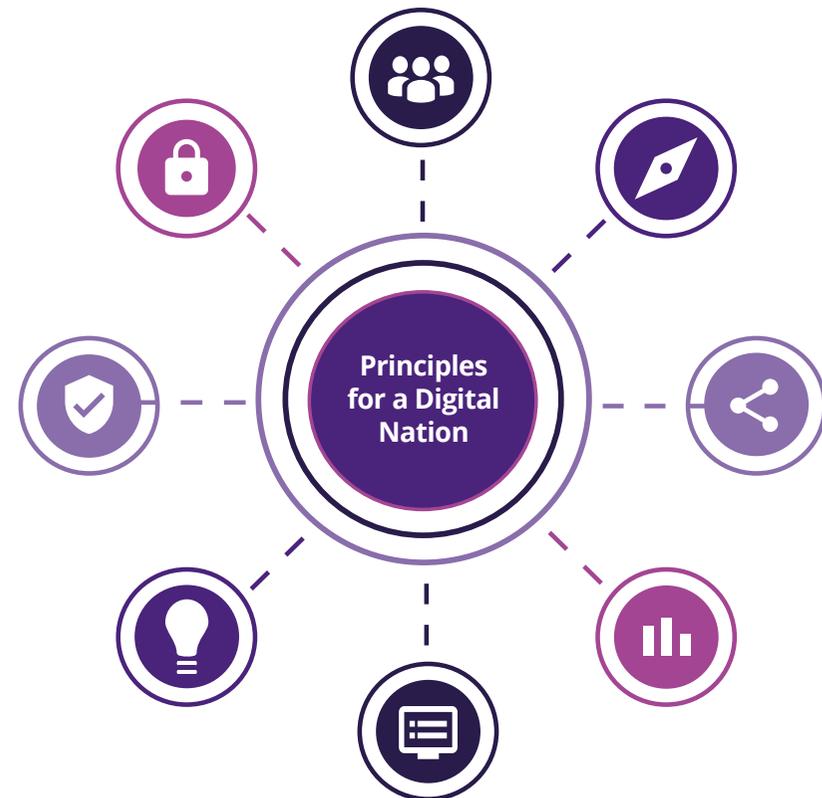
## National Performance Framework



### This strategy is nested within the overall Digital Strategy for Scotland

([A changing nation: how Scotland will thrive in a digital world - gov.scot \(www.gov.scot\)](https://www.gov.scot)) and confirms how our health and care services will adopt and embed its approaches. Central to this are the eight Principles of a Digital Nation which are threaded throughout the document.

-  Inclusive, Ethical and User-Focused
-  Digital Leadership and Culture
-  Collaborative
-  Data-Driven
-  Technology-Enabled
-  Innovative and Sustainable
-  A Skilled Digital Workforce
-  Secure By Design



# From Strategy to Delivery

A key requirement of the 2018 Strategy was to establish a national leadership structure to support the roll-out of the strategy and ensure it achieved its aims. This is now in place, and overall delivery of this strategy is directed by a national decision making board made up of executive representatives of the Scottish Government, Local Government and the NHS – the Digital Health and Care Strategic Portfolio Board – who identify and agree the priorities for development and improvement. This Board is supported by a cross-sector Digital Citizen Delivery Board, a Data Board, and an Enabling Technology Board, with external independent critique and challenge provided by an Equalities and Inclusion Group for Digital Health and Care. It is intended that all national digital developments and proposals for health and care will go through this governance structure, which will also provide technical and design assurance.

We will transform our culture and the way we work through digital thinking, with its emphasis on openness, networking and agility. Trust, transparency and collaboration, in line with our Open Government ambitions,

are also essential to this.

This strategy will go further than our 2018 Strategy by introducing a rolling three-year delivery plan, updated each year from April 2022, recognising that the transformation required is rooted in the ‘how’, and not the ‘what’ or the ‘why’. This delivery plan will confirm what our priorities for delivery are, what outcomes are expected to be achieved, who has been tasked with delivery, what budget has been allocated to the work and how success will be measured. It will be developed alongside a clear approach to commissioning and benefits realisation. It will outline in detail which parts of this strategy will be achieved at local, regional and national level.

We will need digital solutions as we begin to recover and rebuild as a society post pandemic. We have to address long-standing issues such as an ageing population, stalling healthy life expectancy, persisting health inequalities and a drugs death crisis. Additionally, as a result of Covid-19 there are additional mental health challenges, long-Covid and the population health impact of

the treatment backlog. We will not meet these challenges without digital being part of the solution. As can be seen throughout this refreshed strategy, the rapid – and unexpected – growth in digital technology has led to a desire to do much more, including moving towards a more overt ‘digital choice’ approach to the design and delivery of public services.

Successful delivery of this strategy has the potential to provide greater choice and control for people in how they are able to access services, and manage their lives, but also represents a need for a fundamental shift in organisational mind-sets and approaches to how services are delivered.

People want and expect their services to join up and ‘speak’ to each other and it is important that we break down the barriers which hinder this integration. Also, while health and care support takes place in a variety of health settings it also takes place in the community, in people’s homes or in places like libraries and community hubs. This refreshed strategy recognises this as we plan the services of the future.



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