

Health and Social Care Transformation Programme

Digital Strategy Project

Digital Strategy

Version: 0.8
Date: 18-September-2020
Status: Approved

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1. Introduction

This digital strategy cuts across several existing government strategic initiatives and health care vision and delivery plans. These include the Programme for Government 2016-2020, Department of Health and Social Care (DHSC) Service Delivery Plan 2019/2020 and the DHSC Integrated Care Vision 2018. Also considered is the 2015 Isle of Man Digital Strategy¹ and its 2018 review².

The key driver for this strategy is the publication of the recent Independent Health and Social Care Review Final Report³ that includes a package of 26 recommendations to be implemented in order to achieve a financially and clinically sustainable, high quality health and social care system for the Isle of Man. The Health and Social Care Transformation Programme is tasked with implementing the recommendations and is underpinned by 14 projects. An overview of the Transformation Programme projects can be found in Appendix B. The principle recommendation relating to digital strategy is:

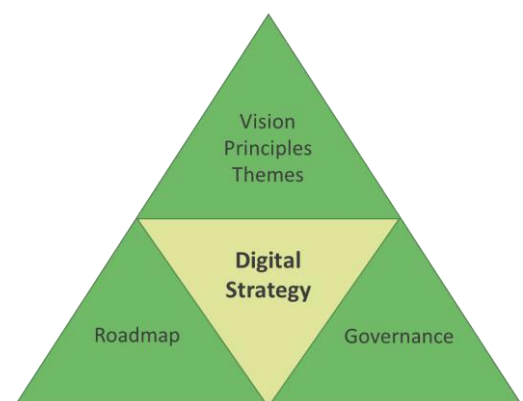
Recommendation 22: The development and delivery of the digital strategy should go further and faster to ensure the comprehensive capture, sharing and use of information. This would enable greater integration across the system, improved monitoring and enhanced delivery of quality and efficiency-related information.

This recommendation acknowledges the aspirations of the Manx Care Record, but also recognises the scope of a digital strategy needs to extend beyond this and cover a remit equivalent to the Transformation programme. It is vital to build a culture across the entirety of Isle of Man healthcare which promotes the drive to go further and faster, by always ensuring we Think Digitally, Work Together and Learn Intelligently.

The flow of this strategy puts the recipients of health and care at the centre of how design decisions are made, encouraging clinician and service led operational change to improve care delivery.

This strategy covers three broad areas:

- (a) The digital content, consisting of the vision, principles and objectives. Together, these will drive the digital direction of health delivery within DHSC, both in terms of what is known today, but also setting the benchmarks of how to deliver in the future.
- (b) To ensure this content does not remain a set of aspirations, the strategy also provides a roadmap of initiatives, some technical, but others which are around behaviours and processes
- (c) Finally, consideration is given to how these initiatives will be governed, where appropriate leveraging and strengthening additional governance frameworks to include a digital focus. Also key to the effective governance is ensuring there is the monitoring of digital initiatives such that they can be measured as to their successful implementation and use. Without this, it is impossible to be know what is working well and what needs to be improved.



Moreover, we recognise that to deliver this strategy requires we adopt a benefits-driven approach, where the outcomes for service users are placed front and centre, and we clearly understand how

¹ <https://www.gov.im/media/1347695/digital-strategy-01.pdf>

² https://www.gov.im/media/1365720/digital-strategy-update_final-10.pdf

³ <https://www.gov.im/media/1365879/independent-health-and-social-care-review-final-report.pdf>

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these will deliver more economic healthcare in the longer term. This will ensure the delivery of this digital strategy becomes an enabler of benefits realisation, which will mean prioritising and phasing the delivery of objectives. The importance of this is underlined by the National Audit Office report into digital transformation in NHS England⁴, noting:

... the track record for digital transformation in the NHS has been poor, with the previous major national programme being closed early without achieving its objectives.

and recommends:

Collect(ing) more data to enable a better understanding of the full cost of delivering digital transformation and prioritise the work programme.

The Transformation Programme and its constituent projects covers all aspects of an integrated health and social care system, applying equally to:

- social care as much as physical and mental health care
- wellness and prevention as much as treatment and cure
- all people, whether they are a baby, child, young person, adult or old person.

To reflect the broad reach of this strategy, it applies equally throughout to health and social care. References to "patients" should be taken as meaning patients and service users. This strategy recognises that those in receipt of social care are not considered service users. However members of the public in receipt of any care often recognise themselves as patients, rather than the more technically correct "service users". As this strategy focuses on putting those in receipt of health and social care at its heart, using the language of "patient" has been deliberately used in some cases as this will be more readily recognised by this key stakeholder group on elements of the strategy that are could make it into the public domain. In all cases, the term "patient" should be read as meaning all service users, in the spirit of the cross care setting focus of this strategy.

2. Digital Vision

The DHSC vision⁵ is to become "the best small-island health and social care system" and deliver longer, healthier lives by providing the right care, at the right time, in the right way, as close to home as possible. This is supported by a digital vision:

The Isle of Man is to become the best small-island digital health and social care provider using modern technology and promoting innovation to put the service user at the centre of their provision of care. By ensuring accessible, joined-up, safe and efficient processes, we will deliver accurate and validated clinical information to the right people at the right time.

This digital vision ensures everything that flows from this strategy is aligned and "facing in the same direction". The vision needs to be able to inform, guide and remain relevant despite changes in the delivery roadmap over time due to new health and care policy and regulations, advances in health and care systems, or simply tactical changes based on operational considerations at the time.

The digital vision encompasses several themes congruous to the direction the Isle of Man is evolving as a modern health and social care provider namely:

⁴ <https://www.nao.org.uk/wp-content/uploads/2019/05/Digital-transformation-in-the-NHS.pdf>

⁵ At present, Manx Care has not formalised its own vision. The digital vision within this strategy will be revisited to ensure it aligns with the Manx Care vision one this is published.

Digital Strategy

- Delivering fully integrated services to provide care in a joined-up way across care settings
- Focussing on the service user, and providing them with greater visibility and control of their care
- Ensuring digital services are designed around users and their needs, be they patients, service users, clinicians, social workers or anyone that interacts with digital care)
- Using modern digital technology to improve and facilitate better care
- Ensuring data is used effectively and intelligently, and is also safe guarded from misuse
- Designing monitoring and measurement criteria from the outset to capture how well digital care is being delivered and clinical outcomes are being achieved
- Driving efficiencies and value through better use of technology
- Moving to preventive care with the less resultant interventions on the part of health providers
- Developing a culture of openness and collaboration to break down siloed working practices
- Promoting an environment of innovation, to support all the above







This vision is in keeping with what has become known as the triple aim of health and social care: improving the experience of care for those in receipt of it (including quality and satisfaction) across all care settings, improving population health and reducing the overall cost of health and care.

3. Digital Principles

Principles are general rules and guidelines, intended to be enduring and seldom amended, that inform and support the way in which an organisation sets about fulfilling its mission. The following section describes the digital principles, together with some examples of their expected consequences.

The principles developed below have also been mapped against the WHO draft global strategy on digital health 2020– 2025⁶ of transparency, accessibility, scalability, replicability, interoperability, privacy, security and confidentiality.

