

Experience and retention study - GMTS health informatics and health analysis specialisms

Summary project report – published May 2021

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Executive summary

Background

Demand for digital, data and technology within health and social care continues to grow. The health informatics and health analysis specialisms of the NHS Graduate Management Training Scheme are important supply routes for the skills, behaviours and capabilities that will contribute to meeting the future digital workforce demands.

Reviewing supply routes is a key priority during 2021 for the “Building our Future Digital Workforce” workstream, part of Health Education England’s Digital Readiness Programme and follows on from extensive workforce planning undertaken into demand foresight and strategic planning during 2020. The health informatics and health analysis specialisms are supply routes of strategic interest to the Digital Readiness Programme to understand where benefits are realised in planning for future skills and roles, where there are areas of any overlap and where opportunities exist to work collaboratively to ensure that talent pipelines best serve our health and care services.

The aim of this project was to understand how the health informatics and health analysis specialisms can effectively contribute to workforce supply pipelines while providing trainees with the best possible experience. We also wanted to take the opportunity to understand how the health informatics and health analysis specialisms contribute to the retention and career pathways of those professionals working in non-clinical digital, data, and technology roles. Finally, we wanted to be able to confidently describe the synergies, differences, and value benefits of the two NHS Graduate Management Training Scheme specialisms with the Digital Readiness Programme funded NHS Graduate Digital, Data and Technology scheme, so the value proposition is clear to both employers and potential employees.

Methods

With engagement at the centre of the approach, information was gathered using various qualitative and quantitative tools. This included:

- Online surveys that captured information on topics relating to experience and retention.
- Workshops to explore these topics in more detail.
- Outputs from the surveys and workshops were analysed to identify key themes.

Engagement activities were targeted, and stakeholders included current trainees and alumni from both specialisms, placement and programme managers, the NHS Leadership Academy, and academic providers. Individuals from the wider informatics community were also engaged to capture a broad range of perspectives.

Findings and recommendations

When comparing the **expectations against experience** there was variation between and within the specialisms in the extent to which trainee experience had met expectations. Many trainees from both specialisms felt their expectations had either been met or exceeded. There were however a significant number of trainees, particularly from the health informatics specialism, who stated that their expectations had not been met (accounting for approximately 36% from a total of 25 individuals who were a combination of current trainees and alumni).

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To support better understanding the experience and retention of trainees, the second area of the report identifies and explores a range of **key factors likely to have influenced the overall experience and retention** of trainees. These are presented in four areas: advertising and recruitment, placements, support during the scheme, and progression after completing their specialism. Based on these findings, initial recommendations have been included to be considered by the NHS Leadership Academy for strengthening the experience and retention of trainees from both specialisms.

Advertising and recruitment: Identifying the outcomes and purpose for each specialism, the expectation of existing technical ability and opportunities for developing a grounding of core technical aspects and wider leadership skills were some of the challenges highlighted that influenced trainee experiences. Ensuring these areas are agreed and clearly communicated through the recruitment process and with key stakeholders could help to manage individual expectations, while ensuring both specialisms remain closely aligned to future workforce supply pipelines.

Placements: Details associated with placements for trainees were shown to significantly influence an individual's experience of both specialisms. Overall infrastructure (including digital maturity) of host organisations, variety in quality of placement deliverables and ability to apply academic curriculum covered during postgraduate qualifications demonstrated potential inconsistencies in trainee placements. Evaluating placement assurance methods to ensure organisations can demonstrate how they are able to support trainees to develop the range of skills and experience expected will contribute to improving their overall experience.

Support during the scheme: More widely associated elements of both specialisms were also highlighted to influence trainee experience. Competency frameworks provided for each specialism were highlighted as needing to be reviewed to ensure they align with each specialisms purpose and objectives, as well as reflecting relevant academic curriculum and industry standard frameworks that have been developed. General time management challenges of balancing placement deliverables and academic assignments suggested a need to review current study leave policies and induction processes. The current support provided to trainees was welcomed, however there may be opportunities to strengthen this offer through existing Local Leadership Academy mechanisms and improved access to peer support through wider informatics professionals, skills development networks and professional bodies.

Progression after GMTS: Investigating retention indicated that a significant number of trainees chose to pursue careers outside of informatics after completing their specialism, with many instead moving into roles across the wider health and care system. Contributing factors identified included the current lack of information relating to the types of roles available within informatics (acknowledging that this is a pre-existing challenge across the wider informatics profession). This was supported by a common perception that career pathways available within informatics were unclear. Introducing initiatives in the short-term to develop resources which highlight the career opportunities available to trainees, as well as exploring collaborative initiatives to harness existing talent management opportunities could help to articulate career frameworks and pathways which could contribute to improving trainee retainment within informatics.

The analysis and appraisal of supply routes will form part of stage 3 of the on-going informatics workforce planning which is being undertaken by Health Education England in 2021. The NHS Graduate Management Training Scheme is a well-established development pipeline for creating senior leadership. While it does develop professional expertise, it is not a technical specialist programme. It will be important to consider how the scheme compliments technical specialist routes to supply the future digital workforce.

