Scottish Government/COSLA Digital Maturity Assessment for Health and Social Care

Summary of Findings

December 2023

Background

The Scottish Government and COSLA commissioned Meisterworks to undertake a digital maturity survey across Scotland's health and social care landscape. All NHS Boards, Health and Social Care Partnerships and Local Authorities were invited to participate by completing self-assessments via a shared platform.

This follows a similar exercise conducted in 2019. Organisations who submitted a survey in 2023 can access their 2019 results for comparison. Some additional sections were added in 2023 and where appropriate questions re-framed.

This report has been independently created by Meisterworks to provide a national summary of findings based on the submitted self-assessed information. No information pertaining to any single participating organisation has been published here, and no comparisons between individual organisations have been included.

The maturity assessment itself was conducted via an online platform and covered three core themes – readiness, capabilities and infrastructure. Within those themes, there were components that applied to the whole organisation (e.g. leadership), and components that looked at specific services (e.g. acute). As returns relied on local self-assessments, participating organisations were encouraged to involve relevant staff and local stakeholders in assessing each component and coming to a locally agreed consensus on the current position. As part of this, organisations were invited to include their local third and independent sector providers in their assessments and to issue staff surveys.

Each participating organisation has had their data validated and an organisation-specific report produced. See Annex for further details on the methodology used.

Introduction

Digital Maturity describes the extent to which digital ways of working represent the status quo; an organisation is considered digitally mature if its procedures, processes and methods rely on digital tools and information rather than manual resources and paper records.

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For healthcare and social care, digital maturity is particularly important because it can address some of the challenges that threaten this sector today: spiralling demand, unchecked diversification and a growing need for agility are among them.

The Cabinet Secretary for NHS Recovery Health & Social Care recognises the essential nature of digital transformation to long-term, sustainable reform. The development of a collective understanding of our current capabilities and capacity will support utilisation of digital approaches throughout all aspects of service delivery.

Digital maturity assessments among health and social care sectors not only in Scotland, but also in England, Europe and further afield tell us that digital transformation (cross-cutting organisational change, the process of implementing and adopting digital technologies. Its focus is on bringing new value to users) is not often easily achieved; Dependencies, constraints, blockers and risks differ from organisation to organisation.

The digital maturity assessment reported on here provides an overview of digital maturity across the majority of Scotland's healthcare and social care landscape. The findings provide a standardised baseline that can be used to identify priorities, direct development and track progress on the path to organisational digital maturity.

While data collection for the current assessment dataset was time limited and needed to be completed by June 9th, 2023, participating organisations can now update their digital maturity assessments at any point in time, which will support them with tracking their digital maturity and better accommodate each organisation's pace of change.

At a national level, the findings from the 41 organisations that completed the assessment indicate that:

- Progress Has Been Made
- Digital Practices Do Not Yet Fully Permeate the Scottish Healthcare and Social Care Landscape
- Integrated Care Systems Remain Digitally Disintegrated
- Digital Maturity Varies Significantly Across the Scottish Healthcare and Social Care Landscape

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- Technology Basics Are Not Yet Consistently a Foregone Conclusion

- National Solutions Are Not Yet Fully Adopted

- Workforce Accepting of Digital Transformation, but Lacking Skills and Tools

- Digital Operating Models Are Winning

- Rich Intelligence Capabilities Can Support Digital Management

- Digital Access to Healthcare and Social Care Services is not yet Well Developed

- Most Digital Management Groups are Aware of Needing to Operate Sustainably

- Some Core Digital Capabilities Could Benefit from Functional Upgrades

In total more than 1,500 participants from 41 organisations collaborated on over 30,000 distinct occasions to complete the assessment. Additionally, more than 5,900 staff from over 30 organisations completed the staff survey.

This report explores these findings in more detail.

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Top Level Findings

Overview

Looking at the data from the digital maturity assessment at theme level (E.g., aggregated from 20 sections into 3 categories – *Readiness*, *Capabilities* and *Infrastructure*), the national picture divides participating health and care systems into three groups: Leaders, Mid-Field and Followers.
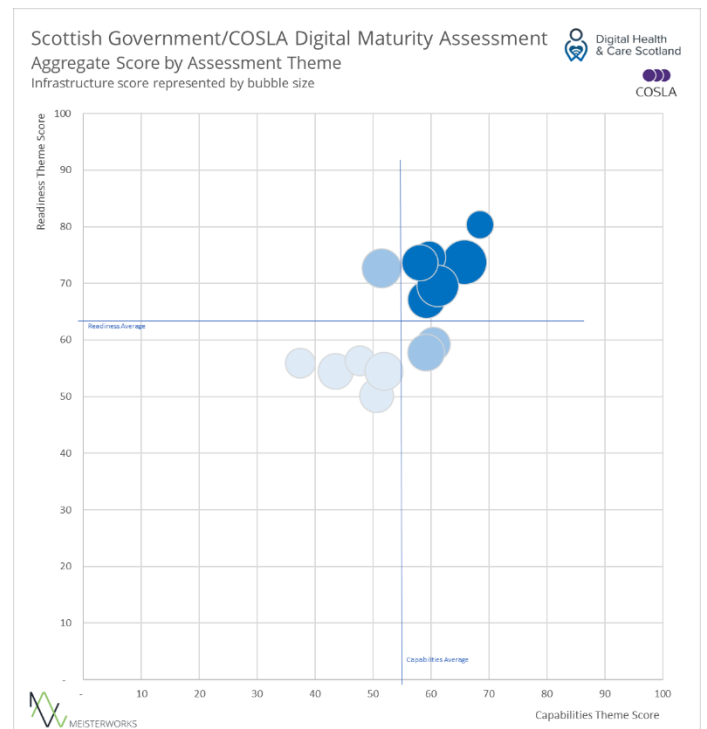
Accordingly, roughly one third of the Scottish population is served by a healthcare and social care system we would class as Mid-Field or Follower.

