

*Supplementary Material: Questionnaire**NHS Digital Academy Scoping Questionnaire*

Q1 The gender that I identify with is

- Male (1)
 - Female (2)
 - Non-binary / third gender (3)
 - Prefer not to say (4)
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Q2 What is your age?

- Under 35 (1)
 - 35 - 45 (2)
 - 46-55 (3)
 - Over 56 (4)
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Q3 My current job role is principally...

- Clinical (1)
 - Technical, Data or Technology (2)
 - Programme Manager, Business or Administration (3)
 - Other (4)
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Q4 The Wachter Review informed my dissertation

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Disagree (4)
- Strongly disagree (5)
- Not applicable (6)

Q5 Please select the high level priorities, goals or benchmarks from The Wachter Review that impacted your dissertation.

- A long-term engagement strategy to promote the need for healthcare digitization among end users. (1)
- Development of a workforce of clinician-informaticians; with growth of the role of the CCIO and health informatician in clinical care. (2)
- The achievement of digital maturity of Trusts by 2023. (3)
- Linking National Funding according to the digital preparedness of Trusts, local Implementation plans, and key deliverables including user engagement, workforce support, and regional interoperability. (4)
- Organization of digital learning networks to aid digitization, implementation and local problem solving. (5)
- Achieving interoperability to support clinical care, innovation and research, including the development of key principles to aid integrated workflow such as governance frameworks. (6)
- The development of robust independent evaluations of regional and national practices. (7)

Q6 The Topol Review informed my dissertation

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Disagree (4)
- Strongly disagree (5)
- Not applicable (6)

Q7 Please select the high level priorities, goals and benchmarks from The Topol Review impact your dissertation.

- Education of patients and carer organisations to increase engagement with digital healthcare technologies. (1)
 - Optimising the clinical utilization of genomic information resources including developing frameworks for their governance, user training and dissemination. (2)
 - The co-creation and adoption of digital technologies and AI systems with stakeholders, using robust governance and validated frameworks for implementation. (3)
 - Review compliance requirements for new digital technologies, learning from other organisations and using evidence-based technological change programmes. (4)
 - Supporting workforce training to increase engagement; through accredited career pathways, knowledge sharing and collaboration with academic organisations and industry partners. (5)
 - Development of an infrastructure for learning, adopting a multi-professional collaborative approach with resources to support professional regulatory bodies, educators, specialist teams and the future workforce. (6)
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Q8 The Five Year Forward Review informed my dissertation

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Disagree (4)
- Strongly disagree (5)
- Not applicable (6)

Q9 Please select the high level priorities, goals or benchmarks from the Five Year Forward Review that impacted your dissertation.

- The upgrade of prevention and public health through incentivization of healthier behaviours, targeted prevention and supported workplace health to address future health demand. (1)
- Increasing patient empowerment, control of their health needs and provision of care, for example by increasing access to an electronic health record or online appointment system. (2)
- Breaking down the barriers between healthcare providers, using of interoperable digital systems to leverage shared information that balances centralized and local needs. (3)
- Accelerating digital innovation and research such as remote monitoring, through the use of test-bed and green field sites, potentially funded by the decommissioning of legacy technology. (4)
- Developing new models of integrated care for example Multispecialty Community Provider and Primary and Acute Care systems care to drive efficiency. (5)
- Transparency of performance and audit data to tailor healthcare support for the individual, as well as allowing professional comparisons and informed commissioning decision-making. (6)

Q10 The Lord Darzi Review of Health and Care informed my dissertation

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Disagree (4)
- Strongly disagree (5)
- Not applicable (6)

Q11 Please select the high level priorities, goals and benchmarks from The Lord Darzi Review of Health and Care that impacted your dissertation?

- Click to write ChoA new 'National Quality Strategy' developed with clinical staff and patients to close the care and quality gap and improve access to care. (1)
- Identifying efficiency savings to address the potential future funding gap to meet the healthcare needs of the next generation with respect health and social care. (2)
- The potential for digital innovation to address the funding gap, whilst maintaining high quality care. (3)
- A commitment to an integrated, preventative and personalised healthcare system deliverable in the short and longer term to aid social health. (4)
- Addressing staffing gaps, declining morale and engagement to ensure a suitable health and care workforce. (5)

Q12 Please let us know of any other high level policy documents that directly informed your dissertation

Q13 Please select the high level priorities, goals and benchmarks that your project incorporates in order to move your organisation towards digital readiness and or digital maturity

- Increasing system interoperability (1)
- Governance of digital technologies and care pathways (2)
- Utilisation of big data (3)
- Utilisation of artificial intelligence including natural language processing (4)
- Utilisation of telemedicine or telehealth (5)
- Policy Revision (6)
- Developing New Frameworks for Emerging Areas (7)
- Digital workforce planning and training (8)
- Increasing digital engagement with healthcare workers (9)
- Increasing digital engagement with patients and carers (10)
- Addressing organizational and cultural barriers to digital maturity (11)
- Scaling of digital innovation and processes (12)
- Developing multi-dimensional digital networks (13)
- Single System redesign (14)
- Single Process redesign (15)
- Integrating care through digital means (16)
- Improvement in system performance (17)

Adaptive development of a digital innovation through evaluation/feedback on performance (18)

Q14 Please select the elements your project seeks to inform or improve in the areas of patient safety, patient outcomes or patient experience.

