Digital Health & Care Scotland

DHCS Digital Maturity Assessment Results Summary: Health Boards

MEISTERWORKS

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DIGITAL MATURITY ASSESSMENT DEVELOPMENT

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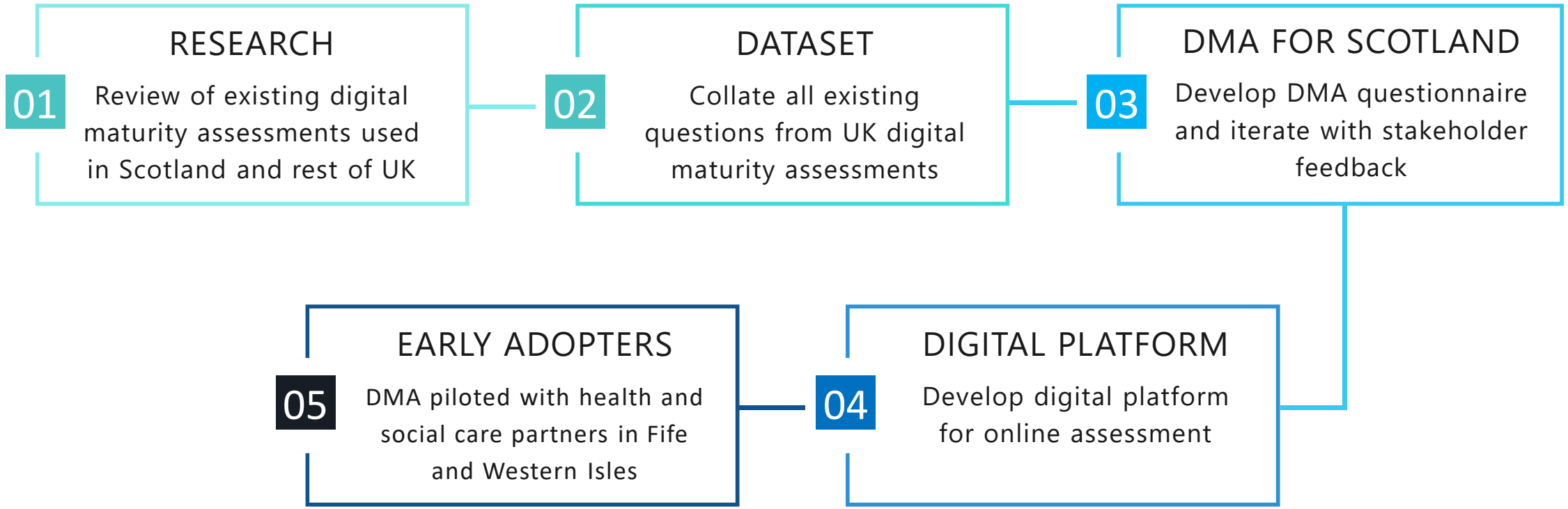
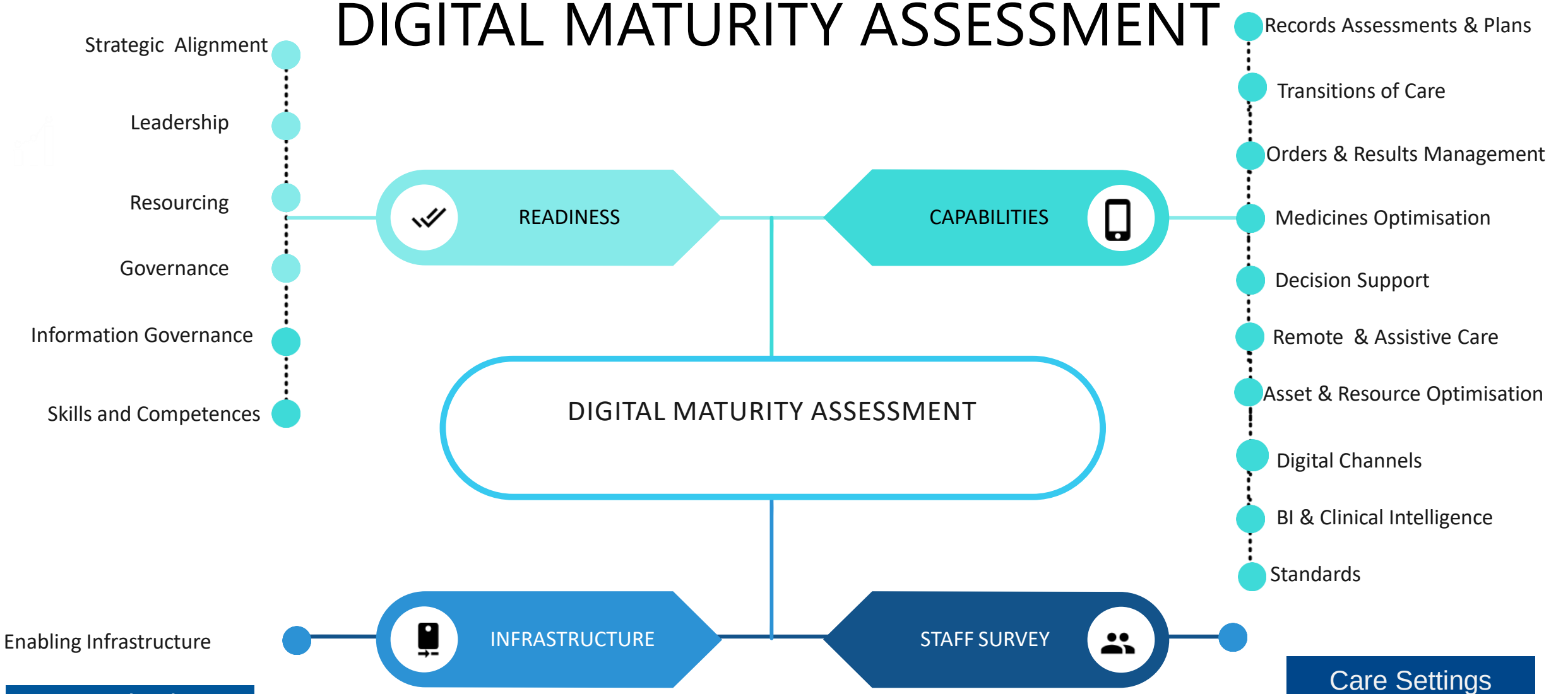


Background & Methodology

- Local Authorities and Health Boards, working with their Health and Social Care Partnerships, were invited to take part in Scottish Government & COSLA's Digital Maturity Self Assessment in April 2019 with a view of completing the assessment by the end of August 2019.
- The assessment was completed using a dedicated online data collection platform customised to accommodate the needs of Scottish health and care organisations.
- Organisations were encouraged to engage with their leadership teams and health and care stakeholders via tools provided by the platform, and in workshops, in order to give the assessment a solid informational basis.
- The questions presented to each organisation were organised in 17 sections, which in turn were grouped into three distinct themes. For some capability sections, questions were asked separately by care setting.
- In order to present a relevant question set to each participating organisation, a share of sections and questions were omitted for each organisation type, and some question wording was adjusted to correspond to the specific environment of each organisation type. Moreover, some questions were shown depending on answers given to previous questions.
- All organisations had access to the platform's staff survey feature, allowing them to query responses from a wider staff group on a short selection of key questions from the DMA.
- A follow up exercise was undertaken with 19 Health Boards to gather feedback about the DMA process, to understand the degree of stakeholder engagement in the process, to discuss preliminary results and to gather additional information relating to the responses given as part of the assessment.
- Feedback was also gathered about current ways of working with other Health Boards, Local Authorities and Health and Social Care Partnerships, in addition to discussing successes, challenges and opportunities for improvement, as part of the follow up meetings.

DIGITAL MATURITY ASSESSMENT



Organisation Types

Local Authorities, Territorial Health Boards, Special Health Boards

Care Settings

Acute, Community, Mental Health, Primary Care, Adult Social Care, Children's Social Care

Health Board DMA completion methodology

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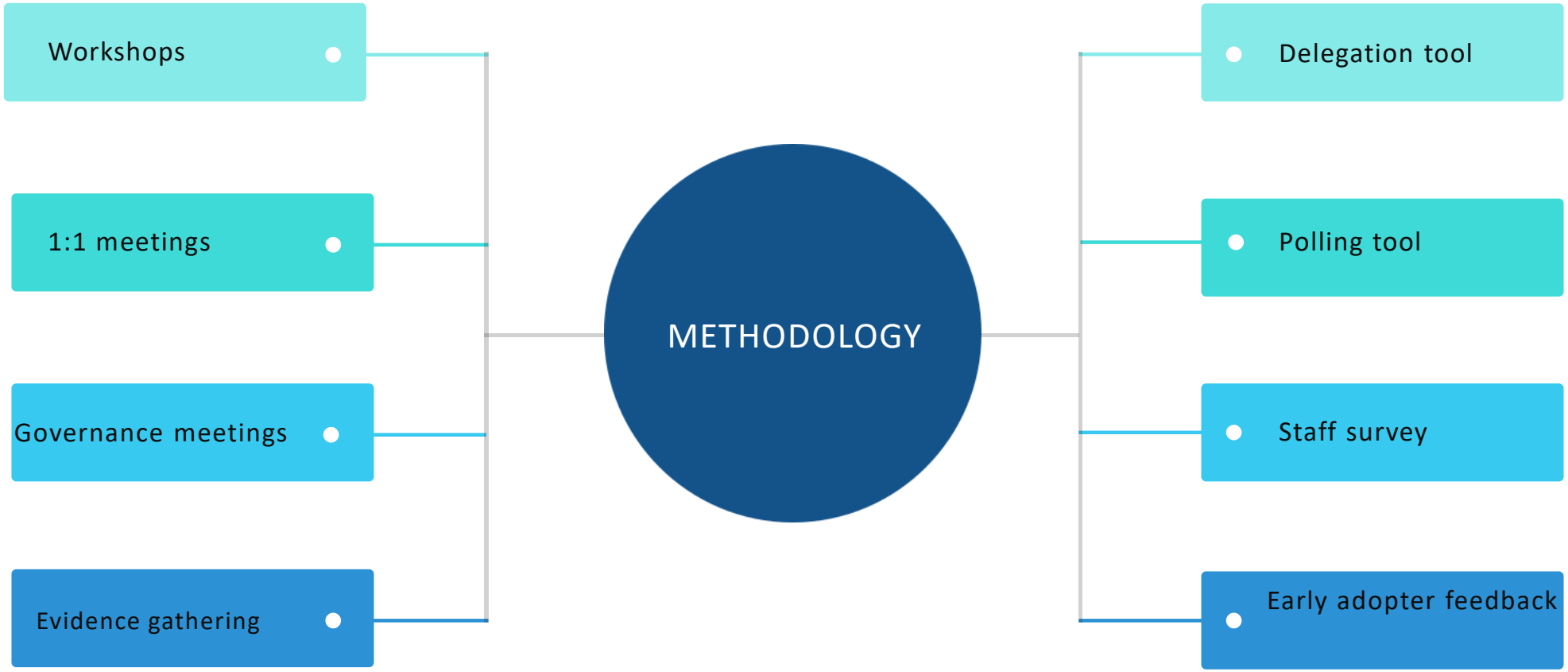

Methodology adopted by Health Boards

- Follow up meetings were held with all Health Boards who completed the assessment, with the exception of NHS Shetland, to obtain information about the processes undertaken to complete the assessment.
- Almost all Territorial Boards had robust processes in place to ensure wide stakeholder engagement
- Special Boards tended to complete the assessment with least stakeholder engagement. The Scottish Ambulance Service found it challenging to obtain senior management team engagement for the process.
- Several Territorial Boards read guidance documentation in advance and contacted early adopter sites for feedback before preparing for their own assessments.
- The majority of Territorial Boards made significant effort engaging with stakeholders to gather feedback as part of their assessment process. This involved running stakeholder workshops, engaging with existing governance groups, arranging 1:1 meetings or using the delegation or polling feature tools in the online platform.
- 10 Territorial Boards and 1 Special Health Board chose to use the staff survey to obtain views from their service users.
- NHS Borders, NHS Fife, NHS Forth Valley, NHS Greater Glasgow and Clyde, NHS Tayside and the Scottish Ambulance Service spent time collecting evidence to justify their self-assessed responses and either uploaded this to the online evidence portal or discussed and demonstrated this during follow up meetings.
- NHS Ayrshire and Arran found it challenging to get clinical engagement from clinicians working in acute care and were therefore unable to complete some of the capability questions relating to this care setting.
- Several Territorial Health Boards identified challenges obtaining senior management or clinical stakeholder engagement input to the assessment process.

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Analysis by Organisation Type and Theme

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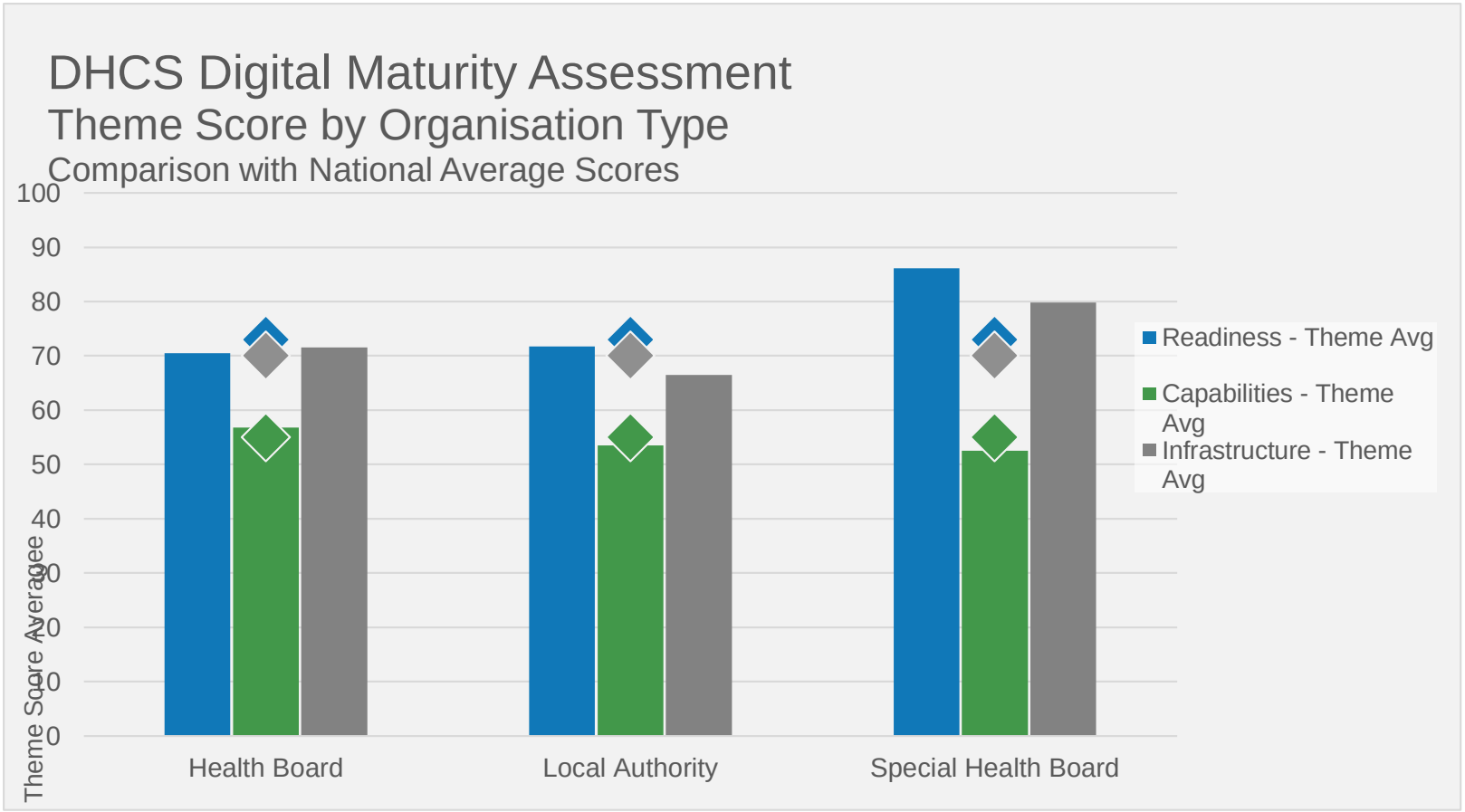
All organisation types had higher self-assessed scores for readiness and infrastructure themes than for digital capabilities.



Organisation Type	Readiness - Theme Avg	Capabilities - Theme Avg	Infrastructure - Theme Avg
Health Board	70	57	71
Local Authority	72	54	66
Special Health Board	86	52	80
Grand Total (Avg)	73	55	70

Results based on 22 participating Local Authorities, 14 Territorial Health Boards and 6 Special Health Boards

Top Level Summary – By Theme

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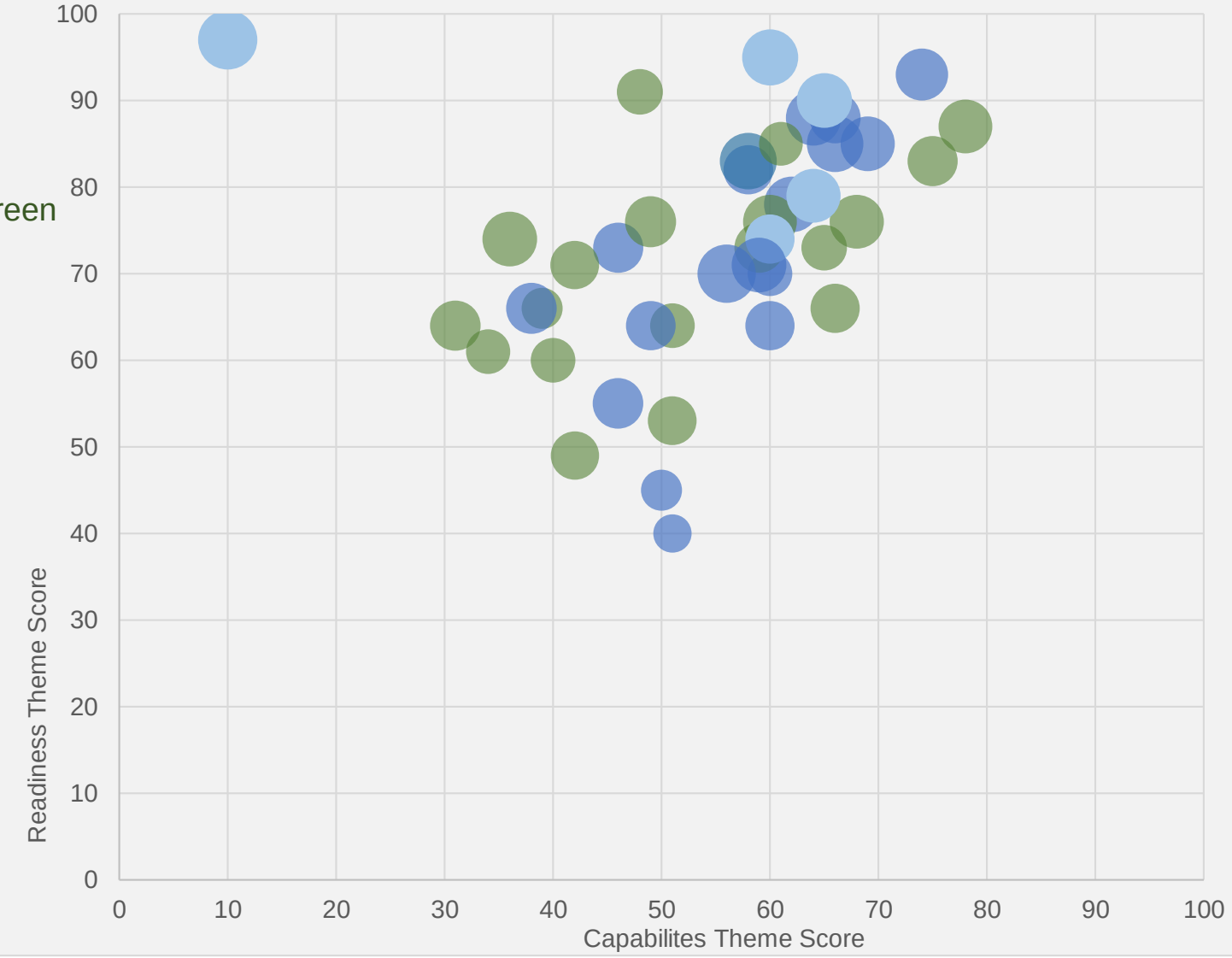
DHCS Digital Maturity Assessment
Theme Scores by Organisation

Bubble size indicates Infrastructure score; Territorial Health Boards shown in dark blue,
Special Health Boards in light blue, Local Authorities in green

Territorial Health Boards and Local Authorities have a similar distribution of scores.

Special Health Boards have disproportionately higher scores.

Several of the Capability sections were not relevant to some of the Special Boards. This accounts for one of the significant outliers.



Distribution of Territorial Health Boards by Theme

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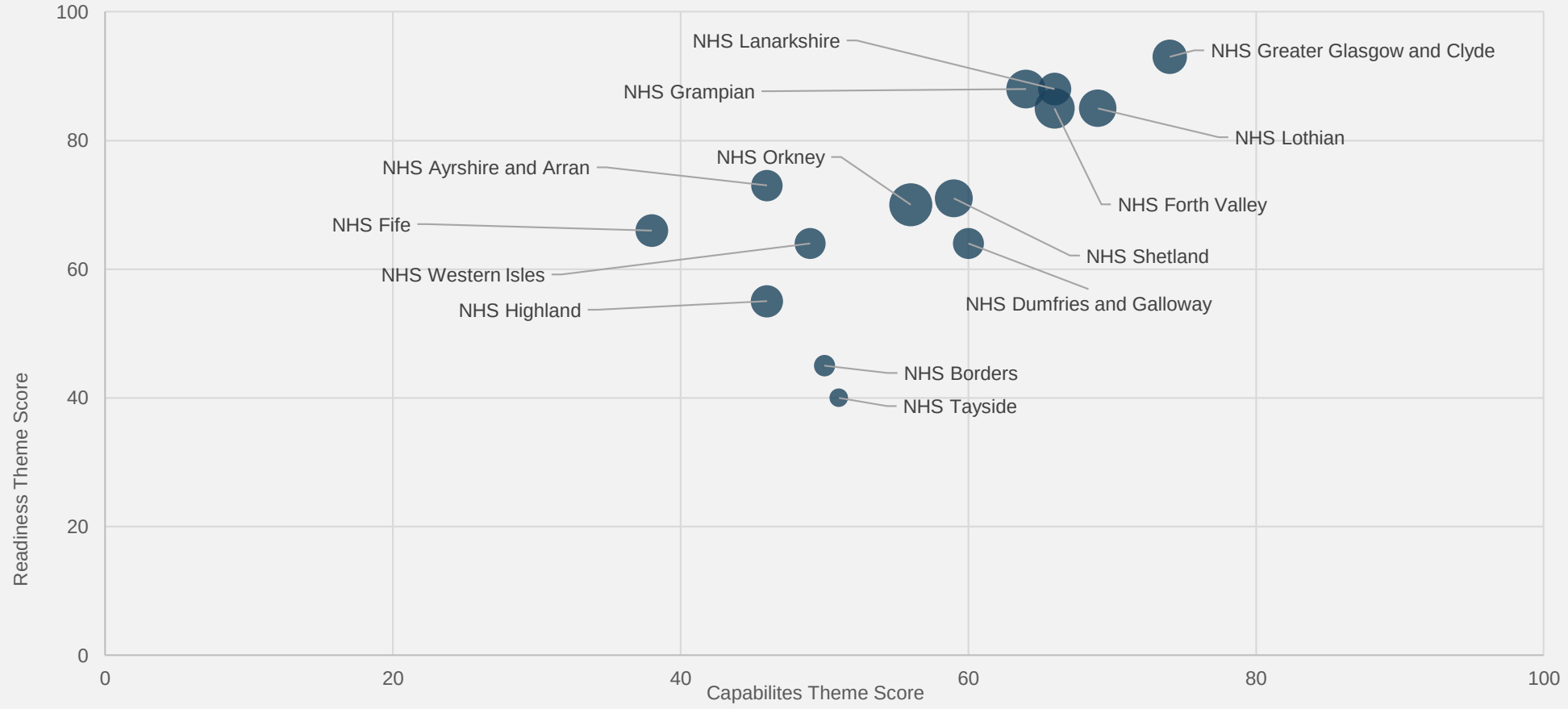
DHCS Digital Maturity Assessment:
Theme Score by Organisation Type: Territorial Health Board
Bubble size indicates Infrastructure theme score.



Analysis by Organisation Type and Theme

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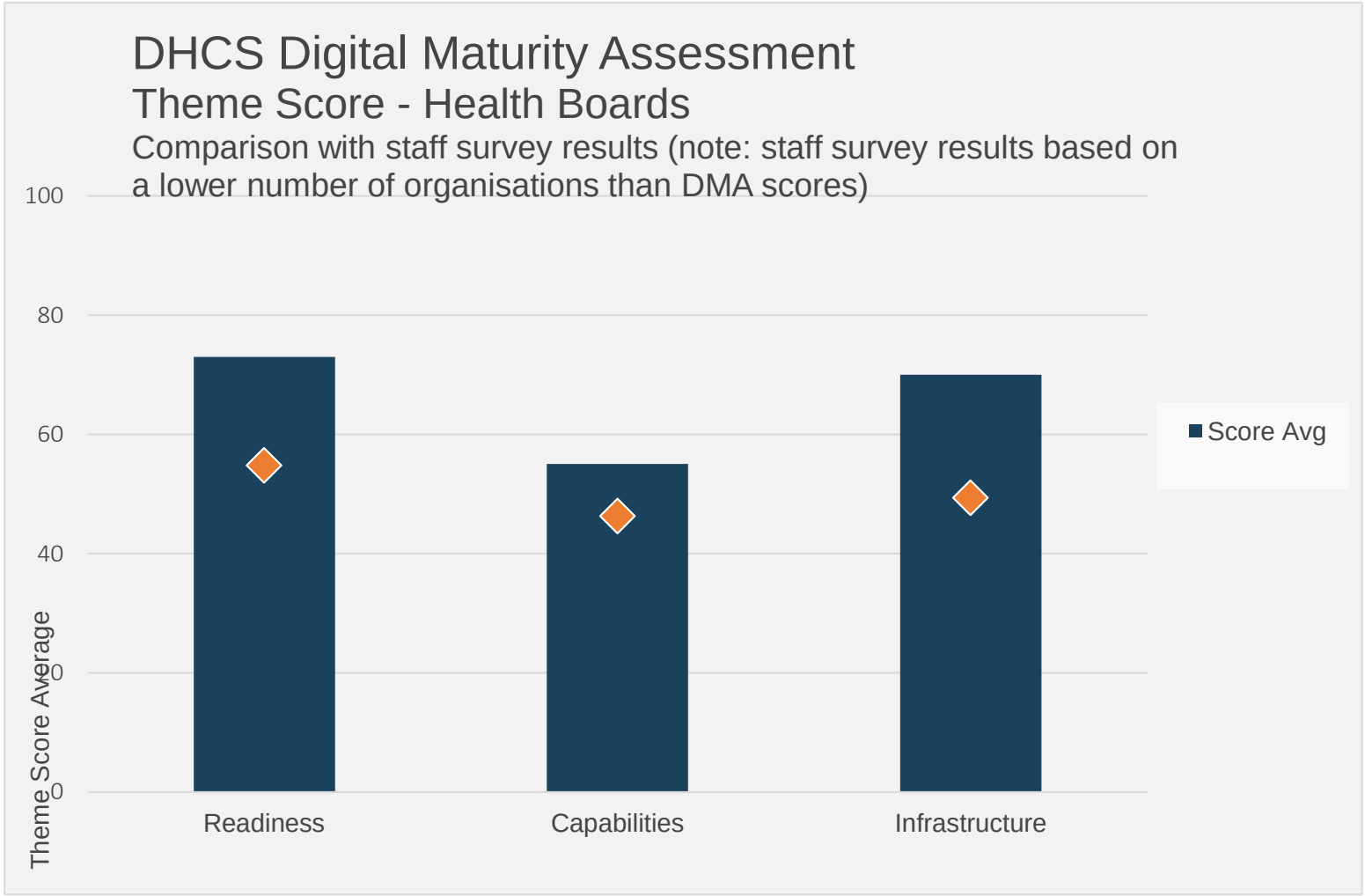
Staff survey results relating to each DMA theme were lower than self-assessed scores. Staff survey results showed greatest variance with organisations scoring themselves above the national average in the assessment and least variance with organisations whose self-assessment scores were lower than the national average.