Further thought ought to be given to the fact that organisations serving more remote communities fared less well than those with urban communities.
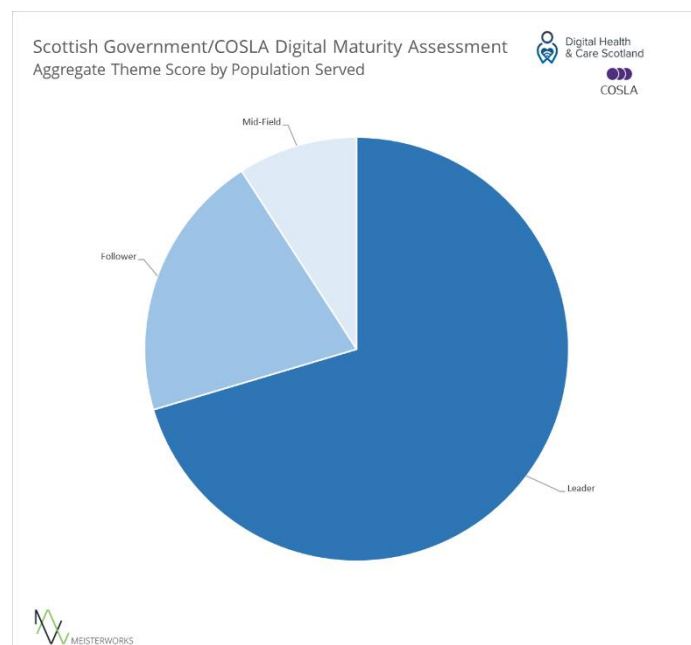
Progress Has Been Made

Compared like-for-like (E.g., comparing only questions that appeared in both the 2019 and 2023 assessments), progress has been made versus results from the previous assessment in 2019, particularly in the areas of *Orders & Results Management*, *Transfers of Care*, *Medicine Optimisation* and *Remote & Assistive Care*.


Progress in the latter section was partially driven by the unique demands of the Covid crisis and therefore presents, except for the capability to provide care interventions by asynchronous means (E.g., via Email or Chat/Messenger) as fairly homogenous across the country.

Within *Transfers of Care*, *Acute* and *Primary Care* services are responsible for most of the progress made; other services contributed relatively little to improvements since the previous assessment in 2019.
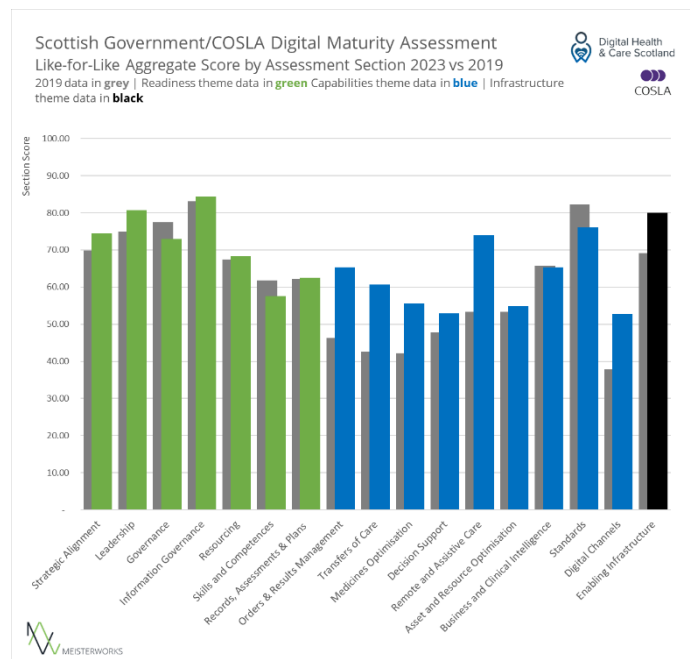
When interrogating the assessment data by section or theme, some of this report will show a contrasting picture, because it compares historical 2019 results with what we consider "good" to look like today; of course, this goalpost has changed dramatically since 2019, and will continue to change as the digital capabilities of healthcare and social care in general evolves.
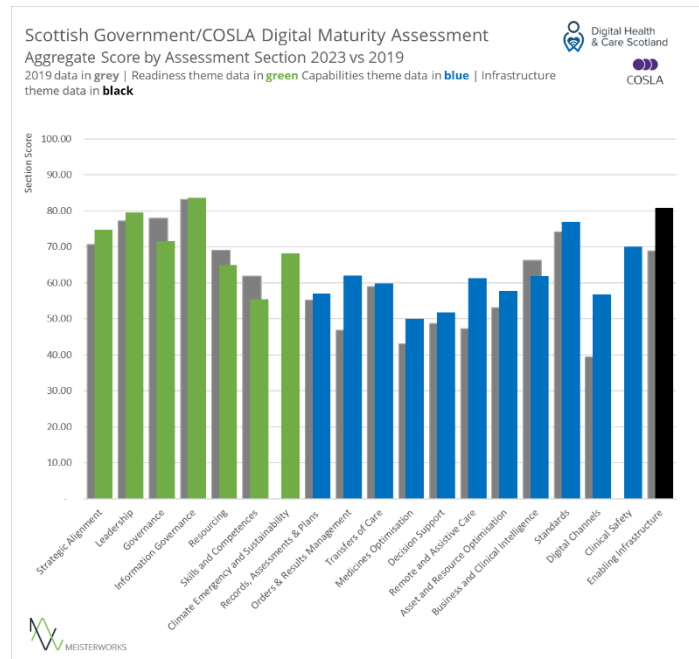
There is evidence that the pace of change will continue in the near future; one indicator is that participating organisations report planned go-lives for new systems likely to enable better digital workplace integration, particularly in the areas of ePrescribing, Electronic Patient Records and Care Planning and Documentation.
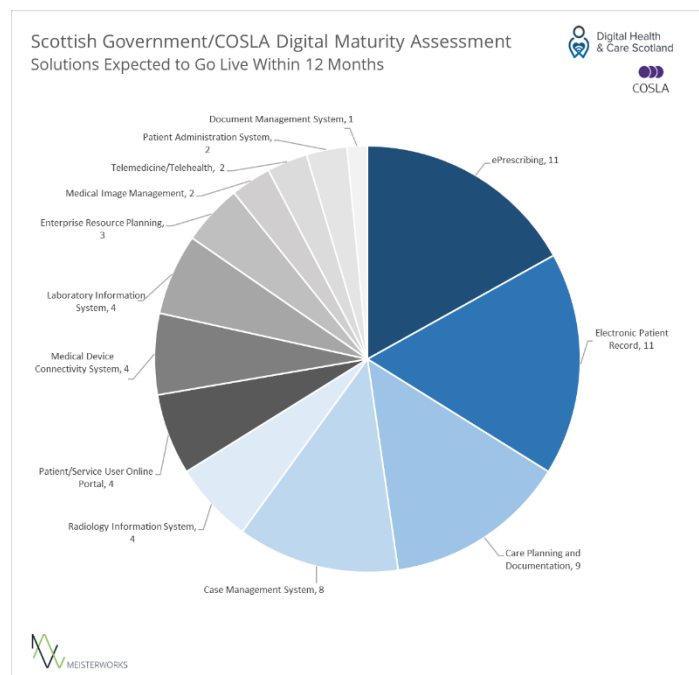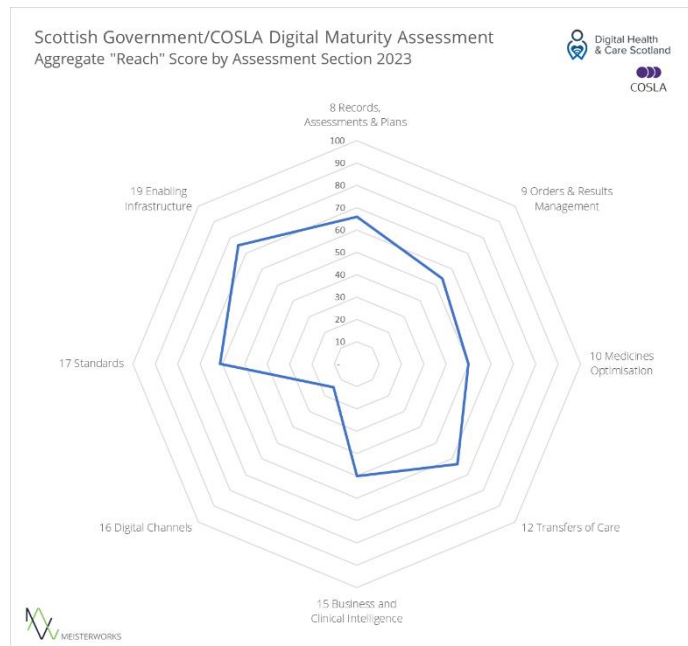
Digital Practices Do Not Yet Fully Permeate the Scottish Healthcare and Social Care Landscape

