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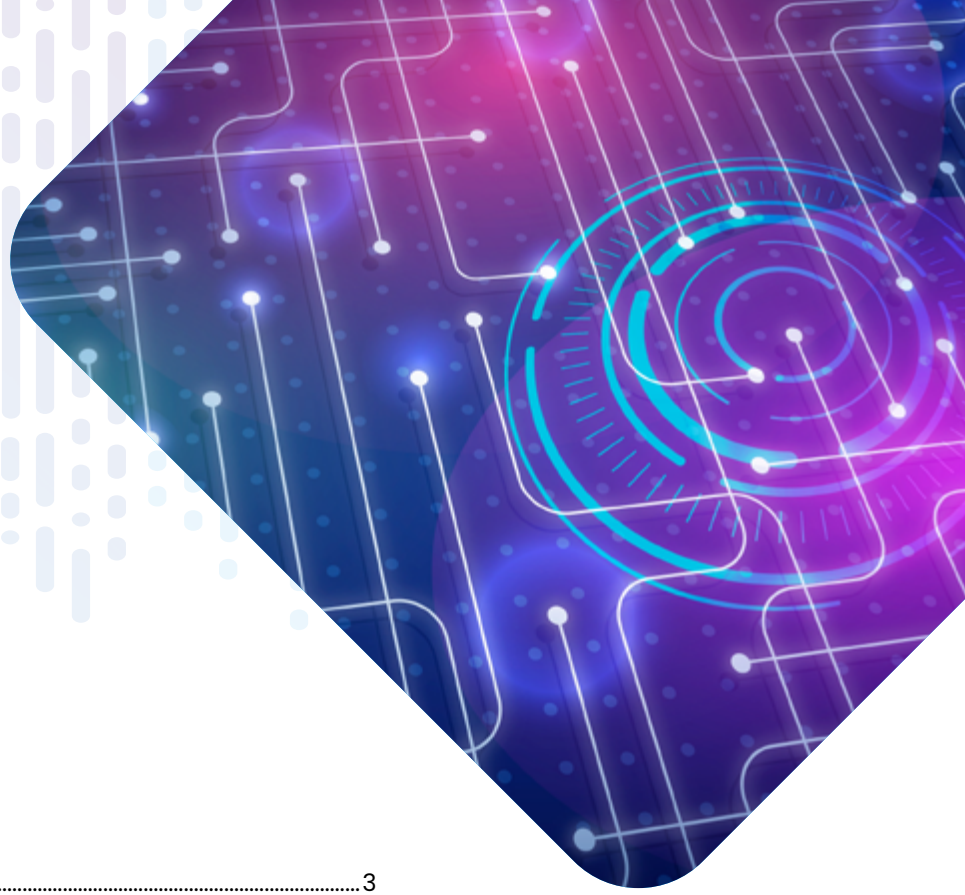
Digital Voices:

Local Priorities for an NHS 10-Year Plan

A Conversation with NHS Chief Information Officers



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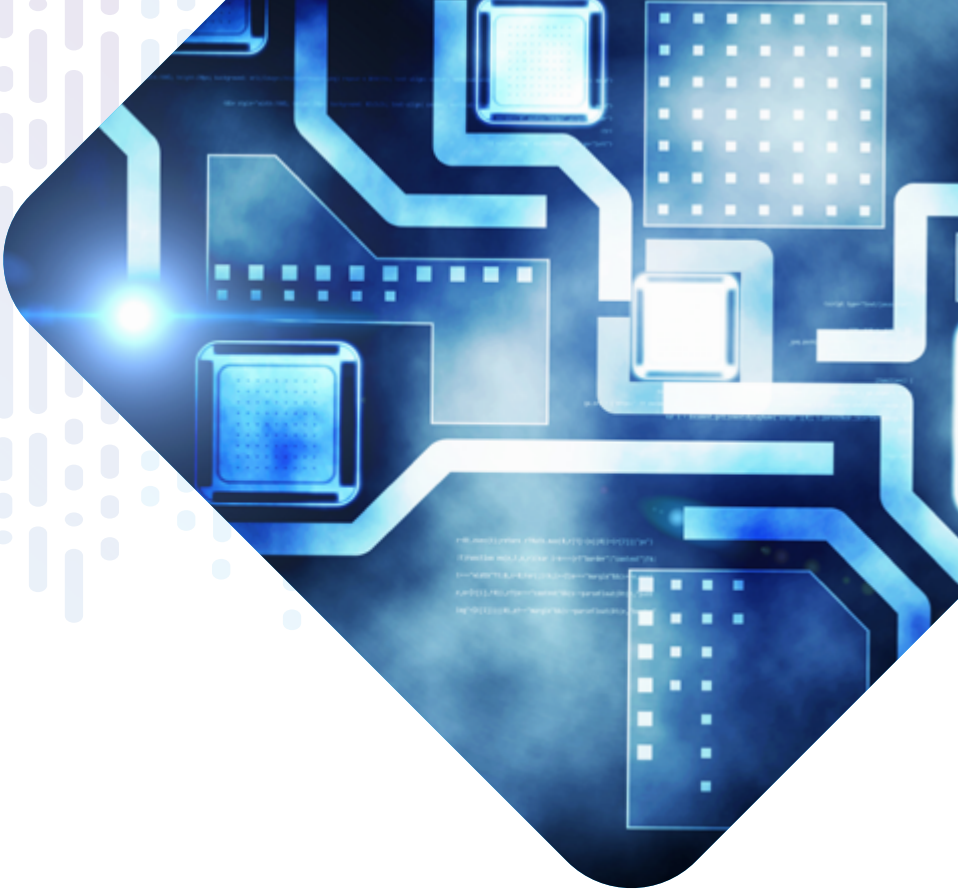

Foreword:

Adrian Byrne

During the summer of 2024, Adrian Byrne and James Gray of Mastek interviewed a number of Chief Information Officers (CIOs) in the secondary care acute sector to gauge their views on strategy and priorities across a range of areas. The idea was to inform both the industry and the service of what was in people's minds when making investment and technology decisions. Adrian is an ex-CIO from a large acute trust in the South of England with 20+ years' experience in this role, and former chair of the national Digital Health CIO Network.

Thoughts around how the organisations are supporting the digital agenda, planning for investment, alignment with business plans and wider strategy plus engagement at clinical user and board level were discussed. There was a general consensus view on many of the key areas highlighted, but also some variation. We have tried to remain balanced in the reporting of those conversations.

The cyber agenda is clearly a rapidly developing risk and investment area and a lot of concern around the numerous incidents since the one that woke up the world in May 2017, the WannaCry ransomware attack. Cloud and service provision are areas the industry is keen to develop, but the average CIO seems to be addressing these things on a case-by-case basis rather than making it a cornerstone of strategy.

It is no surprise that funding and the type of funding, along with an inability to plan, are the overriding concern. People feel they know their priorities, but these are often diverted to chase money that then has to be spent quickly, leading to inefficiency and non-strategic solutions.

There is a body of expertise in the CIO community and its various networks, but this is not always used in the most advantageous way. It is recommended that further efforts are made to continue this conversation. The local leadership knows their priorities and is aware that in the coming period there will be a large emphasis on obtaining more from what has already been invested. In order to achieve this, the engagement has to happen at all levels.

I hope the report acts as a catalyst to obtain further meaningful input to assist the NHS in gaining a better return on investment for its staff and ultimately the patients they serve.

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Foreword:

Abhishek Singh

As we stand at the crossroads of healthcare and technology, the future of the NHS depends on its ability to adapt, innovate, and build a resilient digital infrastructure. This report provides a valuable window into the experiences and insights of Chief Information Officers (CIOs) from across the NHS, whose firsthand perspectives reveal both the opportunities and challenges of digital transformation at a local level.

Listening to the voices of these digital leaders is not just an opportunity—it is an imperative. Their insights reflect the complexity of integrating cutting-edge digital solutions into a system that operates with diverse needs, legacy systems, and often fragmented funding models. Yet, their recommendations also chart a path forward for the Government to align its long-term digital strategy with the realities on the ground.

The Darzi Review highlighted the urgent need to strengthen digital foundations in the NHS, and this report takes that conversation forward by outlining actionable steps to ensure local NHS services can leverage digital innovation effectively. From addressing funding misalignment and enhancing data convergence, to clarifying the roles of digital professionals, the insights shared in this report underscore the need for collaboration between local leaders and national policymakers.