1.Introduction

1.1. Background

As part of the [Digital Readiness Programme](#) at Health Education England (HEE) NHS South, Central and West were commissioned to undertake a short project to better understand the experience of those who have completed the NHS Graduate Management Trainee Scheme (GMTS) health informatics and health analytics specialisms, who go on to work in health informatics, or those roles that involve the intelligent use of digital, data, and technology to provide better care for patients.

The [Building our Future Digital Workforce](#) workstream which is part of the Digital Readiness Programme was created to ensure the health and care system understands both the current digital workforce (people in post) and the supply needed (people who will become the workforce of the future) - with a plan in place which is supported by all organisations to ensure that the gap between the two is being addressed.

1.2. Context

This work builds on the findings of the [Health Informatics Career Pathways](#) study, which was funded and published by the Digital Readiness Programme in 2019 to better understand what could be done to support our informatics workforce to identify career opportunities. A key recommendation from the project was to complete a deeper dive “to undertake a Graduate Management Training Scheme retention study with the NHS Leadership Academy”. This project aims to deliver that original recommendation.

It also reflects publications (see [Topol](#) and [Wachter](#) reviews) which emphasise the important roles of digital, data and technology within the health and care system, including the need to develop the associated skills, behaviours, and capabilities of our current and future workforce.

HEE have also recently published a report on the future demand of the informatics workforce in health and care ([Data Driven Healthcare in 2030: Transformation Requirements of the NHS Digital Technology and Health Informatics Workforce](#)). By 2030, it is estimated that there will be a supply gap of approximately 18,000 informatics professionals. Several supply routes exist which aim to contribute to addressing the identified gap, including GMTS as well as the NHS Graduate Digital, Data and Technology (DDaT) scheme.

Purpose and benefits of GMTS and NHS Graduate DDaT scheme

GMTS is a postgraduate development programme delivered by the NHS Leadership Academy that aims to develop the future leaders of the NHS. The intention for this talent pool is to produce future service managers, directors, and CEOs who have an understanding of functions associated with their individual GMTS specialism (health informatics and health analysis are two of six specialisms currently offered). A clear career pathway to executive level roles in the informatics specialisms has yet to be established and is not an issue specific to GMTS but exists across the wider informatics profession in health and social care. GMTS health informatics and health analysis specialisms are an NHS **management and leadership talent** career pathway, not a digital, data or technology technical career pathway.

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NHS Graduate DDaT scheme is commissioned by the Digital Readiness Programme and sources graduate talent through partnering with graduate specific job boards advertising across 95% of universities in England, tech specific job boards, the GMTS talent pool as well as advertising to internal staff within the recruiting organisations. This nationwide recruitment campaign allows the NHS Graduate DDaT Scheme to attract over 5,000 technical applications per year and is on a trajectory to be recruiting and training hundreds of technical graduates every year into hard to fill digital, data, and technology roles in NHS health and care services, wherever there is an identified vacancy. The programme develops graduates using sustainable funding via the levy and the Institute for Apprenticeships digital apprentice standards as an education platform and a tailor made Continuous Professional Development (CPD) programme. The CPD sessions are endorsed by the Institute of Leadership and Management. The aim is to recruit and train Data Analysts, Data Scientists, Software Developers, Cyber Security, Change / Project Management and Business Analysts into vacancies across NHS Trusts, Integrated Care Systems, Clinical Commissioning Groups, Local Authorities, and the wider healthcare system across England. The fast-track scheme aims to develop a sustainable pipeline of **technical talent** into the NHS.

1.3. Aims

The main focus of the project was to understand how trainees of the GMTS health informatics and health analysis specialisms can be provided with the best experience possible whilst contributing to creating our future digital workforce. This project aimed to understand the retention of trainees following their completion of GMTS, and whether individuals continued to pursue careers within professions linked to their original GMTS specialism, careers within the wider health and care system or outside of these sectors.

Overall ownership, design, and delivery of GMTS and its specialism is undertaken by the NHS Leadership Academy (including the commissioning of postgraduate qualifications for each specialism). This project has therefore been an opportunity for the Digital Readiness Programme and the NHS Leadership Academy to work collaboratively, sharing a common goal to work towards improving opportunities relating to recruitment and retention which aims to support the future development of both specialisms.

2. Approach

Understanding experience and retention has been achieved by engaging with trainees and alumni from the GMTS health informatics and health analysis specialisms to gather first-hand insight. To support the collaborative way in which this project was completed, it was important to take the opportunity to engage with a wide audience to gain a broader perspective.

During autumn 2020 and early 2021 several engagement activities were completed to inform understanding trainee experience and retention. Simple quantitative and qualitative analysis tools were applied to extract the key themes summarised in this report. Contributions to this project were constructive and it has been fantastic to see individuals from many different parts of the system engage and participate.

2.1. Online surveys

The first engagement activity completed were online surveys. The purpose of this was to capture information on a variety of topics to better understand trainee experience and retention from several perspectives. To support this, four versions of an online survey were created. A series of questions were developed which could be adapted to support asking broadly similar questions to different groups of individuals. The four main groups targeted by the online surveys were:

- Current trainees (from both GMTS health informatics and health analysis specialisms).
- Alumni (from both specialisms).
- Placement and Programme Managers (from both specialisms).
- Members of staff at the NHS Leadership Academy.