Analysis of those parts of the assessment concerned with adoption for certain key metrics (E.g., Digital health records, structured data, medicines administration logs, digital care handovers, adoption of digital channels, use of service user IDs and Wi-Fi availability, amongst others) shows that the nation is currently 'mid-journey' towards digital maturity.

Topics around providers' ability to offer digital access to services and information where applicable scored particularly low; further investigation into causes may be warranted to ensure digital skills/confidence amongst citizens is appropriately supported.

The exception is *Mental Health*, where remote ways of working and digital remedies have been more widely accepted than the national average.

Scottish Government/COSLA Digital Maturity Assessment
Aggregate "Reach" Score by Assessment Section 2023

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Integrated Care Systems Remain Digitally Disintegrated

The digital integration of healthcare and social care systems is an ongoing process, with most participating organisations receiving only a share of referrals digitally, and only a share of those digital referrals entering the workflow without manual intervention, thereby potentially undoing any benefits that may otherwise have been gained from digitising referrals.

Moreover, most organisations manage handovers of care (E.g., referrals, discharges, and transfers) to other organisations only partly using a digital process.

The conclusion that more needs to be done to integrate healthcare and social care systems digitally is illustrated by responses to assessment questions about access to digital records across organisational boundaries; Organisations reported being at best partially able to grant external healthcare and social care professional access to their digital records. Similarly, no participating organisations reported that their own staff was able to fully access the digital records of other, external healthcare and social care providers.
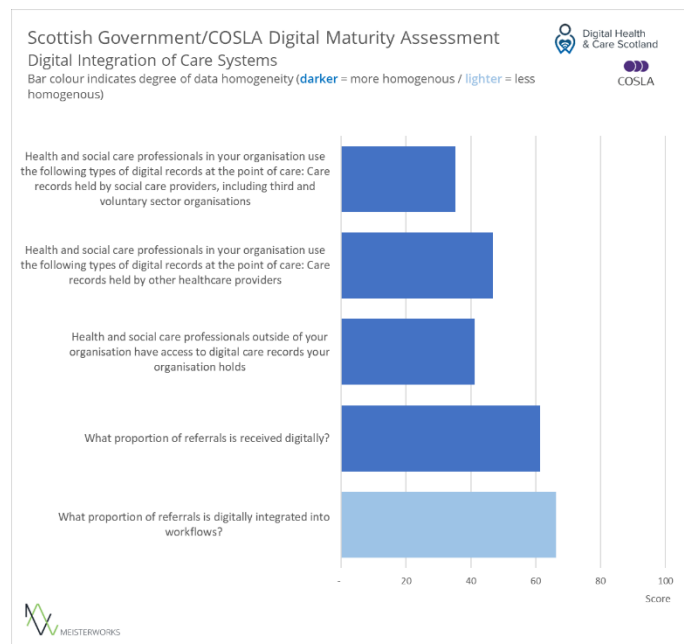
Digital Maturity Varies Significantly Across the Scottish Healthcare and Social Care Landscape

Interrogating the assessment data by topic illustrates the degree of variance between the levels of digital maturity participating organisations have reported.

This fact may well give rise to potential strategic approaches to the issues at hand: Highly concentrated scores (e.g., *Asset and Resource Optimisation*, *Digital Channels*) show that

Scottish Government/COSLA Digital Maturity Assessment
Area Score Distribution by Section
Higher concentration of scores in dark red, lower concentration in light red

Score category	10	20	30	40	50	60	70	80	90	100
Strategic Alignment			7%			20%	13%	47%	13%	
Leadership			7%				13%	47%	33%	
Resourcing					20%	27%	20%	20%	13%	
Governance				7%		13%	47%	33%		
Information Governance						7%	27%	27%	27%	13%
Skills and Competences			7%	20%	27%	20%	20%	7%		
Climate Emergency and Sustainabilit			7%		7%	33%	33%	20%		
Records, Assessments & Plans		7%		20%	7%	47%	13%	7%		
Orders & Results Management			7%		13%	40%	33%		7%	
Medicines Optimisation			20%	13%	33%	33%				
Remote and Assistive Care				13%	27%	27%	27%	7%		
Transfers of Care				20%	20%	27%	20%	7%	7%	
Asset and Resource Optimisation			7%		21%	50%	7%	7%	7%	
Decision Support		7%	7%	27%	27%	20%	13%			
Business and Clinical Intelligence				13%	20%	27%	33%	7%		
Digital Channels				13%	40%	27%	13%	7%		
Standards						20%	27%	33%	20%	
Clinical Safety					23%	15%	46%	15%		
Enabling Infrastructure							27%	40%	33%	

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organisations are at a comparable level of digitisation and may benefit from a centrally guided approach to continuing progress; A wider spread of scores (e.g., *Skills & Competences*, Remote and Assistive Care, *Business and Clinical Intelligence*) indicates disparity in degree and nature of digitisation, suggesting that a single approach may be ineffective. Polarised scores (e.g., *Clinical Safety*, *Records, Assessments & Plans*) indicate a mix of advanced and beginning stages of digitisation. Fostering knowledge sharing between those organisations may prove effective in supporting ongoing progress.

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For topics surveyed separately by service type within the digital maturity assessment, results varied by service type.

This is particularly remarkable since in many instances, different services in one locality are provided by the same organisation.