At Mastek, we are committed to supporting this journey, leveraging our experience and technological expertise to empower the NHS with scalable, secure, and interoperable digital solutions. Together, we can build a future where digital transformation leads to enhanced patient care, operational efficiency, and a healthcare system that meets the demands of the future.

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Executive Summary

The Government has identified a shift from analogue to digital as a key driver of innovation and transformation in the NHS. The question this report seeks to answer is: how do we get there?

We have spoken to Chief Information Officers from across a variety of NHS Trusts to hear firsthand about the barriers that they face in adopting digital solutions and how the Government can position digital at the heart of its plans for the future of the NHS.

In particular, we heard about the challenges that local digital leaders face in marrying strategy with implementation, particularly in the face of short-term funding allocations that are often misaligned with local priorities.

We heard about the challenges in moving towards data convergence across ICSs and within the Federated Data Platform, and how local leaders are navigating this move towards convergence against contrasting legacy services and contractual timelines.

Finally, we heard about the challenges of recruiting local expertise in key areas, including cloud and cyber and the need to clarify core digital roles within local teams and to strengthen their reporting into NHS Trust Boards.

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Summary of Recommendations:

1. NHS England should conduct a dedicated consultation with local digital NHS staff to inform the relevant long-term funding allocations of the 10-Year Plan.
2. Commit to long-term revenue funding for digital infrastructure and transformation in allocations for local NHS Trusts.
3. Commit to targeted Funding for Federated Data Platform (FDP) Implementation
4. Commit to targeted Funding for Convergence of Local Systems Across Integrated Care Systems
5. Improved guidance, based on local best practice, on specific roles and responsibilities for digital roles in local Trusts.
6. Improve signalling to local Trust leads on upcoming capital funding opportunities to support the development of business cases.

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About the Authors:

Adrian Byrne

Adrian is ex-CIO of University Hospital Southampton Foundation Trust and ex-chair of the national CIO Network with Digital Health. He is an occasional writer for the Digital Health news website and a fellow of the British Computer Society and CHIME CHCIO. He has spent 15 years or so pursuing a strategy for electronic patient records through integration and evolution. This has evolved into a pursuit of a multi-vendor architecture using open platforms and open data.

He is a keen advocate and pioneer for direct patient to secondary care interaction, improving patient experience, aiding efficiency, and removing unnecessary hospital visits and, therefore, implemented a platform at UHS called My Medical Record that is used by a number of NHS organisations across England in the UK. Patients are benefiting from a reduction in unnecessary appointments and from being able to communicate directly with clinicians.

Adrian supports the federated citizen identity model for the health market, which involves one set of credentials to log in to everything and share according to consent and permissions, like an NHS login. He is a supporter of standards, like the FHIR, due to their ability to deliver a one platform, one identity strategy with many applications.

James Gray

James is a former Royal Air Force Medic with extensive experience in both peacetime and wartime operations. His expertise spans diverse healthcare environments, ranging from routine medical care in established facilities to managing battlefield trauma in high-pressure conflict zones around the globe. James credits his formative years in the RAF with shaping his adaptability, resilience, and commitment to service.

Following his military career, James transitioned into the digital data and technology sector, where he has played a pivotal role in supporting the NHS. Leveraging his unique blend of clinical insight and technical expertise, he has contributed to identifying efficiencies through technology. His work has spanned Primary Care, Acute Care, Community Health, Mental Health, Integrated Care Systems'and Commissioning Support Units, with a focus on developing business cases to advance digital strategies.

James is deeply committed to making a meaningful difference within the NHS. He is driven by a desire to support the dedicated professionals who care for people daily and to ensure that taxpayers receive the best value. His work reflects a steadfast belief in fostering innovation while enhancing the operational effectiveness of England's healthcare system.