Each survey was launched on 18 August and closed on 02 September 2020. The surveys were distributed using a number of channels which included NHS Leadership Academy mailing lists, targeted pre-known contacts, and social media (Twitter and LinkedIn).

Following the closure deadlines, the total number of responses received is shown in Table 1. It was not possible to estimate the total target audience for each survey.

For context, between 2015 and 2019 there were approximately 90 health informatics and 25 health analysis GMTS trainees¹.

Table 1

Survey target group	Total no. responses
Current trainees	17
Alumni	13
Placement and Programme Managers	6
Leadership Academy	2
Total	38

Total number of survey responses received (per individual target group).

¹ Data provided by Health Education England. GMTS health analysis specialism established from 2017 onwards.

2.2. Workshops

The final engagement activity completed were two, two-hour workshops. The workshops were organised to engage with a range of stakeholders and covered a number of topics:

1. Testing initial key findings from the online surveys relating to trainee experience and retention.
2. Identifying what (if any) additional factors contributing to trainee experience and retention may have been missed from the online surveys.
3. Engaging with attendees to understand opportunities to support the future development of both specialisms.

A variety of individuals were invited to attend both workshops. This included representatives from:

- Current trainees (of both GMTS specialisms).
- Alumni (of both specialisms).
- Placement and Programme Managers.
- Members of staff at the NHS Leadership Academy.
- Education providers (for academic qualifications associated with both specialisms).
- Wider informatics and analysis communities (including [skills development networks](#)).

By engaging with a wide audience, including individuals who were not directly associated with GMTS and worked across the wider professional field, the project aimed to access additional experience and knowledge to gather new perspectives, which were welcomed.

The limitations of this research are recognised. The project did not engage with all individuals associated with both specialisms and the sample sizes obtained varied. This project was to identify key areas for focus and to make recommendations offering insight and ideas to ensure GMTS can help to attract and develop the future digital workforce.

2.3. Continued collaboration

Agreeing the details to implement recommendations was outside the scope of this project. Recommendations should consider how to best utilise available knowledge and expertise. It is recognised that the NHS Leadership Academy have already begun to address some of the challenges identified within the report.

It will be important to ensure there continues to be close alignment between the NHS Leadership Academy and the Digital Readiness Programme to explore opportunities for co-developing and delivering recommendations where appropriate.

3. Findings and recommendations

Findings

To support better understanding the experience and retention of trainees from both GMTS specialisms the key findings from this project focus on two main areas.

Area 1 - Expectations vs experience.

Area 2 - Factors influencing experience and retention.

Findings and recommendations for area 2 have been outlined chronologically to look at key aspects of the process: **advertising and recruitment; placements; support during the scheme; progression after GMTS.**

An underpinning aim of completing this project was to identify where opportunities may exist for strengthening the experience and retention of trainees from both specialisms. Many positive aspects of both GMTS specialisms were identified - however, findings and subsequent recommendations are naturally likely to focus on constructive areas for potential improvement.

Recommendations

While the GMTS health informatics and health analysis specialisms were shown to support individuals development, a number of opportunities could be considered as part of any future development for both specialisms.

Based on the findings from this project and to support strengthening trainee experience and retention, an initial set of recommendations have been produced.

Details within this report relating to recommendations or actions should not be treated as a definitive or finalised list. They are outputs from the learning derived from this project and intended to inform future discussions. Considering the implementation of any recommendations or alternative actions will be the responsibility of the NHS Leadership Academy.

Outside of individual recommendations detailed within the following sections, we recommend first establishing a broader set of key principles which are applicable to all recommendations. These principles are:

- **Quality** – any changes must consider how they will contribute to improving both specialisms for current and future trainees. Taking a staged approach to achieve smaller changes which result in higher quality outputs will be more effective than a raft of ineffective changes.
- **Accountability** – establishing clear ownership of any agreed changes. Promoting transparency and holding organisations involved to account will help to maintain the driving force for change.
- **Collaboration** - maintaining the constructive approach achieved by this project. Breaking down barriers to work collaboratively across our system is something which must be incorporated into the culture of any future changes. Change cannot be achieved by one organisation alone. It will be vital to consider how initiatives taken forward can be developed and delivered collaboratively by sharing knowledge, harnessing the expertise available, and retaining a commitment to listening.

3.1. Expectations vs experience

The following section explores better understanding trainee experience by comparing initial expectations against actual experience of those engaged with from both the GMTS health informatics and health analysis specialisms.

3.1.1. Motivating factors

We thought it would be helpful to begin by understanding what some of the motivating factors were for candidates applying to both specialisms. The following question was asked to survey participants².

“What motivating factors influenced you choosing to complete your health informatics or health analysis specialism through GMTS compared to similar specialisms run by other organisations?”

Figure 1 below shows a summary of the key motivating factors captured.

An extremely positive theme which recurred was the altruism which was identified by many individuals who wanted to make a difference to patient care and wellbeing, had a strong desire to work in the public sector, and wanted to be part of the NHS family.

This underlying positive aspect can sometimes be overlooked. We wanted to take this opportunity to acknowledge the commitment of trainees who join GMTS and provide assurance that the programme continues to recruit many individuals with a patient-orientated ethos and desire to improve health and care services.