⁶ https://www.who.int/docs/default-source/documents/g4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf?sfvrsn=f112ede5_50

Principle		WHO Digital Health Principle	Key Implications
1	Patient First 	Put the recipient of care at the heart of health and care provision and decision making, at every stage	Accessibility Design services that respect service user needs. Plan time to understand their emotional, physical and technical requirements, and be compassionate in your design decisions. Consider others who interact with the service user (family, carers, staff) and ensure that they have the access to information and services that they need to deliver the very best support. In particular, ensure that services are as simple to interact with as possible. Health and care journeys can be complicated without unnecessary complexity being designed into services.
2	Patient Anywhere 	Provide consistent omni-channel access that is consistent across channels and reflects service user needs	Accessibility By providing each island resident with a single digital longitudinal health and care record, it will be possible to make consistent experience whether people access services digitally (through web applications, or mobile devices) or face to face with health and care professionals. Visitors to the island will also receive a health and care record. This will represent a single version of the truth, updated in real-time. It will be accessible by service users as well as appropriate staff meaning accurate and validated clinical information will be available to the right people, at the right time.
3	Embrace Innovation 	Iterate regularly through change initiatives, releasing little and often, building on what works best	Scalability, interoperability, replicability Create a modular ecosystem of digital services competing on quality to meet the needs of all our patients, service users and staff in all health and care settings. Avoid large contracts that limit freedom to innovate, and focus on a series of smaller contracts that let us take advantage of the best approaches and features of systems and services. Ensure co-ordination and join up with other initiatives. Where possible, start small and experiment with different ways of doing things. Make prototypes to improve your understanding. Digital services should always be evolving to accommodate different service user needs.
4	Value Data 	Design data-driven services with data that can be used to objectively measure success	Accessibility, transparency Ensure you design for the outcome with a clear idea of what good will look like. Understand the health, wellbeing and other measurable benefits that your work will deliver, and ensure that you design ways of measuring the success of these outcomes. Data from all health and care systems should be available for the provision of management information and business intelligence functions for the relevant services, subject to suitable permissions and safeguards as per the National Data Guardian's Review of Data Security, Consent, and Opt-Outs and in compliance with data protection legislation. Abide by the six information principles in the Health and Care Information Strategy.
5	Safe by Design 	Make services safe to use, and ensure the privacy of personal information	Privacy, security, confidentiality Ensure trust is engendered by using systems that implement the best cyber security and data privacy controls. Ensure all staff understand how to use services in a way that not only protects confidentiality, integrity and accessibility of personal and sensitive data, but ensures no clinical risks arise in their use of the service.
6	Open Collaboration 	Be collaborative between parties to improve efficiency and transparency	Replicability, scalability, transparency All participants in health and care must share their learning and their work. This means all health care departments, internal functions, service providers and across the supplier community should be transparent in their design decisions. The greatest trust in services and innovation in delivering new digital services comes from openness.

4. Digital Maturity

In implementing this digital strategy, it is vital to set about taking measures to objectively measure the success of any individual project, and to gauge the return on investment. The ability to measure success is enshrined in the digital principles.

To measure the success of the digital strategy holistically, a digital maturity assessment should be undertaken early in the life of this strategy and revisited regularly through-out its duration. A rising score will provide confidence that the strategy is being adopted with a degree of success, and the rate of rise a measure as to how well and how quickly.

Appendix A draws together a series of best practice maturity frameworks in health, which should be formalised into an approach tailored for Manx Care.

The maturity measure can be based in the first instance, on the HIMMS Electronic Medical Record Adoption Model (EMRAM)⁷. Given the strategic requirement to drive adoption of a single longitudinal record across all care settings, this is a recognised international scheme and is being adopted by other island jurisdictions⁸.

Stage	
0	All three ancillaries (laboratory, pharmacy, and radiology) not installed
1	Ancillaries - Laboratory, Pharmacy, And Radiology/Cardiology Information Systems; PACS; Digital Non-DICOM Image Management
2	CDR; Internal Interoperability; Basic Security
3	Nursing And Allied Health Documentation; EMAR; Role-Based Security
4	CPOE With CDS; Nursing And Allied Health Documentation; Basic Business Continuity
5	Physician Documentation Using Structured Templates; Intrusion/Device Protection
6	Technology Enabled Medication, Blood Products, And Human Milk Administration; Risk Reporting; Full CDS
7	Complete EMR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy And Security

While the focus is clearly on health care alone, and specifically within the Acute sector, it can be adapted to be inclusive of other care settings, along with other criteria from the digital maturity assessments.

⁷ <https://www.himssanalytics.org/emram>

⁸ <https://www.gov.je/SiteCollectionDocuments/Health%20and%20wellbeing/B%20Digital%20Health%20Booklet%20-%20Developing%20a%20World%20Leading%20Health%20Service%20in%20Jersey%20200120%20AM.pdf>

5. Strategic Alignment

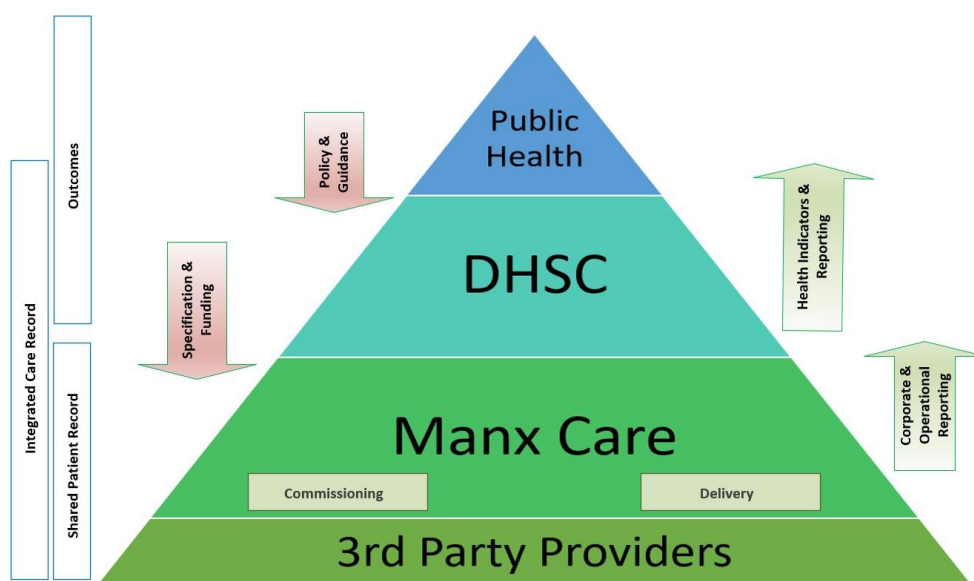
This section covers the alignment with the overall transformation of health and care within the Isle of Man, drawing on elements of Sir Jonathan Michael’s review of the Health and Social Care system⁹.

Additionally, the strategy takes advantage of other reviews and recommendations made outside of the Isle of Man, to take advantage of key lessons learned. One such is the National Audit Office report into digital transformation in the NHS¹⁰.

This Digital Strategy is tightly aligned with the Health and Social Care Information Strategy, avoiding duplication to the largest extent possible. The Information strategy covers the strategic objectives for the management of the full data lifecycle, covering collection, access, analysis, reporting using digital and automated means. How this data is delivered in the right way at the right time through digital channels is managed within this strategy.

This allows a strategic approach which starts with data, and allows informed, predictive, value-based decisions to be made around elements of Manx Care and its interactions with wider public health; from population health analytics and the provision of preventative care, to the planning for the work force required to deliver better health outcomes.

The sectors supported by this strategy include Public Health, DHSC, Manx Care and 3rd Party Providers.



5.1. Supporting Enduring Transformation Projects

Within the Transformation Programme there are several projects that are delivering enduring change against the recommendations made within the independent review. These projects, including Data, Information and Knowledge, Primary Care at Scale (PCAS), Pathfinders (Needs Assessment, Pathways and Service by Service Review) and New Funding Arrangements, have a dependency upon this strategy and the initiatives that will implement the digital vision.

⁹ <https://www.gov.im/media/1365879/independent-health-and-social-care-review-final-report.pdf>

¹⁰ <https://www.nao.org.uk/wp-content/uploads/2019/05/Digital-transformation-in-the-NHS.pdf>

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Within Primary Care, digital tools will form an essential part of the delivery of an effective Primary Care model. Service Users will be presented with a more effective 'front door' that connects all Primary Care into a single information hub where people can effectively find the information they need to support self-care or be directed to the right place based on their needs.