This finding may illustrate the difficulty healthcare and social care organisations across the country may be experiencing when rolling out digital solutions and processes across different care settings and services, and it certainly warrants further investigation.
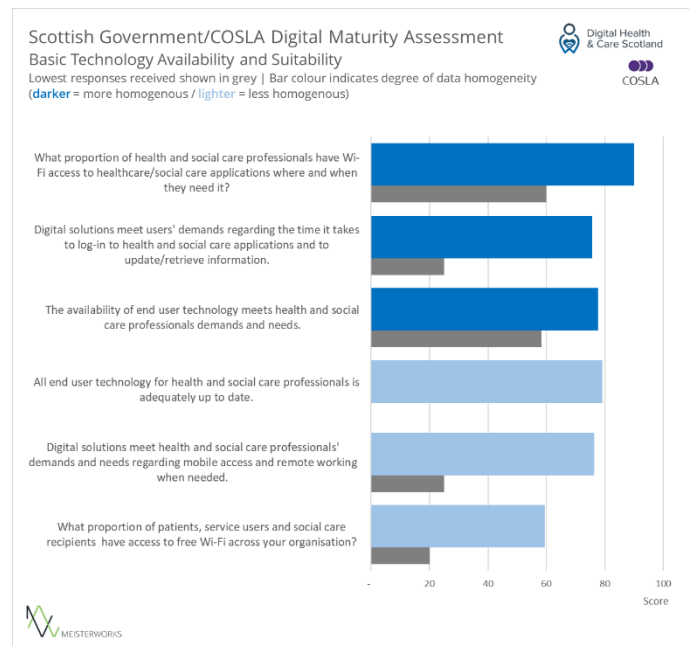

This trend appeared particularly pronounced for questions about the "reach" of digital practices (E.g., the degree of proliferation across the organisation or care system), where there were significant differences especially for topics such as *Records, Assessments & Plans* and *Transfers of Care*.
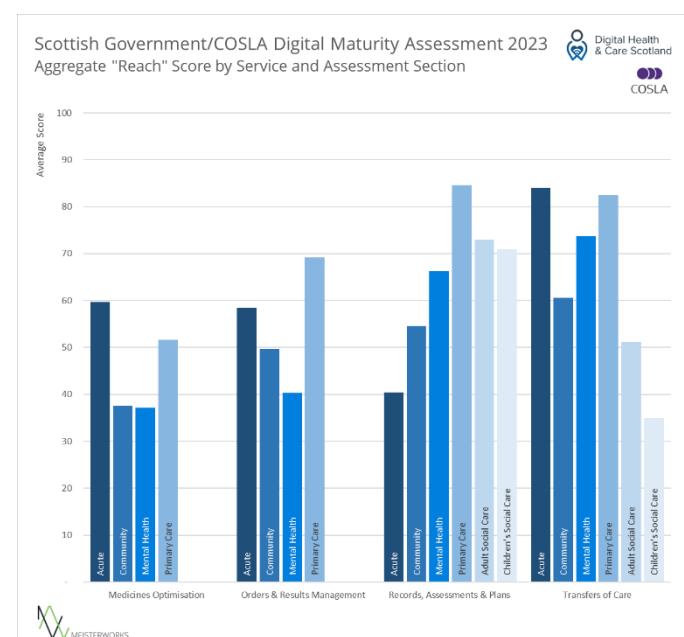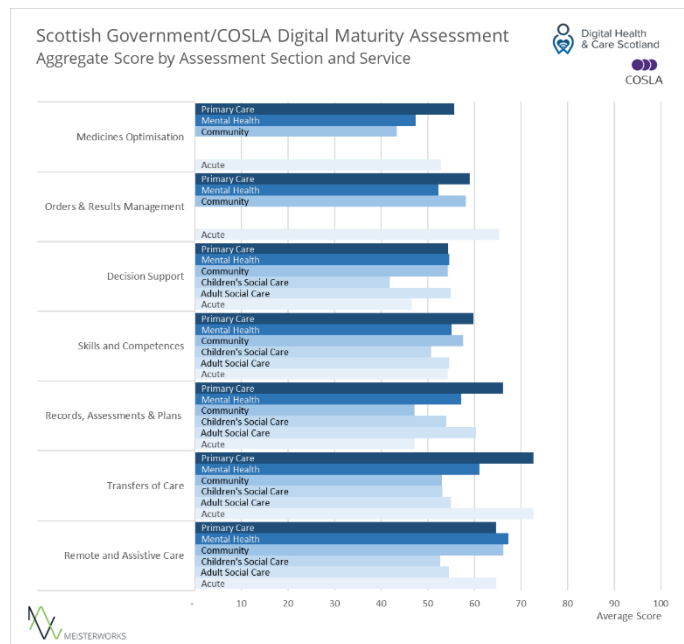
## Technology Basics Are Not Yet Consistently a Foregone Conclusion

When it comes to the availability and suitability of basic technology, our assessment found extreme differences between participating organisations.

While Wi-Fi access for healthcare and social care professionals was generally reported to be at least partially available, Wi-Fi for patients and service users was available only sporadically for some organisations (see grey bar in adjacent chart).

Scottish Government/COSLA Digital Maturity Assessment
Basic Technology Availability and Suitability
Lowest responses received shown in grey | Bar colour indicates degree of data homogeneity
(darker = more homogenous / lighter = less homogenous)

Others were at least partially unable to meet their users' needs (especially when working remotely) or maintain up-to-date technology for healthcare and social care professionals.

Although not used by every organisation. responses to the staff survey component of the assessment confirmed those findings from an end-user perspective, especially in terms of being able to access healthcare and/or social care systems from mobile devices – a majority responded with "somewhat disagree" or "completely disagree" (NB, in general there was a common disparity
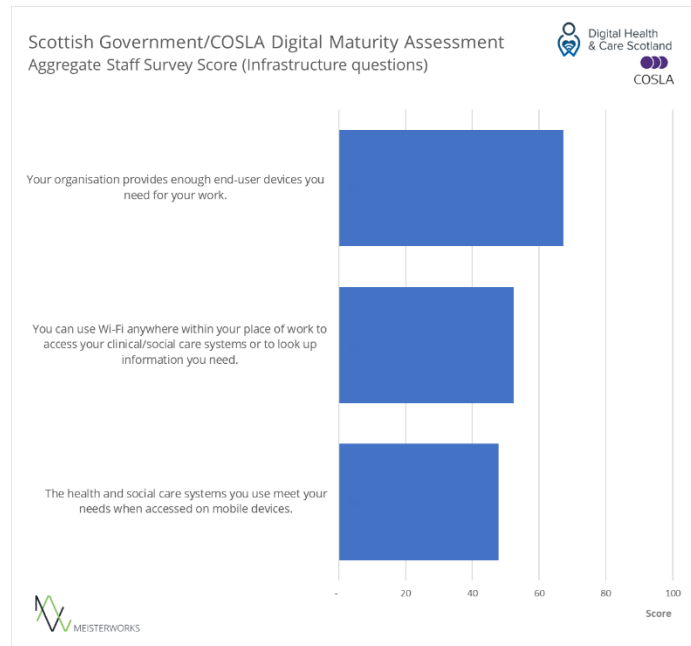

across all organisations between what their self-assessment reported, and what staff reported with organisational responses generally scoring more favourably than staff experiences).