GMTS is a long-established and reputable scheme which has run for over sixty years. It is recognised as one of the best graduate schemes available, ranking fourth place in The Times [Top 100 graduate employers 2020-21](#). It is unsurprising to see the other key motivating factors that were identified related to the professional development opportunities offered as well as the established reputation of GMTS.



Improving patient care.



Postgraduate qualifications.



Career opportunities.



Placement opportunities.



Networking.

Figure 1. Key motivating factors identified for applying to the GMTS health informatics and health analysis specialisms.

² Asked in current trainee and alumni surveys.

Experience and retention study (GMTS health informatics & health analysis)

3.1.2. Expectation vs experience

This project gathered initial data to compare how the expectations of trainees from each specialism compared to their experiences. The following questions were asked as part of the online surveys for current trainees and alumni:

“How has the experience of your GMTS specialism compared with your initial expectations?” (Current trainees)

“Upon completion, how did the experience of your specialism compare to your initial expectations?” (Alumni)

Table 2 compares initial expectations to actual experience for both specialisms, combining feedback from both current trainee and alumni surveys. There were a variety of responses, not just within each specialism but also between both specialisms.

It was encouraging to see that a significant number of participants from both specialisms felt that the experience of their GMTS specialism had either met or exceeded their initial expectations (accounting for 40% of health informatics responses and 80% of health analysis responses, respectively). It was also clear that some trainees from both specialisms felt that their initial expectations had not been met (accounting for 36% in health informatics and 20% in health analysis, respectively).

Table 2

GMTS specialism	Expectations exceeded	Expectations met	Neutral	Expectations not met	Total
Health informatics	1 (4%)	9 (36%)	6 (24%)	9 (36%)	25 (100%)
Health analysis	1 (20%)	3 (60%)	0 (0%)	1 (20%)	5 (100%)

Expectation vs experience of GMTS health informatics and health analysis specialisms (current trainee and alumni survey responses combined).

Evaluation of the two specialisms have been separated. This was because when looking to form any recommendations, it was unlikely that a one size fits all approach would be the most effective method and it may be appropriate to tailor recommendations to one or more specialism.

We wanted to identify and understand more about which aspects of trainees experiences were not meeting their expectations and are outlined within the following section.

From the information, many factors were likely to affect an individual's experience of both specialisms. These factors could be directly attributed to an individual specialism (such as competency frameworks) or factors relating to wider GMTS aspects (such as peer support opportunities). The next section explores key factors in more detail, aiming to better understand how these influenced trainees experiences.

3.2. Factors influencing experience and retention

The overall experience of trainees was likely to be influenced by a host of personal factors outside the scope of this project and were subjective on an individual basis, for example personal experiences of individual organisation cultures. This project collated a number of factors which were identified as likely to contribute towards the experience of trainees and should resonate with most current trainees, alumni, and associated groups.

Factors which were identified have been presented in four main areas, aiming to describe these chronologically in line with the process experienced by trainees themselves.

Area 1: Advertising and recruitment

Specialism outcomes

The expected outcomes of the health informatics and health analysis specialisms, including career pathways and identifying as a profession, was identified as likely to influence overall experience.

We heard from trainees, alumni, and wider groups associated with both specialisms (including colleagues from the NHS Leadership Academy) that the overall purpose and expected outcomes for both specialisms could be difficult to identify and convey. In some cases, this created challenges for trainees to identify an overall ambition and goals for maximising the opportunities available within their specialisms which is likely to have influenced their overall experience.

While both specialisms provide trainees with a grounding in health informatics and analysis, the core purpose of GMTS is not to produce technical specialists in digital, data and technology roles, but is a postgraduate development programme which focuses on producing individuals with the management skills needed to be the future leaders of the NHS. It is therefore important to ensure the specialism outcomes are agreed and clearly communicated to key stakeholder groups (including placement organisations).

Recommendations

1. NHS Leadership Academy to review and agree the intended outcomes and objectives of both specialisms and to clearly articulate this, including in terms of career pathways and roles in health and care within recruitment materials.
2. NHS Leadership Academy and the Digital Readiness Programme to review how the outcomes and objectives of both specialisms align to workforce supply pipelines, which will provide context and reference for developing an understanding of demand of the skills required in these specialisms to ensure curricula is appropriate and aids trainee retention.

Experience and retention study (GMTS health informatics & health analysis)

Roles, responsibilities, and expectations

A lack of clearly defined purpose and outcomes for both specialisms may also have contributed to challenges with managing individuals expectations. Particularly among health informatics trainees, we heard that there were often expectations from placement organisations that incoming trainees would have existing core technical informatics capabilities, such as experience of working with Structured Query Language. This observation was validated by several placement managers that we engaged with.

This meant that some trainees with limited core technical experience had not been provided with the necessary time and support to develop these capabilities, and also that some placement managers had not understood they would need to provide this additional time and support for trainees. This aligns with [previous research](#) which highlighted the importance of also helping those in entry level roles to understand how their specialism fits into the wider NHS landscape.

This finding was not interpreted as placement organisations not wanting to support the development of individual trainees, and we heard on a number of occasions how placement managers had supported trainees with their professional development. Instead, a lack of clarity around the specialism outcomes has likely contributed to some placements having misaligned expectations of the role, responsibilities, and experience of GMTS health informatics trainees.