Theme	Score Avg	Staff Survey Avg
Readiness	73	55
Capabilities	55	46
Infrastructure	70	50
Grand Total (Avg)	60	49

* DMA score data based on 20 participating Health Boards; Staff Survey data based on 4241 responses from staff at 10 Territorial Health Boards and 1 Special Health Board

Analysis by Organisation Type and Section

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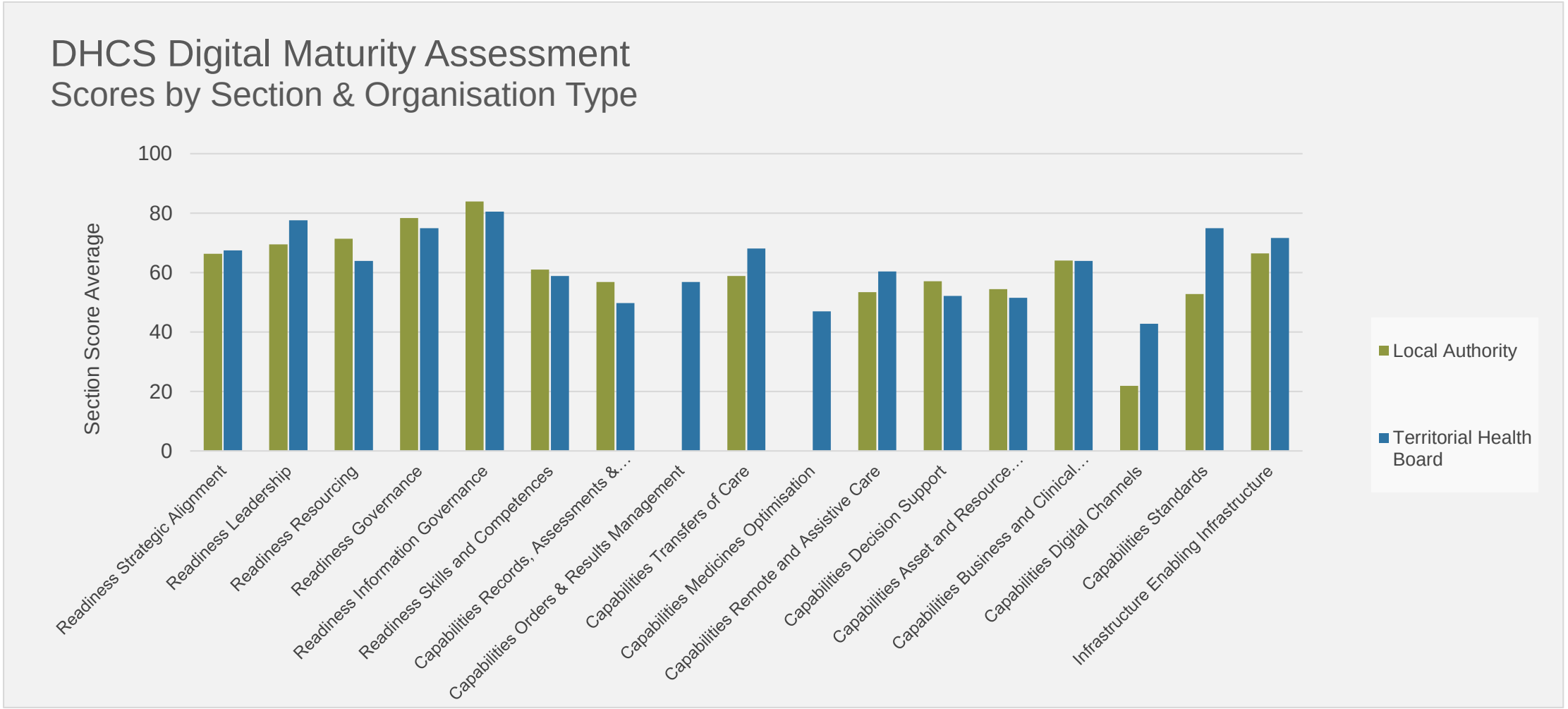
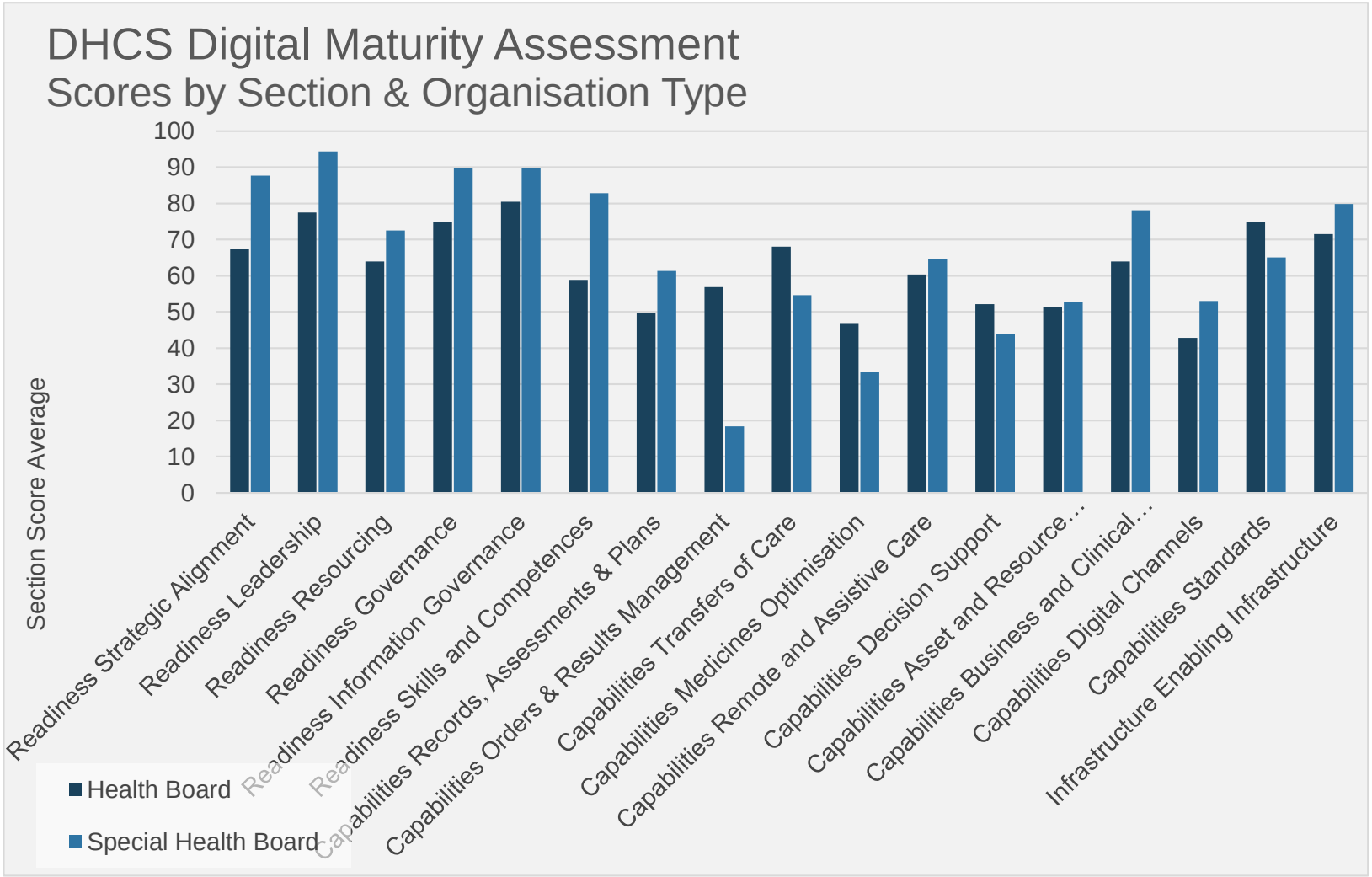
Local Authorities and Territorial Health Boards showed similar results trends with the exception of Digital Channels which had a significantly lower self-assessed score by Local Authorities.



Analysis by Organisation Type and Section



- Special Health Boards tended to have higher self-assessed scores for Readiness and Infrastructure sections than Territorial Health Boards.
- A large proportion of the DMA is not applicable to NHS NES, NHS NSS and NHS 24. Some sections are not applicable to The State Hospital and Golden Jubilee.
- The DMA questionnaire for the Scottish Ambulance Service was based on a similar assessment undertaken with Ambulance Trusts by NHS England.
- Each Special Health Board offers a unique service and has no Scottish comparator therefore it is not appropriate to group these organisations together or to use as a comparator for Territorial Health Boards.

Organisational Readiness

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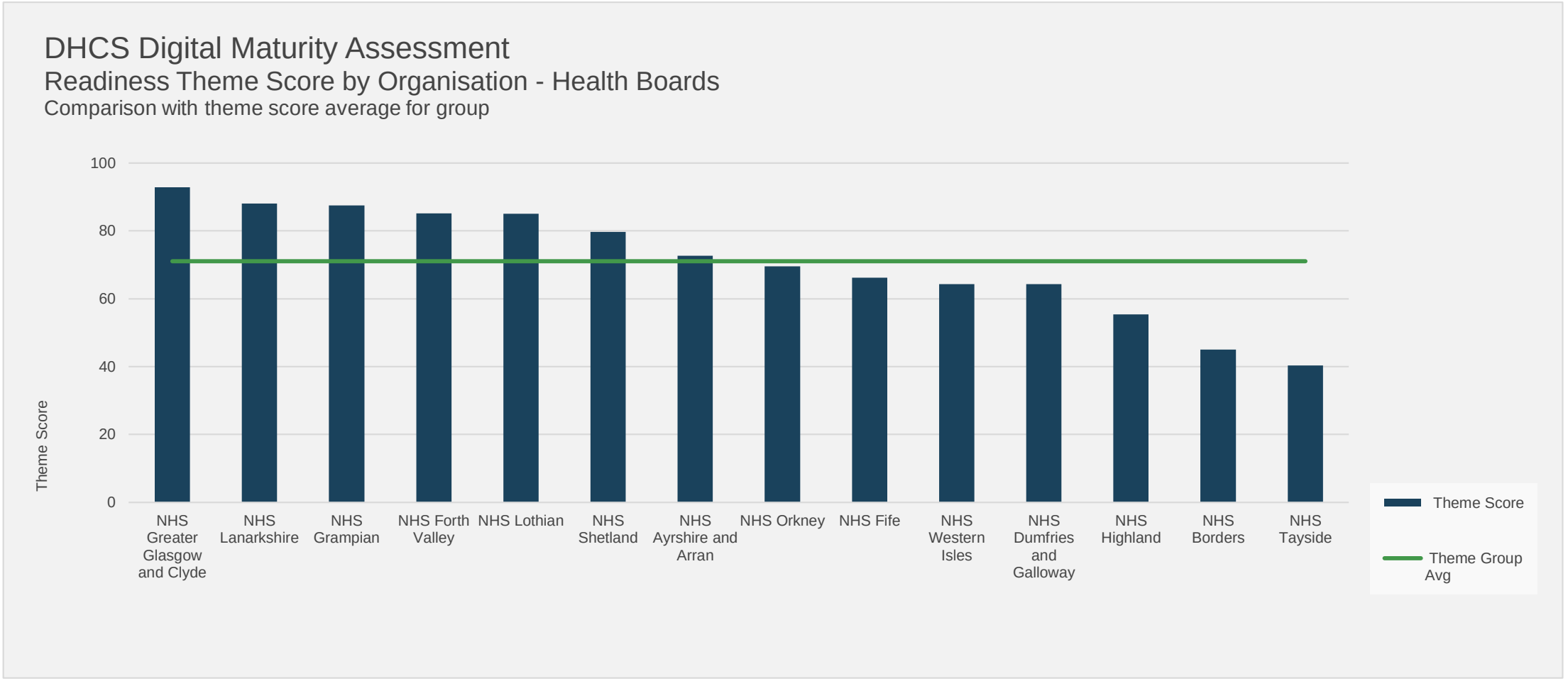
Lower readiness theme scores tend to reflect lower scores in Strategic Alignment, Resources, Skills and Competences sections.



Digital Capabilities

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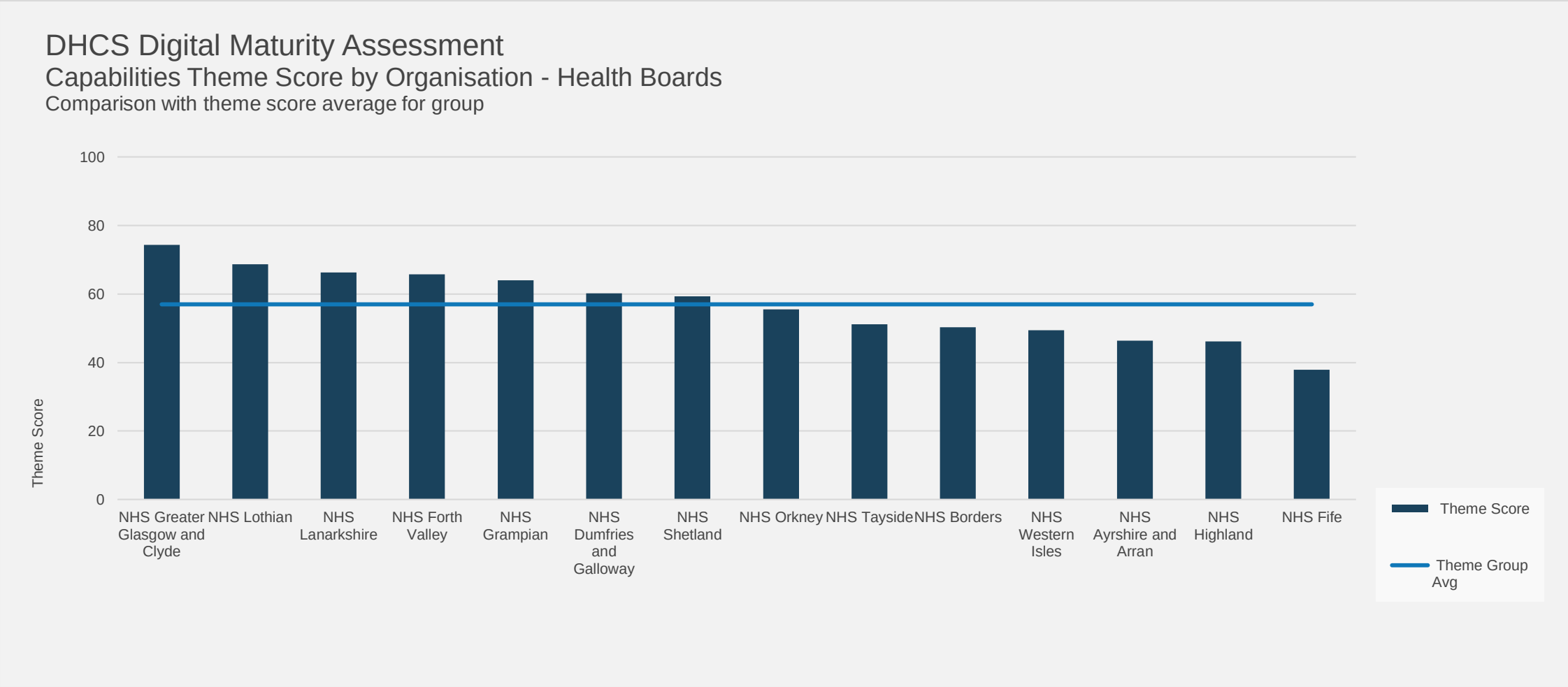
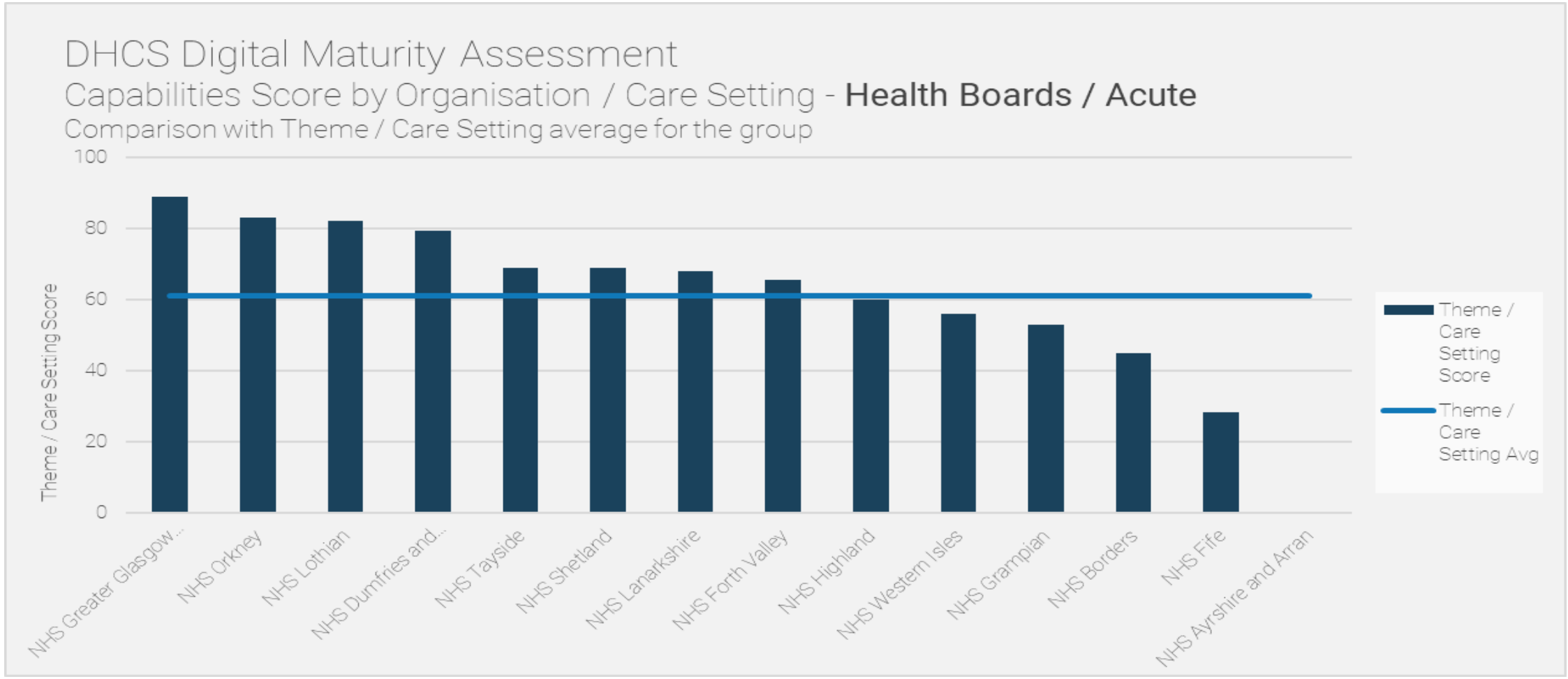
There is significant variation in capabilities scores across Health Boards. Lower-scoring sections include Records, Assessments & Plans, Medicines Optimisation, Decision Support and Digital Channels.



Digital Capabilities – Acute Care Setting

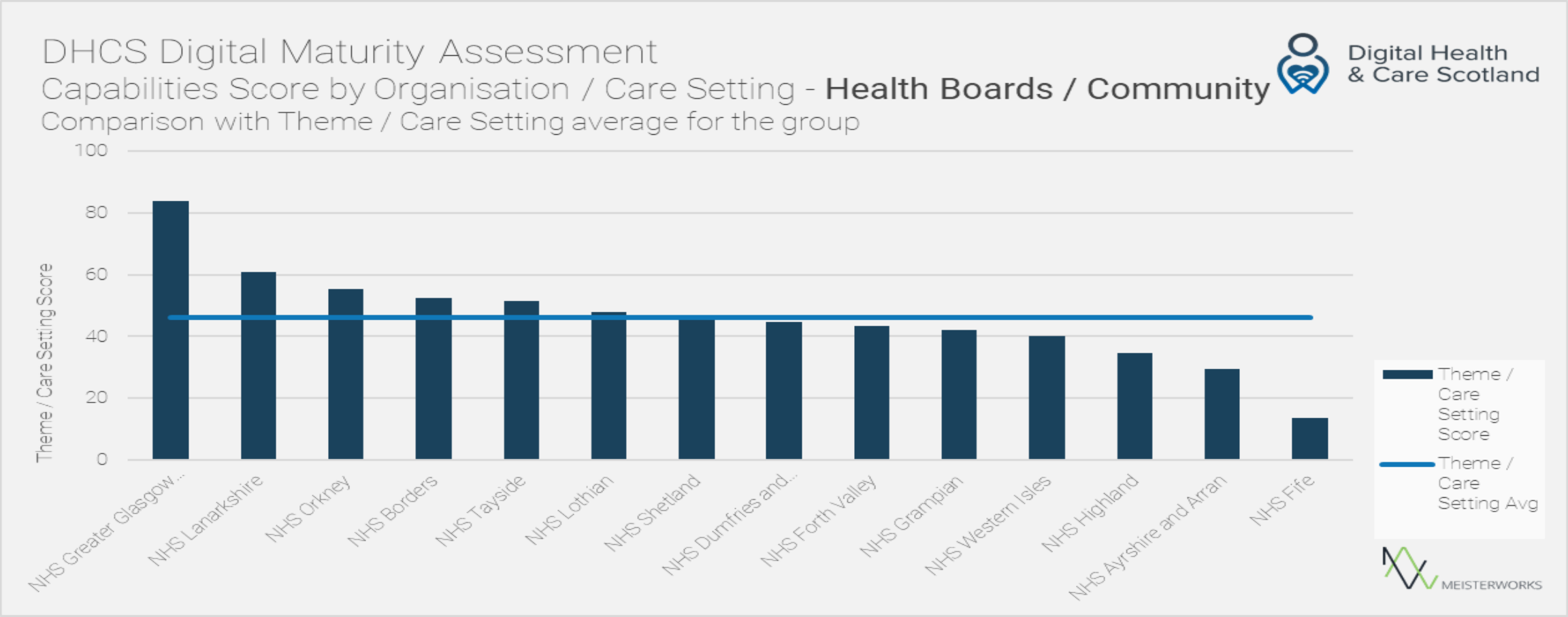
Digital Health & Care Scotland

Acute services were particularly affected by low scores in the Records, Assessments & Plans section. There is a dependence on paper documentation in many areas.



Digital Capabilities – Community Care Setting

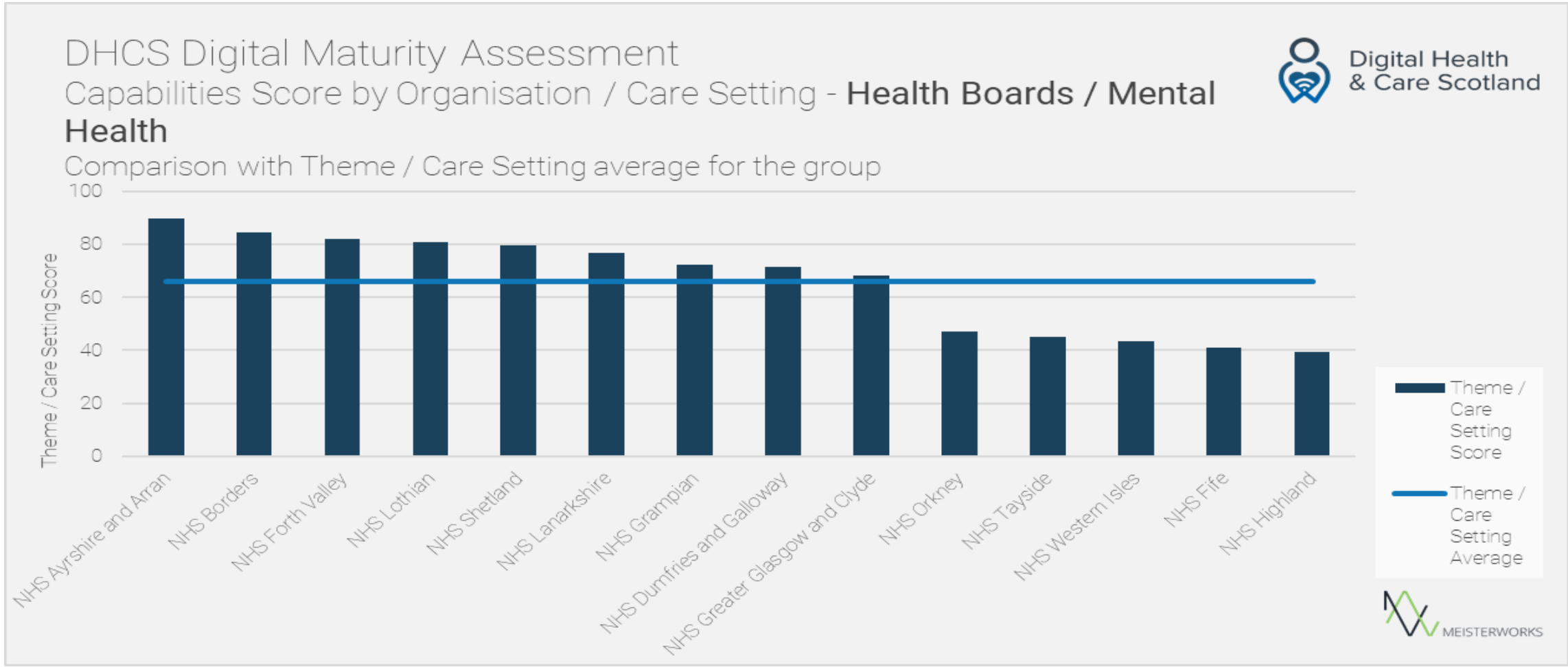
Community services tended to score lowest for Records, Assessment and Plans and Transfers of Care. Many community teams are still unable to capture information at point of care on mobile device.



Digital Capabilities – Mental Health Care Setting

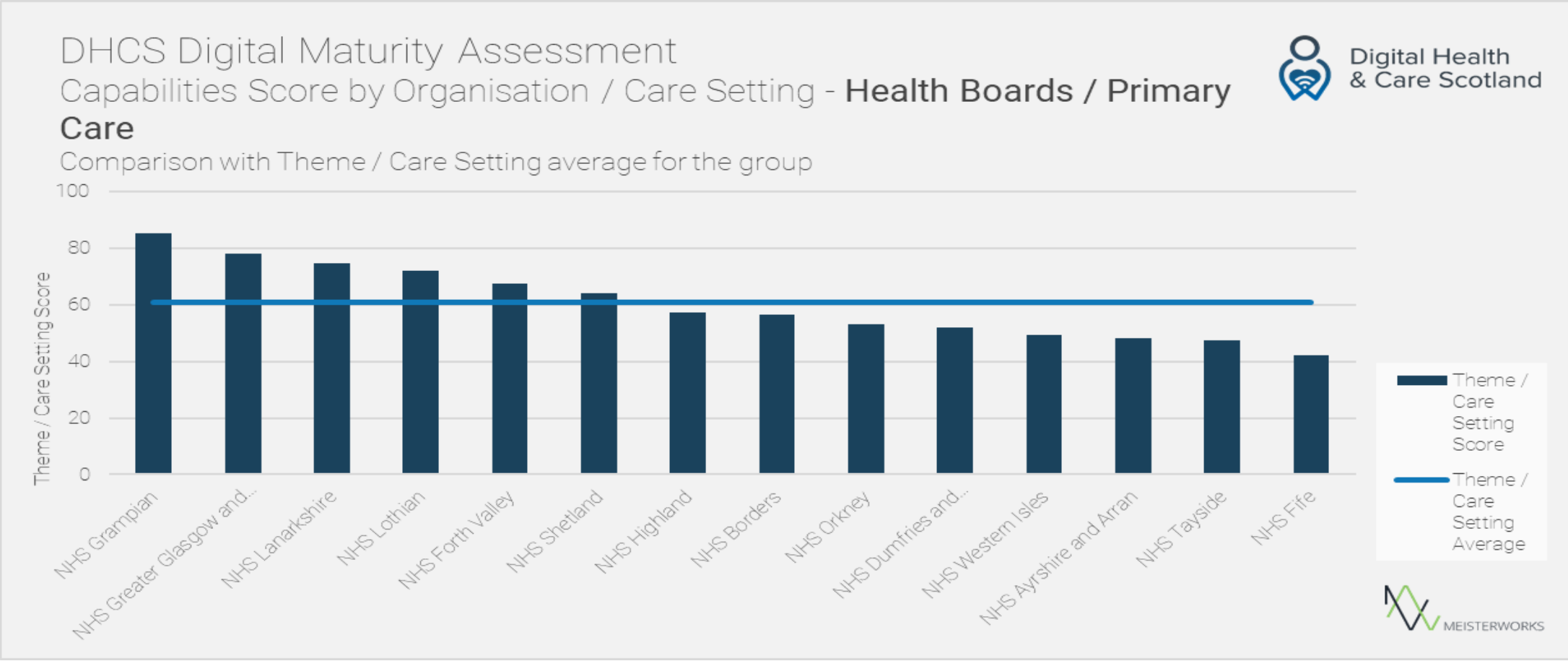
Digital Health & Care Scotland

Mental Health services tended to score low for Records, Assessment and Plans.