National Solutions Are Not Yet Fully Adopted

Moreover, this assessment shows that the national solutions being made available are not yet being adopted consistently; adoption rates for national solutions for Picture Archiving and Communication (PACS) were most consistently mentioned as being in use among participating organisations.
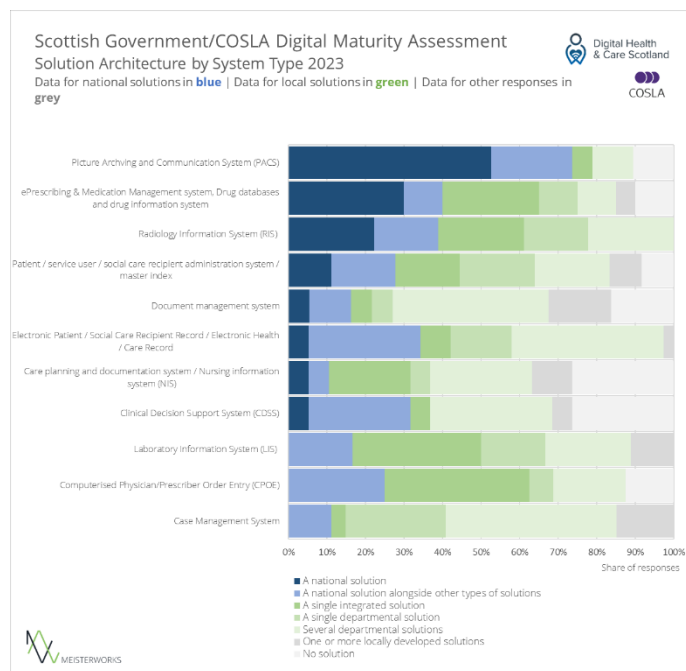

Our assessment data suggests that more organisations will adopt national solutions over the next year, although findings should still warrant a closer look into the reasons behind partial adoption of national systems and the prevalence of internal software development.
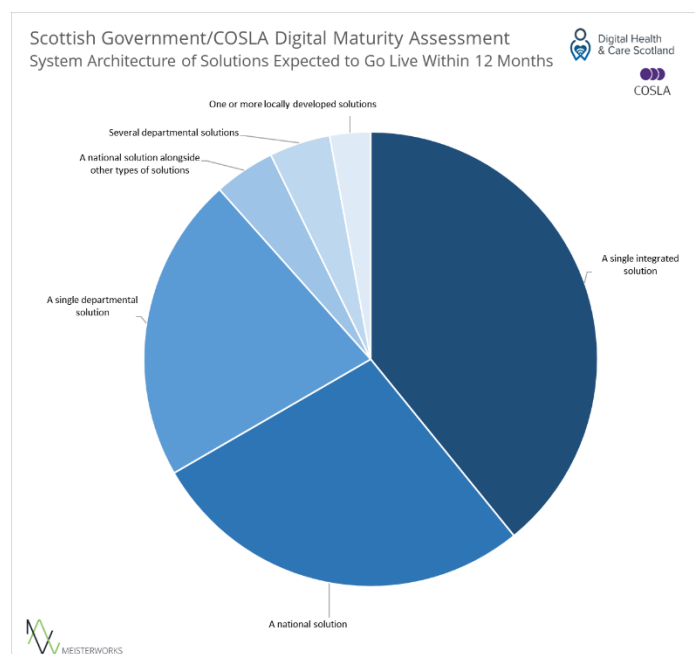
Workforce Accepting of Digital Transformation, but Lacking Skills and Tools

As part of the assessment, staff completing a separate staff survey component consistently reported generic digital benefits around workplace productivity and efficiency, although so far, those capabilities translated into more direct patient/service user time only for some organisations.
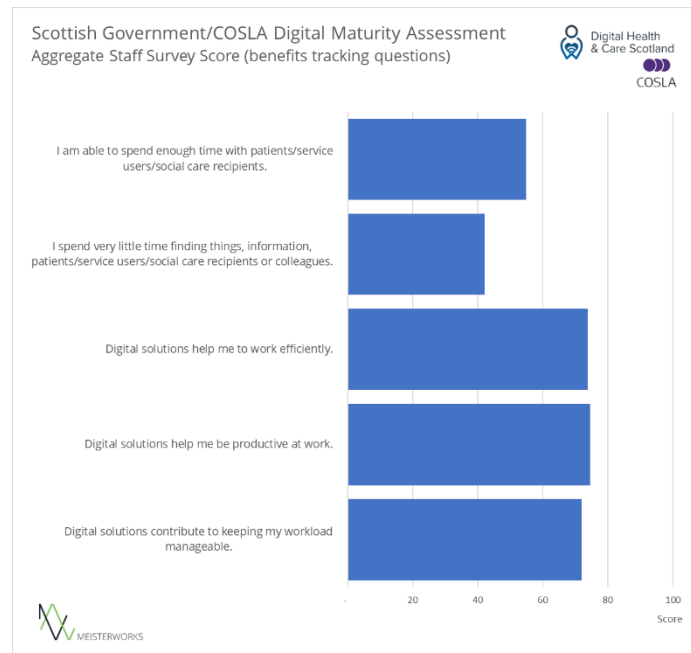

Most organisations have adopted skills development as a necessary component of their digital maturity journey. Most often, topics included dealing with information governance and cyber security, as well as the use of systems employed; other important topics such as using data, transformational skills and clinical safety have been secondary so far.