We also heard in some cases that trainees faced challenges associated with distinguishing between placement and programme manager roles and responsibilities. Several placement managers confirmed that it could sometimes be difficult to distinguish the expectations between both. Finally, we heard that sometimes placement managers who held senior roles may not have had the necessary time and capacity needed to dedicate to supporting trainees.

The current inconsistencies associated with the terminology used to define informatics is not a challenge exclusive to GMTS and exists much wider across health and social care. There are however opportunities to strengthen how informatics is defined within GMTS, including the types of roles and career opportunities available to trainees. Harnessing on-going work within the Digital Readiness Programme could help to help address this challenge (see [Digital, Data and Technology occupational framework development](#) and [NHS Informatics Workforce in England: Phase 1](#)). Utilising expertise from relevant informatics professional bodies, via the Federation for Informatics Professionals ([FEDIP](#)) could also support promoting relevant career opportunities in informatics for GMTS trainees.

Recommendations

1. NHS Leadership Academy to review how the roles, responsibilities, and expectations of key groups associated with both GMTS specialisms can be strengthened in programme communication and documentation, including setting expectations on developing the required technical and non-technical skills and experience.
2. NHS Leadership Academy to explore how to utilise existing work (such as through the Digital Readiness Programme and professional bodies) to support articulating to trainees the career opportunities available through the current GMTS health informatics and health analysis specialisms.

Experience and retention study (GMTS health informatics & health analysis)

Developing technical and leadership skills

Another factor identified as likely to have influenced overall trainee experience was understanding the balance between developing the necessary technical experience associated with both specialisms against broader leadership and management skills.

As mentioned earlier in this report, specialisms within GMTS focus on developing the future leadership of the NHS, and we heard how the experiences and opportunities from both specialisms had provided many trainees with a platform to help them to take their first steps towards becoming future leaders. While it is essential for trainees to gain a grounding in core technical aspects of their specialism over the duration of the programme, GMTS emphasises development of the leadership and management skills needed to prepare trainees for becoming future leaders across the NHS rather than developing technical specialist skills.

We did hear that some trainees may currently have limited opportunities to develop the necessary core technical aspects during the programme, something that was particularly highlighted among health informatics trainees. We also heard that developing leadership and management skills during both specialisms could be challenging to achieve within placements.

Finally, it was highlighted that attaining the expected technical and leadership experience may be more feasible in placements based in particular sectors (such as secondary care), while other sectors may struggle to provide trainees with a similar experience during their placements.

It is important to consider how the trainees developed by the GMTS health informatics and health analysis specialisms contribute to future digital workforce pipelines. Recognising that GMTS focuses on producing future managers and leaders, reviewing how this compliments alternative supply routes which focus on producing technical specialists in informatics (such as the NHS Graduate DDaT scheme) will be vital to ensure that the individuals produced are aligned with future workforce requirements.

Recommendations

1. NHS Leadership Academy to consider the essential core technical elements to be developed by both GMTS specialisms, given the move towards a future NHS that is managing services differently post-coronavirus pandemic and with a move towards integrating an NHS that is delivering services remotely.
2. NHS Leadership Academy to review the expected leadership and management skills to be developed by both GMTS specialisms and to review how these are articulated to placement organisations.
3. NHS Leadership Academy to explore how assurance processes can enable placement organisations to demonstrate how they will provide trainees with exposure to the necessary technical and leadership experience expected of both GMTS specialisms.
4. NHS Leadership Academy in collaboration with the Digital Readiness Programme and the NHS Graduate DDaT scheme to explore the future workforce requirements across the informatics profession, considering how GMTS and NHS Graduate DDaT align with developing leadership and technical supply routes.

Experience and retention study (GMTS health informatics & health analysis)

Area 2: Placements

Placement environment

The overall technical infrastructure, capabilities, and digital maturity of a placement organisation were identified to directly influence trainees overall experience.

We heard examples from trainees that placement organisations with outdated technology and software meant it could be challenging to gain access to the necessary tools and training required to support trainees to develop the relevant core technical elements of their specialisms. While the focus of GMTS is to develop management and leadership skills, developing a core understanding of health informatics and health analysis principles (including some technical aspects) is still a requirement.

It was also identified that some organisations were more likely to be able to provide trainees with the necessary exposure to technical aspects of their specialism. For example, Arm's Length Body organisations which possessed the data architecture to provide greater access to larger datasets and more analytical techniques. This highlights potential inconsistencies and inequalities in learning experiences which may exist between placement environments and is likely to have influenced trainees overall experience of their specialism.

Recommendations

1. NHS Leadership Academy to consider how assurance of placement organisations incorporates reviewing digital maturity (see [NHS digital maturity assessment](#)) to support providing trainees with the infrastructure necessary for effective learning during their specialisms. This expertise could be obtained through the Digital Readiness Programme or other sources of informatics expertise.
2. Explore how trainees placed in less digitally mature organisations may be able to be supported to gain the necessary experience through opportunities of collaborative partnerships in placements, such as outside of the NHS in data, digital and technology industry placements.