Service users should be able to book the right appointment online for the relevant Primary Care service they require and where appropriate, digital consultations that make use of the latest information and communication technologies should be offered.

The delivery of a "Manx Care Record" that provides all staff with access to a service user's record across all health and social care setting is a critical component of this digital strategy.

The World Health Organisation's (WHO) Global Strategy on Digital Health 2020-2024¹¹ strongly advocates placing the service user at the centre of digital health as an essential component of trust-based, people-centred care.

Placing service users in control of their records has many benefits:

- They can validate existing information and add additional information to the record, resulting in greater accuracy.
- They can see and control who has access to their information.
- They can reference the record whenever needed – which removes administrative burden from front line services.

Key to the provision of the Manx Care Record is that access to it should be consistent across health and social care settings.

Where appropriate, soft market testing can be undertaken in conjunction with the development of this strategy to understand and inform how best to deliver transformational projects.

5.2. Evaluating In-Flight Projects

The Department of Health and Social Care (DHSC), IOMG's Business Change Unit and Government Technology Services (GTS) are currently managing a portfolio of projects to deliver digital benefits to the DHSC. These cover a range of replacements and upgrades (such as the upgrade to RiO and replacement of MEDIFACT) through to major building blocks of the new digital services, such as the Manx Care Record.

The digital roadmap will encompass many of these projects, once each has been evaluated to determine if:

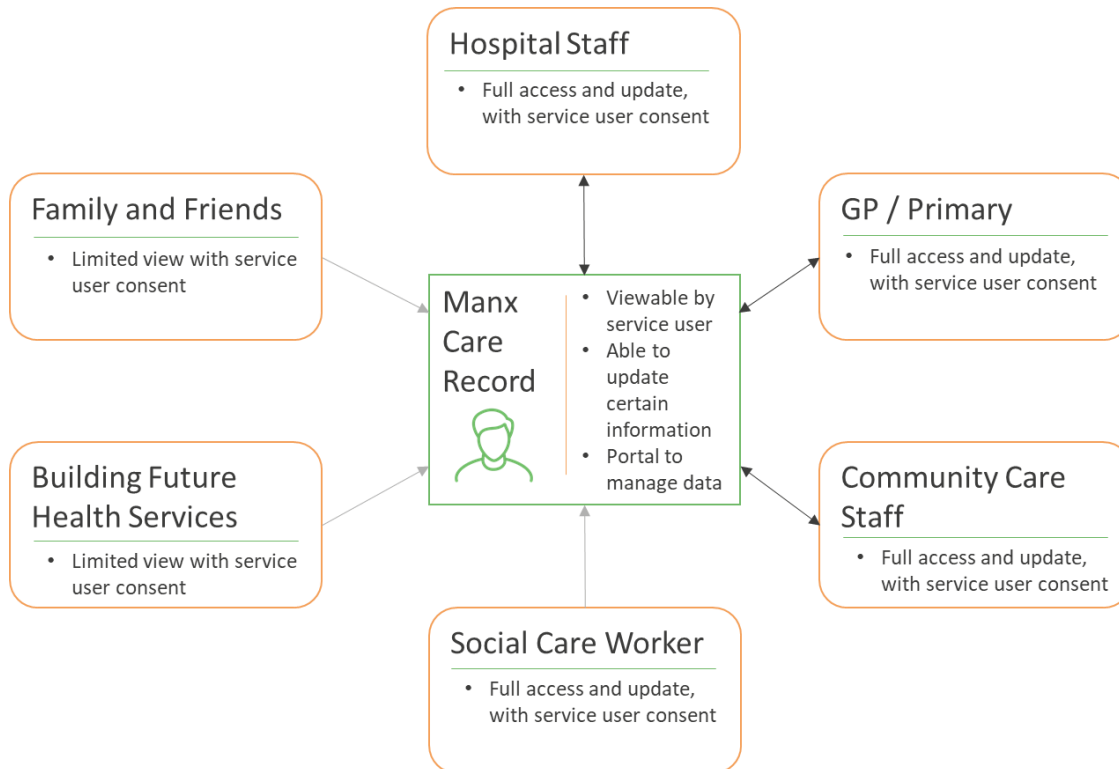
- the project should continue with no, or little, change
- the project needs major redesign or re-architecting to better support the digital strategy
- the project needs to be withdrawn or subsumed within other projects

¹¹ World Health Organisation, Digital health and innovation (2020, <https://www.who.int/health-topics/digital-health>)

6. Strategic Themes and Objectives

6.1. Centred on people in receipt of care

Like other modern health and care strategies, and digital strategies in general, we focus on service users and service users as being at centre of any digital initiatives, leading to the first digital principle being **Patient** (or service user) **First**. This lens will drive the strategic direction of the single longitudinal service user record across all care settings, avoiding narrowing the scope of the benefits of a truly service user centric system. This Manx Care Record will sit at the centre of care across all care settings, and will have access controlled by the person in receipt of care, i.e.



This will allow control by the service user, both to maintain their own data, monitor access, and query the veracity of their health and care record.

There needs to be a strong mapping to service user benefits in the implementation of this strategy, and how these will be delivered through, for example, integrated care across care settings. This provides an opportunity to link the strategy to role and function of public health in addition to Manx Care.

By putting those in receipt of care first, there is also an onus on ensuring that all services are designed with the service user firmly in mind. In establishing service user and service user needs, the GOV.UK Service Manual provides guidance¹² including how to research and understand, document and validate these needs resulting in a set of User Stories¹³, a recognised tool in agile delivery programmes.

¹² <https://www.gov.uk/service-manual/user-research/start-by-learning-user-needs>

¹³ <https://www.gov.uk/service-manual/agile-delivery/writing-user-stories>

6.2. Technology and Operational Resilience

The Isle of Man DHSC has a pressing issue with the provision of some key services, specifically around the current contractual position of these services and the imminent requirement to renew contracts and licenses. This digital strategy is only as effective as its ability to deliver successfully against its roadmap, and the capabilities and functionality of these key services are critical to this delivery. Failure to address these contractual issues poses a significant risk to the viability of this strategy, and so an early review of these systems will identify what is possible with each of them.

Where there is a reliance on large system providers, the principles on which each of these should be carried forward will be worked through. The key aim is to maximise the value each brings to healthcare on the island, while at the same time seeking to limit any detrimental impact on the overarching vision and aims of the digital strategy. This would be underpinned by an assessment of what must be kept, what needs to be enhanced, and what can be replaced or decommissioned and realistically when and in what sequence.

In keeping with the principle to **Embrace Innovation**, large system providers with commercial arrangements that lock the Isle of Man into limited improvements over extended periods of time should be avoided.

New infrastructure and services will be introduced according to best practices in modern day health care. These are:

6.2.1. Use modern tools and technologies

- Allow users to choose any modern computers and operating systems that meet their needs, including the use of modern browsers to allow some of the world's best user experience.
- Adopt a mobile-first approach¹⁴ and make the same digital services easily accessible from mobile phones, tablets, laptops and assistive technologies like screen readers. Ensure that commercially, apps are free for service users.
- Move to operating systems, browsers and other technologies that use an "evergreen" approach to benefit from continual improvements, particularly those related to cybersecurity.

6.2.2. Cloud preferred

- The move to use public cloud services, Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS) should be considered in preference to running locally managed servers. This should be in line with 2018 NHS guidance¹⁵.
- This typically provides greater resilience, frequency of back-up, and cybersecurity protection than exists in locally hosted provision¹⁶. Modern health providers are expected to provide 24x7 care, underpinned by the systems and services they employ.

¹⁴ There is a potential constraint on mobile communications infrastructure on the island, with mobile connectivity expected to be an issue in some geographic regions. Notwithstanding, the aim of mobile-first is to ensure that mobile is fully catered for in delivering services, and should not be considered as "mobile-exclusive".