Digital Capabilities- Primary Care Setting

GP information is predominantly digital. Wider primary care services often have limited access to digital information.



Enabling Infrastructure

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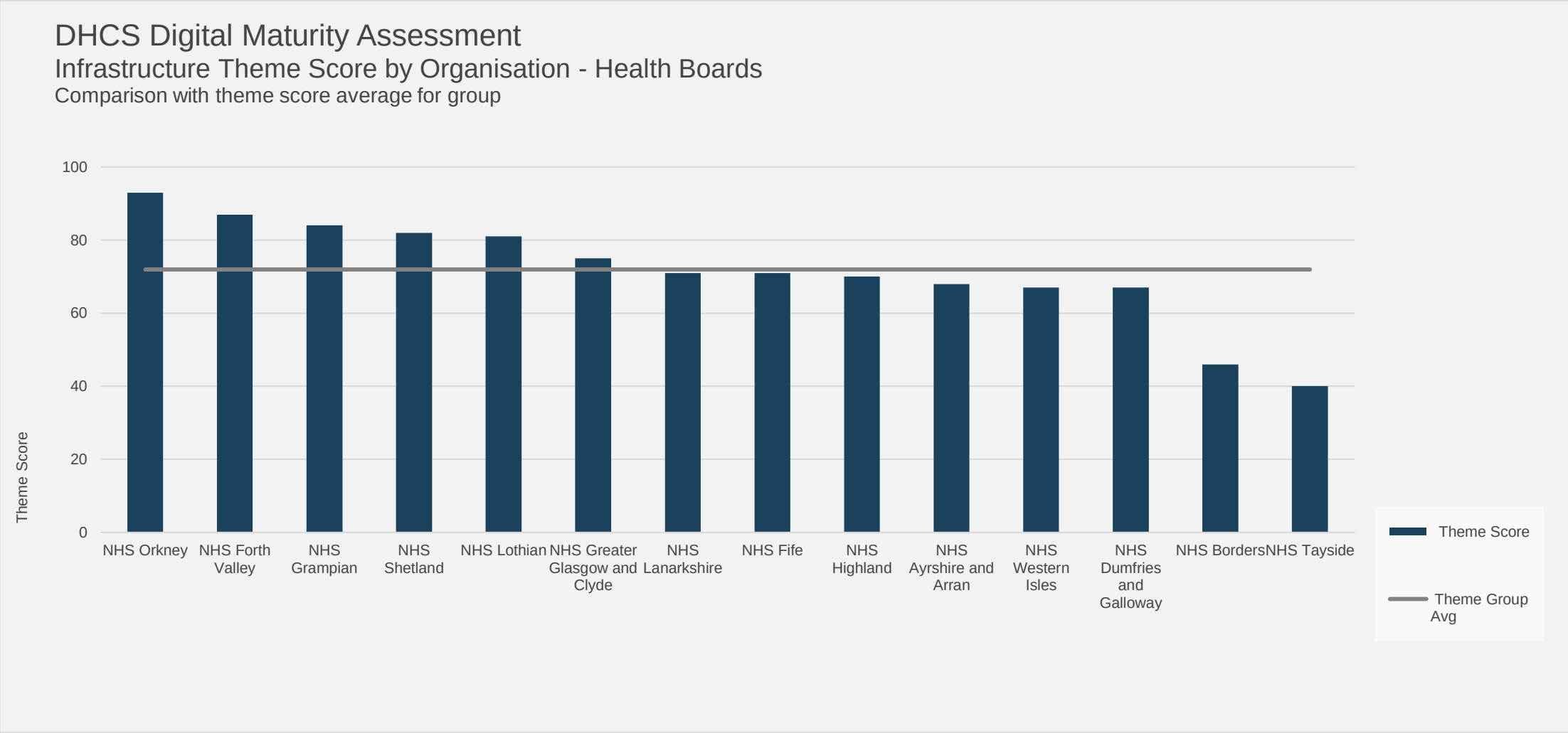
Significant variation noted in Enabling Infrastructure scores between Territorial Health Boards.



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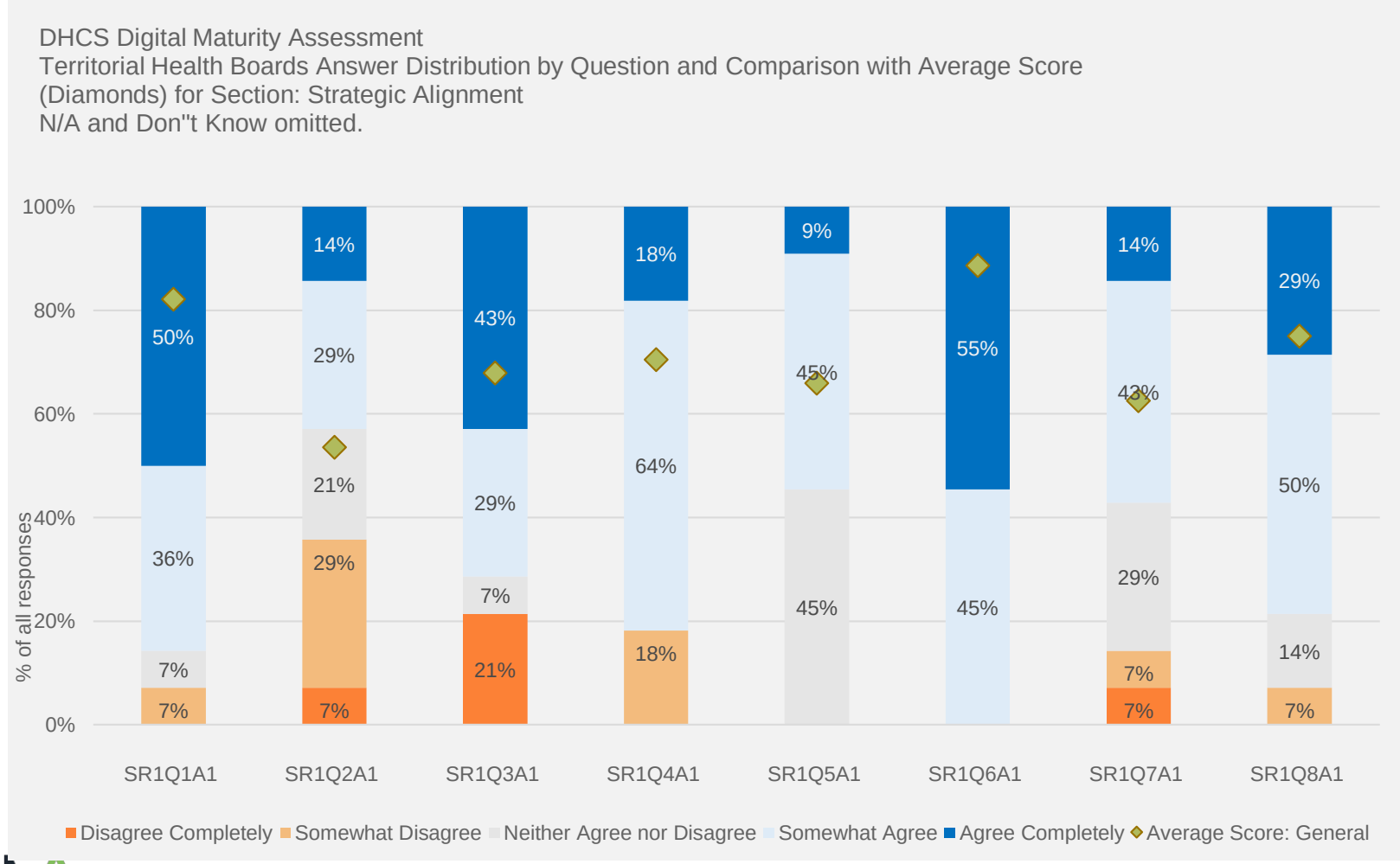
Strategic Alignment



Question #	Question	Don't Know	N/A
SR1Q1A1	Digital technology is used to support improved collaboration, coordination, virtual working and decision making across the organisation, including senior leadership levels.		
SR1Q2A1	Digital innovation and research are embedded into your ways of working and culture, informing both strategy and processes.		
SR1Q3A1	Your organisation has a digital strategy, aligned with health and wellbeing objectives, that effectively drives transformation		
SR1Q4A1	Implementation of the digital strategy is fully aligned to, and supported by, service transformation programmes.		
SR1Q5A1	Your organisation's digital strategy is supported by an effective stakeholder communications and engagement strategy that effectively articulates the benefits of the digital strategy.		
SR1Q6A1	The needs of the users of your services were captured as part of the development of the digital strategy.		
SR1Q7A1	Your organisation monitors emerging technologies through regular horizon scanning to keep the digital strategy up to date.		
SR1Q8A1	There are processes in place to scrutinise and evaluate investment in digital technology and support ideas through to implementation.		

Key messages - Readiness

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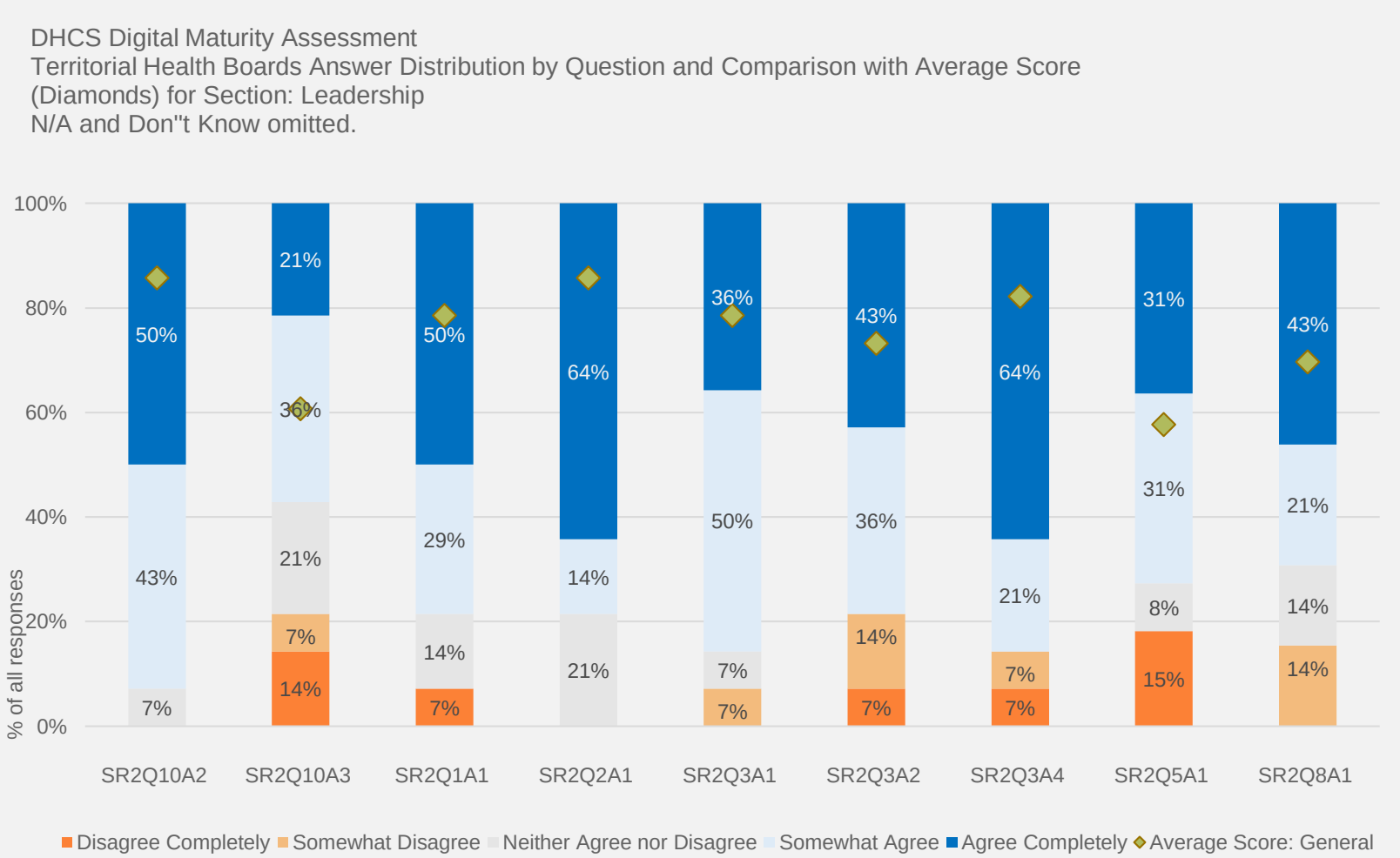
Strategic Alignment

- 79% of respondents agree completely, or somewhat agree, that there are processes in place to scrutinise and evaluate investment in technology in their organisations and support ideas through to implementation.
- 57% of respondents agree completely, or somewhat agree, that their organisations routinely undertake horizon scanning to remain aware of advances in digital technologies.
- 72% of respondents agree completely, or somewhat agree, that they have an existing digital strategy aligned to health and wellbeing objectives.
- Several Territorial Health Board digital strategies are in development.
- Digital strategies are often not aligned to clinical or transformation strategies and have tended to focus on infrastructure for new buildings or system implementation.
- Executive Board engagement in the local digital agenda varies significantly between Territorial Health Boards. Even where Boards demonstrate interest this does not often translate into prioritisation of funding.
- Digital is still seen as “back office IT” in many Territorial Health Boards and not as an enabler of service transformation.
- Cultural change required to focus on potential benefits from digitally enabled care processes.
- Digital technologies should support future ways of working rather than digitising the current approach.

Leadership



Question #	Question	Don't Know	N/A
SR2Q10A2	Your organisation engages with the following groups to ensure digital solutions meet the demands of their users: Health & care professionals.		
SR2Q10A3	Your organisation engages with the following groups to ensure digital solutions meet the demands of their users: Patients and service users.		
SR2Q1A1	Your Board owns the organisation's digital strategy and receives regular updates about progress.		
SR2Q2A1	Digitally enabled transformation project and programmes have active Board level sponsorship (Senior Responsible Officer).		
SR2Q3A1	Your digital leadership team includes recognised and engaged representation driving change and transformation within your organisation from: Clinical leadership, i.e. through your Chief Clinical Information Officer (CCIO) or your clinical lead.		
SR2Q3A2	Your digital leadership team includes recognised and engaged representation driving change and transformation within your organisation from: NMAHP leadership		
SR2Q3A4	Your digital leadership team includes recognised and engaged representation driving change and transformation within your organisation from: Executive leadership, i.e. through your Chief Information Officer (CIO)/Chief Digital Officer (CDO).		
SR2Q5A1	Your NMAHP leads have protected time to undertake the requirements of the role within your organisation.	15%	
SR2Q8A1	Your Chief Clinical Information Officer (CCIO), or equivalent clinical lead, has protected time as part of his/her job plan to undertake the requirements of the role within your organisation.	7%	

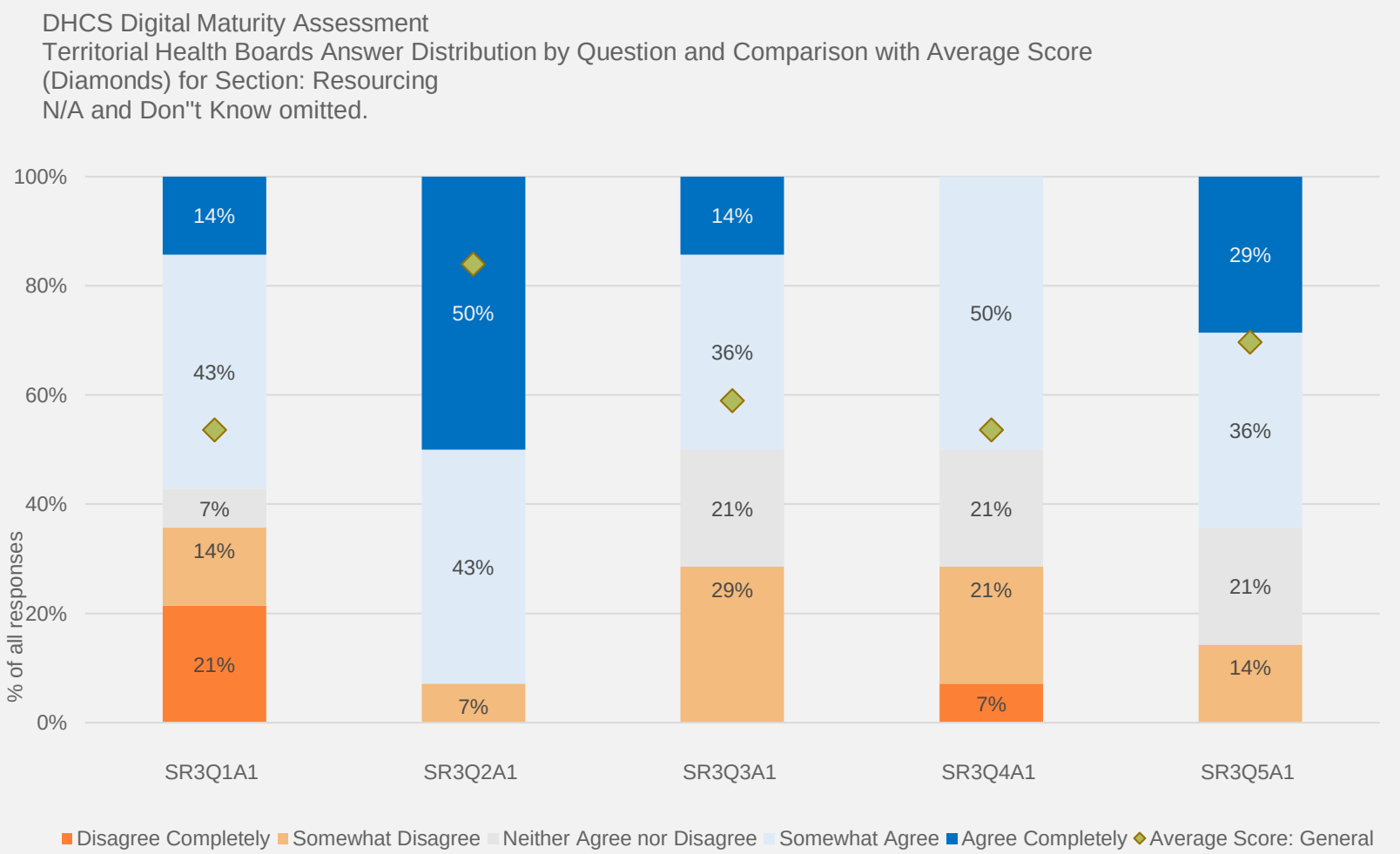
Key messages - Readiness

Digital Health & Care Scotland

Leadership

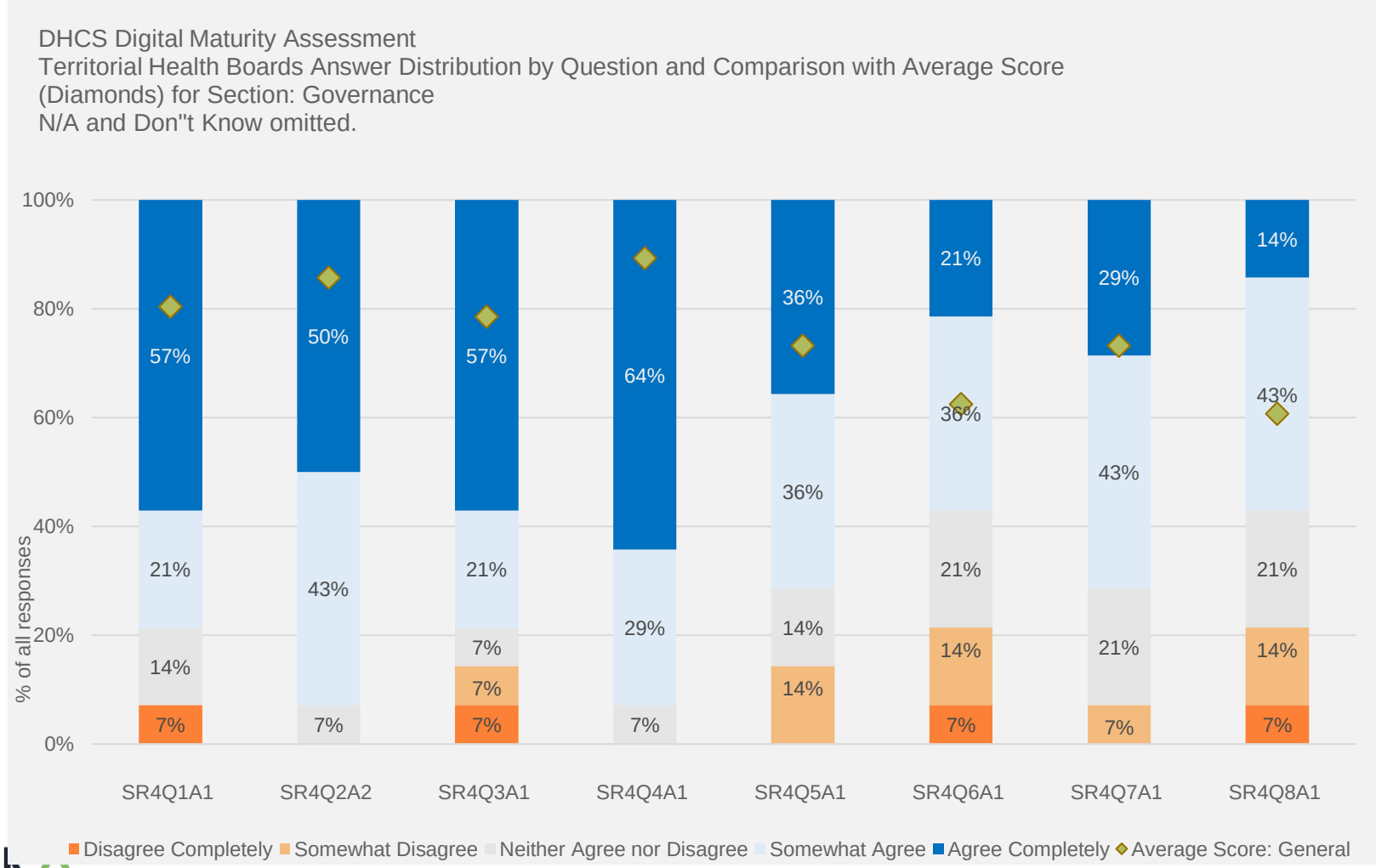
- Only one Territorial Board Chief Information Officer and one Special Board CIO are Executive Board members.
- In almost all Health Boards the eHealth Lead is not the executive digital lead for the organisation and have varying degrees of influence and lines of reporting.
- Several eHealth leads have an operational IT delivery rather than a strategic leadership role.
- eHealth lead reporting lines vary across Health Boards from Finance, Strategy, Estates and Facilities to Medical and Nursing Directors.
- 86% of respondents agree completely, or somewhat agree, that they have clinical digital leadership to drive change and transformation.
- Clinical eHealth leads in Territorial Health Boards have varied amounts of funded, allocated time to undertake their roles, ranging from half a day a week to half time. NHS NSS is the only Health Board that has substantive clinical digital leadership posts. Some Territorial and Special Health Boards have no formal clinical eHealth input.
- Most clinical eHealth leads' role is to support specific project implementation. There are very few that have a strategic Chief Clinical Information Officer role, as currently being promoted elsewhere in the UK.
- Although Scottish Government has funded ten people to develop their clinical digital leadership skills and expertise through the NHS Digital Academy programme there has been no formal evaluation of the benefits and no plan has been developed to ensure Scotland empowers the alumni to take on strategic clinical digital leadership roles within their sponsoring organisations. Similarly, limited use has been made of NMAHPs who have completed NES digital leadership training by most Health Boards.

Resourcing



Question #	Question	Don't Know	N/A
SR3Q1A1	A 2 to 3 year financial plan for investment in digital technology is approved and in place.		
SR3Q2A1	Your organisation has the buying, contracting, and supplier management capability it needs to manage technology suppliers effectively.		
SR3Q3A1	Your organisation ensures adequate resources are available for technology implementation, including associated change management.		
SR3Q4A1	Commercial suppliers are involved in qualitative and quantitative benefits identification and realisation.		
SR3Q5A1	Your organisation routinely undertakes assessments of clinical safety and risk for all digital projects and clinical application upgrades.		

Governance



Question #	Question	Don't Know	N/A
SR4Q1A1	There is a Board-led digital programme(s), supported by effective operational IT delivery.		
SR4Q2A2	Digital projects are underpinned by valid business cases and fully-engaged business owners.		
SR4Q3A1	Your organisation adopts industry recognised principles outlined in best practice guidelines relating to Clinical digital services.		
SR4Q4A1	Digital Clinical projects and programmes follow standard project management methodologies ensuring effective allocation of roles and responsibilities.		
SR4Q5A1	Clinical governance is embedded throughout the lifecycle of digital projects.		
SR4Q6A1	Your organisation routinely evaluates the benefits of digital Clinical projects using a consistent approach.		
SR4Q7A1	Your organisation routinely evaluates lessons from digital Clinical projects and applies the learning to future programmes.		
SR4Q8A1	Your Health and Social Care Partnership Board(s) has effective oversight of digital programmes relating to health and social care.		

Key messages - Readiness

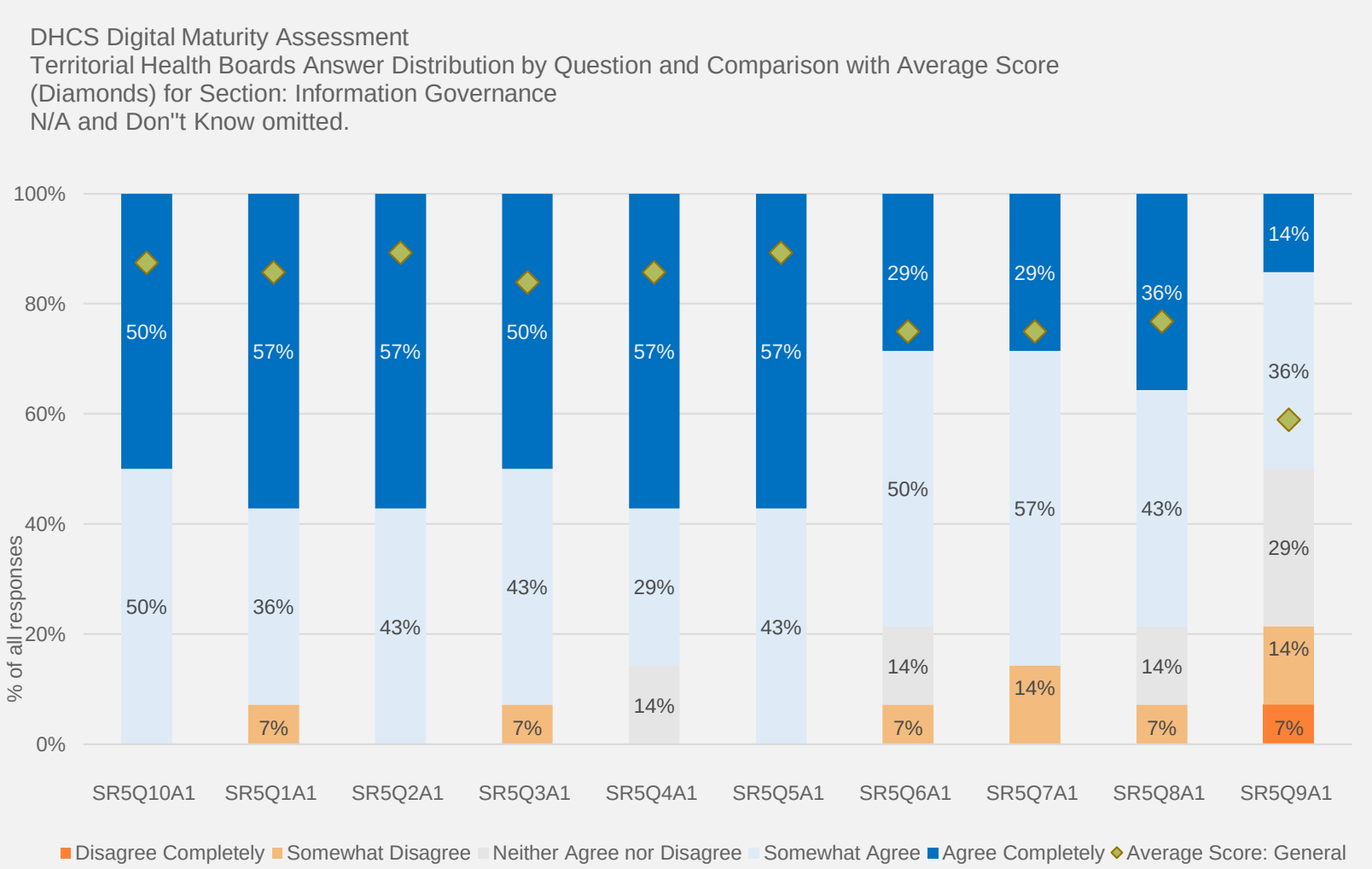
Resourcing

- 93% of respondents agree completely, or somewhat agree, that their organisation has the buying, contracting and supplier management capabilities required.
- 28% of respondents disagree completely, or somewhat disagree, that their organisations has adequate resources, including change management, to effectively implement digital projects.
- Several organisations commented that lack of resources limited progress or achievement of ambitions. All Health Boards are struggling to progress a transformational agenda within existing budgets.
- There are challenges recruiting and retaining staff with specialist skills, such as cyber security and data science, as people with these skills are in short supply and the private sector offer higher salaries.