Placement deliverables

A pivotal factor that was identified which influenced the experience of trainees from both specialisms was the details associated with placement deliverables. Both the GMTS health informatics and health analysis specialisms consist of multiple placements over the duration of the programme which entail a variety of work-based deliverables.

Unless specifically referenced, findings should be treated from the perspective of all placements within a trainees specialism (excluding Flexi placements) - rather than one placement in particular.

We heard many encouraging examples from trainees of both specialisms who had received support from their placement and programme managers to help them to gain exposure to relevant deliverables. However, this may have been inconsistent in terms of quality of placement deliverables.

Experience and retention study (GMTS health informatics & health analysis)

Some trainees from both specialisms (but particularly within health informatics) stated that they had sometimes struggled to secure deliverables which provided them with opportunities to gain the experience to develop the skills required for their specialism (including project management experience).

Recommendations

1. NHS Leadership Academy to review the current assurance and engagement methods used to assess the suitability of potential placement organisations. Placement providers could be assessed through a risk-based accreditation framework that outlines standards to ensure that placements meet essential criteria to provide a high quality and supportive learning environment (such as the FEDIP [specification](#)).
2. Ensure placement organisations are able to clearly demonstrate how trainees will be provided with the opportunities to develop the expected skills, experience, and competencies associated with the respective specialisms as part of this framework.

Applying academic learning

As part of the commitment to trainee development GMTS incorporates postgraduate qualifications relevant to individual specialisms. The opportunity of completing these qualifications were commonly recognised by trainees as extremely valued and that the education delivered was of a high quality. This significant aspect of the GMTS programme will have been a positive influencing factor on trainees overall experiences.

However, the limited opportunities for many trainees to apply the theoretical knowledge gained from postgraduate qualifications into practise whilst on placements was commonly highlighted as a challenge and will have likely influenced overall experience.

We heard from some trainees that their placement and programme managers were not necessarily aware of the curricula content of the academic qualifications. This lack of awareness will likely have influenced and potentially limited the opportunities for trainees to reinforce and apply the academic learning covered into placement deliverables. The lack of awareness to the academic curricula was also validated by several placement managers who mentioned that they were unaware of the academic content and stated that they would find it helpful to know this information to support developing trainee placements.

Academic curriculum details have recently begun to be provided by the NHS Leadership Academy to placement organisations as part of a trainee handbook incorporated during induction processes. However, ensuring this information is disseminated effectively and digested by organisations to inform placement planning will be vital.

Recommendations

1. NHS Leadership Academy to review how the details of relevant academic curricula content can be distributed to placement organisations, including placement providers demonstrating awareness and understanding of relevant curricula components.
2. Evaluate how placement assurance processes reflect placement deliverables being designed and aligned with relevant academic curriculum.

Experience and retention study (GMTS health informatics & health analysis)

Area 3: Support during the scheme

Competency frameworks

A factor which likely influenced the overall experience of trainees related to competency frameworks. The frameworks were created by the NHS Leadership Academy and are based on the [Healthcare Leadership Model](#) structured around seven key areas of leadership. GMTS competency frameworks consist of core competencies which are shared by all GMTS specialisms. Core competencies focus on developing management and leadership skills to support the primary purpose of GMTS to create future NHS leaders. Frameworks also contain specialism competencies that are specific to an individual GMTS specialism, however specialism competencies are not intended to create technical specialists through the GMTS programme.

While we heard that the current competency frameworks for the health informatics and health analysis specialisms in some cases supported trainees when applying for roles after GMTS, overall, the majority of feedback received indicated there was a need to review and update the current competency frameworks.

Many trainees highlighted that competency frameworks were not aligned with academic qualifications and that some criteria felt like a tick-box exercise without a perceived benefit (with some finding aspects of the frameworks unachievable altogether). Finally, it was unclear how competency frameworks were aligned to frameworks that have been developed by relevant professional bodies and wider industry standards for both specialisms, such as FEDIP.

Recommendations

1. NHS Leadership Academy to review the existing competency frameworks for both specialisms to ensure that they are relevant and aligned to the expected purpose and outcomes of both specialisms (also reflecting relevant academic curriculums).
2. NHS Leadership Academy to explore how competency frameworks can be reviewed collaboratively to include representative input from relevant key stakeholders (such as professional bodies).

Time commitments

We heard from trainees that while both specialisms included a range of development opportunities, this had created significant challenges to deliver numerous large commitments simultaneously and had influenced their overall experience.

Time management and identifying programme priorities were a recurring challenge highlighted. Sufficient time to balance placement deliverables whilst also submitting on-going academic assignments meant there was not enough time to fully commit to either.

Some trainees also stated that programme induction periods at the beginning of each specialism (in some cases lasting several months) often involved a significant amount of time spent away from placement organisations. This meant some trainees lacked substantial placement deliverables during this initial period, a finding that was validated by several placement managers.

Experience and retention study (GMTS health informatics & health analysis)

Recommendations

1. NHS Leadership Academy to review current GMTS study leave policies to ensure they are reflective of current NHS guidance.
2. Explore how induction periods can be completed whilst allowing trainees sufficient time to be provided with substantive placement deliverables.