¹⁵ <https://digital.nhs.uk/data-and-information/looking-after-information/data-security-and-information-governance/nhs-and-social-care-data-off-shoring-and-the-use-of-public-cloud-services>

¹⁶ This is based on the economies of scale afforded to major cloud providers such as MS Azure, AWS and Google, where the annual spend on resilience, cyber protection and general patch management is typically greater than many organisations can budget for with local hosting. However, this is subject to the commercial arrangements with any selected cloud provider.

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- The ability to scale services in line with demand, and the ability to quickly deploy new services is also enhanced.
- Commodity services, such as office-based software used by administrative staff, will benefit from continuous improvement.

6.2.3. Provide data through APIs and Open Standards

- A data layer should be available which allows registers of data to be made available to other services where appropriate, and these services should be kept up to date with data changes by default. This data will be transferable through open standards, and not rely on proprietary mechanisms. This should be through application programming interfaces (APIs).
- For health and care data, agreed NHS X open interoperability standards (for example Fast Healthcare Interoperability Resources [FHIR]) must be used.
- The management and discovery of data should be facilitated in line with the Health and Social Care Information Strategy and will ensure we **Value Data**.
- Data should ideally be captured and stored once and made available many times to the services that require it.
- Adopt a single identifier for service user records, expected to be the NHS number, to allow data from disparate systems and services to be linked.

6.2.4. Internet preferred

- Digital services are increasingly built on internet standards and protocols, meaning that by focusing on services that are already internet enabled the options for **Patient** (or service user) **Anywhere** are maximised, particularly when these are coupled with cloud-based services.
- Digital developers and software engineers with knowledge of building for the internet are prevalent, ensuring these skills are more readily available and the cost of developing services is minimised.
- Internet services are more likely to allow care to be delivered close to the where the service user needs it, better supporting telemedicine, remote consultations and clinical innovations.

6.2.5. Architect solutions using components and layers

- Where possible, separate the digital services front-end, from the data it uses, and from its hosting arrangements.
- Create a modular health ecosystem, allowing best of breed solutions, and the ability to engage in smaller contracts with service providers.
- This will prevent lock-in to large service providers' roadmaps that provide less scope for innovation or novation without large and disruptive system migrations.

6.3. Digital Culture and Digital Capabilities

Delivering service user centred health and social care requires significant adaptive change (reliant on people, processes and culture), as well as technological advancement by the DHSC and the future Manx Care.

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Early in the execution of this strategy, a review of the implementation and operational skills required to deliver on the strategy will be undertaken. This will be informed by any options appraisals performed to determine how certain elements are delivered. Where there are gaps, digital awareness training and upskilling will be required to ensure the benefits of digital solutions are fully realised.

Effective digital leadership is critical for the successful adoption of digital healthcare and modern ways of working, as the Wachter Report¹⁷ makes clear. Specifically, the report states:

A national chief clinical information officer (CCIO), with a background in clinical care, informatics, and leadership, should be appointed to oversee and coordinate NHS clinical digitisation efforts.

As is readily demonstrated in the UK through the recent Covid-19 crisis, it is possible to implement digital advances in healthcare in challenging timeframes when the leadership is strong. Section 8 covers Governance, and the accountability of, and the leadership to champion, this Digital Strategy should lie with a senior stakeholder within the DHSC System Board. The responsibility for its delivery should be within the Manx Care Board, and will need to include input from other key stakeholders in Public Health and key third party providers (such as the Liverpool Heart and Chest Hospital in relation to the Cardiology service).

Examples of innovation within the NHS when this leadership is strong is the utilisation of digital technologies such as Robotic Process Automation to streamline and improve resource hungry processes, releasing staff to focus on other priorities. Similarly, collaboration (especially remotely) and the breakdown of siloed working practices is a key facet of digital. Greater collaboration between different care settings, and between service users and health staff will achieve better outcomes. The value of being able to collaborate remotely using digital platforms has demonstrated its huge value in recent weeks, and this can be continued and built upon. This supports the principle of **Open Collaboration**.

The implementation of this strategy will build a digital-first culture, through:

- Pro-actively attracting and nurturing digital capabilities for staff to underpin the cultural parts of the strategy.
- Two elements which would support this are:
 - Continuous learning environments to ensure all users of Manx Care can exploit its potential and learn from the experiences of others;
 - Establishment of “digital teams” – small groups consisting of a cross-section of staff disciplines to explore more digital ways of working.
- Creating of an “Intelligent Customer” function, providing Manx Care with the capability to reduce their reliance on technology and service providers in defining the requirements for digital healthcare, and allow DHSC greater flexibility and confidence in procuring new services.

6.4. Innovation

Future proofing through adopting new digital technologies is vital to continuously improving healthcare. This strategy recognises that the transformation programme, and in particular key

¹⁷ Using information technology to improve the NHS: Making IT work ‘The Wachter Report’ (Dept Health and Social Care 2016, <https://www.gov.uk/government/publications/using-information-technology-to-improve-the-nhs>)

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workstreams such as the Pathfinders, will drive adoption of new tools as they deliver new care pathways.

A framework will be developed for ensuring these modern digital technologies can be trialled and adopted in a manner that is clinically safe and by encouraging “design thinking” amongst the users of Manx Care.

Adopting a lean and agile delivery processes will ensure “little and often” delivery to deliver greater service user value at lower risk.

The UK Department of Health and Social Care have published a policy paper on the future of healthcare¹⁸, which includes several areas aimed at promoting digital innovation. Particularly, they recognise:

- Partnerships between innovators and the health service must be at the heart of the ecosystem. Collaboration, co-development and iteration between innovators and the health providers needs to be standard practice.
- Innovators who want to challenge established guidance and working practices need to be able to do so through a health-tech sandbox, allowing the testing, iteration and de-risking innovations. In this way, clinicians can use them with confidence when they are ready for roll-out.

The ability to successfully innovate with partners often involves engagement with smaller suppliers, as they can be more agile and responsive to the needs of their customers, and better able to support a “little and often” approach. This does not preclude innovating with large suppliers, provided contractual arrangements allow sufficient influence of their roadmap. Given the global market these suppliers operate in, a small island jurisdiction such as the Isle of Man needs to be able to effectively prioritise their needs.

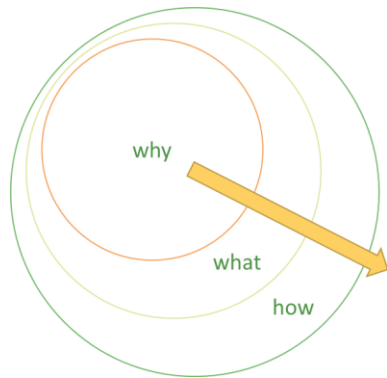
A key area of digital innovation is around Artificial Intelligence and Machine Learning, seen as having huge potential in improving diagnosis and care, and in predicting health trends.

Clinical innovation often focusses on wellbeing, and preventative health care. This can be massively advantageous as prevention is invariably more economic and less disruptive than intervention, as well as allowing demographic groups such as the elderly to live independently in their own homes for longer.