Governance

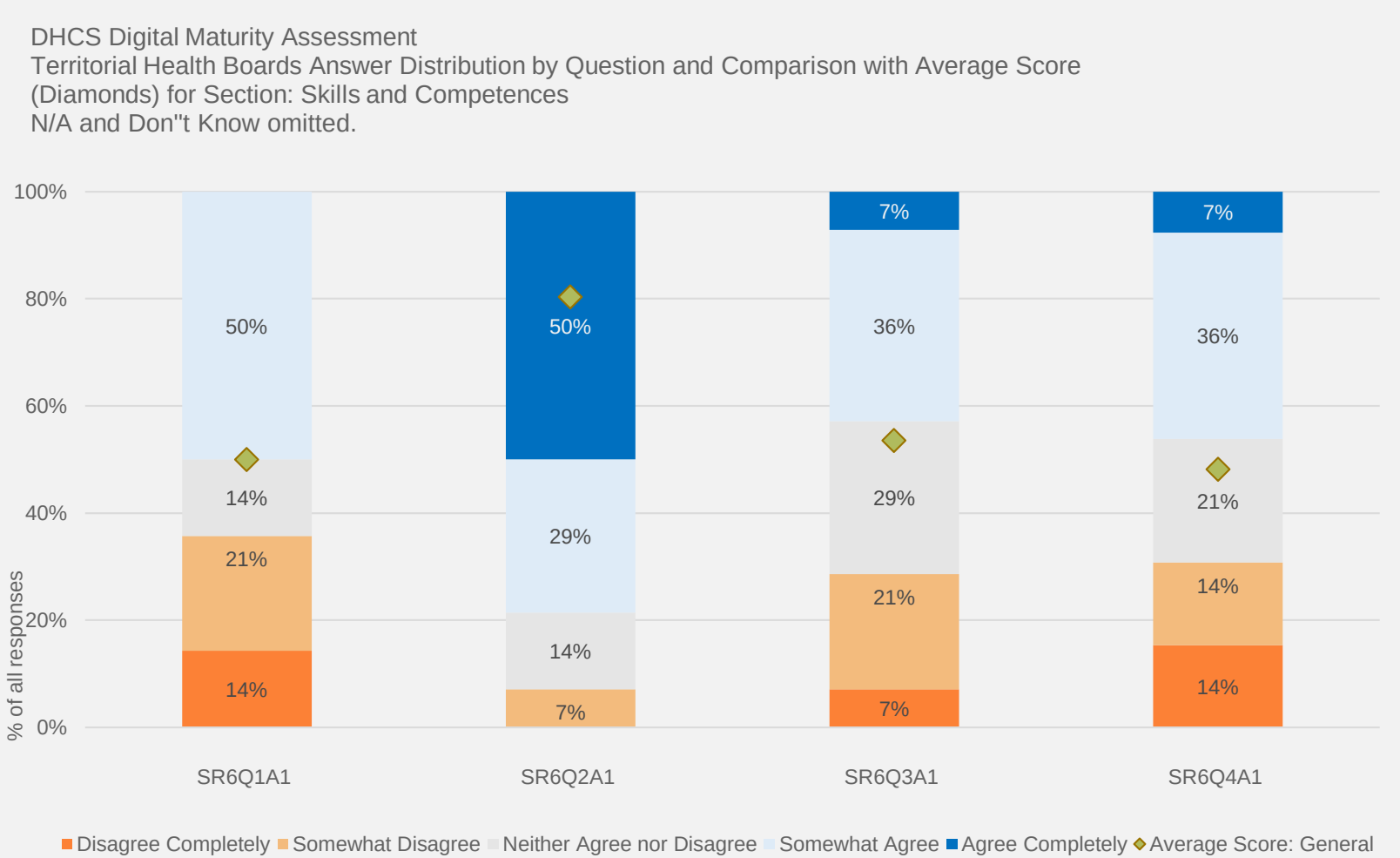
- Almost all respondents agree that they have good governance structures in place with digital projects underpinned by valid business cases and fully engaged business owners and that all projects are managed using standard project methodologies.
- 21% of respondents disagree completely, or somewhat disagree, that evaluation of benefits of digital healthcare projects is routinely undertaken and 28% disagree that lessons learned are applied to future projects. Lack of resources to support these activities was commonly quoted to be a key factor.
- Many clinical service teams assume total cost of ownership of digital programmes should remain with eHealth department and are not willing to own digital project benefits or contribute resources.

Information Governance



Question #	Question	Don't Know	N/A
SR5Q10A1	Your organisation has a defined process to keep track of the Clinical information it holds, including its purpose, classification, location and details of ownership / maintenance responsibilities. There is a clear process for the final disposal of each information asset.		
SR5Q1A1	Your organisation adopts high standards of information security and cyber resilience for Clinical digital services.		
SR5Q2A1	Governance structures are in place to manage key information risks and cyber threats at Board level.		
SR5Q3A1	Your organisation takes a data protection by design approach to Clinical projects which involve data.		
SR5Q4A1	Understanding of and adherence to information governance policies, procedures and agreements amongst your Clinical staff is monitored and actively supported.		
SR5Q5A1	The sharing of data with other health & social care providers is supported by existing information governance policies, procedures and agreements.		
SR5Q6A1	Information sharing preferences of patients and service users are recorded and acted upon.		
SR5Q7A1	There are robust due diligence mechanisms in place to ensure all 3rd parties comply with the law and central guidance and provide sufficient guarantees that personal data is handled safely and protected from unauthorised access, accidental loss, damage and destruction.		
SR5Q8A1	All information governance requirements are articulated in third party and supplier contracts and monitored on an ongoing basis.		
SR5Q9A1	You receive assurance on a regular basis that your suppliers and digital assets are secure.		

Skills and Competences



Question #	Question	Don't Know	N/A
SR6Q1A1	Your organisation regularly monitors changes to the core skills required of clinical staff as part of the organisation's ongoing digital transformation, and regularly reviews available skills development programmes to ensure their adequacy.		
SR6Q2A1	Staff receive training regarding the use of digital applications and technologies that is effective in terms of skills development and available when it is required.		
SR6Q3A1	Health & care professionals receive training regarding the use and interpretation of data provided to them via dashboards and/or reports that is effective in terms of skills development and available when it is required.		
SR6Q4A1	Staff have access to appropriate resources for professional learning and digital skills development and have allocated time for these activities.	7%	

Key messages - Readiness

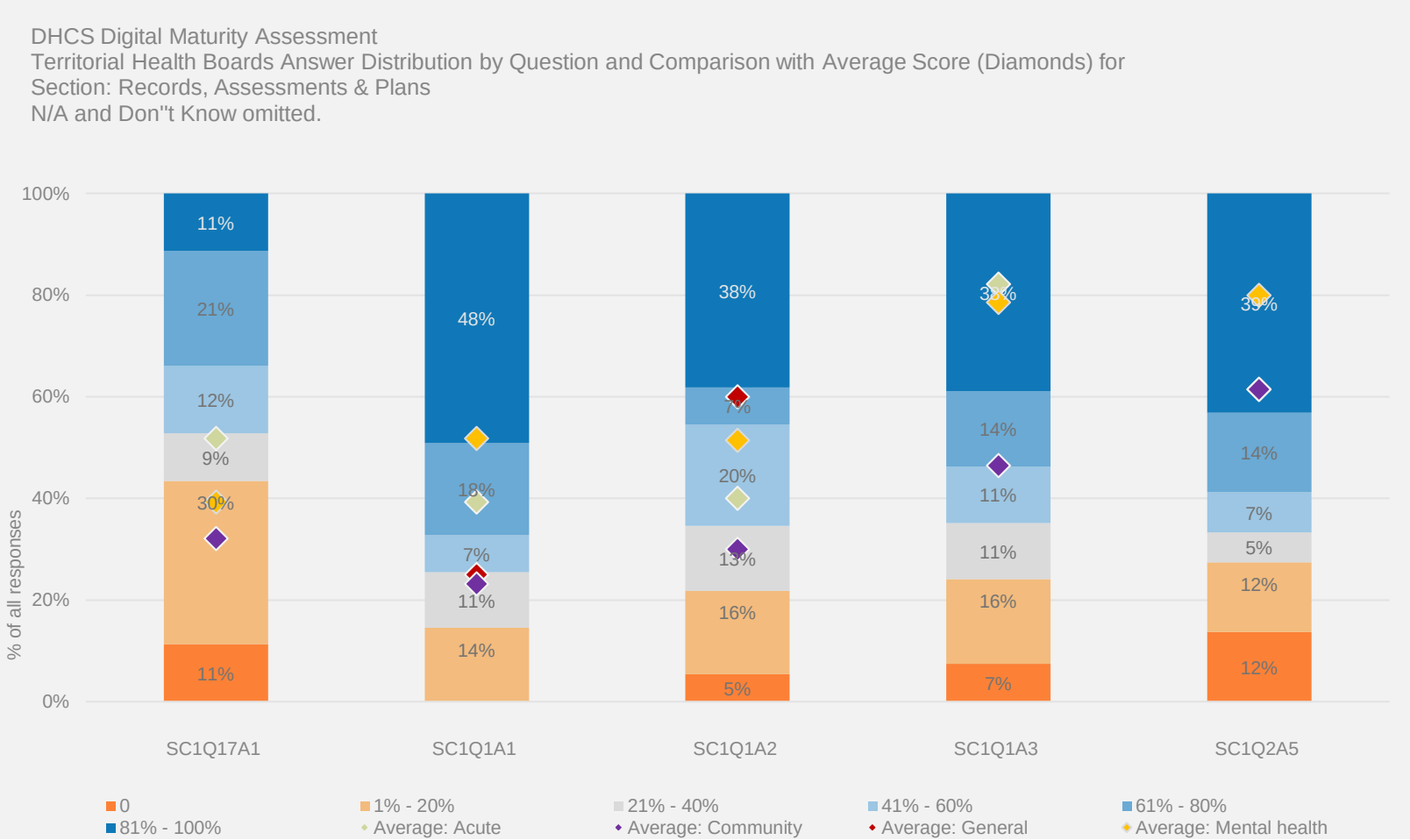
Information Governance

- Almost all organisations agree that they adopt high standards of information security and cyber resilience and that their Executive Board has a full and accurate picture of cyber threats.
- 93% of respondents agree completely, or somewhat agree, that they use a data protection by design approach to digital social care projects.
- 50% of respondents agree completely, or somewhat agree, that they receive assurance on a regular basis from suppliers that their digital assets are secure. It was noted that there remain some gaps in third party supplier contracts relating to this.
- Despite the high self-assessed scores for this section information governance is often seen as a barrier rather than an enabler of data sharing.

Skills and Competences

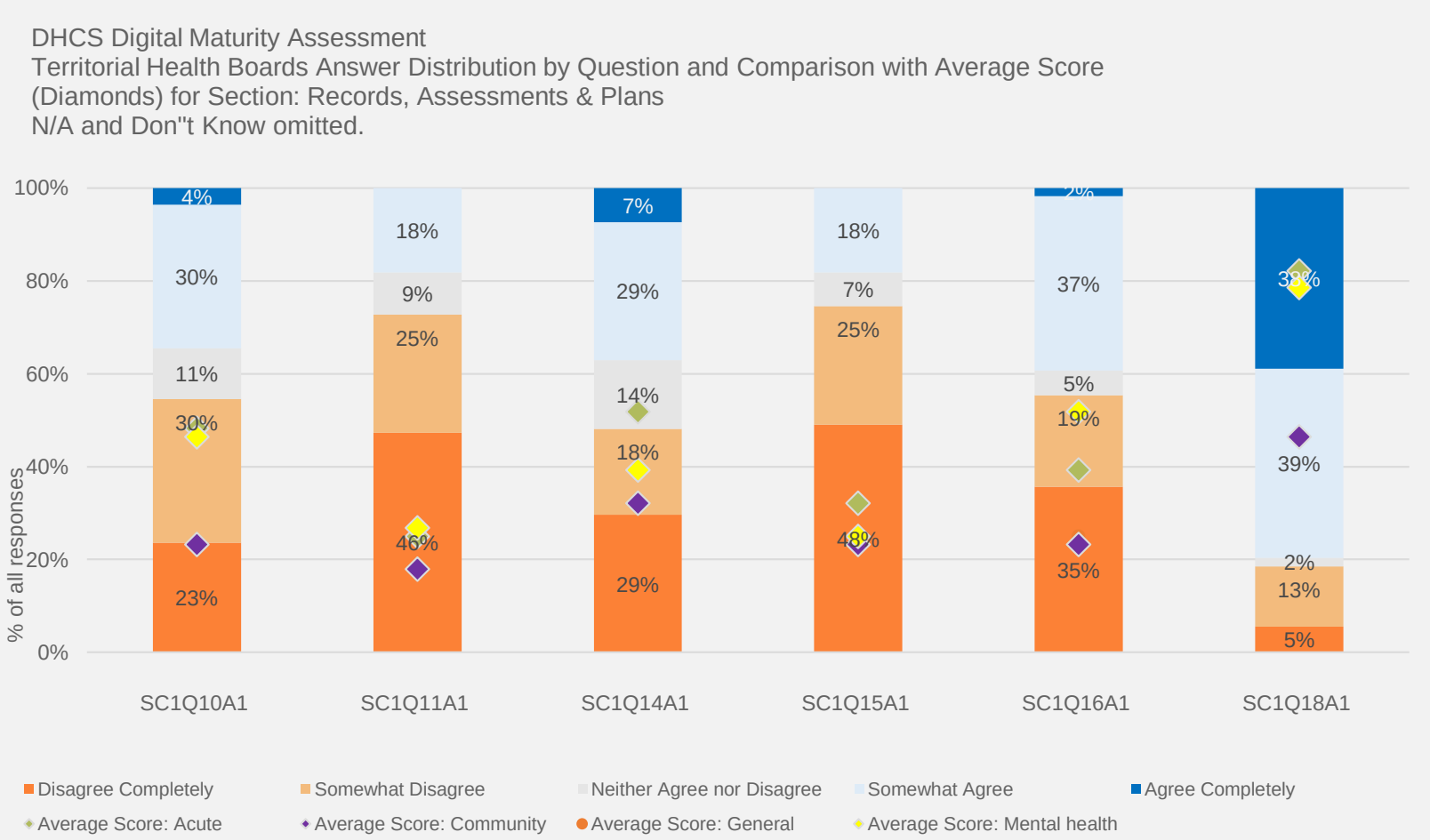
- Only 43% of respondents agree completely, or somewhat agree, that healthcare professionals have access to appropriate resources for professional learning and digital skills development.
- There is significant variation in training support available across Health Boards, with some Boards having no training team or training budget at all. There are a small number of facilitators in several Health Boards to cover all digital training and ongoing support.
- There are very limited resources to ensure healthcare professionals maximise the use of existing systems and the organisation obtains value.

Records, Assessments & Plans



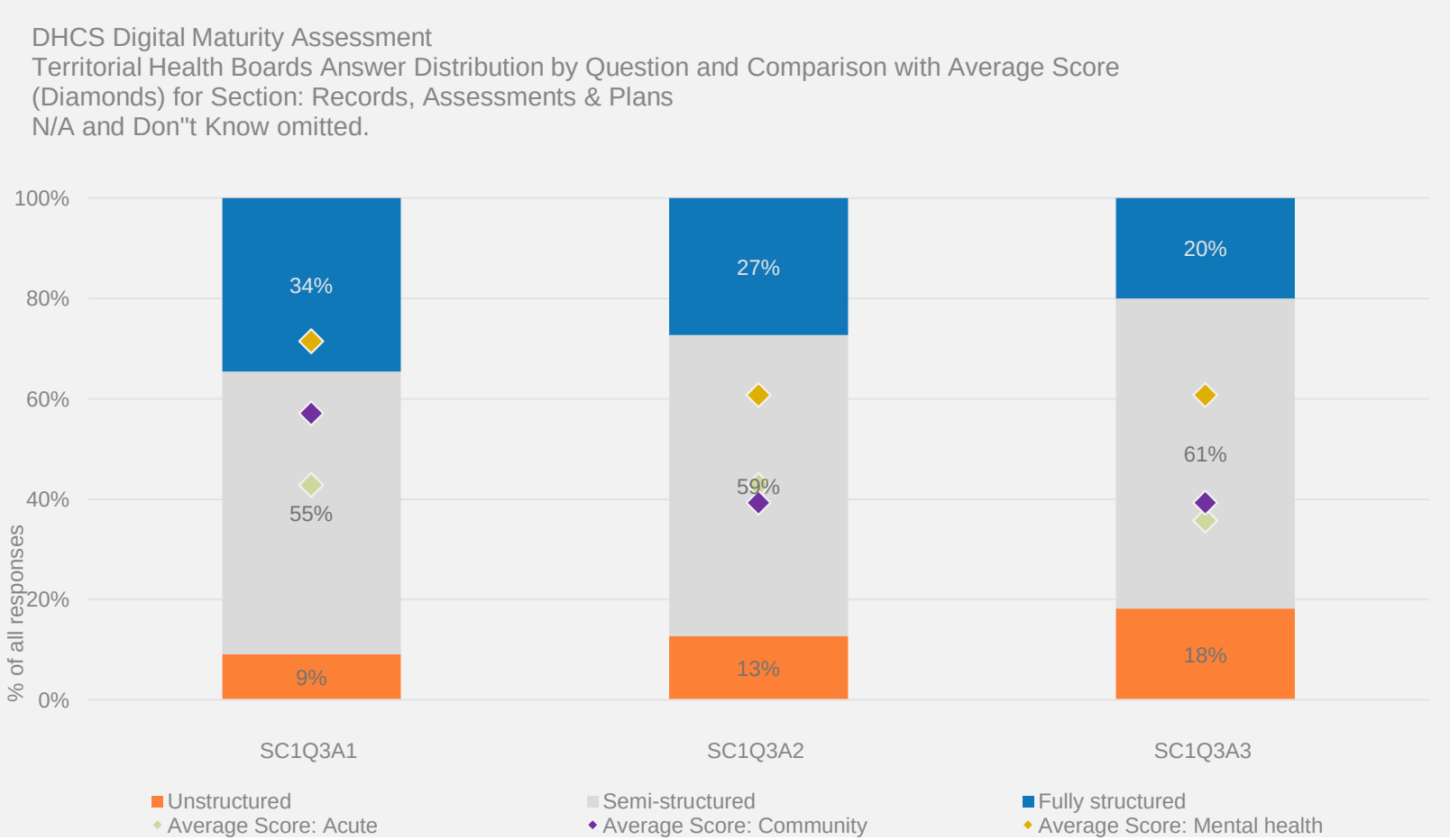
Question #	Question	Don't Know	N/A
SC1Q17A1	What proportion of information shared with health and social care providers outside your organisation is provided in a structured or semi-structured digital format?	5%	2%
SC1Q1A1	What proportion of each of the following types of information are routinely available in a digital format, to healthcare professionals working in your organisation: Clinical notes	2%	
SC1Q1A2	What proportion of each of the following types of information are routinely available in a digital format, to healthcare professionals working in your organisation: Clinical Observations	2%	
SC1Q1A3	What proportion of each of the following types of information are routinely available in a digital format, to healthcare professionals working in your organisation: Care Plans	4%	
SC1Q2A5	What proportion of each of the following types of information are routinely available in a digital format, to Health & care professionals working in your organisation: Mental Health Act information	11%	

Records, Assessments & Plans



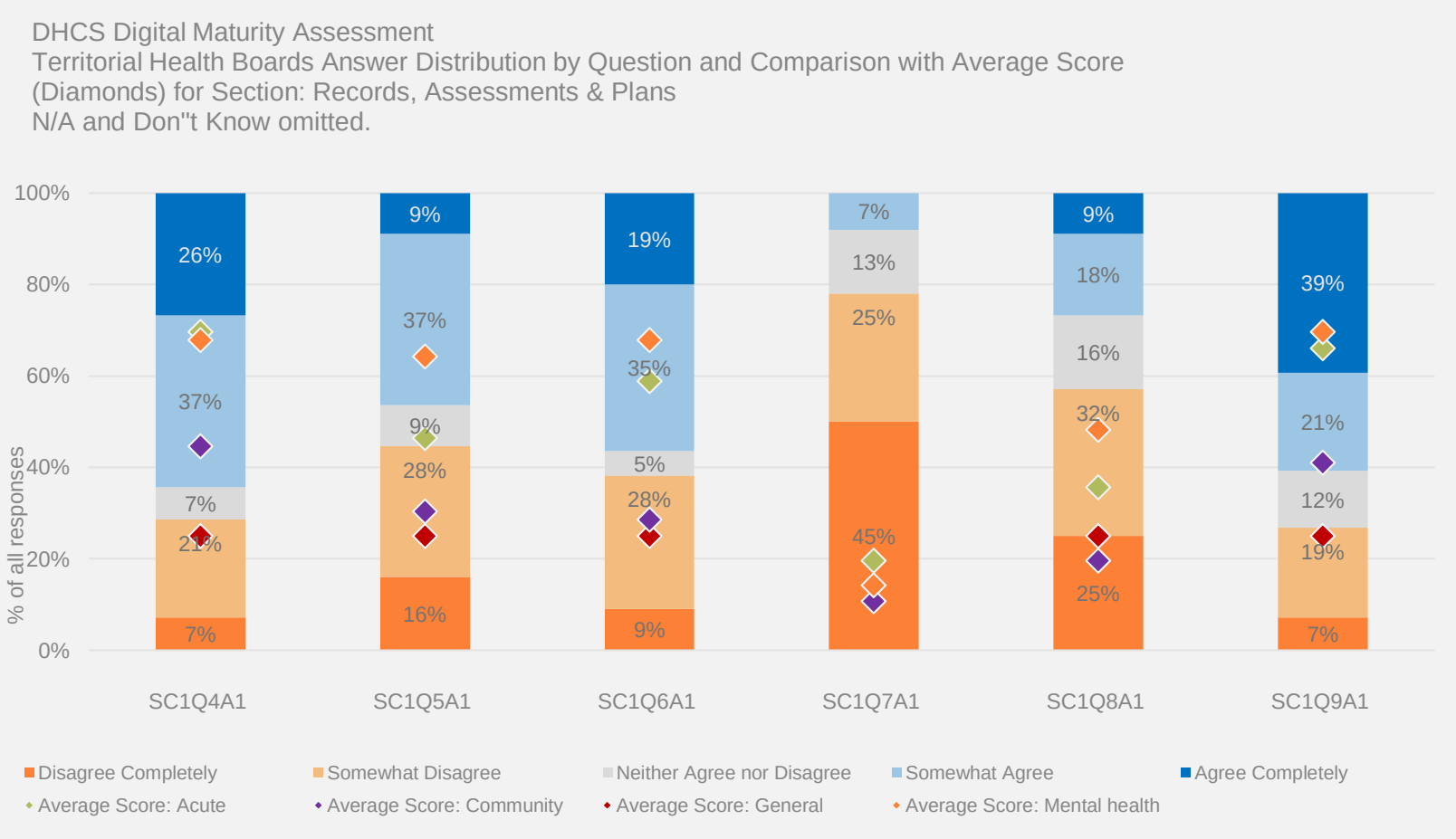
Question #	Question	Don't Know	N/A
SC1Q10A1	Health & care professionals have digital access at the point of care to the information they need from other healthcare providers.	2%	
SC1Q11A1	Health & care professionals have digital access at the point of care to the information they need from social care providers, including third and voluntary sector staff commissioned to deliver care services.	2%	
SC1Q14A1	Other healthcare professionals have digital access to the information they need from your organisation.	4%	
SC1Q15A1	Local social care providers, including third and voluntary sector staff commissioned to deliver care services, have digital access to information from your organisation.	2%	
SC1Q16A1	Health & care professionals have access to a consolidated view of their patients' local health and care records.	2%	
SC1Q18A1	Staff involved in the assessment and care of patients, or providing medication advice, have access to information in the Emergency Care Summary or Key Information Summary.	2%	2%

Records, Assessments & Plans



Question #	Question	Don't Know	N/A
SC1Q3A1	In what main format are each of the following types of records held in your organisation: Clinical notes	2%	
SC1Q3A2	In what main format are each of the following types of records held in your organisation: Clinical observations	2%	
SC1Q3A3	In what main format are each of the following types of records held in your organisation: Care plans	2%	

Records, Assessments & Plans



Question #	Question	Don't Know	N/A
SC1Q4A1	Health & care professionals can access digital records, or relevant components of them, at the point of care/need as part of their regular day-to-day routine.	2%	
SC1Q5A1	When using digital records, healthcare professionals can find what they need quickly and easily without having to log into different systems.	2%	
SC1Q6A1	Health & care professionals can update digital records, or relevant components of them, at the point of care as part of their regular day-to-day routine.	2%	2%
SC1Q7A1	Relevant data from monitoring devices is included in patient and service user records or charts automatically.	5%	5%
SC1Q8A1	Information is collected/recorded once.	2%	
SC1Q9A1	Health & care professionals rely on digital records for the information they need at the point of care.	2%	