The reason for this may be a leadership issue; only a portion of participating organisations recognise that digital skills development is essential for their workforce.
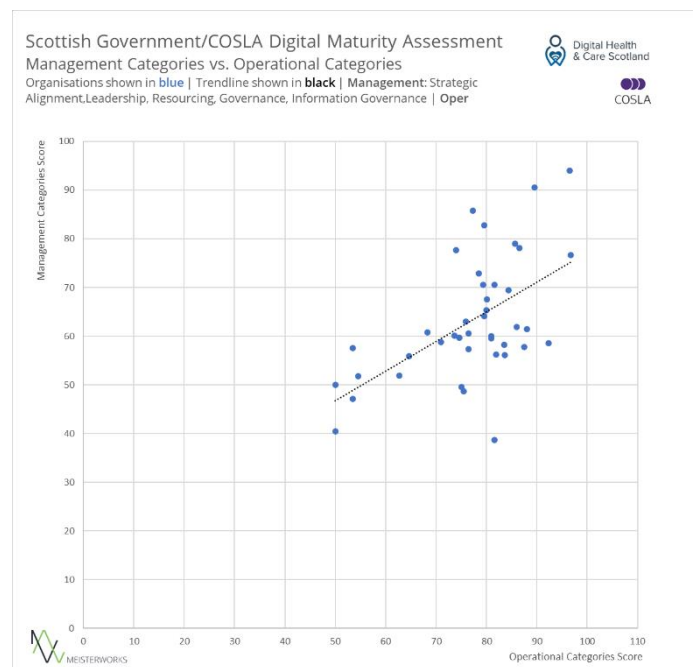
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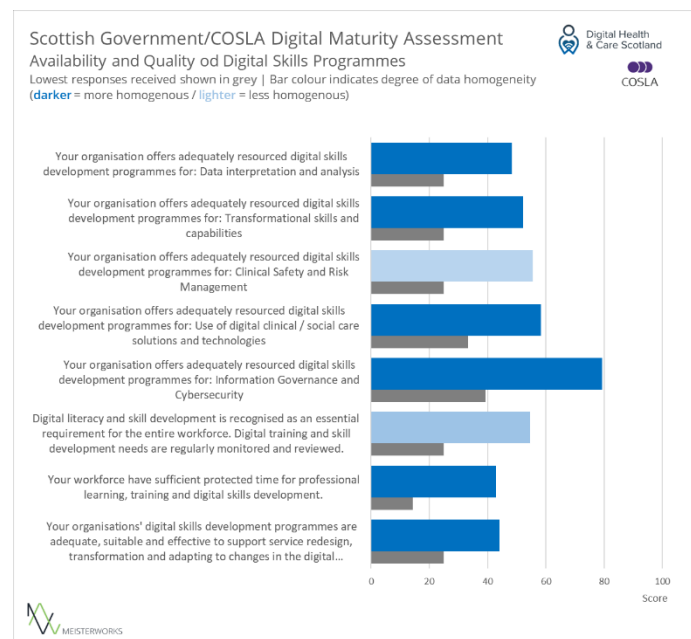
On the other hand, the assessment shows that most organisations have adopted digital channels for some of their workforce administration, including access to corporate resources and information, professional assessment and revalidation resources and administrative resources around shift planning, booking leave and similar tasks.
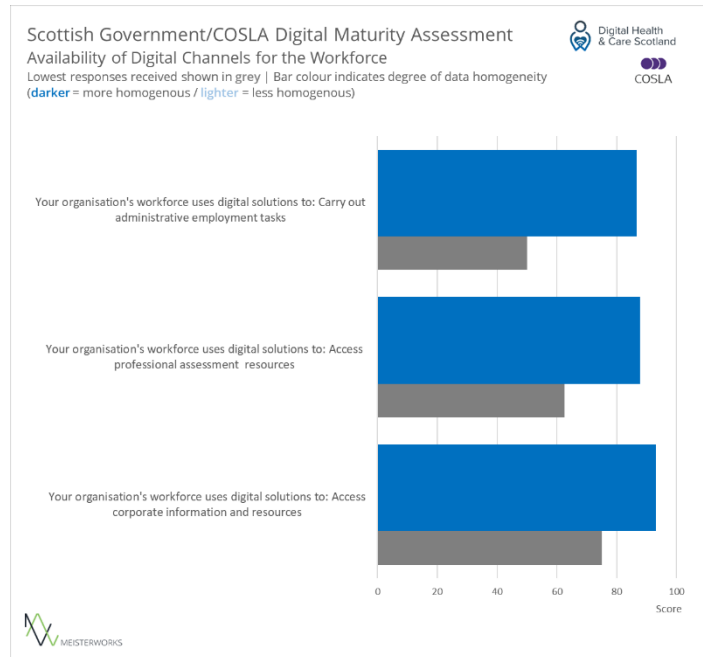
Digital Operating Models Are Winning

Across the digital maturity assessment, organisations who have embraced digital ways of working as part of their management infrastructure and can draw on digital resources to support their plans and decisions, outperformed organisations who operate in a less embedded way.

Key attributes for effective digital management included embracing digital ways of working both amongst leadership and throughout the organisation, practicing mature digital transformation methodologies that are inclusive of stakeholders from across the organisation at every step from planning to execution, and ensuring appropriate

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resourcing for digital projects that includes change management requirements and benefits realisation activities.

Rich Intelligence Capabilities Can Support Digital Management
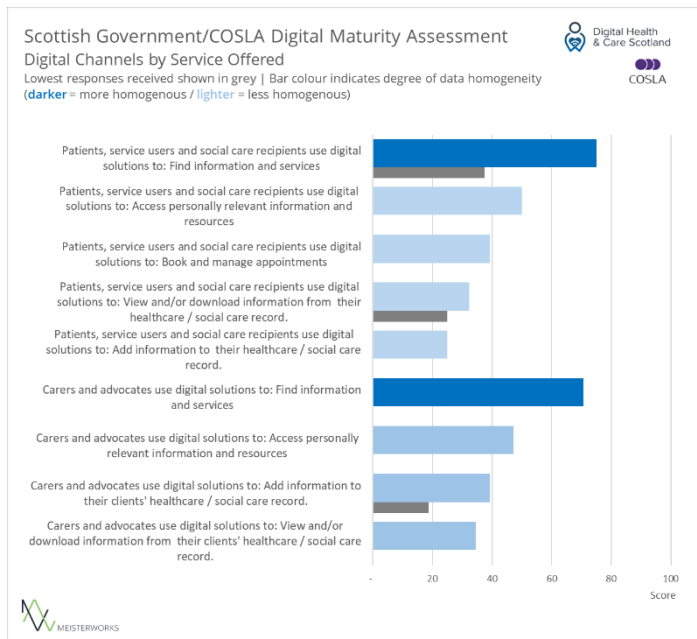
Organisations who scored high in the *Business and Clinical Intelligence* category tended to also score higher for management-related categories (*Strategic Alignment*, *Leadership*, *Resourcing*, *Governance*, *Information Governance*), supporting the hypothesis that data-driven approaches support better management of digital transformation and digital operations.
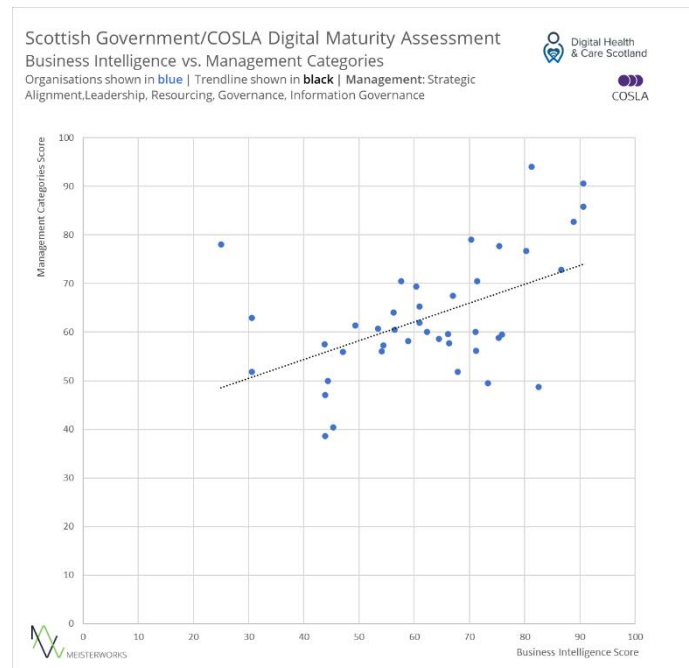
Digital Access to Healthcare and Social Care Services is not yet Well Developed

Making services accessible to those who use them via digital channels wherever appropriate is a strategic objective for the healthcare and social care sectors in Scotland. Most participating organisations have made inroads into their digital service offerings, but for many, there is still some way to go before those objectives are met. Quantitatively, only a small proportion (15%) of service users access digital channels; qualitatively, most organisations currently only offer static information digitally. While there are some positive outliers, many are currently not able to offer interactive/personalised digital services.