- Reduce waiting times (1)
- Prevent patient admission or re-admission (2)
- Provide patients access to their health data (3)
- Allow patients to report their own health data (4)
- Provide clinician access to data/patient journey (5)
- Improve clinician task-efficiency (6)
- Prevent workforce shortfalls (7)
- Increase accuracy of health data (8)
- Improve time to diagnosis (9)
- Improve time to investigation (10)
- Improve patient referral pathway efficiency (11)
- Increase patient access to healthcare services (12)
- Promote preventative health measures/behaviours (13)
- Tailor clinical resource/care according to patient need (14)
- Enhance understanding of caregiver experiences (15)

- Improve relevance of outcome measures to patients (16)
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Q15 Would you consider any of the following additional training options in Digital Health Leadership or a related field within the next 2 years?

- Individual short courses (1)
- Seminars (2)
- Certificates (3)
- Another Master's degree (4)
- Doctoral level programme (5)
- A Massive Open Online Course or MOOC (6)
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Q16 Which modules from the PG Diploma were highly influential for your dissertation? Check all that apply

- Module 1: Essentials of Health Systems (1)
- Module 2: Implementing Transformational Change (2)
- Module 3: Technology Strategy and Health Information Systems Implementation (3)
- Module 4: User-Centred Design and Citizen Driven Informatics (4)
- Module 5: Decision Support Management and Actionable Data Analytics (5)
- Module 6: Leadership and Transformational Change (6)
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Supplementary Material 2: Interview Guide

Interview Topic Guide

1. Welcome

Welcome and thank you for volunteering for this study. I recognise that you are a busy professional and your participation is greatly appreciated.

Your participation in this individual interview will contribute to our evaluation study, exploring themes and quality factors in the PG Diploma in Digital Health Leadership, and its follow-up MSc dissertation module.

You have been asked to participate because I am interested in your experiences of the NHS Digital Academy. Your participation in this study has the potential to inform the curriculum of the programme, which will benefit the experiences of future participants.

2. Introductions

I'll start it off... my name is [*I will introduce myself and explain my role at IGHI and my role in the study*]. An assistant facilitator may also be present, who will introduce themselves and explain their role.

3. Anonymity and right to withdraw

- The discussion will be audio and video-recorded, via Microsoft Teams but I'd like to assure you that the discussion will be anonymised.
- After the discussion, the recordings will be transcribed and analysed. Unanonymised recordings are transcribed/anonymised as soon as possible and then deleted with the

anonymised transcripts stored securely according to Imperial College protocols (for 10 years after last use or publication).

- The recording files will be kept safely on a secure server and will be kept in accordance with research governance policies.
- During this study, you will be assigned a participant number so will therefore remain anonymous.
- I would also like to remind you that you have the right to withdraw from the study at any time with no penalty to yourselves. A withdrawal letter has been supplied, which can be completed and returned should you choose to.
- If you do not wish to answer a question, you do not have to.

4. Ground rules

- The events we are focusing on here are limited to your experiences studying on the Postgraduate Diploma in Digital Health Leadership. I only want you to describe *how it was for you* at the time, what you did, what you learnt from your experience on the Digital Academy programme. Remember, I am only interested in your personal experiences and reflections.
- You are requested to respect the confidentiality of others present in the group.
- Everything that you say in this room will be anonymised. While we will be reporting the findings in general, your personal anonymity will be maintained.
- There are no right or wrong answers, everyone's experiences and perspectives are valid.

Finally, do you have any questions you would like to ask me about this study before we begin?

5. Your NHS Digital Academy experiences

The interview is designed to further explore three key themes and areas of the study

- 1) What are the most impactful aspects of the MSc and how have they influenced your thinking as a digital leader? [priority question]

Prompts for follow up:

- a. Do you work/approach things differently?
 - b. Prompt: Has your perception of your role changed?
 - c. Prompt: Have you changed roles?
 - d. Prompt: Have responsibilities changed?
 - e. Prompt: If yes, did the MSc influence the change?
 - f. Prompt: How has the MSc influenced your personal future goals?
- 2) How has your experience in the MSc impacted your colleagues and organisation? [priority question]
 - a. Prompt: Do you see national impact as a result of your project?

- 3) How would you evaluate your project against national goals and priorities in digital readiness and digital maturity? [priority question]

Time Permitting:

- 4) What critical skills, competencies, attitudes and values did the MSc help you develop?
 - a. Prompt: Career, identity development, life goals, leadership development, confidence, what are you going to do next
- 5) What are the next steps for your project and how will you take that forward?

6. Next steps

Thank you for participating. I think this has been a very successful discussion. Your descriptions of experiences and suggested educational recommendations have made a valuable contribution to the study.

7. Conclusion

I would like to remind you that any comments featured in this report will be anonymous. Thank you for your participation in this study.