Recognition of specialism details

The on-going support provided to trainees by the NHS Leadership Academy during their GMTS specialisms was something which was welcomed and really valued. This included the development of regional networks to work with trainees through Trainee Support Managers.

However, we also heard there was need for greater appreciation by the NHS Leadership Academy for how details of both specialisms often translated into real-world requirements for trainees. This disconnect between the NHS Leadership Academy and trainees is likely to have influenced their overall experience, meaning they were likely to have felt less supported with some granular but vital aspects of their specialisms. It was also highlighted that because placements within the health analysis specialism were predominantly based within one host organisation (NHS England and NHS Improvement), the support mechanisms offered by the NHS Leadership Academy often felt further removed compared with other GMTS specialisms.

Recommendations

1. NHS Leadership Academy to explore developing materials to support Local Leadership Academies (LLAs) to increase the awareness of specialism associated needs and ensure appropriate pastoral support is available for trainees of both specialisms.
2. Explore opportunities to provide consistent support mechanisms for trainees of both specialisms to enhance and support learners wellbeing and motivation throughout GMTS.

Peer support and networks

A final factor identified which likely influenced the overall experience of trainees was the ability to access peer support and professional networks. The cohort sizes of both the health informatics and health analysis specialisms comprise a relatively small proportion of total GMTS cohort sizes (health informatics accounted for less than 20% and health analysis accounted for less than 10% of total trainees per annual intake between 2015 and 2018³). The opportunities and benefits provided to an individual from being part of a professional community are widely recognised and can act as effective peer support mechanisms.

Specialism cohort groups have been established through GMTS, and we heard that existing networking opportunities facilitated by the NHS Leadership Academy (such as trainee-led forums) were really valued and there was a desire by many for more of these types of opportunities. Strengthening peer networks was also echoed by placement managers that we spoke with, several who mentioned they had struggled to connect with other managers to be able to discuss issues and share ideas for supporting trainees.

³ Data provided by Health Education England.

Experience and retention study (GMTS health informatics & health analysis)

Finally, we also heard from colleagues across the wider informatics professions, including skills development networks. Many of these individuals had no prior interaction with the GMTS health informatics or health analysis specialisms but had stated a keen desire to work more closely with the NHS Leadership Academy and trainees of both specialism in the future.

This is a mutually beneficial opportunity for both specialisms to develop closer working relationships with the wider professional fields to share knowledge and expertise, while also providing trainees with greater opportunities of establishing and engaging with peer support mechanisms.

Recommendations

1. Examine how existing regional networks could be strengthened to support trainees, as well as address identified gaps such as regional placement and programme manager networks. This should include utilising existing opportunities such as Informatics Skills Development Networks ([ISDNs](#)).
2. Explore mapping relevant stakeholders from the wider informatics profession to engage with which would enable regular opportunities for input from expertise when reviewing GMTS specialisms, curricula content and learning outcomes.
3. NHS Leadership Academy and the Digital Readiness Programme to explore how a mature and operational working relationship could be established between both GMTS specialisms and relevant professional bodies.

Experience and retention study (GMTS health informatics & health analysis)

Area 4: Progression after GMTS

To support better understanding the retention of trainees from both GMTS specialisms, the final element of this project focused on exploring trainee progression (or intended progression) - following completion of their GMTS specialism.

First, we focused on investigating trainee retention. The aim was to better understand whether trainees were choosing to pursue careers directly associated with informatics and analysis, or roles within the wider health and care system.

Secondly, to support understanding trainee retention this project took the opportunity to look at the perception of career pathways within the informatics and analysis professions, which was also likely to be a contributing factor towards trainee retention.

Trainee retention

The information in Table 3 suggests a fairly even split of opinions between current health informatics trainees who had intended to initially pursue a career either within informatics or within the wider health and care sector (accounting for 38% of responses, respectively).

It is very encouraging to see indicative signs that a significant majority of the talent produced by both GMTS specialisms is retained within the NHS over a long-term period (only 14% of health informatics trainees we spoke with identified as having moved into roles outside of the NHS after five years). Although information tracking the career trajectories of alumni from both specialisms is not available and was outside the scope of this project, it is reasonable to assume that the skills and experience gained from GMTS will have helped to develop many trainees to become our future workforce and leadership.

Table 3

GMTS specialism	Category	Yes (inside the NHS)	Yes (outside the NHS)	Undecided or other	No (remaining in the NHS)	No (leaving the NHS)	Total
Health informatics	Current trainees	5 (38%)	0 (0%)	3 (23%)	5 (38%)	0 (0%)	13 (100%)
	Alumni <2 years	4 (33%)	0 (0%)	2 (17%)	6 (50%)	0 (0%)	12 (100%)
	Alumni 2-5 years	1 (8%)	0 (0%)	5 (42%)	4 (33%)	2 (17%)	12 (100%)
	Alumni >5 years	0 (0%)	0 (0%)	3 (43%)	3 (43%)	1 (14%)	7 (100%)
Health analysis	Current trainees	2 (50%)	1 (25%)	1 (25%)	0 (0%)	0 (0%)	4 (100%)
	Alumni <2 years	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)
	Alumni 2-5 years	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1 (100%)
	Alumni >5 years	0 (0%)	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)

Trainee retention for GMTS health informatics and health analysis specialisms (current trainees and alumni).