¹⁸ <https://www.gov.uk/government/publications/the-future-of-healthcare-our-vision-for-digital-data-and-technology-in-health-and-care/the-future-of-healthcare-our-vision-for-digital-data-and-technology-in-health-and-care#cs7-main>

7. Roadmap

Strategy production and execution progresses through three stages:



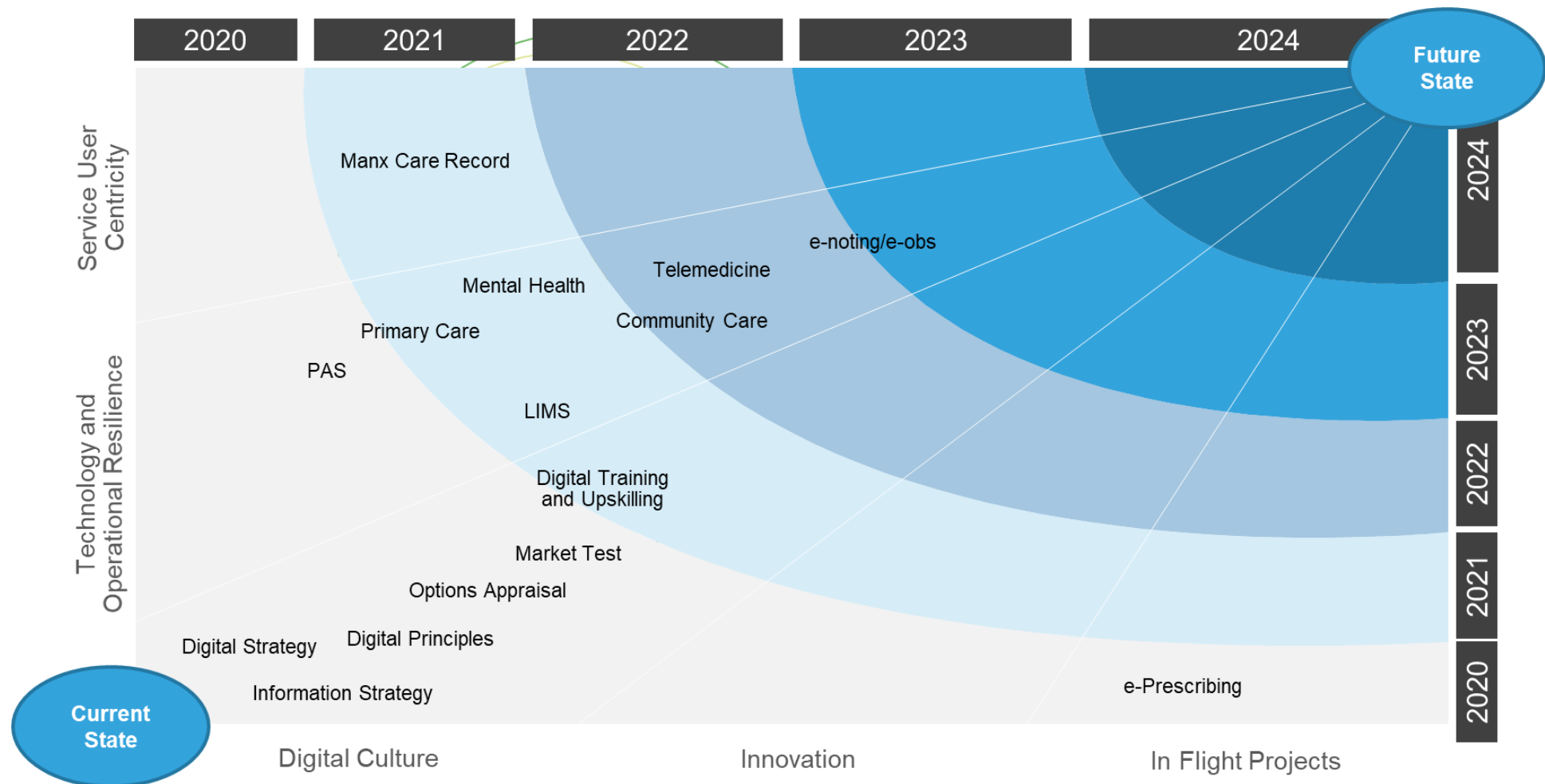
The *why* is concerned with why we want to enact a particular change and sets out the vision and principles we want to adopt in doing so. The *what* provides more details around the objectives to achieve the vision, and proceeds to a set of more granular and actionable activities. The *how* concerns how we implement these activities and make them operational and real.

At present, the strategy is providing a strawman for the “why” and a set of high levels elements for the “what”. Approval of this will follow the due process of approval, and certain elements will need to be subject to an options appraisal to determine the best approach, both to agreeing functional components and delivery options. Ultimately, the “how” will determine which solution is arrived at and will be arrived at through a competitive procurement. As an example, the strategy sets out the reasons for a single longitudinal health and care record, and some of the high-level features of the resultant Manx Care Record. How the solution is delivered will be subject to the production of an options appraisal and the Outline Business Case. The right solution and commercial agreement will be determined through procurement.

Throughout, this process the Digital Strategy will be kept aligned with the Information Strategy, to further inform the options appraisal and determine prioritisation of delivery. This will in turn inform and refine the digital roadmap.

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The roadmap is a key feature of this strategy, and describes a set of actionable activities which, when undertaken by Manx Care, will move toward achieving the digital vision. At present this is in development, and will evolve as the strategy matures, particularly in relation to the options appraisal.



When reading the diagram, it should be noted that each time division sweeps from top left to bottom right in a series of arcs. For example, e- Prescribing falls within the 2020 timeframe. The timeline should not be read from left to right across the diagram. For example, e- Prescribing falls within the 2020 timeframe.

Digital Strategy

A number of digital services and enabling components will need to be evaluated during subsequent iterations of this Digital Strategy, and through the progression of the Transformation Programme in general, as each develops. For example, as the digital capabilities of Public Health provision are progressed, how these services interoperate with Manx Care can be assessed and projects developed to deliver this joined up health and care provision. Other areas for consideration are:

- End-to-end digital processes
- Digital record as primary record
- Digital options for services
- Single Access Point
- Use of NHS number as the unique service user number used everywhere
- Record sharing protocols
- Collect once, and trusted re-use
- Access to records
- Supporting pathways/care plans
- Professional networks
- Data / Tech standards
- Data captured at source
- Insight and intelligence
- Supporting innovation
- Open care records / governance
- Local Skills and capabilities
- Public Health
- Child Health

8. Options Appraisal

A key early activity will be to undertake an options appraisal for how key systems and services, along with their supporting processes need to be tackled.

For each delivery within the roadmap, an assessment needs to be undertaken in line with the following three approaches.

8.1. Do nothing

The Do Nothing option in this case is focussed on retaining the current tools and services that already exist and are in use across health provision in the Isle of Mann. Recognising that in a number of cases (for example the System C PAS in the Acute setting, and RiO in Adult Social Care), there has been sub-optimal operation to date, the opportunity should be taken to assess how the underlying solution provision has been implemented and configured, and whether better value can be derived through changes to this configuration. Similarly, business processes (i.e. how the service is used) should be examined to determine if an improvement to the operation of the system can be improved by changing how it is used.

In the case of improving the quality of the datasets required to underpin the Information Strategy, it may be this is achievable with existing systems, albeit the use and configuration of these systems will need to change.

8.2. Commercial reset of existing provision

Similar to the Do Nothing option, this presupposes the existing service and service provider may be sufficient to meet the needs of a strategic objective. However, in several cases there may be a contractual or commercial blocker to maximising the value. For example, where a module is required that Manx Care would not have access to under current commercial arrangements.

In these cases, Manx Care needs to explore whether it is more cost-effective to undertake a commercial review with the aim of improving the provision within existing contracts.

8.3. Modular “best of breed” solutions

In line with digital delivery best practice, a large part of this strategy espouses the procurement and delivery of solutions which deliver best value for each digital initiative. This means architecting solutions, such that there is separation between front-end services delivery, data and back-end supporting functions, and between different areas in the health ecosystem.

This typically increases the level of innovation and can prevent lock-in to large system provider contracts. In order to ensure that solutions do not become isolated, or siloed, it is imperative that consideration is given to their interoperability.

8.4. Integrated solutions, or “rip and replace”

To avoid the potential problem of siloed solutions in a best of breed scenario, a valid option is to look at the large-scale health solution providers and their integrated solutions across multiple areas of health and social care.

Procuring more holistic solutions can solve integrated care challenges more readily, though often create a dependency upon the service and the service provider from which it is difficult to change, given the wider scale impacts and dependencies introduced.