Scottish Government/COSLA Digital Maturity Assessment
Digital Channels by Service Offered
Lowest responses received shown in grey | Bar colour indicates degree of data homogeneity
(**darker** = more homogenous / lighter = less homogenous)

Most Digital Management Groups are Aware of Needing to Operate Sustainably

Awareness of the environmental impact of digital operations and digital solutions to managing organisations' overall impact are beginning to emerge, although adoption is currently not consistent across Scotland. Our data shows that more organisations' initial concerns were with travel reduction, and the amount of paper and energy their digital processes consume.
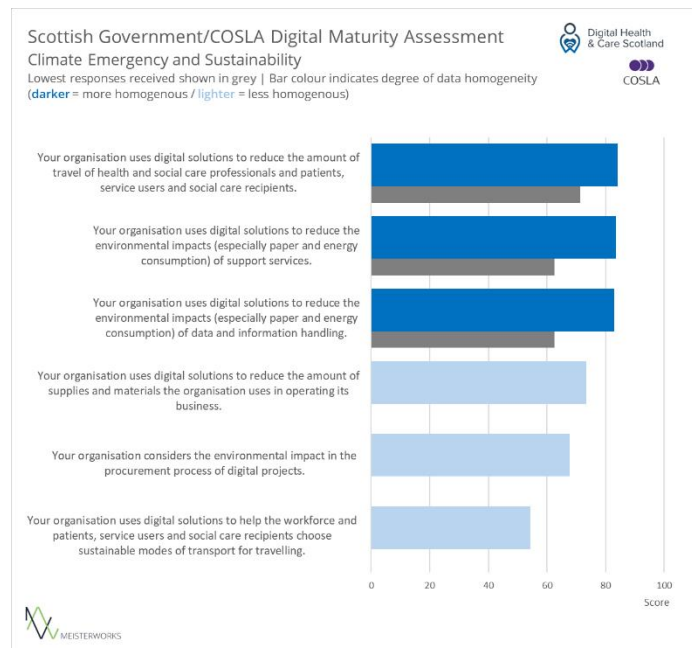
Some have also turned to digital solutions to manage their organisations' overall intake of supplies and materials; others have embedded sustainability within their governance system for digital projects.

Some Core Digital Capabilities Could Benefit from Functional Upgrades

Across assessment topics covering different aspects of core capabilities such as *Orders & Results Management*, *Medicines Optimisation* and *Decision Support*, our data shows a consistent picture characterised by well-implemented core capabilities and a lack of more modern, recent functionality.

In *Orders & Results Management*, most core order types (E.g., for laboratory tests or imaging) are handled digitally, but other, less common order types (E.g., nursing interventions) are less consistently digitised. The exception are *Primary Care* services, where significant progress has been made in this area.

In *Medicines Optimisation*, electronic medication order records are frequently in use, but automated dispensing or unit-dose systems are rarely available. This circumstance particularly affected *Community* service operations.

In many organisations, *Decision Support* systems guide healthcare and social care professionals towards the best evidence available, but do not yet alert them to service user preferences, outstanding actions or missing information. This is especially true for social care services, particularly *Children's Social Care*.
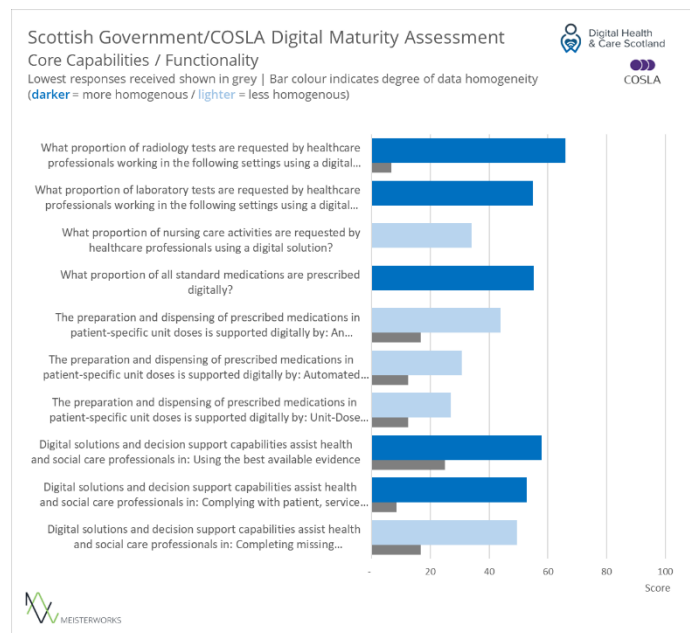
Annex: Explanatory Notes

Methodology

The Scottish Government/COSLA Digital Maturity Assessment was conducted amongst 41 organisations from within the Scottish health and social care sector between April and June 2023

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Survey content was developed via a series of consultations with 31 subject matter experts.

The survey, which consisted of over 400 questions grouped into 20 topics, which in turn were assigned to one of three themes, was presented as an online survey to be completed by either individual organisations or, where possible, as a joint effort across whole local healthcare and social care systems.

A bespoke online platform, which offered participants a number of relevant benefits in order to complete the survey efficiently, was used to host the survey. Those benefits included the ability to answer questions and sections in any order, the ability to assign whole sections to different colleagues, the ability to poll any number of colleagues on any number of questions to get their input on determining the best response, the ability to issue a generalized, shorter version of the assessment as a survey to general staff anonymously as a way of aiding respondents in finding their most appropriate assessment response, the ability to conduct remote and in-person conferences to work through any part of the assessment as a group, the ability to see further information for each question, including a definition of 'what good looks like', the ability to include notes with their submission, the ability to deposit supporting evidence with their submission, and the ability to contact support in real time to get assistance with technical matters and questions about the survey content.

Further support was provided via two weekly drop-in sessions held via MS Teams throughout the data collection period.

Overall, more than 1,500 participants from 41 organisations collaborated on over 30,000 distinct occasions to complete the assessment. Additionally, more than 5,900 staff from over 30 organisations completed the staff survey.