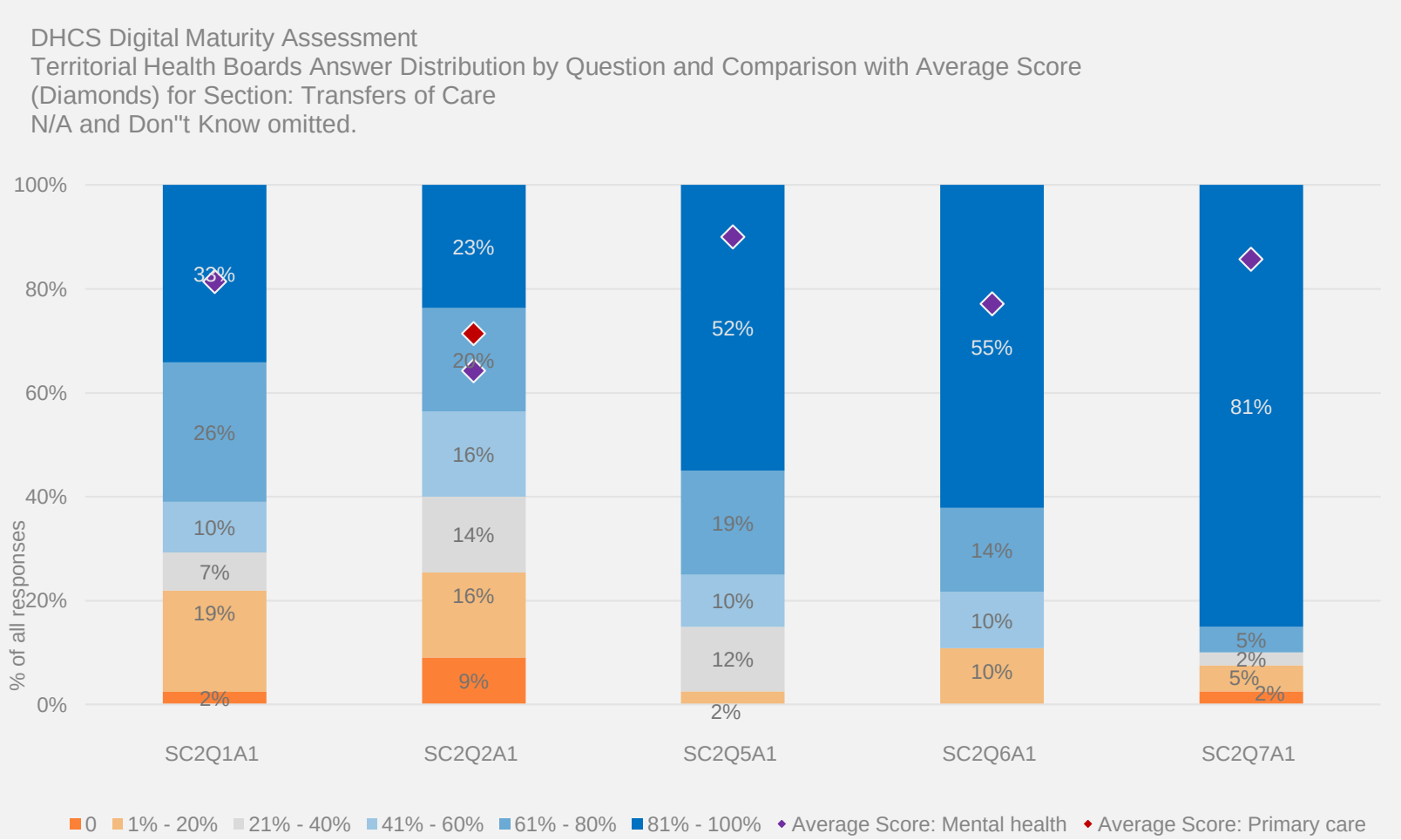
Key messages - Capabilities

Digital Health & Care Scotland

Records Assessments and Plans

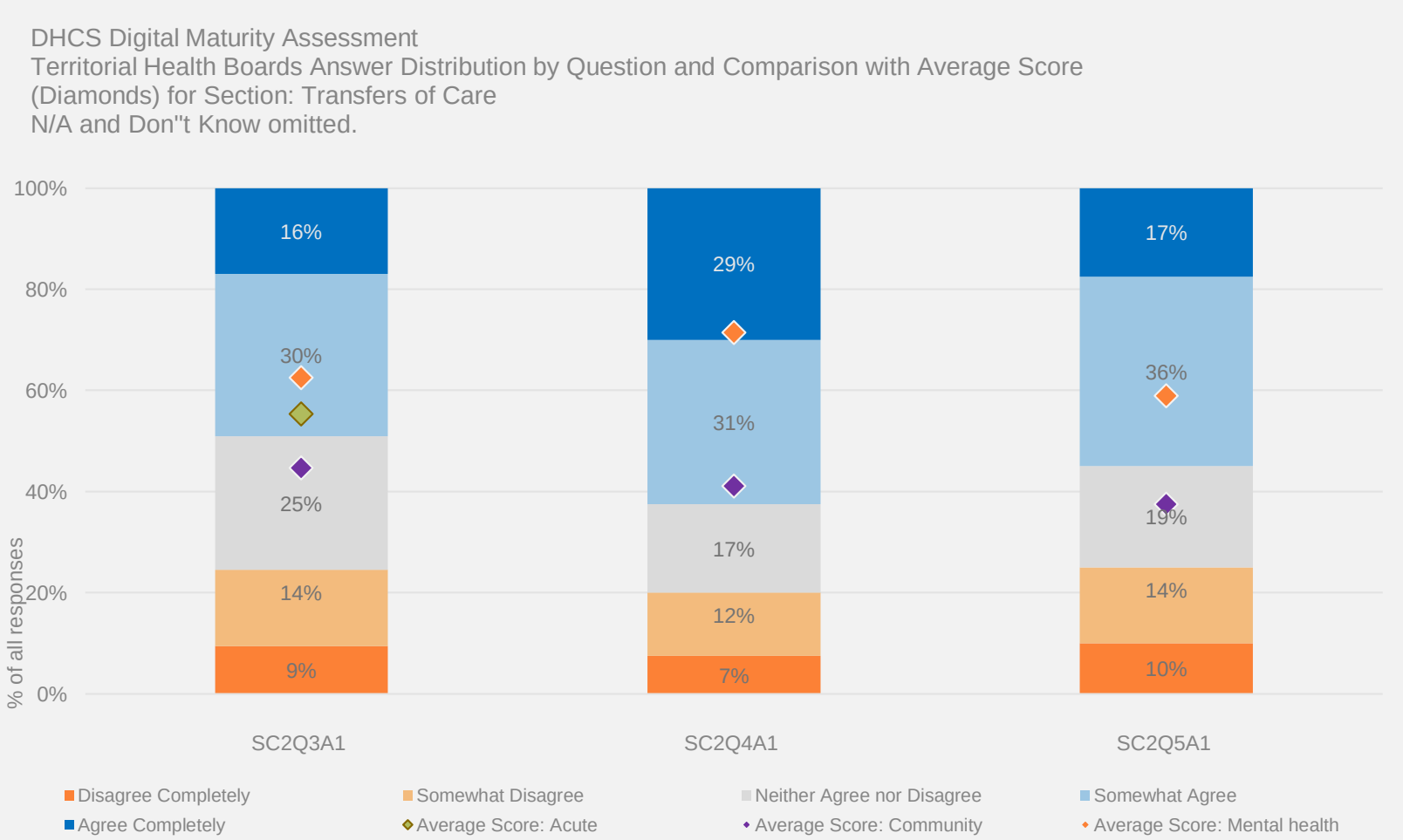
- 63% of respondents agree completely, or somewhat agree, that healthcare professionals rely can access digital records at the point of care and 60% agreed that healthcare professionals rely on digital care records for information needed.
- Only 48% of respondents agree completely, or somewhat agree, that healthcare professionals can find the information they need quickly and easily without having to log in to separate system. Clinicians often have to access multiple applications to view or update clinical information.
- Only 27% of respondents agree completely, or somewhat agree, that healthcare information is collected and recorded once.
- 53% of respondents disagree completely, or somewhat disagree, that they have access to information required from other healthcare professionals and 71% disagree completely, or somewhat disagree, that they have access to information required from social care providers.
- Implementation of clinical portals has enhanced information sharing across some Health Boards in recent years but there are still gaps in information exchange, especially relating to GP and social care data.
- 77% of respondents agree completely, or somewhat agree, that staff assessing patients or providing medication advice have access to the Emergency Care Summary.
- Most Territorial Boards still have a dependency on paper based clinical documentation, with scanning of documents to create a paper-lite environment still common practice.
- There has been a traditional focus on implementation of system functionality rather than optimising end to end clinical workflow and considering user experience.

Transfers of Care



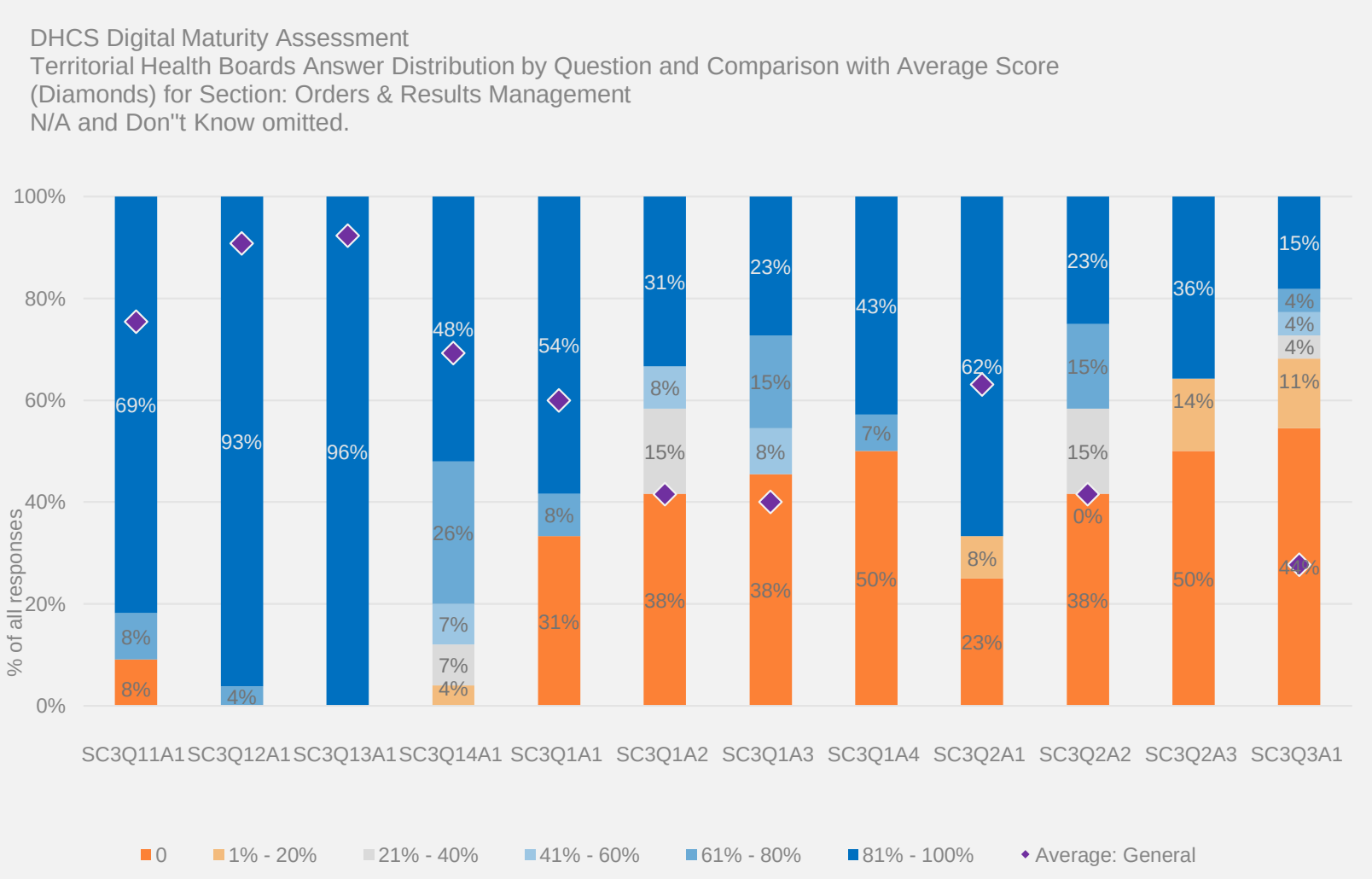
Question #	Question	Don't Know	N/A
SC2Q1A1	What proportion of referrals for non-urgent clinical assessment are received and managed digitally and integrated into clinical workflows?	2%	
SC2Q2A1	For what proportion of handovers of care between services, departments or care teams is information shared digitally?	2%	
SC2Q5A1	At inpatient and day case discharge, what proportion of discharge summaries are shared digitally with GPs and other relevant healthcare professionals?	2%	2%
SC2Q6A1	After urgent patient review (e.g. at A&E, Minor Injury Unit, Assessment unit), what proportion of discharge summaries are shared digitally with GPs and other relevant healthcare professionals?	10%	2%
SC2Q7A1	At outpatient appointment, what proportion of letters are shared digitally with GPs and other relevant healthcare professionals?	2%	2%

Transfers of Care



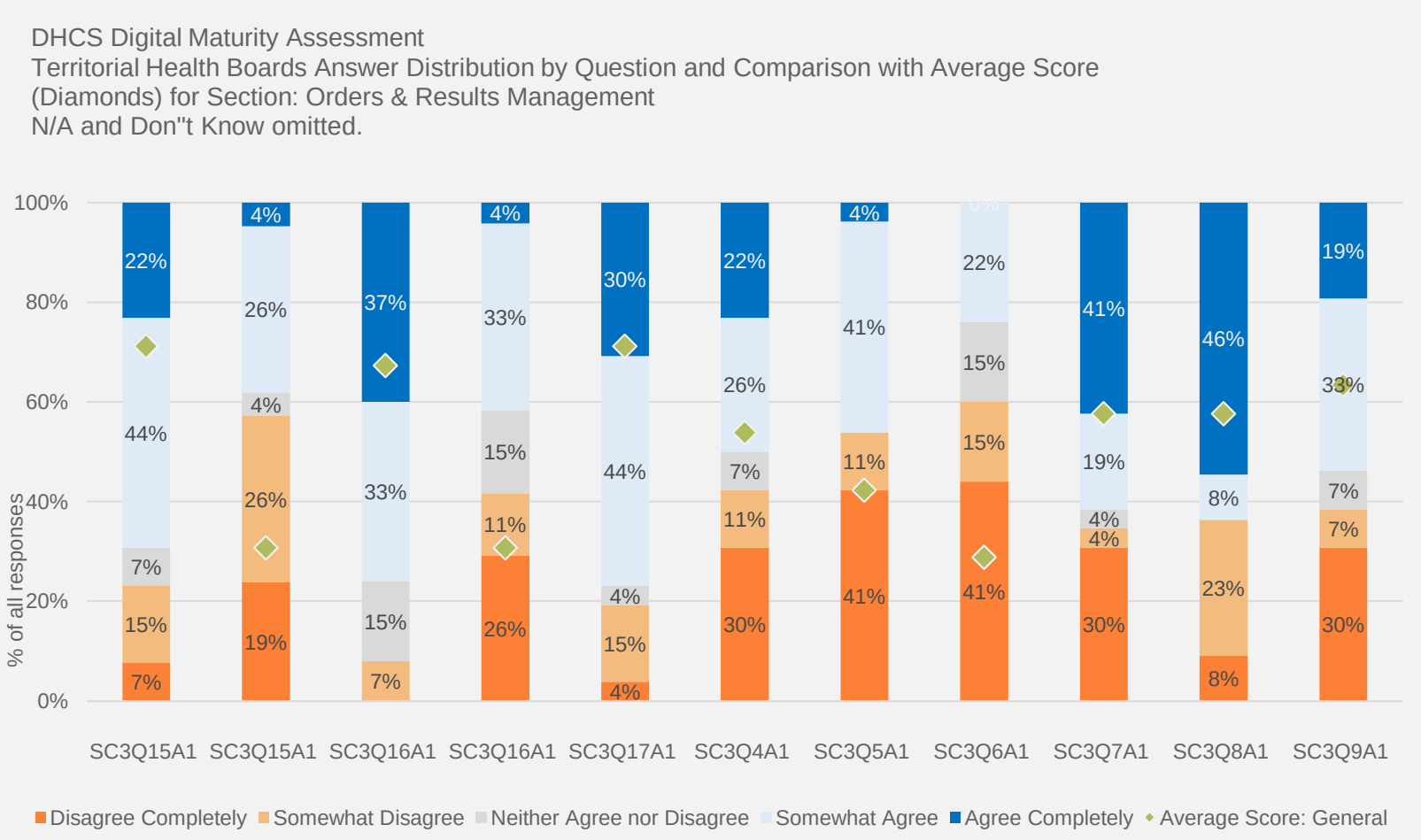
Question #	Question	Don't Know	N/A
SC2Q3A1	Information is shared digitally for children and young people with ongoing healthcare needs who are transitioning to adult healthcare services.	4%	2%
SC2Q4A1	New discharge summaries are created in a consistent, structured digital format.	2%	2%
SC2Q5A1	The information held in patients' records is used to pre-populate discharge summaries and letters to avoid re-keying.	2%	2%

Orders & Results Management



Question #	Question	Don't Know	N/A
SC3Q11A1	What proportion of inpatients are positively identified at the point of sample collection and specimen labelling prior to all diagnostic tests being performed?	15%	
SC3Q12A1	What proportion of laboratory test results are available to healthcare professionals digitally?	4%	
SC3Q13A1	What proportion of radiology test results are available to healthcare professionals digitally?	4%	
SC3Q14A1	What proportion of results from any other diagnostic tests are available to healthcare professionals digitally?	7%	
SC3Q1A1	What percentage of laboratory tests are routinely requested through a digital order system in acute care ?	8%	
SC3Q1A2	What percentage of laboratory tests are routinely requested through a digital order system in community care?	8%	
SC3Q1A3	What percentage of laboratory tests are routinely requested through a digital order system in mental health care?	15%	
SC3Q1A4	What percentage of laboratory tests are routinely requested through a digital order system in primary care?		
SC3Q2A1	What percentage of radiology tests are routinely requested through a digital order system in acute care?	8%	
SC3Q2A2	What percentage of radiology tests are routinely requested through a digital order system in community care?	8%	
SC3Q2A3	What percentage of radiology tests are routinely requested through a digital order system in primary care?		
SC3Q3A1	What percentage of requests for any other diagnostic tests are routinely made through a digital order system?	19%	

Orders & Results Management



Question #	Question	Don't Know	N/A
SC3Q15A1	Health & care professionals can digitally access all diagnostic test results and images quickly and easily at the point of care without the need to log into multiple systems.	4%	
SC3Q15A1	Your organisation has governance processes in place to monitor and manage results which have not been actioned.	19%	4%
SC3Q16A1	Digital results are held in a structured format to enable clinical decision support and data extraction.	7%	
SC3Q16A1	Health & care professionals are automatically alerted of all results that require acknowledgement/review and sign off by them with an audit trail demonstrating the acknowledgment process and actions taken.	11%	
SC3Q17A1	Health & care professionals have digital access to all diagnostic test results and images for patients under their care.	4%	
SC3Q4A1	When making diagnostic test requests, healthcare professionals have access to department, speciality or organisation level request/order sets.	4%	
SC3Q5A1	Health & care professionals are alerted of duplicate test requests.	4%	
SC3Q6A1	Health & care professionals are alerted of conflicting test requests.	7%	
SC3Q7A1	Digital orders are pre-populated with information held in patients' digital record.	4%	
SC3Q8A1	Requests received by diagnostic services are automatically integrated into digital workflows to enable booking, triaging or scheduling.	15%	
SC3Q9A1	Health & care professionals can track the status of requests to diagnostic services through to completion.	4%	

Key messages - Capabilities

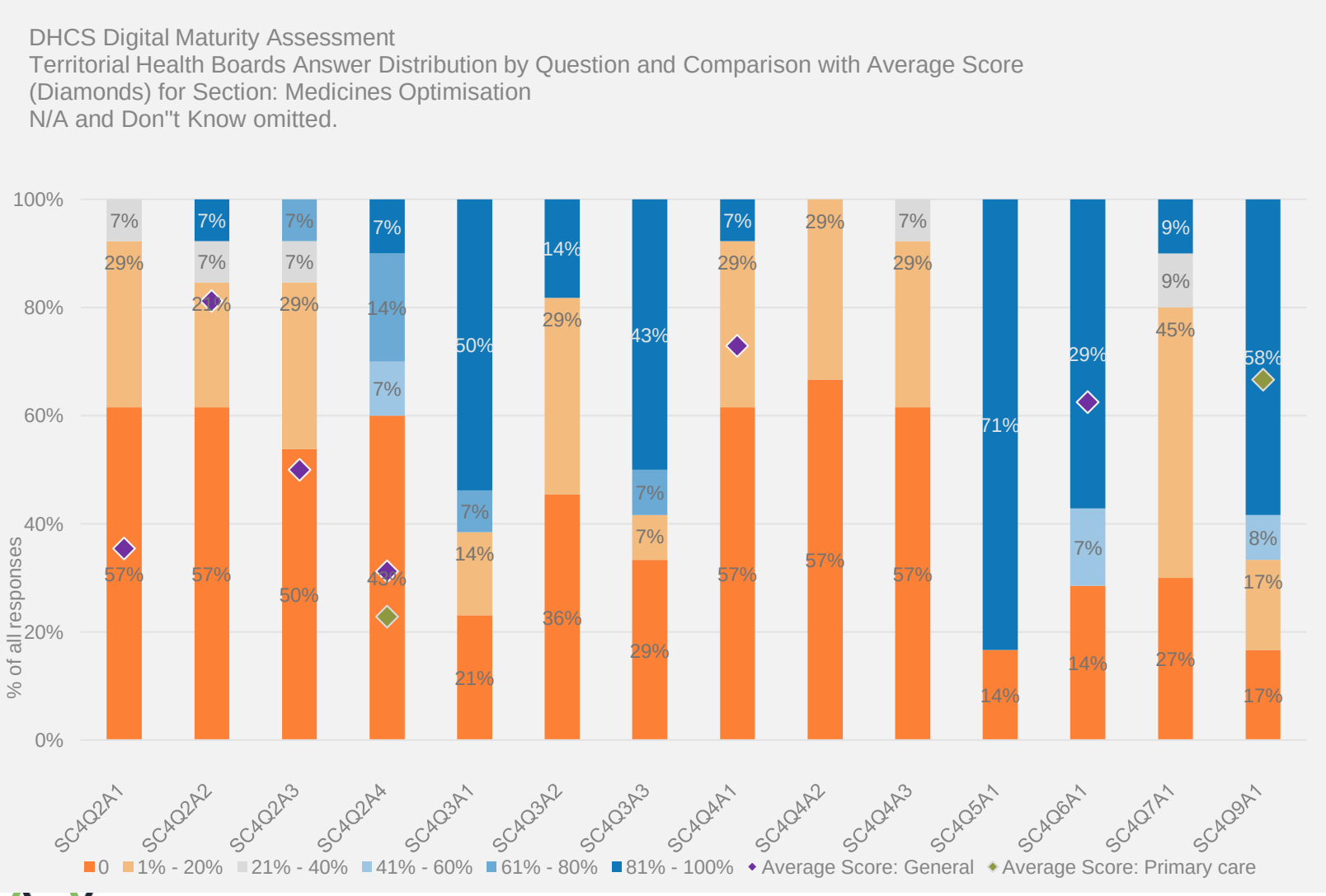
Transfers of Care

- 46% of respondents agree completely, or somewhat agree, that safe handovers of care for children transitioning to adult healthcare services are undertaken digitally.
- Most Boards digitally transfer discharge and outpatient clinic letters to GPs.

Orders and Results Management

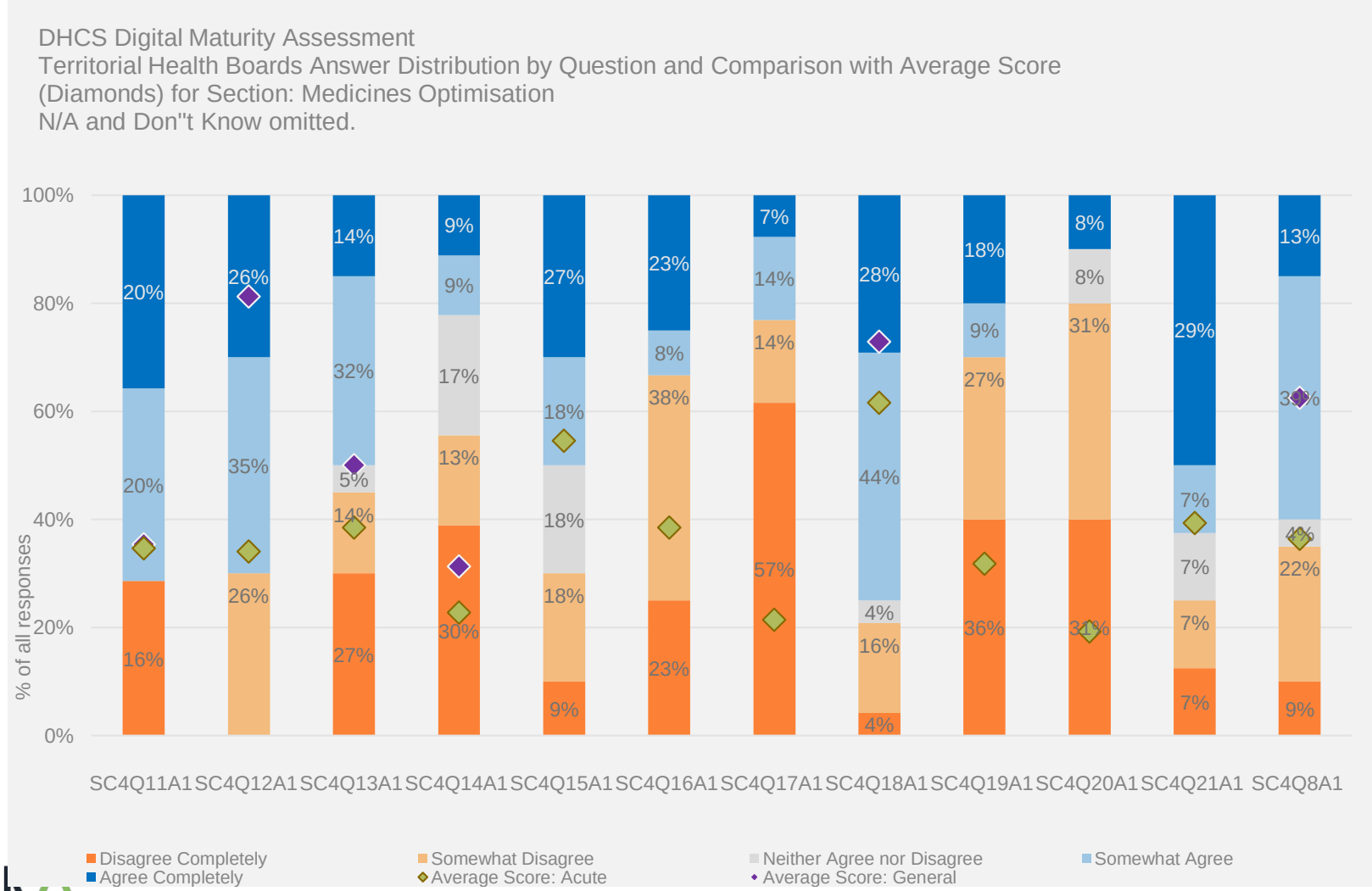
- The majority of Territorial Health Boards have implemented systems to enable digital ordering of diagnostic test requests but this does not necessarily seem to translate into digital requesting of laboratory and radiology tests across all care settings.
- Digital requesting is more common in acute and primary care and less common in community and mental health care settings.
- All Territorial Boards provide healthcare professionals with digital access to laboratory and radiology test results. Some Boards provide access to additional diagnostic test results, such as endoscopy reports.
- 66% of respondents agree completely, or somewhat agree, that diagnostic test results can be digitally accessed quickly and easily without the need to log into separate systems.
- Decision support within existing digital ordering systems appears to be fairly limited, or under utilised. 31% of respondents disagree completely, or somewhat disagree, that order sets are available to support diagnostic test requesting and 52% disagree that healthcare professionals are alerted about duplicate test requests when placing a new order.
- 45% of respondents disagree completely, or somewhat disagree, that governance processes are in place to ensure digital results are acknowledged and actioned appropriately.

Medicines Optimisation



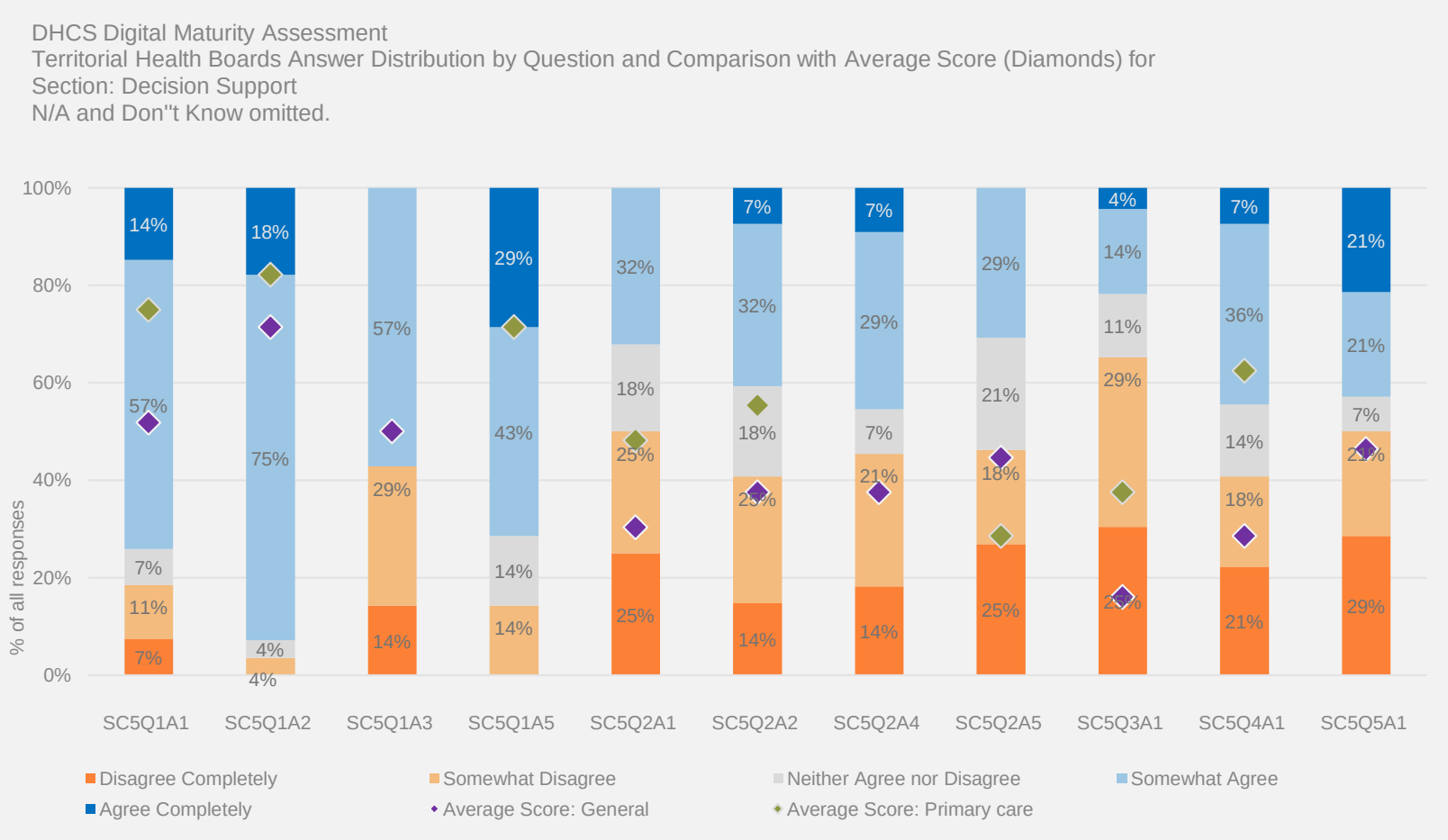
Question #	Question	Don't Know	N/A
SC4Q2A1	What proportion of urgent/emergency medications are prescribed digitally in your organisation in acute care ?	7%	
SC4Q2A2	What proportion of urgent/emergency medications are prescribed digitally in community care?	7%	
SC4Q2A3	What proportion of urgent/emergency medications are prescribed digitally in mental health care?	7%	
SC4Q2A4	What proportion of medications are prescribed digitally for patients admitted to community hospitals managed by primary care teams?	14%	14%
SC4Q3A1	What proportion of discharge medications are prescribed digitally in acute care?	7%	
SC4Q3A2	What proportion of discharge medications are prescribed digitally in community care?	14%	7%
SC4Q3A3	What proportion of discharge medications are prescribed digitally in mental health care?	14%	
SC4Q4A1	What proportion of outpatient medications are prescribed digitally in acute care?	7%	
SC4Q4A2	What proportion of outpatient medications are prescribed digitally in community care?	7%	7%
SC4Q4A3	What proportion of outpatient medications are prescribed digitally in mental health?	7%	
SC4Q5A1	What proportion of chemotherapy is prescribed digitally to adults in your organisation?	14%	
SC4Q6A1	What proportion of chemotherapy is prescribed digitally to children in your organisation?	36%	14%
SC4Q7A1	What proportion of complex medicines including infusions are routinely prescribed digitally.	9%	
SC4Q9A1	What proportion of prescriptions are transmitted digitally to community pharmacies?		