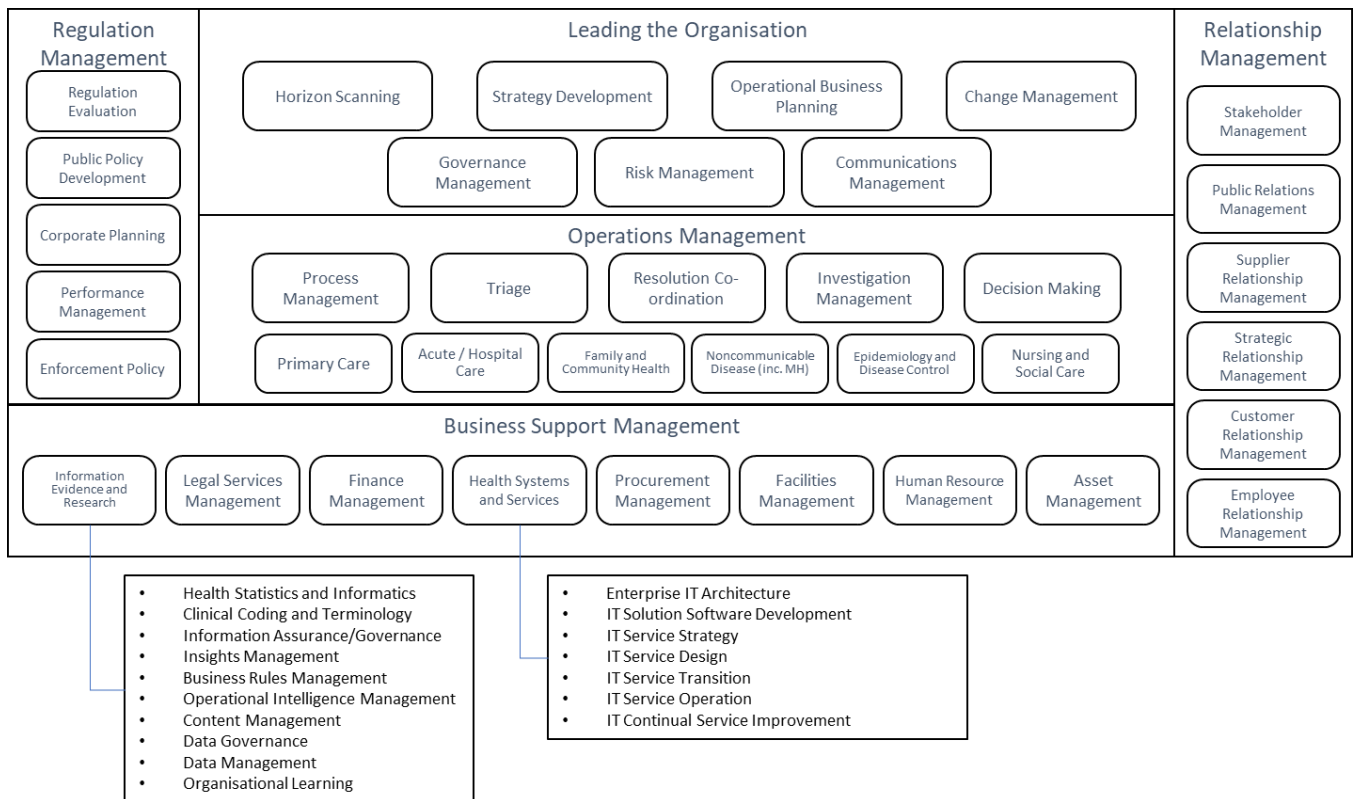
9. Organisational Skills and Capabilities

The method used to determine the skills required by Manx Care is based on understanding the organisation’s business capabilities.

Business Capabilities are a key tool of Business Architecture, and exist to:

- Define what an organisation must be able to do to successfully deliver its strategy
- Create the common link between executive intent and operational activities
- Provide a common language for change across the organisation
- Provide a consistent mechanism for assessment and prioritisation
- Focus on the *what we do, what we should do, and the value we provide.*

The high-level business capability diagram below shows how the organisation is split between leadership, operational, and support capabilities, along with how Manx Care would need to react to external changes, both from a regulatory perspective and from more regular external stakeholder interactions.



Two key elements have been expanded on here, as they are essential to the successful delivery of the Digital Strategy, the Information Strategy and the Information Governance Strategy.

Ensuring that the organisation possesses the staff skills necessary to deliver each of these business capabilities will be key to an efficient Manx Care. It will also allow a framework to understand how BAU teams can provide their skills and experience in delivering the strategy. In turn this will lead to more effective workforce planning, based on required capabilities rather than persisting existing resource profiles unless required.

10. Governance, monitoring and measuring

A key part of the successful implementation of any digital strategy is to ensure appropriate governance is in place to ensure that projects and programmes of work align to this strategy.

Ensuring that projects and initiatives are aligned with this strategy will reside within the Manx Care Board, and may require the establishment of a Digital Design Authority to support decision making, design approval and project prioritisation.

The governance should not rely solely on a design authority mechanism for approving change, but should also include the means to monitor the implementation of digital initiatives to ensure they are successful, and be empowered to determine whether they need to be further enhanced, or in some cases withdrawn or replaced where they are not delivering value.

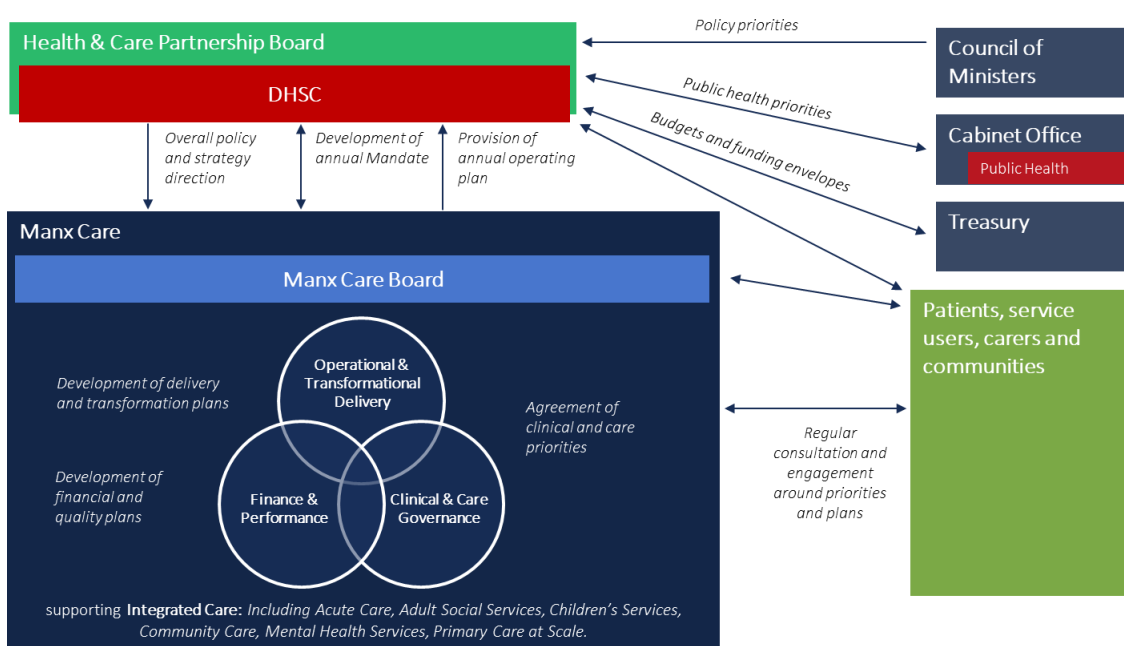
As the projects deliver service transformation there will be an increased reliance on high quality consistent information to support their implementation and ongoing sustainable strategic delivery. It is recognised that quality of data is a current challenge for the Isle of Man, and one which the Health and Social Care Information Strategy is seeking to address.