Experience and retention study (GMTS health informatics & health analysis)

However, opportunities were identified for potentially strengthening the retention of trainees to their original GMTS specialisms. As time since completing GMTS increased it was noted that of those alumni who had initially chosen to pursue careers within the informatics profession, the number that continued to pursue informatics careers generally declined over time. This correlated with an increase in the number of alumni choosing to pursue other roles outside of informatics, either within the wider health and care system or outside of the sectors.

Sample size limitations are recognised for health analysis specialism responses collected in Table 3, and that more research would be needed to better understand trainee retention for this group.

These indicative results demonstrated the importance of completing this work to better understand the retention factors involved as this could potentially help to strengthen the retention of trainees to their original GMTS specialisms. This should be viewed as supporting individual trainees with their own career development and progression, but also recognising the importance of needing to continue to support the development of our future digital workforce and understand how to best invest and develop future digital talent supply routes.

Recommendations

1. Identify with hiring managers from both GMTS specialisms the necessary skills, competencies and experience expected from trainees to secure relevant roles after completing GMTS.
2. LLAs to explore with regional talent management boards, HEE regional workforce planning teams, and regional ISDNs opportunities to understand the local demand for digital, data and technology leadership roles across geographical footprints.
3. NHS Leadership Academy and the Digital Readiness Programme to explore collaborative opportunities to work on talent management, bringing together programmes including (and not limited to) GMTS, NHS Graduate DDaT scheme, and the NHS Digital Academy [Digital Health Leadership programme](#).

Career pathways

The final aspect of trainee retention which this project investigated related to the general perception of career pathways and opportunities associated with the health informatics and health analysis specialisms.

Current trainees as well as placement and programme managers from both specialisms were asked the following questions during online surveys:

“Do you think the career pathway opportunities available within your specialisms after completing the GMTS are clear?” (Current trainees)

“For trainees that choose to remain within the health analysis / informatics specialisms post-GMTS, do you think the current career progression pathways are clear?” (Managers)

Table 4 highlights the varied perceptions of career pathways for both specialisms. The challenges associated with identifying career pathways under the umbrella term of health informatics is recognised as a system-wide issue and is not specific to GMTS.

Experience and retention study (GMTS health informatics & health analysis)

Table 4

GMTS specialism	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Health informatics	0 (0%)	4 (31%)	3 (23%)	5 (38%)	1 (8%)	13 (100%)
Health analysis	0 (0%)	1 (25%)	2 (50%)	1 (25%)	0 (0%)	4 (100%)
Placement and Programme managers	0 (0%)	1 (17%)	2 (33%)	3 (50%)	0 (0%)	6 (100%)

Trainee and manager perceptions of career opportunities associated with GMTS health informatics and health analysis specialisms.

The findings were reinforced when we engaged with other current trainees and alumni during workshops. Many highlighted the challenges associated with identifying what roles might be available to them and what a structured career pathway looked like after completing their GMTS specialism.

If the career pathways and opportunities for trainees were not clear, this will likely have contributed to explaining why some trainees from both GMTS specialisms decided to pursue careers outside of their original specialisms, either moving into roles in the wider health and care system or other sectors.

Finally, we also heard from trainees that the lack of information available about the types of roles and careers associated with each specialism brought subsequent challenges of identifying the necessary skills and experience which they needed to develop during their specialisms to prepare for their next career steps.

The current lack of job architecture within the wider health informatics field is recognised. The Digital Readiness Programme is currently looking to understand how the Government Digital Services [Digital, Data and Technology occupational framework](#) can be adapted into health and social care to support better describing career pathways and opportunities within informatics.

Recommendations

1. Explore the establishment of GMTS specialism alumni networks to support trainees to identify specialism associated career opportunities.
2. Develop multimedia resources showcasing GMTS specialism associated career opportunities (including case studies, day in the life, and personas).
3. Explore how career pathways and opportunities can be enhanced in GMTS recruitment literature and during specialism inductions.
4. Explore how career development opportunities can be integrated with GMTS specialism programmes, such as career conversations with LLA teams and wider professional networks.
5. NHS Leadership Academy and the Digital Readiness Programme to collaboratively explore how career frameworks and pathways (including job architecture) can be co-developed and articulated to trainees from both specialisms.

4. Conclusion

This project has managed to gather a range of information which supports better understanding the experience and retention of trainees from the GMTS health informatics and health analysis specialisms. A significant range of benefits and opportunities were shown to be provided to trainees of both specialisms; however, a number of areas were identified that could be considered to strengthen trainee experience and retention.

A number of suggested recommendations based on the findings from this project have been included. It will be important to take the time to consider how sustainable initiatives can be developed to support the future experience and retention of trainees. This should be achieved collaboratively, however clear ownership of any actions which are taken forward will also be important to establish.

Participation from those who have contributed to this project has been extremely positive. We would recommend the momentum that has been generated continues to be maintained through constructive partnership working and wider system collaboration.

This work aims to inform the future strategic development of both GMTS specialisms by helping to ensure that trainees are provided with the greatest experience possible during their time on the programme, while ensuring both GMTS specialisms are aligned to future digital workforce pipelines.