Medicines Optimisation



Question #	Question	Don't Know	N/A
SC4Q11A1	When prescribing digitally, healthcare professionals have access to medication order sets.	40%	4%
SC4Q12A1	When prescribing digitally, healthcare professionals are alerted of all of the following: drug: drug interactions, allergy intolerance, duplication of therapeutic class of drug, out of range doses (for at least a selection of medicines).	9%	4%
SC4Q13A1	Digital prescribing supports healthcare professionals in the calculation of medication doses.	5%	5%
SC4Q14A1	The system alerts prescribers for the percentage of BNF maximum dose for antipsychotics and cumulative percentage of all prescribed antipsychotic items.	13%	9%
SC4Q15A1	Prescribing systems or electronic health records identify patients that might be considered high-risk during their episode of care and require clinical pharmacy input.	9%	
SC4Q16A1	Healthcare professionals use electronic medication administration records to view medications scheduled for administration and to review which medications have been administered.	8%	
SC4Q17A1	Medication administration is supported in your organisation by the use of positive identification of patients and medicines using appropriate digital technologies.	7%	
SC4Q18A1	Monitoring of patients on high risk medicines are supported by the digital availability of relevant laboratory results within the system to aid clinical decision making.	4%	
SC4Q19A1	The decision and information regarding the administration of medicines is digitally recorded.	9%	
SC4Q20A1	Your organisation routinely monitors the reasons recorded on the electronic medication administration chart for late or omitted administration of prescribed medications.	8%	15%
SC4Q21A1	Blood transfusion tracking systems are used to meet safe transfusion clinical guidelines.	43%	
SC4Q8A1	Antibiotics are routinely prescribed digitally based on local or national formulary guidelines and antimicrobial stewardship is supported using decision support.	13%	

Decision Support



Question #	Question	Don't Know	N/A
SC5Q1A1	Digital systems alert Health & care professionals to: The existence of patient preferences	4%	
SC5Q1A2	Digital systems alert Health & care professionals to: Specific patient risks		
SC5Q1A3	Digital systems alert Health & care professionals to: Patients and service users whose clinical observations, or early warning scores, are deteriorating and need review		
SC5Q1A5	Digital systems alert Health & care professionals to: Relevant operational information about patients		
SC5Q2A1	Digital systems alert Health & care professionals to: Providing automatic prompts for the next action required by {professional}s in clinical pathways and protocols		
SC5Q2A2	Digital systems support Health & care professionals by: Providing automatic prompts to complete missing information or remind patients about overdue care actions	4%	
SC5Q2A4	Digital systems support Health & care professionals by: Supporting the tracking of Mental Health Act deadlines	21%	
SC5Q2A5	Digital systems support Health & care professionals by: Supporting multidisciplinary discharge planning and social care notifications	4%	4%
SC5Q3A1	Your organisation monitors the overruling of decision support prompts and the reasons recorded	11%	7%
SC5Q4A1	Health & care professionals are directed to relevant, up to date and evidence-based reference material as part of digital clinical workflows and care pathways.	4%	
SC5Q5A1	Digital systems identify patients who are ready for discharge or transfer to a different care setting.		

Key messages - Capabilities

Digital Health & Care Scotland

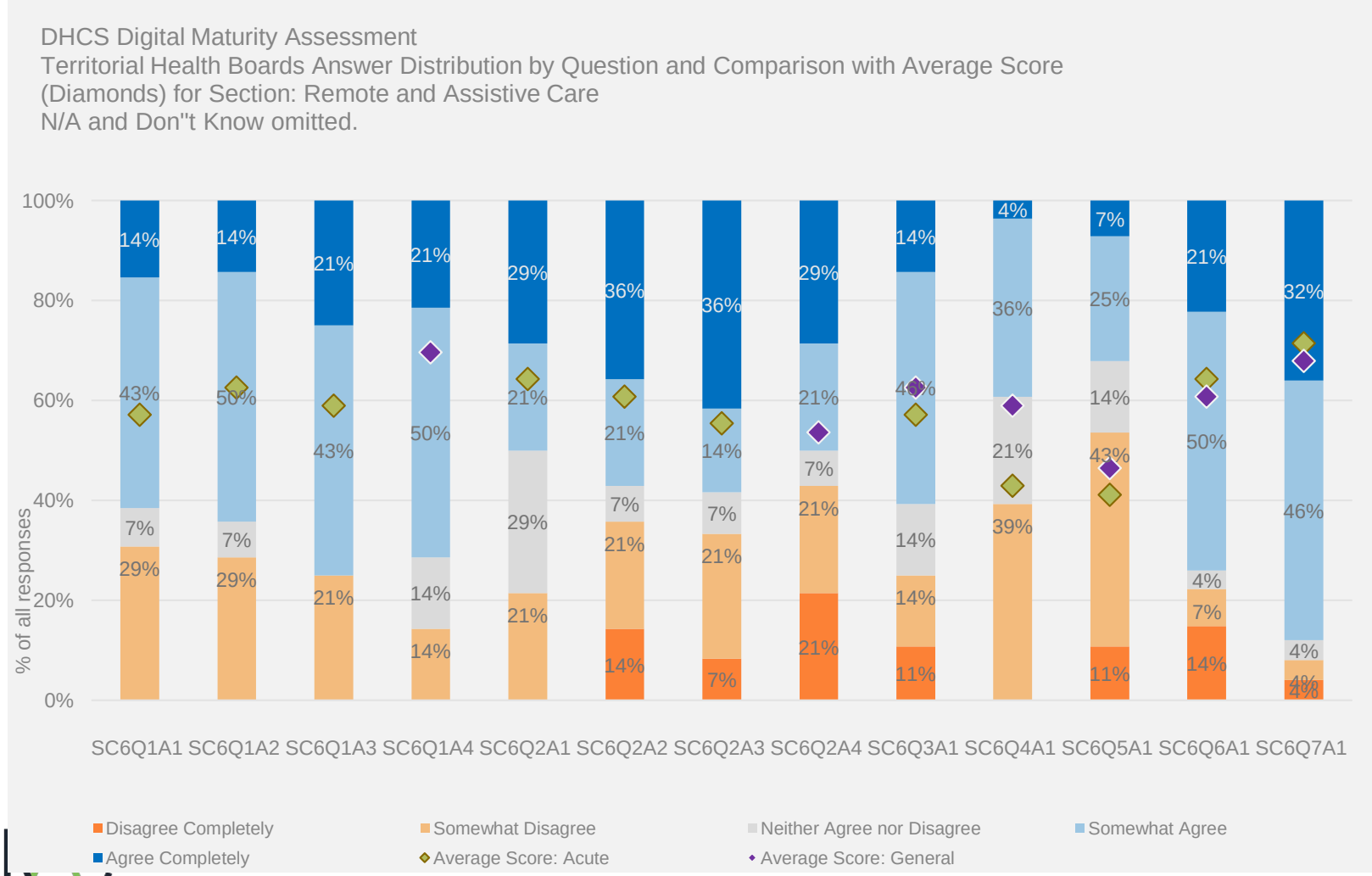
Medicines Optimisation

- A small number of Health Boards have implemented Hospital Electronic Prescribing and Medicines Administration systems.
- North of Scotland Boards are planning on implementing a single instance of a HEPMA system.
- It would appear that even those Health Boards who have implemented ePrescribing systems have not achieved widespread adoption across all clinical settings, especially in outpatient areas and to support prescribing of more complex medications, such as volatile anaesthetic agents and variable dose infusions.
- 72% of respondents reported that less than 20% of complex medications are prescribed digitally.
- 86% of respondents reported that less than 20% of outpatient medications and less than 20% of urgent/emergency medications are prescribed digitally in acute care.
- Of those Health Boards who have implemented HEPMA systems 62% of respondents disagree completely, or somewhat disagree, that their organisation monitors reasons recorded on the medication administration charts for late or omitted medication doses.

Decision Support

- With the exception of providing alerts about specific patient risks current electronic health records in use appear to offer limited decision support.

Remote and Assistive Care



Question #	Question	Don't Know	N/A
SC6Q1A1	Health & care professionals working in acute care use digital technologies to give or receive professional advice and guidance.	7%	
SC6Q1A2	Health & care professionals working in community care use digital technologies to give or receive professional advice and guidance.		
SC6Q1A3	Health & care professionals working in mental health care use digital technologies to give or receive professional advice and guidance.	14%	
SC6Q1A4	Health & care professionals working in primary care use digital technologies to give or receive professional advice and guidance.		
SC6Q2A1	Health & care professionals working in acute care are able to contribute to multidisciplinary discussions about patient and service user care with colleagues outside your organisation using digital technologies.		
SC6Q2A2	Health & care professionals working in community care are able to contribute to multidisciplinary discussions about patient and service user care with colleagues outside your organisation using digital technologies.		
SC6Q2A3	Health & care professionals working in mental health are able to contribute to multidisciplinary discussions about patient and service user care with colleagues outside your organisation using digital technologies.	14%	
SC6Q2A4	Health & care professionals working in primary care are able to contribute to multidisciplinary discussions about patient and service user care with colleagues outside your organisation using digital technologies.		
SC6Q3A1	Remote/virtual delivery of treatment is available for low intensity interventions.		
SC6Q4A1	Apps are provided or prescribed as part of health and wellbeing packages offered to patients.		
SC6Q5A1	Digital technology and tools are used for remote monitoring and assistive care of people at home.		
SC6Q6A1	Telecare equipment, supported by a service that responds to alarms/alerts, is used to monitor patients at risk of deterioration at home or in the community.	4%	
SC6Q7A1	You have clear governance and consent agreements around the use of remote and assistive care technologies.	4%	7%

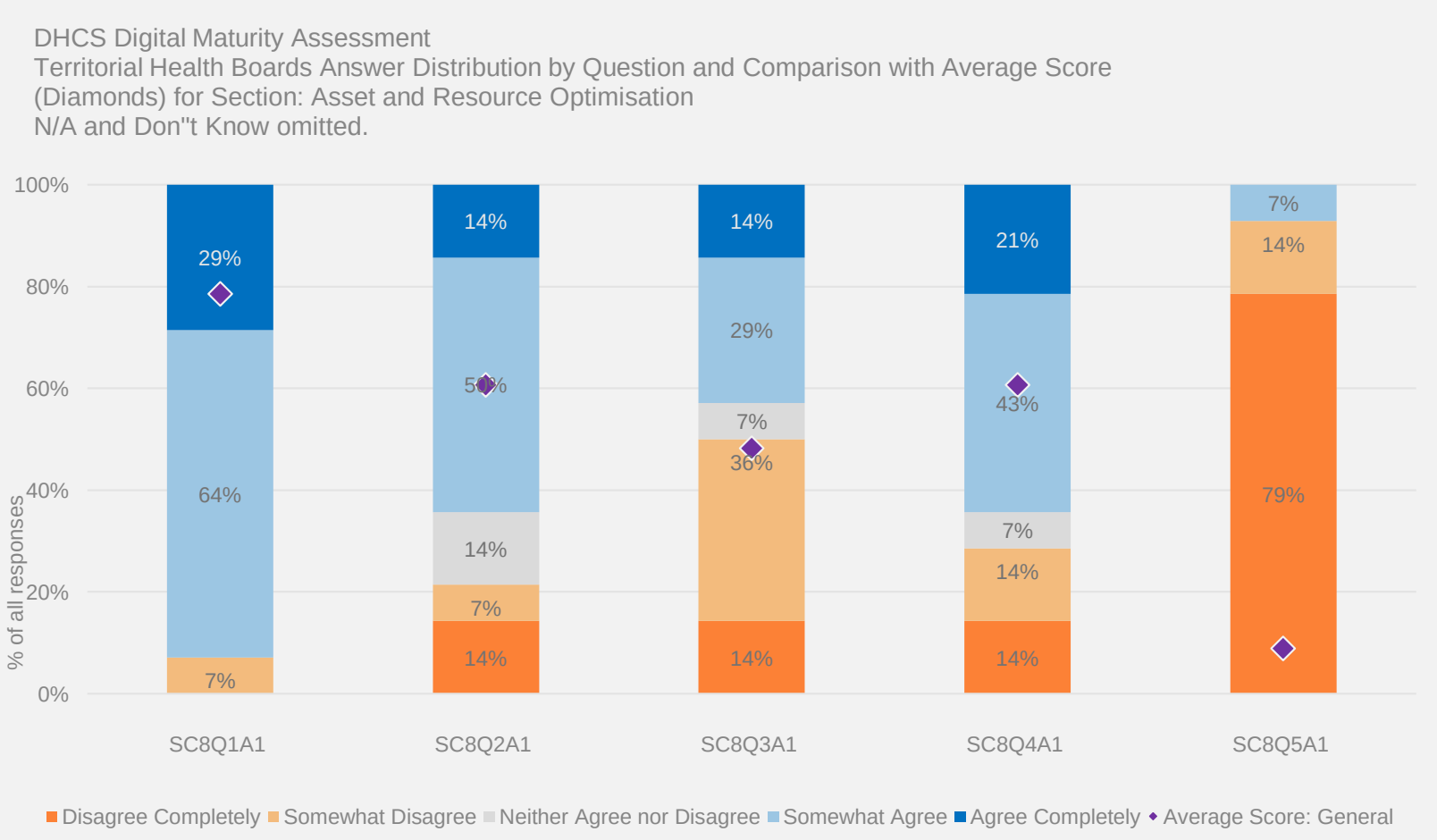
Key messages - Capabilities

Digital Health & Care Scotland

Remote and Assistive Care

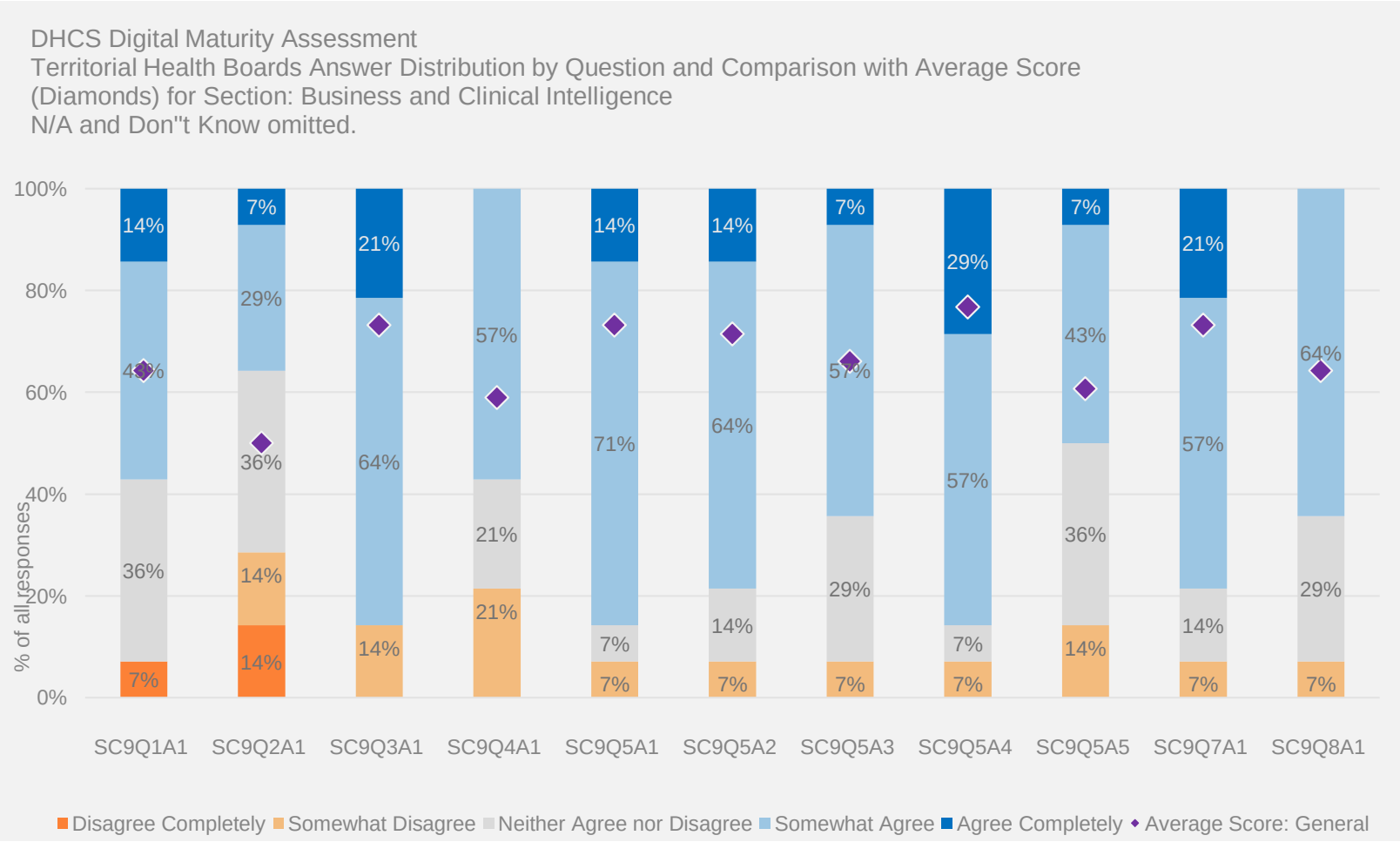
- Between 41 and 60% of respondents agree completely, or somewhat agree, that healthcare professionals are able to contribute to multidisciplinary discussions about patients and clients with health and social care colleagues using digital technologies. Healthcare professionals working in acute care settings are least likely to be able to do this.
- 60% of respondents disagree completely, or somewhat disagree, that apps are prescribed to support patients' health and wellbeing.
- 71% of respondents agree completely, or somewhat agree, that their organisation supports patients to remain independent at home, and monitors those at risk of deterioration, through the use of technology enabled care services.
- The adoption of technology enabled care is variable across Health Boards. Most Boards have started to use Attend Anywhere to support multidisciplinary team meetings and some are piloting to enable remote consultations.
- FLORENCE has been implemented for remote blood pressure monitoring in most Health Boards.
- Technology enabled care projects are still viewed as pilot digital projects in several Health Boards and are not associated with clinical transformation programmes. There are very few Health Boards who have committed to ongoing investment of TEC solutions once short term pilot funding is no longer available.

Asset and Resource Optimisation



Question #	Question	Don't Know	N/A
SC8Q1A1	Digital systems are used to manage inpatient bed capacity and demand.		
SC8Q2A1	Patient flow is tracked digitally in real time to identify bottlenecks and delays within your organisation.		
SC8Q3A1	Your organisation uses digital systems to track the location of key clinical assets.		
SC8Q4A1	Your organisation uses digital systems to manage Clinical staff rostering.		
SC8Q5A1	Location tracking is used for dynamic worklist management of Clinical staff working in the community.		

Business and Clinical Intelligence



Question #	Question	Don't Know	N/A
SC9Q1A1	Management teams have access to real time, or near real time, dashboards displaying information about the performance of the services they manage.		
SC9Q2A1	Health & care professionals have access to real time, or near real time, dashboards displaying information about key performance indicators for their care setting and information about the quality of clinical care for their department/organisation.		
SC9Q3A1	Health & care professionals have access to real time, or near real time, information about their caseload and patients under their care.		
SC9Q4A1	Data quality information is actively monitored and fed back to Clinical teams.		
SC9Q5A1	Data collected as part of Clinical activities is used for: Building capacity and demand forecasting models within your organisation		
SC9Q5A2	Data collected as part of Clinical activities is used for: Routinely supporting clinical audits		
SC9Q5A3	Data collected as part of Clinical activities is used for: Routinely supporting revalidation by your doctors, nurses and midwives		
SC9Q5A4	Data collected as part of Clinical activities is used for: Analysis supporting service planning and improvement		
SC9Q5A5	Data collected as part of Clinical activities is used for: Supporting internal and external research		
SC9Q7A1	Your organisation's data is available for local population health initiatives to support the identification of patient cohorts for enhanced care management and intervention.		
SC9Q8A1	Outputs from local population health initiatives support the organisation's ongoing service design and prevention activities.		

Key messages - Capabilities

Digital Health & Care Scotland

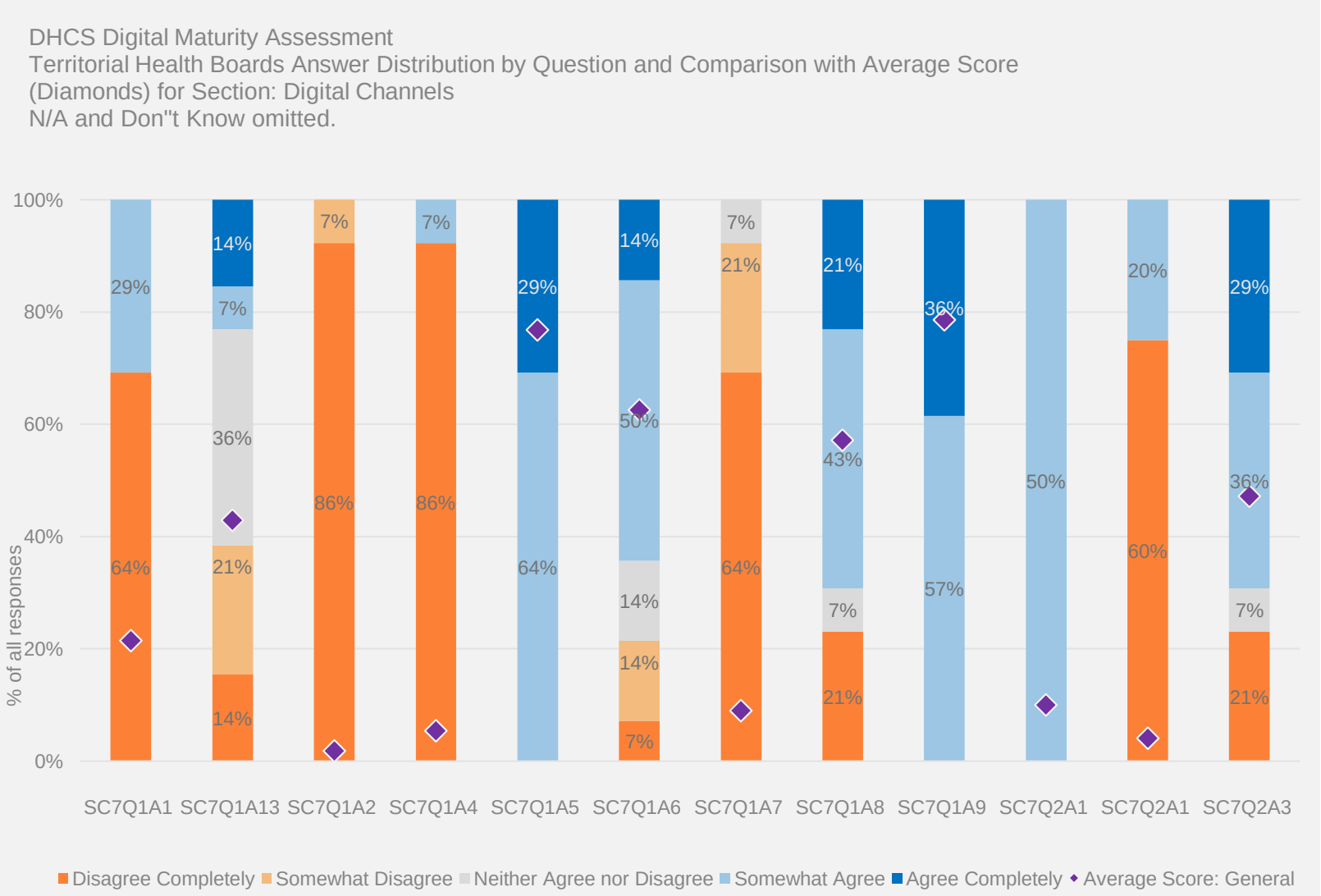
Asset and Resource Optimisation

- 93% of respondents agree completely, or somewhat agree, that digital systems are used for bed capacity and demand management.
- 64% of respondents agree completely, or somewhat agree, that their organisations use a digital rostering system for healthcare staff.
- 50% of respondents disagree completely, or somewhat disagree, that digital systems are used to track the location of key clinical assets. During follow up meetings very few Health Boards were able to provide examples of this in practice.