The Governance and Accountability Framework Project are developing permanent governance arrangements covering all aspects of health and care planning, delivery and assurance. The expectation is that this model will incorporate governance for ensuring the successful delivery of this Digital Strategy.

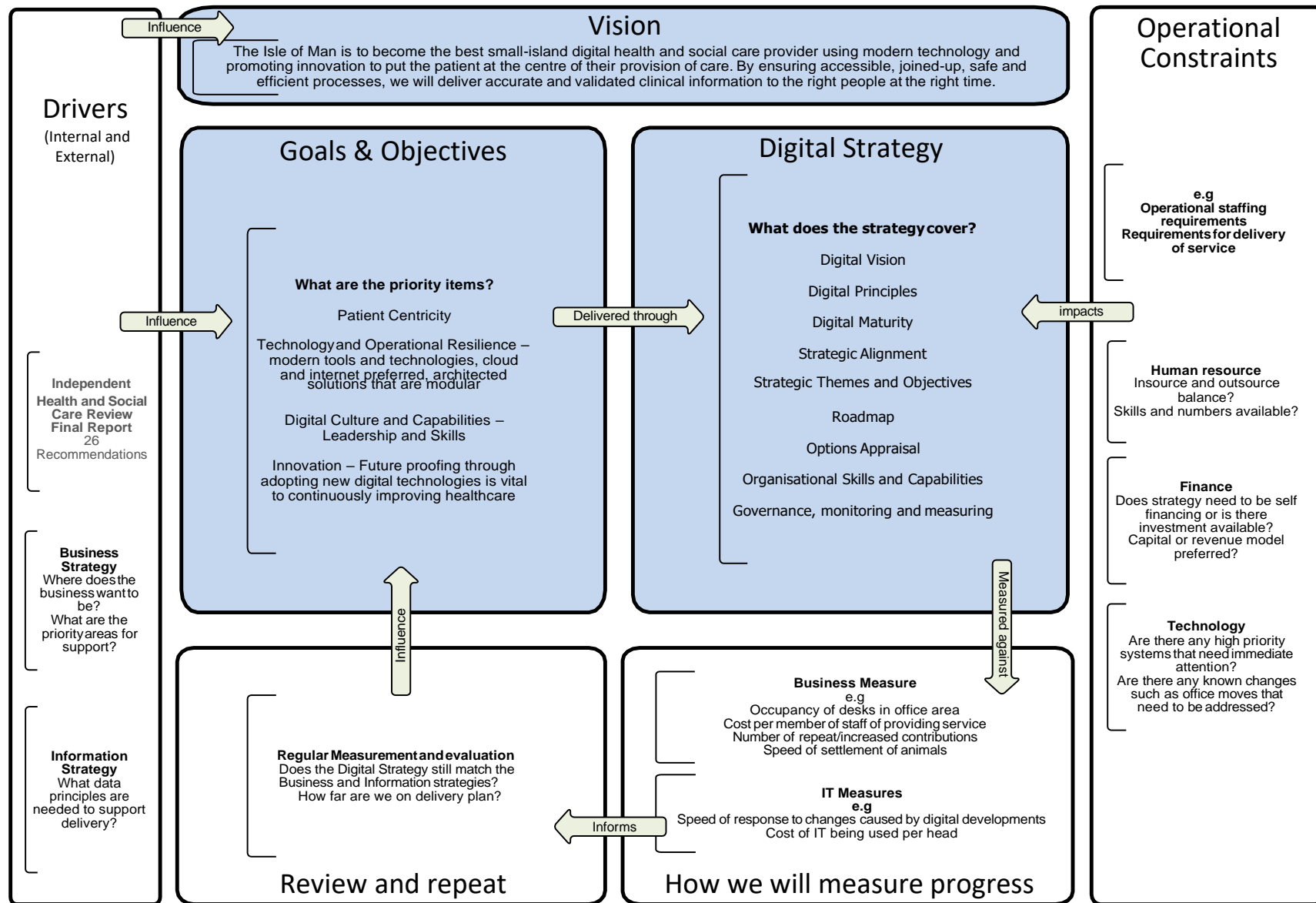
This is expected to include:

- A defined role for the chief clinical information officer (CCIO) in the governance structure;
- A Digital Steering Group, to oversee and guide digital initiatives;
- A well supported informatics team to undertake monitoring and measuring activities.

The following structure developed by the Governance and Accountability Framework Project illustrates, at a high level, the future state key entities' responsibilities and accountability and identifies the proposed information flows between them.



11. Digital Strategy on A Page



Appendix A – Approach to measuring Digital Maturity

The following are examples of independent and/or recognised digital maturity assessment frameworks. An early deliverable in the implementation of this strategy will be in ensuring a robust measure of digital maturity for Isle of Man health and social care is established and run regularly to measure the success of digital adoption across Isle of Man care settings.

NHS England and NHS Improvement: <https://www.england.nhs.uk/digitaltechnology/wp-content/uploads/sites/31/2015/11/dig-maturity-guid-11-15.pdf>

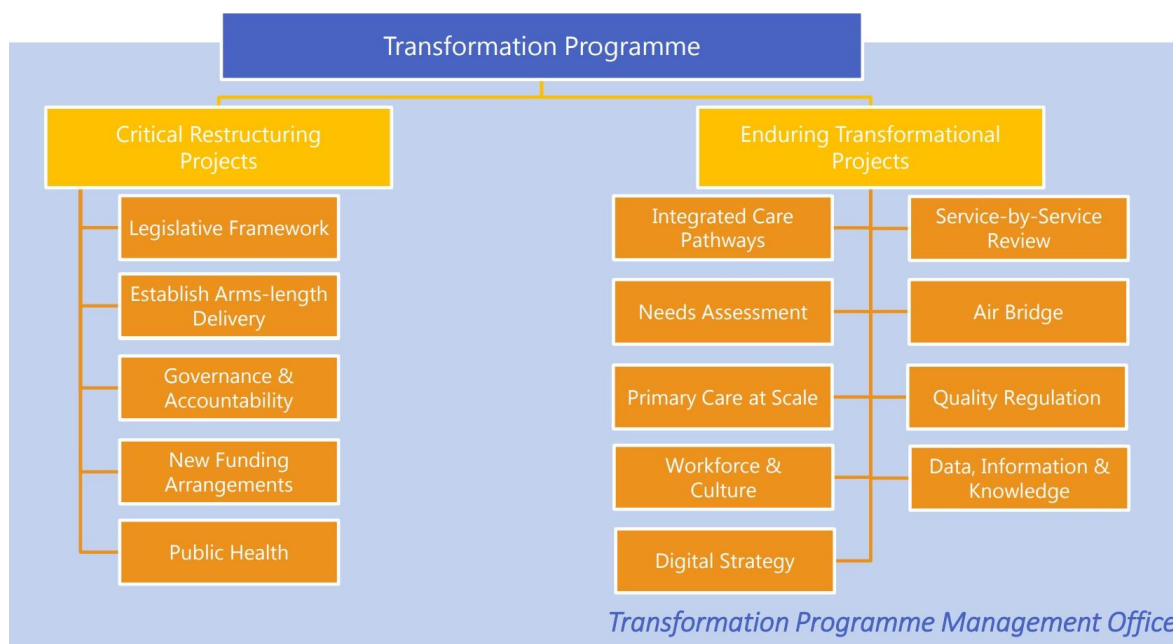
HA-EMRAM:

https://www.himssanalytics.org/sites/himssanalytics/files/full_pdf/HIMSS%20Analytics%20EMRAM%20Criteria%20-%20North%20America.pdf

Imperial College independent review: <https://www.jmir.org/2016/4/e75/>

Appendix B – Overview of the Health and Social Care Transformation Programme

The Health and Social Care Transformation Programme is made up of 14 projects split into two categories; Critical Restructuring Projects and Enduring Transformational Projects. Each project is designed to deliver on one or more of the independent report's recommendations. A summary of each project is provided below.