Following the data collection phase, a series of validation sessions intended to query outlying results from the survey and to gain qualitative context for organisations were held. As a result of those validation sessions, recommendations for changes to some organisations' submissions were offered. For this reason, it is possible that the data reported in this document may change to a small extent after this report was written.

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Assessment Structure

The assessment is divided into three themes, each of which includes a number of sections.

For some sections, responses were sought separately by service type.
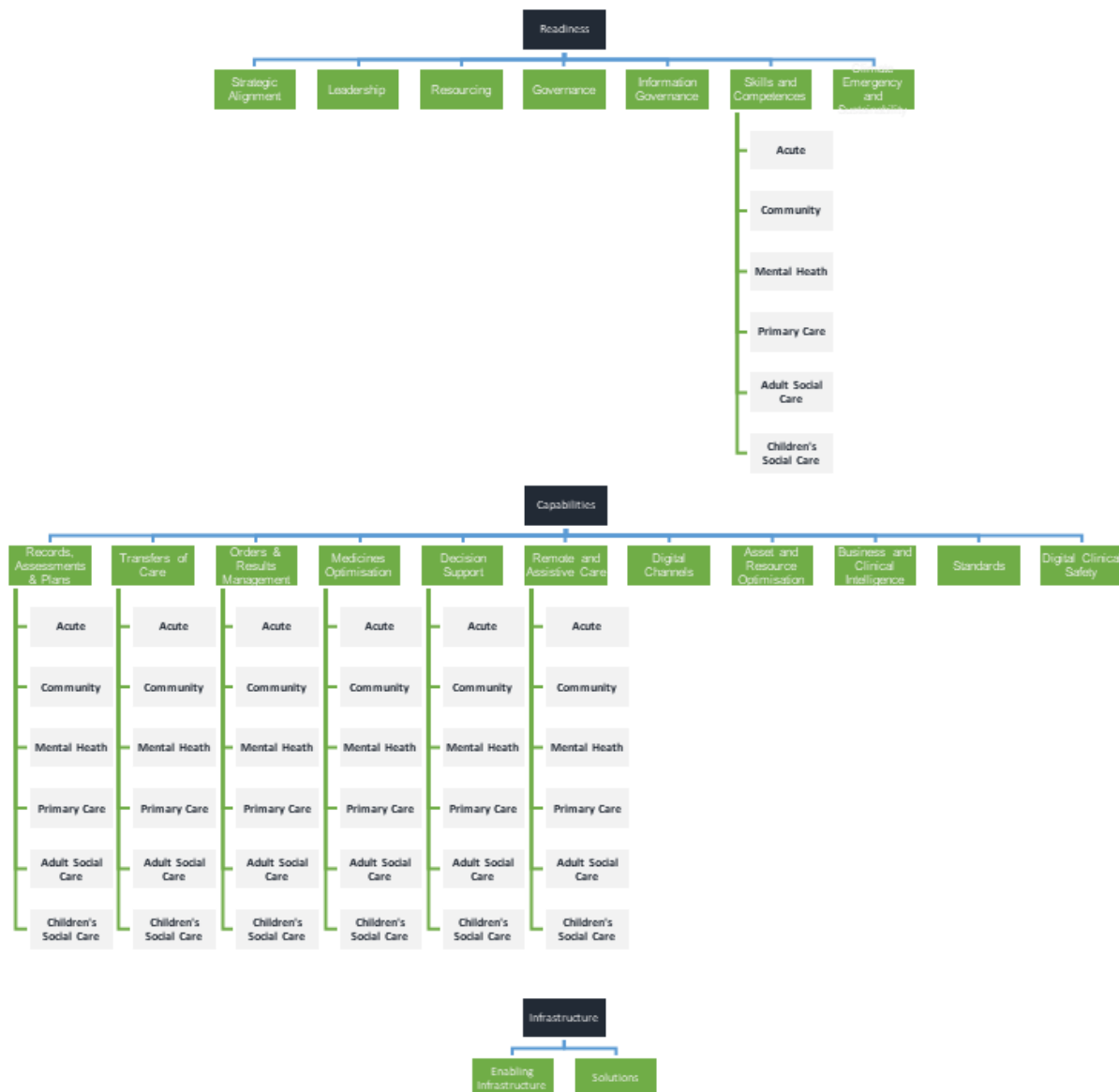
Scoring and Weighting

For the most part, the questions in the digital maturity assessment are qualitative in nature, and use a Likert-style answer option scale. To enable some of our analysis, we have assigned scores to each answer option:

- Disagree completely (Score: 0)
- Somewhat disagree (Score: 25)

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- Neither agree nor disagree (Score: 50)
- Somewhat agree (Score: 75)
- Agree completely (Score: 100)
- Don't know (Score: 0)
- Not applicable (Not scored)

Additionally, some of the capabilities sections include quantitative questions to assess aspects around the degree of proliferation of participants' digital practices. These questions use a percentage scale with the following score assignments:

- 0% (Score: 0)
- 1% to 20% (Score: 20)
- 21% to 40% (Score: 40)
- 41% to 60% (Score: 60)
- 61% to 80% (Score: 80)
- 81% to 100A% (Score: 100)
- Don't know (Score: 0)
- Not applicable (Not scored)

One of the quantitative questions within the Records, Assessments & Plans section, which concerns the format of digital records held, uses the following answers options and associated scores:

- Unstructured (Score: 0)
- Semi-structured (Score: 50)
- Structured (Score: 100)

No weighting by theme, section, service or question has been applied (while it is obvious that not all theme/sections/services/questions carry the same weight, it is the conclusion of our subject matter experts that this will vary greatly for every individual organisation and that a generalised weighting would do more to distort reporting than to enhance it).

Aggregations in this report are performed following the assessment's hierarchy: Questions are aggregated into services (where available), questions or services into sections, and

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sections are aggregated into themes. Disregarding this hierarchy (E.g., by aggregating questions into themes) may produce varying results.

Score Homogeneity

Throughout this report, we're relying on averages calculated for different parts of our data; sometimes, this may include all data collected; at other times we might only use data from a relevant subsection of the data (for example, "mental health services").

We have provided extra analysis whenever necessary to demonstrate the consistency or homogeneity of the data we are using. That's because health and social care in Scotland is often fragmented, and we feel that the degree to which that affects digital maturity can often be very relevant.

No information pertaining to any single participating organisation has been published here, and no comparisons between individual organisations have been included.

Updates & Future Assessments

Following the Scottish Government/COSLA Digital Maturity Assessment 2023 reported on in this document, participating organisations will update their assessments at times of their own choosing so as to better accommodate their individual pace of change.

Updates to this report will be made available annually based on data collected.

Contacts

If you have any questions about this report or the Scottish Government/COSLA Digital Maturity Assessment, please contact sg@dma.works.

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