Business and Clinical Intelligence

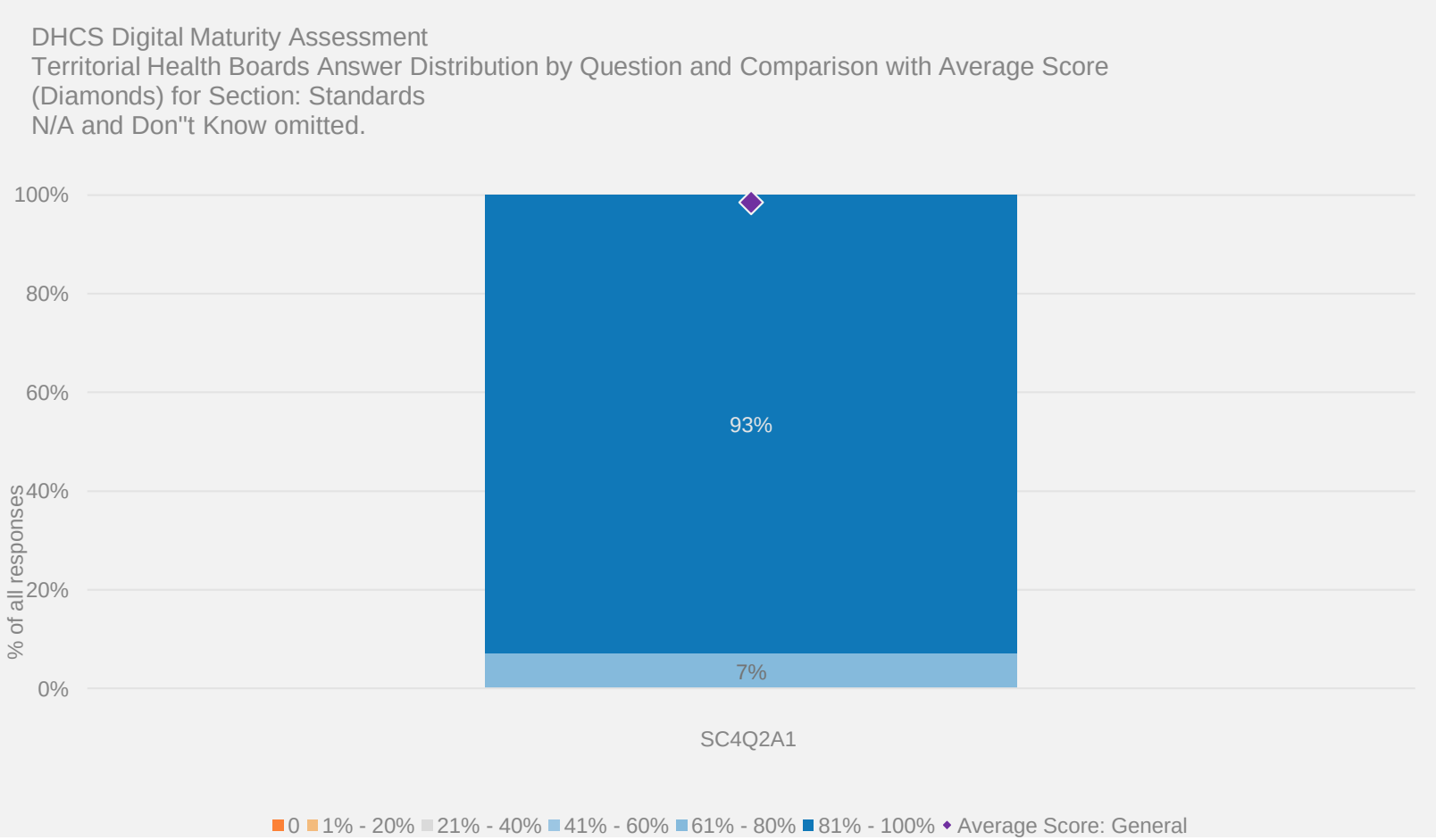
- 86% of respondents agree completely, or somewhat agree, that healthcare professionals have at least near real-time access to information about caseloads and patients under their care.
- 57% respondents agree completely, or somewhat agree, that management teams have access to near real time dashboards showing their organisation's performance metrics while only 36% agree that healthcare professionals have access to similar dashboards showing indicators of quality of care.

Digital Channels



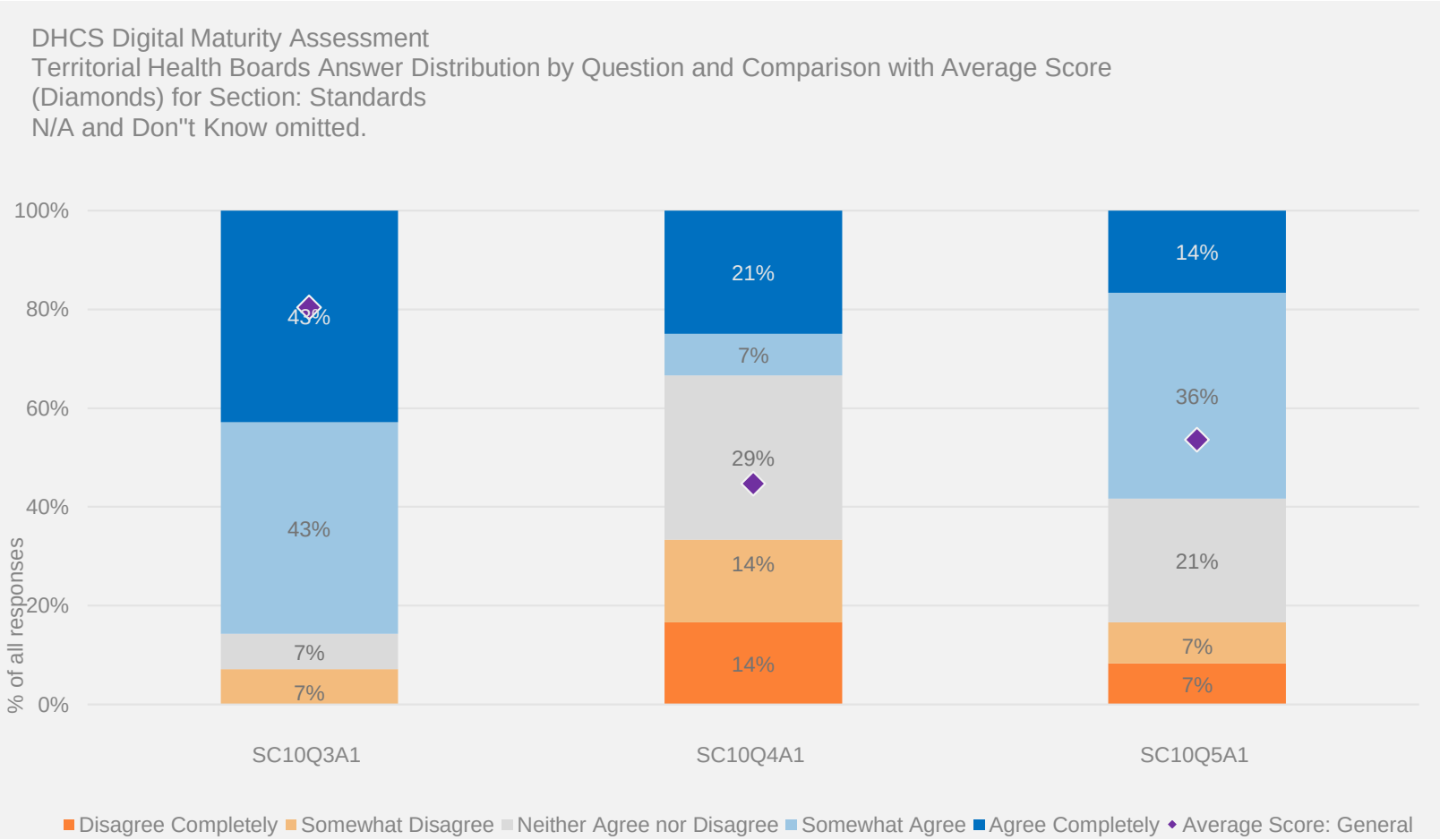
Question #	Question	Don't Know	N/A
SC7Q1A1	Your organisation provides digital facilities that allow patients to: View or download information from their GP record		7%
SC7Q1A13	Your organisation provides digital facilities that allow patients to: Obtain support to improve their access to and use of digital services.		7%
SC7Q1A2	Your organisation provides digital facilities that allow patients to: View or download their information from your organisation's main digital healthcare record.		7%
SC7Q1A4	Your organisation provides digital facilities that allow patients to: Electronically update or upload relevant information about them to their main digital healthcare record.		7%
SC7Q1A5	Your organisation provides digital facilities that allow patients to: Access up to date details of services offered, including contact details		7%
SC7Q1A6	Your organisation provides digital facilities that allow patients to: Receive remote/virtual consultations and other interactions and clinical advice		
SC7Q1A7	Your organisation provides digital facilities that allow patients to: Book appointments online		7%
SC7Q1A8	Your organisation provides digital facilities that allow patients to: Book GP appointments online		7%
SC7Q1A9	Your organisation provides digital facilities that allow patients to: Order repeat prescriptions online		7%
SC7Q2A1	Your organisation provides digital facilities that allow carers and advocates to: Electronically update or upload relevant information about their clients to their digital health or care record		50%
SC7Q2A1	Your organisation provides digital facilities that allow carers and advocates to: View and download information from their clients' digital Clinical record.		20%
SC7Q2A3	Your organisation provides digital facilities that allow carers and advocates to: Access up to date details of services offered, including contact details.		7%

Standards



Question #	Question	Don't Know	N/A
SC10Q1A1	For what proportion of patients' and service users is a verified CHI number included on information shared with other healthcare organisations directly involved in a patients care and treatment?		

Standards



Question #	Question	Don't Know	N/A
SC10Q3A1	The organisation has adopted and promotes the use of best practice (e.g. the Academy of Medical Royal Colleges Records Standards or SIGN guidelines) for clinical record content, discharge summaries and outpatient letters.		
SC10Q4A1	There are plans in place to implement SNOMED-CT across all healthcare care settings within the next 3 years.	7%	7%
SC10Q5A1	There are plans in place to implement GS1 standards are used where there is a need to electronically identify patients and service users, products and places.	7%	7%

Key messages - Capabilities

Digital Health & Care Scotland

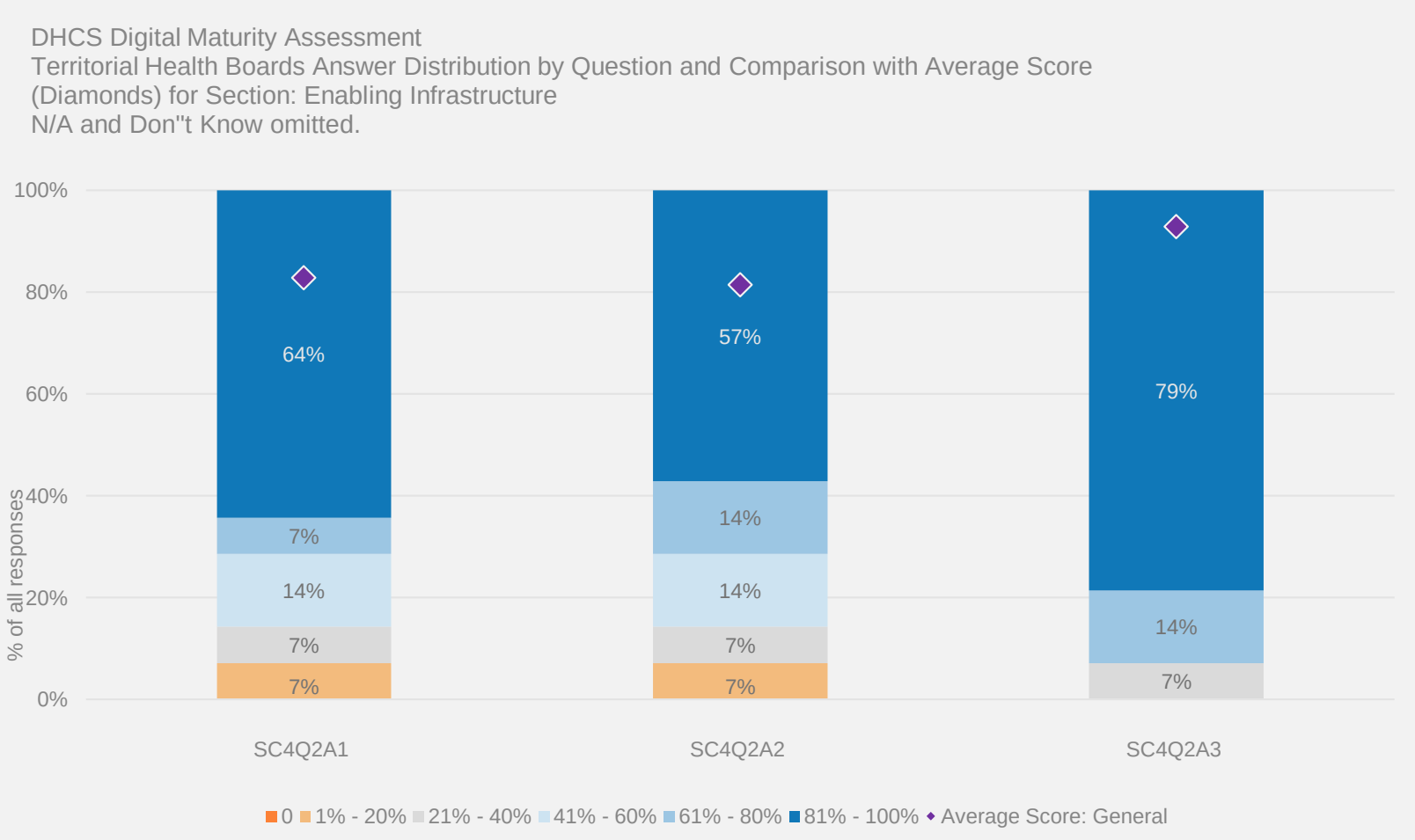
Digital Channels

- Patients have very limited digital channels through which to engage with Health Boards.
- 93% of respondents agree completely, or somewhat agree, that they provide patients with digital access to details of services offered.
- 93% of respondents agree completely, or somewhat agree, that patients are able to request repeat prescriptions digitally and 64% agree that patients are able to book GP appointments online. However, most Health Boards do not have statistics available to demonstrate how many GP practices have enabled these services or the extent to which these services are currently utilised by patients.
- With the exception of patient portals within specialty systems used for diabetes and renal medicine, no Health Board provides patients with the ability to view information held in their organisation's main electronic health record.
- Territorial Health Boards have currently placed new patient digital service offerings on hold pending clarity from NES NDS about digital solutions that will be provided nationally.

Standards

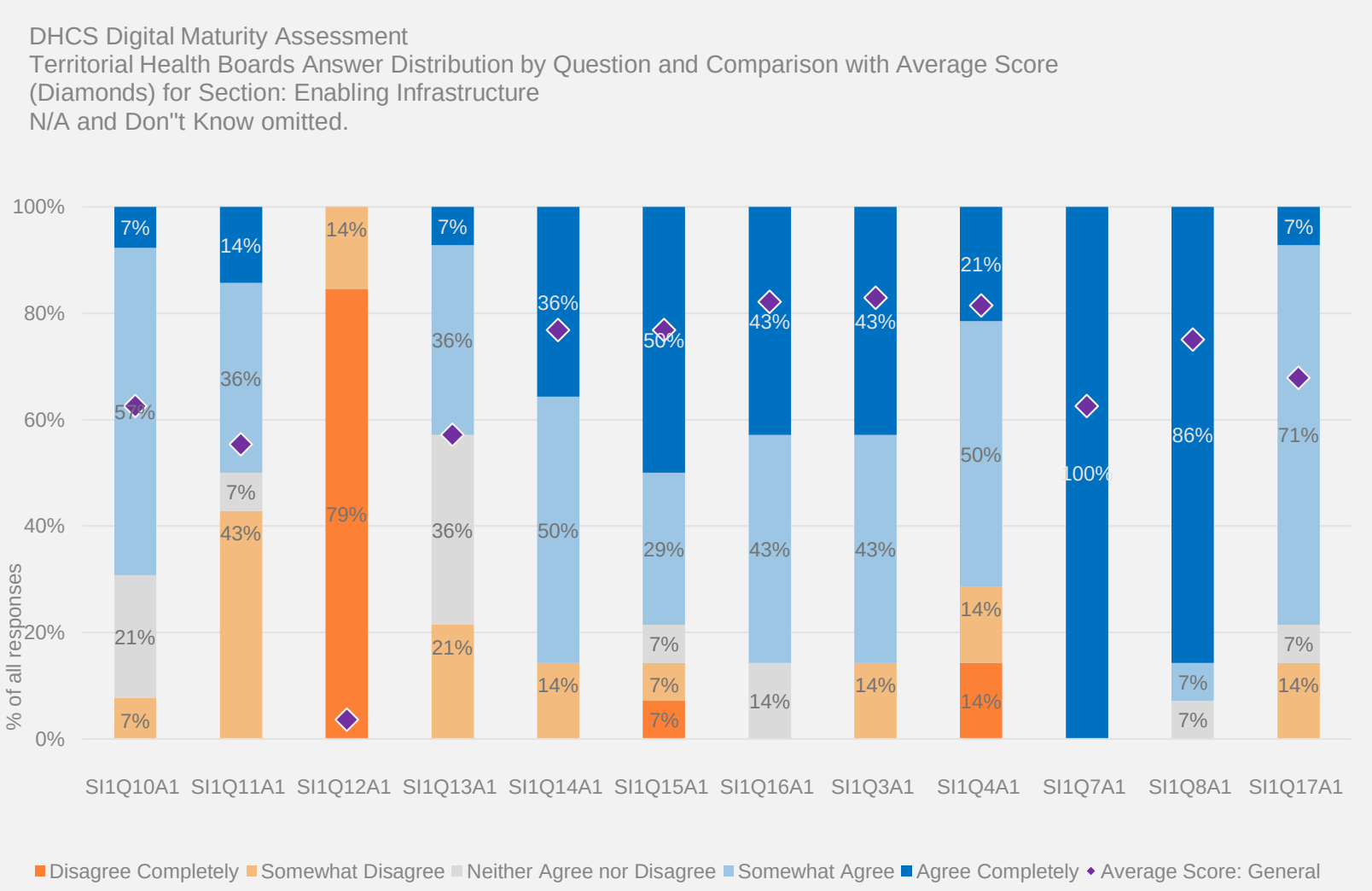
- With the exception of the Community Health Index number, which is fully adopted across all Health Boards, there is limited implementation of other UK or international standards related to clinical terminologies and clinical record content and structure to support interoperability between systems.

Enabling Infrastructure



Question #	Question	Don't Know	N/A
SI1Q1A1	What proportion of healthcare professionals have wi-fi access to clinical/social care applications in all your main sites?		
SI1Q2A1	What proportion of patients have access to free wi-fi in all your main sites?		
SI1Q6A1	What proportion of Clinical software installed on devices is still being maintained and updated by its supplier i.e. is still supported?		

Enabling Infrastructure



Question #	Question	Don't Know	N/A
SI1Q10A1	Digital systems meet Clinical users expectations regarding repair and substitution times.	7%	
SI1Q11A1	Information from your main Clinical applications is accessible on mobile devices.		
SI1Q12A1	Your organisation has a bring your own device policy for healthcare professional}s.		7%
SI1Q13A1	Digital systems meet users' expectations regarding the time it takes to log-in to Clinical applications and update/retrieve information.		
SI1Q14A1	Health & care professionals have single sign-on access and authentication to clinical/social care applications they require.		
SI1Q15A1	Software used on NHS-owned IT infrastructure is approved and recorded on a software asset and licence register that confirms it is appropriately licensed for such use.		
SI1Q16A1	Clinical software license expiries are monitored and the organisation plans forward to ensure the IT environment is adequate and sustainable.		
SI1Q3A1	Business-critical Clinical digital services are supported by documented business continuity and disaster recovery processes, with clear roles and responsibilities assigned.		
SI1Q4A1	Disaster recovery processes for Clinical critical systems have been tested and audited.		
SI1Q7A1	Clinical digital services are supported by an IT Service Desk that prioritises incidents using a consistent approach agreed with nominated service users/owners.		
SI1Q8A1	The IT support Service Desk follows an ITIL-aligned (or equivalent) Incident Management process that lets Clinical users track issues through to resolution.		
SI1Q17A1	Your Clinical information systems' key data fields are accessible as structured information via open interfaces.		

Key messages - Infrastructure

Digital Health & Care Scotland

Enabling Infrastructure

- 86% of respondents agree completely, or somewhat agree, that business critical healthcare systems have business continuity and disaster recover processes in place, with 71% agreeing these have been tested.
- No Health Board has a Bring Your Own Device policy.
- Some Health Boards are investing in provision of laptops and mobile devices to facilitate new and more efficient ways of working.
- Wi-Fi availability for staff and patients is variable. Some Health Boards have full coverage, others are challenged by funding availability, building constraints or rural bandwidth.
- Some Health Boards still need to replace old infrastructure or unsupported software. Other Health Boards have focused investment in recent years on basic infrastructure to enable them to support newer clinical applications.
- Some shared services, such as service desk, are being implemented regionally.
- Several Health Boards are considering externally managed cloud services to ensure sustainability, resilience and cyber security but this would require a change to current funding models from capital to revenue.
- There are several national legacy systems which are built on outdated technology and need to be replaced.

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Digital Health & Care Scotland

MEISTERWORKS

Staff Survey Responses

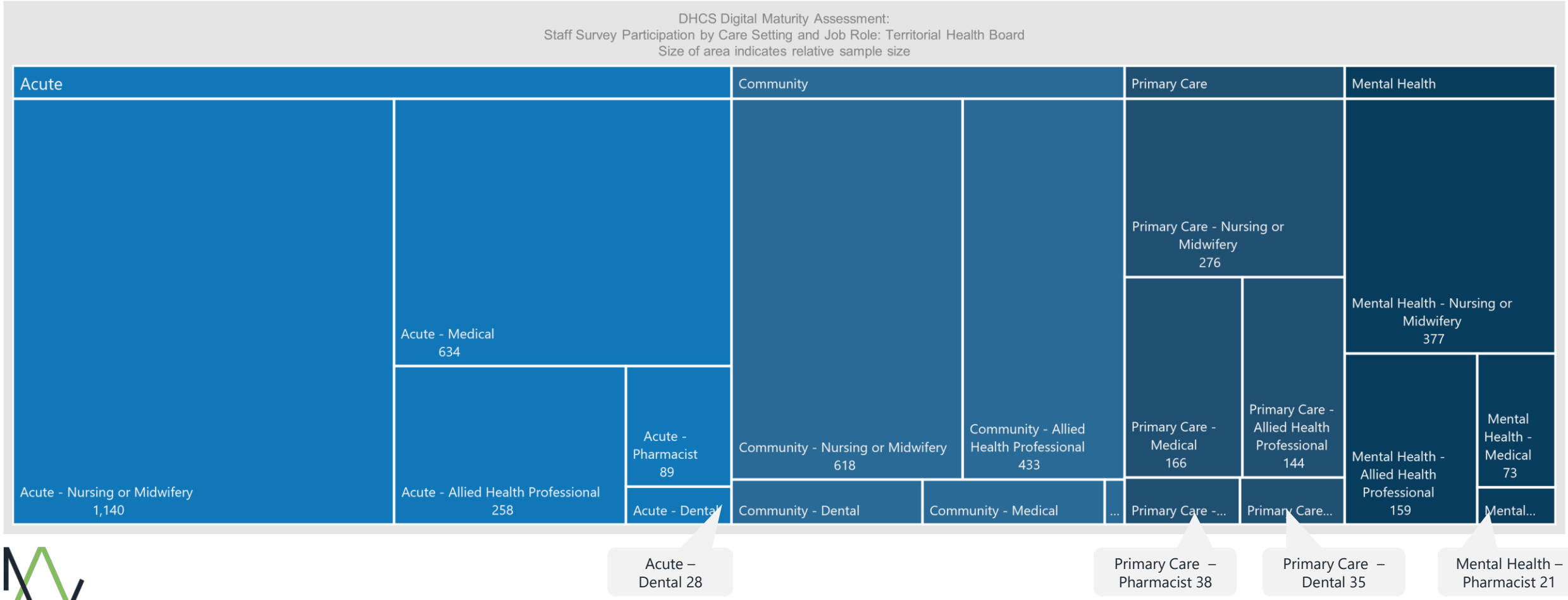
Digital Health & Care Scotland

280 NHS Ayrshire and Arran	**407** NHS Greater Glasgow and Clyde	**981** NHS Lothian	**64** NHS Western Isles
62 NHS Borders	**470** NHS Highland	**1** NHS Shetland	**185** NHS 24
455 NHS Fife	**358** NHS Lanarkshire	**978** NHS Tayside	**4241** Health Board Responses

Staff Survey Response Counts for Territorial Health Boards

Digital Health & Care Scotland

The staff survey was completed by 4241 staff from Territorial Health Boards. The counts of healthcare professional groups completing the survey by care setting are shown below*.

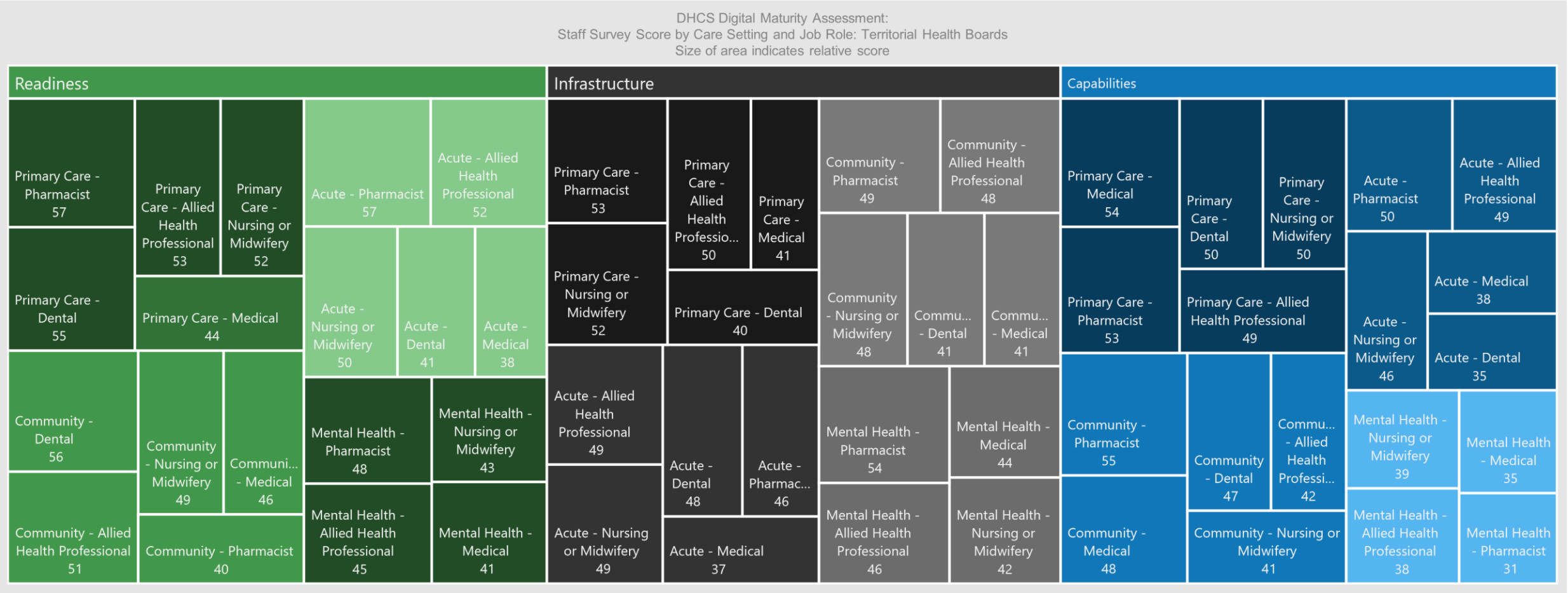


* Healthcare professionals could assign themselves to more than one care setting. Responses from staff in “other non-clinical roles” have been excluded.

Staff Survey Results by Care Setting and Job Role

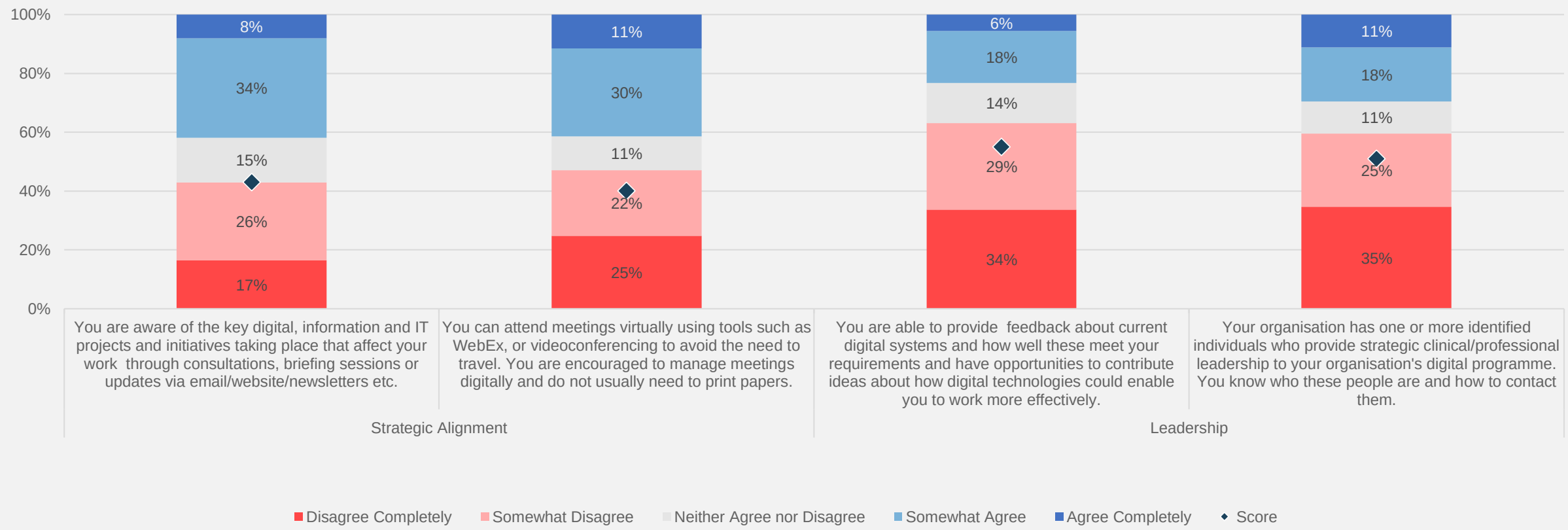
Digital Health & Care Scotland

Primary and Community Care staff appear to be most satisfied with digital services offered. Medical and dental staff working in all sectors except primary care tended to rate their digital services lowest.