Critical Restructuring Projects

Improve Legislative Framework:

The Final Report identified a number of areas where there are gaps in the law necessary to underpin a safe and responsible health and social care service for the Isle of Man, for example around clinical governance and prescribing. In addition, some of the recommendations of the review will require legislative changes to enable their implementation, for example, new primary legislation will be

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required to establish Manx Care and amendments to legislation may be required following the decision on how to fund the increasing cost of the health and social care service in the future. This project will determine the need for new or amended legislation and work with the necessary stakeholders to progress its introduction into statute.

Establish Arms-length Delivery of Health and Social Care Services:

This Project will create a new organisation “Manx Care” with responsibility for delivering all health and social care services on the Island as a public sector arm’s length body, run by a Board appointed by Government and approved by Tynwald. This will facilitate the separation of the strategic planning and policy making, which will be retained by the DHSC, from the delivery of services by Manx Care – which was a key recommendation of Sir Jonathan Michael’s report.

Governance and Accountability Framework:

Health and Social Care on the Island requires a consistent approach to Governance and Accountability. Sir Jonathan’s review identified the lack of this as being a significant inhibitor to the provision of consistent quality services. This project will seek to implement a joined-up and structured approach to Governance and Accountability across all responsibilities and activities of DHSC including those which are delivered by other organisations including Manx Care, the third sector, private sector providers and off-Island providers, supported where necessary by legislation (though delivery of the legislation itself is covered elsewhere).

The recommendations included the need for the introduction as part of the overall improvement of Clinical Governance of a statutory duty of care for all those delivering health and social care services, including social care staff.

New Funding Arrangements:

The aim of this project is to achieve a health and social care system which plans for the future, which is affordable, financially sustainable, and delivered to an agreed set of standards, contracts and mandate through four strands of work: Baseline and budget setting (January to August 2020), Future Funding (January 2020 to April 2022), Longer-term planning (July 2020 to April 2023), Implementation (April 2021 to September 2024).

Transfer of Public Health Directorate to Cabinet Office:

The aim of this Project is to enable the Public Health Directorate to comprehensively fulfil its advisory and guidance function to the entirety of the Isle of Man Government through the transfer to the Cabinet Office. Phase one of the project focused on the transfer of the Directorate (now complete) and phase two will embed the transition.

Enduring Transformational Projects

Undertake Needs Assessment, Undertake Service-by-Service Review and Design and Implement Care Pathways:

The Undertake Needs Assessment, Undertake Service-by-Service Review and Design and Implement Care Pathways projects are closely related and interdependent projects that jointly consider what are the Island’s health and social care needs, what is the optimum care pathway and what is the optimum service model.

The initial phase of these three projects is to join together in a “pathfinder” process, which will be used to develop and test the process for review and new service design. Pathfinders would be phased to test the approach to these projects within certain services before wider adoption.

Implement Air Bridge:

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To deliver an enhanced air bridge service that meets the needs of the Isle of Man citizens and compliments and builds upon the current fixed wing provision for air ambulance transfers.

Primary Care at Scale:

The Project will co-design and implement a new strategy and model for Primary Care on the Isle of Man. Core to this strategy will be the establishment of a model that allows Primary Care services to be delivered collaboratively and at scale, providing a sustainable, high quality, service user-centred service.

Data, Information and Knowledge:

This Project is necessary to deliver a coordinated approach to:

- specifying what data should be collected across the health and social care system (from digital systems and or manual processes)
- determining how that data should be collected, verified, aggregated, interrogated and reported
- delivering the necessary changes to implement the specified changes

Digital Strategy:

The review recognised that there is already significant progress being made in relation to improving digital services supporting health and social care on the Island. Effective and flexible digital systems and reliable, shared information are both critical components of an integrated health and social care system. This project will consider the existing Digital Strategy in detail and determine how that could be accelerated, re-shaped and expanded to support the wider transformation programme.

Workforce and Culture:

This Project aims to introduce a new workforce model which enables the joint optimisation of the social/people and technical/process elements of culture that create a high performing organisation.

Implement External Quality Regulation:

This Project will ensure that rather than an ad-hoc approach to inspection of services, there is a consistent, independent and systematic approach to the inspection of all services across health and social care on the Isle of Man to an agreed set of standards as well as a rigorous process to understand, critically assess and act on the findings.

Appendix C – Alignment to the Information Strategy

This section covers the alignment between this strategy and the Health and Social Care Information Strategy, principally how its principles align with the Digital Principles described in Section 3.

The premise of the relationship is that the Information Strategy covers how data is collected, accessed, analysed and reported on, and published. It covers the capabilities required to achieve this, and the mechanisms by which data can be transformed into more valuable information. The Digital Strategy assumes that the Information Strategy will deliver high quality information, and sets out the principles and mechanisms by which this information will be delivered digitally.

The fourth Digital Principle of **Value Data** explicitly references the Information Principles, which are:

- D1. Service users must be placed at the centre of care and be in control of their own data wherever possible. This includes ensuring that service users have access to their data;

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- D2. Data from all health and social care systems should be made available for the provision of management information to the relevant services, subject to suitable permissions and safeguards as per the National Data Guardian's Review of Data Security, Consent, and Opt-Outs and in compliance with data protection legislation;
- D3. Health and care systems must be able to integrate using agreed NHS X open interoperability standards (for example Fast Healthcare Interoperability Resources [FHIR]) ensuring information is shareable along pathways, up and down services and with off-island providers as required;
- D4. Accuracy of data and appropriate access to data is essential in the provision of health and social care and therefore must be explicitly considered in all digital health and social care projects;
- D5. Digital projects relating to data collection must conform to an agreed national clinical coding standard. Systems collecting data from users should be designed to make it easier for the operator to 'get it right first time';
- D6. Robust security measures must be in place to protect data and uphold individuals' privacy: Data Privacy Impact Assessments (DPIA's) must be completed for all changes to the flow of service user information.




Appendix D – Known systems and contractual assumptions

This section summarises a number of key health and social care systems, together with indicative assumptions regarding their contractual renewals.

This list is not exhaustive, but is provided to illustrate the need to undertake an urgent review of commercial arrangements in order to deliver maximum digital benefits as part of any contractual negotiations.

Service Area	Existing Supplier	Contractual assumptions
 Primary Care/General Practice	EMIS	December 2020
 Community Care	EMIS	September 2022
 Mental Health	RiO	September 2021
 Adult Social	RiO	September 2021
 Hospital/Acute/ED PAS	System C (for primary PAS)	July 2020 (understood to have now been extended by 3 years)
 Pathology/Radiology requests	SunQuest ICE	Unknown
 Radiology image viewer	Philips iSite	Unknown

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	Manx Care Record incl. Service user access	In project phase	N/A
	Prison	Included with EMIS Community/ EMIS GP and RiO	Unknown, but thought imminent
	Laboratory Information Management System(LIMS)	Clinisys	Unknown, but thought imminent

Version Control

This document builds on draft 0.2 of the Manx Care Digital Strategy undertaken by the Digital Strategy Project Working Group within Government Technology Services. To reflect this, the version number follows from these earlier iterations.

Version	Date	Author	Changes
0.3	19/06/2020	Edward Williams	Initial author version
0.4	15/07/2020	Edward Williams	Further author version with early input from Information Strategy work
0.5	17/07/2020	Edward Williams	Updates following review by Transformation team
0.6	28/08/2020	Edward Williams	Updated with review comments Inclusion of initial capabilities chart and high-level options appraisal.
0.7	17/09/2020	Edward Williams	Updated with review comments
0.8	18/09/2020	Edward Williams	Updated with review comments