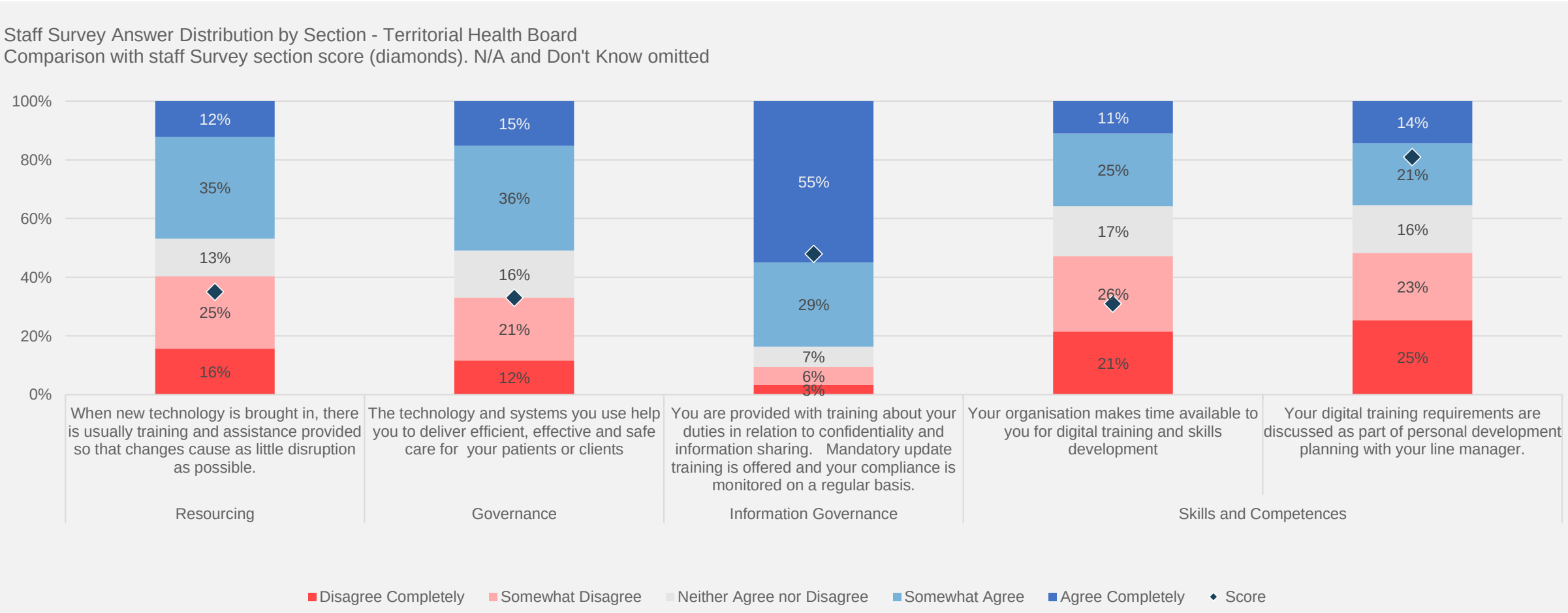
Staff Survey Answer Distribution and Scores

Digital Health & Care Scotland



Staff Survey Answer Distribution and Scores

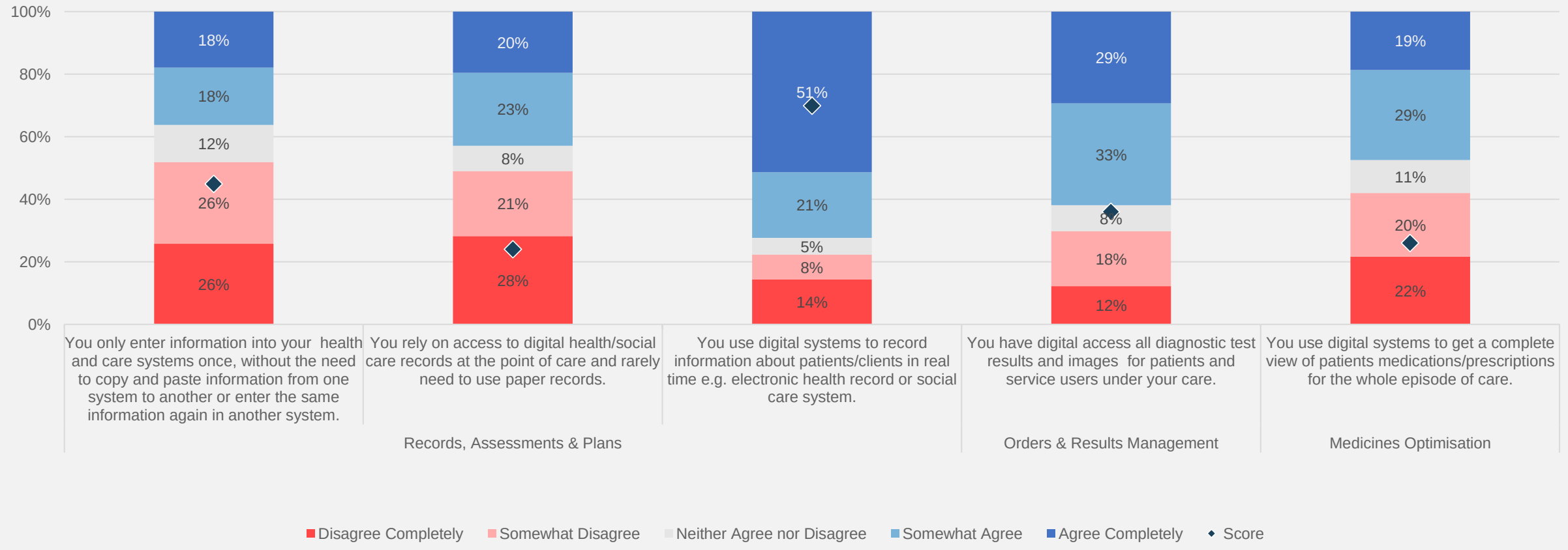
Digital Health & Care Scotland



Staff Survey Answer Distribution and Scores

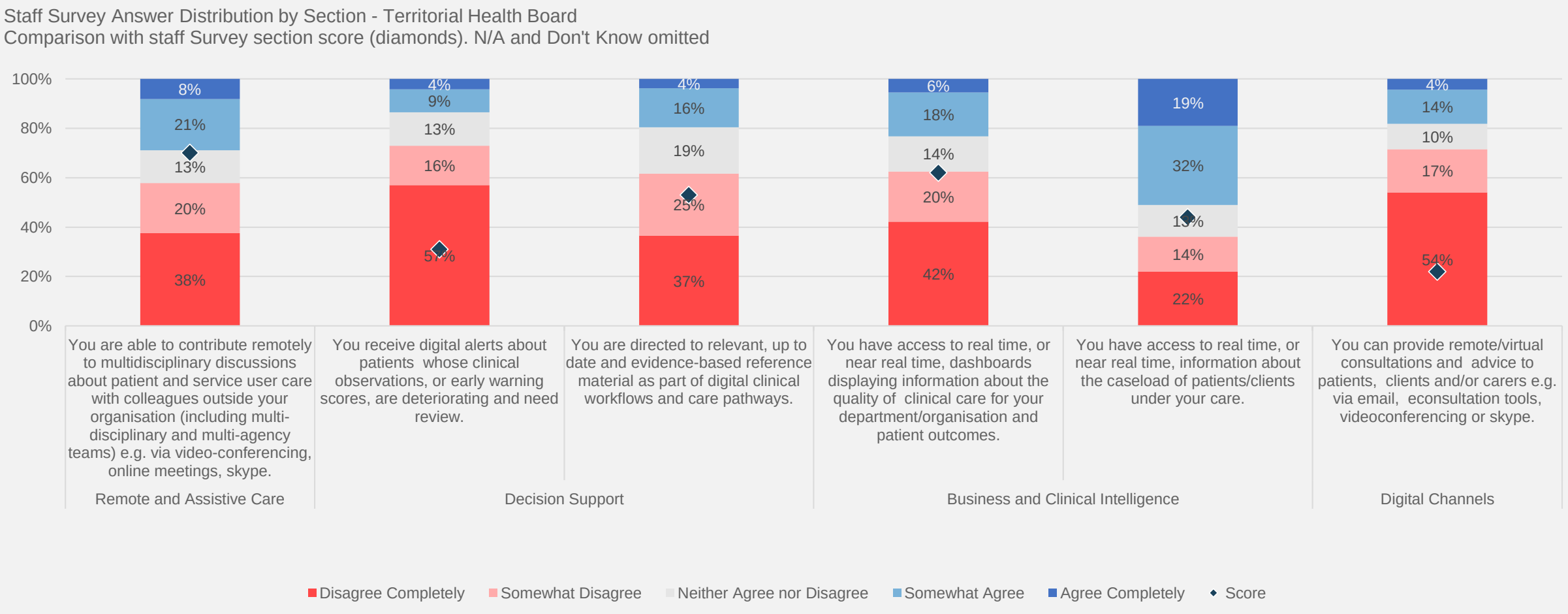
Digital Health & Care Scotland

Staff Survey Answer Distribution by Section - Territorial Health Board
Comparison with staff Survey section score (diamonds). N/A and Don't Know omitted



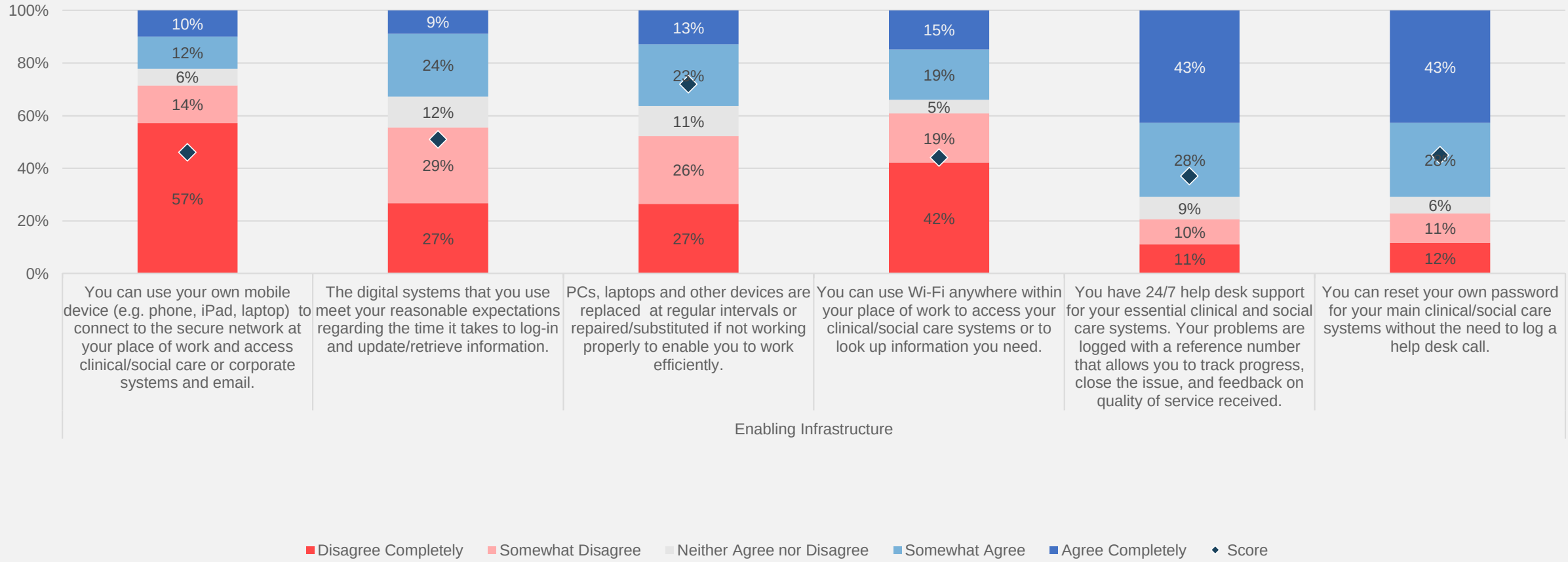
Staff Survey Answer Distribution and Scores

Digital Health & Care Scotland



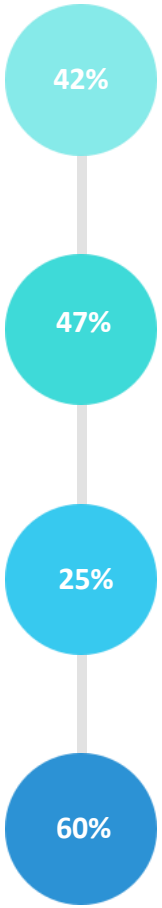
Staff Survey Answer Distribution and Scores

Digital Health & Care Scotland



Digital Health & Care Scotland

Staff Survey Results



Healthcare staff agree completely, or somewhat agree, that they are aware of key digital projects taking place.

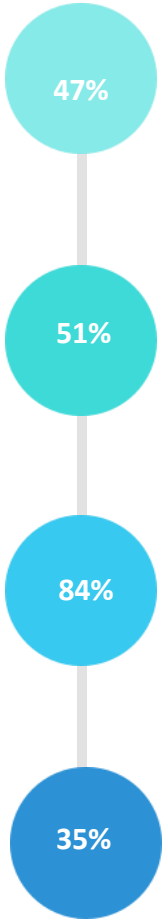
Healthcare staff disagree completely, or somewhat disagree, that they can use digital technologies to attend meetings remotely.

Healthcare staff agree completely, or somewhat agree, that they can provide feedback about digital systems and how well they meet their requirements.

Healthcare staff disagree completely, or somewhat disagree, that they know who their clinical digital leads are.

Digital Health & Care Scotland

Staff Survey Results



Healthcare staff agree completely, or somewhat agree, that they are provided with training about new technologies.

Healthcare staff agree completely, or somewhat agree, that digital systems help them deliver safe, efficient and effective patient care.

Healthcare professionals agree completely, or somewhat agree, that they provided with training about duties in relation to confidentiality and data sharing.

Healthcare staff agree completely, or somewhat agree, that their organisations make time for digital skills training.

Digital Health & Care Scotland

Staff Survey Results

37%

Healthcare staff agree completely, or somewhat agree, that they need to enter information into health or care systems once, without the need to replicate data entry.

43%

Healthcare staff agree completely, or somewhat agree, that they rely on digital systems at the point of care.

72%

Healthcare professionals agree completely, or somewhat agree, that they can update patient information in real time.

62%

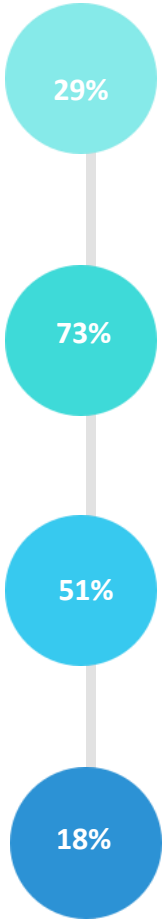
Healthcare staff agree completely, or somewhat agree, that they can digitally access diagnostic test results and images for patients under their care.

58%

Healthcare staff completely agree, or somewhat agree, that they can access a complete and holistic view of patients' medications.

Digital Health & Care Scotland

Staff Survey Results



Healthcare staff agree completely, or somewhat agree, that they can use digital technologies to contribute to multidisciplinary discussions with health and care professionals outside their organisation.

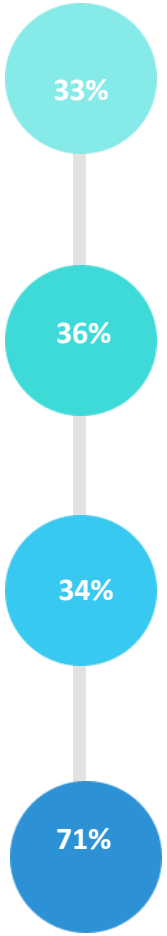
Healthcare staff disagree completely, or somewhat disagree, that they are alerted digitally about deteriorating patients.

Healthcare professionals agree completely, or somewhat agree, that they have digital access to information about their patient caseload.

Healthcare staff agree completely, or somewhat agree, that they can use digital technologies for remote patient consultations.

Digital Health & Care Scotland

Staff Survey Results



Healthcare staff agree completely, or somewhat agree, that the digital systems they use meet their expectations about time taken to log in and retrieve information.

Healthcare staff agree completely, or somewhat agree, that hardware is repaired or substituted in a timely manner to enable them to work efficiently.

Healthcare professionals agree completely, or somewhat agree, that they are wi-fi enabled to look up information required for clinical care.

Healthcare staff agree completely, or somewhat agree, that they are able to reset passwords for their main clinical systems without the need to log a help desk call.

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Digital Health & Care Scotland

MEISTERWORKS

Integrated health and social care services

Digital Health & Care Scotland

- There is a need to develop better vision and support, including resources, at a national level to support the integration of health and social care systems.
- There is variation in the degree of joint work and digital collaboration between Health Boards, Local Authorities and associated Health and Social Care Partnerships across different parts of the country.
- It is challenging for Health Boards to align digital strategies with Health and Social Care Partnerships where they are not coterminous unless all organisations collaborate effectively.
- In some areas of the country where several Health and Social Care Partnerships operate independently from each other in terms of digital strategy, but are aligned to a single Health Board geography, there is evidence of a detrimental impact on joined up care and creation of more siloed data sources.
- Several Local Authorities have outsourced managed digital services whereas Health Boards tend to manage services in-house. This can lead to challenges collaborating on projects as availability of resources and timescales to deliver are often not aligned.
- Health Boards and Local Authorities often have different strategies and priorities making it challenging to operate effectively together.

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Digital Health & Care Scotland

MEISTERWORKS

Key messages - Readiness

Digital Health & Care Scotland

01

STRATEGIC ALIGNMENT

- Health and social care partnerships at different stages of development of digital strategies to enable integrated care.
- Digital strategies are often separate from transformation plans.
- Digital often viewed as “back office IT” in health boards.

02

LEADERSHIP

- Only one territorial health board CIO at Board level.
- eHealth leads generally not executive leads for digital.
- Clinical eHealth leads have limited strategic influence.
- Need to make better use of staff who have completed digital leadership training.
- Limited patient engagement in digital plans.

03

RESOURCING

- Resources inadequate to implement digital projects effectively in many organisations.
- Difficult to plan long term as limited clarity about funding.
- Challenging to recruit or retain staff with relevant skills and expertise as competing with private sector.
- Health boards struggling to progress transformational agenda with existing resources.

04

GOVERNANCE

- Limited benefits realisation and lessons learned.
- Clinical service teams expect eHealth to accept total cost of system ownership.
- Limited project governance in some health boards due to lack of resources.

Key messages - Readiness

Digital Health & Care Scotland

05

INFORMATION GOVERNANCE

- High level of confidence that structures are in place to oversee and manage cyber risk.
- Some gaps in supplier contracts to provide assurance that digital assets are secure.
- IG seen as barrier to information sharing by many health boards.
- Frustration that IG framework to facilitate GP data sharing is still unresolved.
- Healthcare staff are confident that they are aware of their duties relating to patient confidentiality and data sharing.

06

SKILLS AND COMPETENCES

- Several health boards have no training resource therefore no ongoing end user support or facilitation post implementation to optimise systems or ensure value obtained.
- Less than half of healthcare professionals agree they are provided with adequate training in use of digital technologies or have access to digital skills training.

Key messages – Capabilities

Digital Health & Care Scotland

01

RECORDS ASSESSMENTS & PLANS

- There is still a dependency on paper-based documentation.
- Variation in clinical systems across the country.
- Different versions and configurations of the same healthcare applications make collaboration challenging.
- Current systems do not support new models of community-based care.
- Health Boards clinicians often have to access multiple applications to view or update information.
- Healthcare professionals have limited access to GP and social care information.
- Traditional focus on system functionality rather than optimising end to end clinical workflow and considering user experience.
- There is limited ability for healthcare professionals to provide feedback about how well systems meet their requirements.

02

TRANSFERS OF CARE

- Most health boards share discharge and clinic letters digitally with GPs.
- There are a large number of inter Health Board transfers of care but no joined up systems to support this.

03

ORDERS & RESULTS MANAGEMENT

- Most health boards have implemented digital ordering.
- Healthcare staff have digital access to diagnostic test results but may have to log into different systems to view.
- Limited governance processes in place to ensure digital results have been viewed and actioned.

Key messages – Capabilities

Digital Health & Care Scotland

04

MEDICINES OPTIMISATION

- A small number of health boards have implemented electronic prescribing and medicines administration in hospitals although less well adopted in outpatient areas and for complex prescribing.
- North of Scotland Boards are planning on implementing a single instance of a HEPMA system.

05

DECISION SUPPORT

- Except for alerts about specific patient risks electronic health records currently offer limited decision support.

06

REMOTE AND ASSISTIVE CARE

- A minority of healthcare professionals are able to use digital technologies to collaborate with colleagues as part of integrated or multidisciplinary care teams.
- Health Board implementation of TEC solutions, such as Attend Anywhere and FLORENCE, is highly variable.
- Health Boards still predominantly view technology enabled care projects as short-term pilots, which are not built into longer term strategic digital plans and have no sustainable sources of funding
- The benefits of technology enabled care will not be realised until data from assistive devices is integrated within existing digital health and social systems.

Key messages – Capabilities

Digital Health & Care Scotland

07

ASSET & RESOURCE OPTIMISATION

- Some Health Boards have implemented electronic staff rostering systems.
- There is very little use of RFID tracking of clinical assets in Health Boards.

08

BUSINESS & CLINICAL INTELLIGENCE

- Most healthcare staff have digital access to information about their caseload and patients under their care.
- A limited number of healthcare staff have access to reports or dashboards showing performance metrics about quality of care delivered.

09

DIGITAL CHANNELS

- Patients are provided with digital access to information about services offered.
- Although capability to offer online GP appointment booking and ordering of repeat prescriptions is technically available there are no statistics to demonstrate the uptake of these services within Boards or how many GP practices are currently offering these services.
- Clarity about NDS deliverables is required to enable Boards to plan effectively.

10

STANDARDS

- Adoption of standards to support interoperability is limited.

Key messages - Infrastructure

Digital Health & Care Scotland

01

ENABLING INFRASTRUCTURE

- Business continuity and disaster recovery processes are in place for business-critical systems but not all of these have been tested.
- Some organisations are using unsupported software or systems that are several versions out of date.
- Health Boards are investing in laptops and mobile devices to facilitate new and more efficient ways of working.
- No Territorial Health Board has a BYOD policy.
- Exploration of some Health Board shared services is underway e.g. service desk.
- Health Boards are considering use of externally managed cloud services to ensure sustainability, resilience and cyber security but will require change to the current funding model to achieve this.
- Funding for replacement of end user hardware and resources to support, or develop, existing digital social care systems was noted to be a challenge for some organisations.
- There are several legacy healthcare systems built on outdated technology which need to be replaced.

Key messages – staff survey

LEADERSHIP

Almost two thirds of staff are unaware who their clinical digital leads are and half are unaware of key digital projects happening in their organisation.

Three quarters of healthcare professionals are unable to provide feedback to the digital leadership team about how well clinical systems meet their expectations.

CLINICAL DIGITAL SYSTEMS

Half of healthcare professionals agree that clinical systems help them deliver safe and effective care and that they rely on these systems at the point of care.

Only a third of staff agree need to enter information into systems once without the need for duplicate data entry.

ACCESS TO INFORMATION

About two thirds of staff have digital access to diagnostic test results and over half have access to a consolidated view of a patient's medication.

Half of healthcare professionals can access information about their patient caseload.

STAFF EXPECTATION

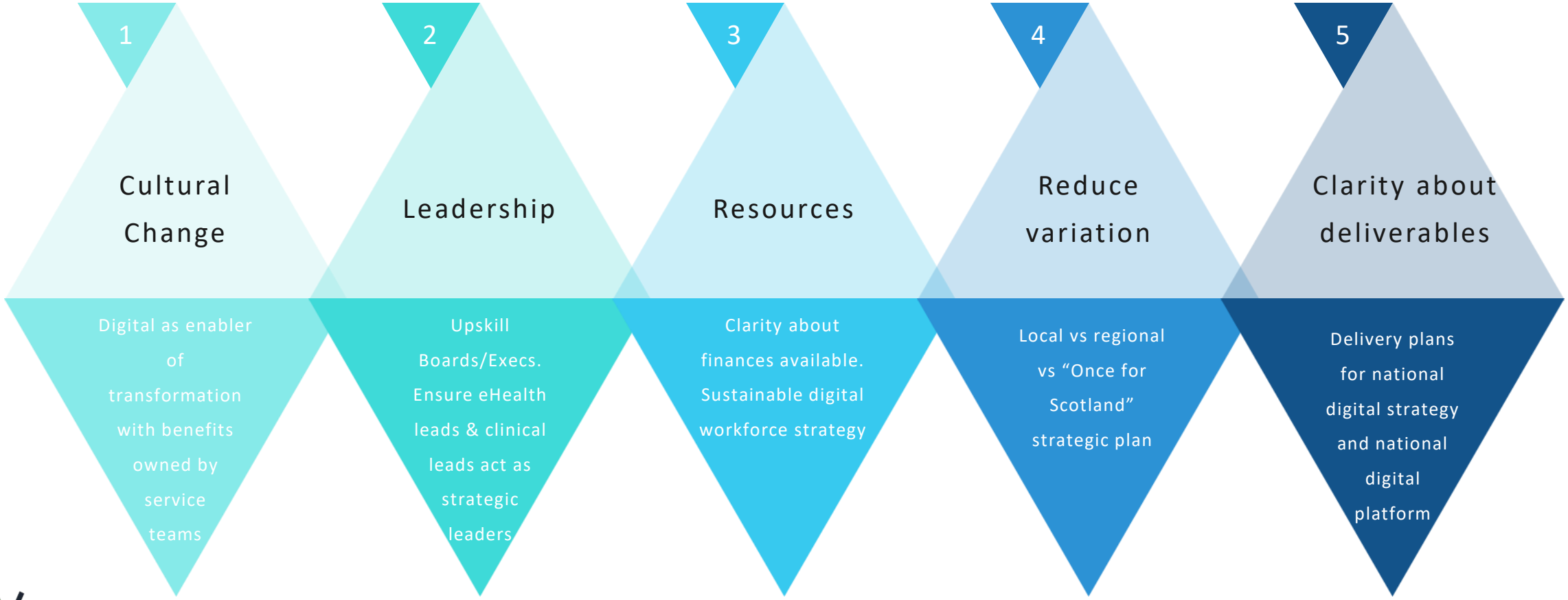
A third of staff agree that digital systems meet expectations about time to log into clinical systems and access information, or that hardware is repaired or replaced in a timely manner to enable them to work effectively.

CLINICAL TRANSFORMATION

A third of healthcare professionals can participate in multidisciplinary discussions about patients using digital technologies and only a fifth are able to offer patients virtual consultations.

Opportunities for improvement

Digital Health & Care Scotland



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Digital Health & Care Scotland

MEISTERWORKS

Participating Organisations

Digital Health & Care Scotland

Local Authorities

- Aberdeen City Council
- Aberdeenshire Council
- Angus Council
- Clackmannanshire Council
- Comhairle nan Eilean Siar
- Dumfries and Galloway Council
- East Ayrshire Council
- East Dunbartonshire Council
- Edinburgh City Council
- Glasgow City Council
- Highland Council
- Inverclyde Council
- Midlothian Council
- Moray Council
- North Ayrshire Council
- Perth and Kinross Council
- Renfrewshire Council
- Scottish Borders Council
- South Ayrshire Council
- South Lanarkshire Council
- West Dunbartonshire Council
- West Lothian Council

Health Boards

- Golden Jubilee National Hospital
- NHS Ayrshire and Arran
- NHS Borders
- NHS Dumfries and Galloway
- NHS Education Scotland (NES)
- NHS Fife
- NHS Forth Valley
- NHS Grampian
- NHS Greater Glasgow and Clyde
- NHS Highland
- NHS Lanarkshire
- NHS Lothian
- NHS NSS
- NHS Orkney
- NHS Shetland
- NHS Tayside
- NHS Western Isles
- NHS24
- Scottish Ambulance Service
- The State Hospital

Project Team

Digital Health & Care Scotland

- Dr Catherine Kelly (Project lead) — Chief Clinical Information Officer, UCLH/North London Partners STP (Secondment to Scottish Government DHSC)
- Calum Cockburn — Policy Officer, Scottish Government DHSC
- Henrik Moeller — Director, Meisterworks

For further information please contact HSCDigitalMaturity@gov.scot