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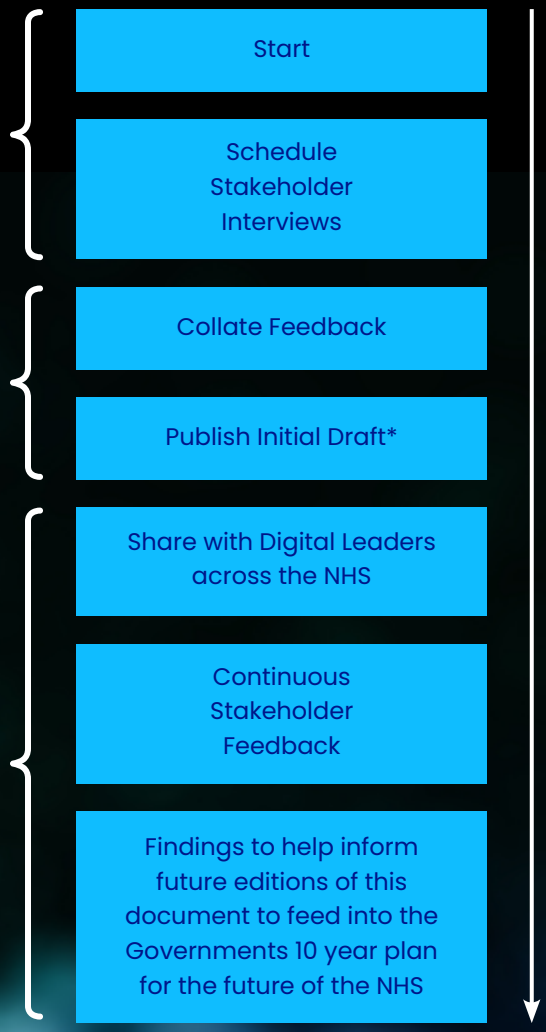
Methodology

Phase 1 This report has been based on a series of interviews conducted by Adrian Byrne and James Gray with eight Chief Information Officers from a range of NHS Trusts from large university teaching hospitals to smaller district general hospital and non-acute (community and mental health) services: **These interviews were conducted virtually over several months in the summer of 2024**

Phase 2 Interviews were collated in this report as a rapid analysis of recurring themes that emerged from these CIOs own experiences of the (1) challenges and (2) opportunities for digital solutions to transform the day-to-day operations of NHS services.

Phase 3 Mastek's intention in publishing this report is to prompt a conversation amongst local digital leaders across the NHS on the commonalities of their experiences in working to implement digital transformation; and to inform the Government's development of a 10-year plan for the future of the NHS.



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Start Local, Build National:

Aligning Government strategy with NHS reality

NHS 10-Year Plan Recommendation: NHS England should conduct a dedicated consultation with local digital NHS staff to inform the relevant long-term funding allocations of the 10-Year Plan.

A strategy is pointless with no funding to implement it. This was a common response from CIOs when expressing their long-term vision for the implementation of digital innovation in their local NHS services. The short-term and dislocated nature of national funding for local digital programmes has led to a widespread feeling of "strategy exhaustion" for many CIOs in local NHS Trusts.

"A strategy just becomes a set of aspirations"

Many recalled their frustrated experience of developing comprehensive, multi-year strategies for their local area, only to have them quickly become out of date or irrelevant based on the imposition of national priorities that were widely misaligned with local needs. Others outlined the impossibility of developing strategies in the first place; when they were consistently dependent on the short-term appearance of national funding simple to "keep the lights on".

"Strategies look like they stack up but cannot be delivered"

While the ring-fenced allocation of £1.9 billion worth of national funding for frontline digitisation has been widely welcomed by local NHS digital leaders; a continued challenge was reported on Trusts' ability to access this funding, and their consequent ability to develop long-term plans, based on its allocation.

Looking to the future, it is vital that the Government first consults with local digital leaders to establish a majority view of local challenges and funding requirements, before it designates a funding allocation and attaches it to national priorities.

A recurring disconnect between local and national priorities has consistently plagued the ability of local leaders to implement digital solutions to their most pressing challenges. The misalignment of national funding to local need also hampers the ability of local leaders to make compelling business cases to their boards; and to communicate a tangible return on investment in the face of immediate challenges facing local patients and doctors.

"We have a records library strategy and no funding so no way to move forwards"

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Start Local, Build National:

Aligning Government strategy with NHS reality

Several CIOs recalled the possibility of local ICS' having a unified tech fund that could be used to support the implementation of the local digital and data strategy. They highlighted that in an ideal world, these funds would come with multi-year funding to support long term planning. This longer-term approach would counteract some of the misalignment between local and national priorities.

When developing its 10-Year Plan, and when making petition to the Treasury regarding any national funding allocation for NHS digital transformation in the 2025 Spending Review, NHS England and the Department of Health and Social Care would do well to provide a forum where they can gather evidence from frontline digital colleagues directly. In the absence of concerted consultation in this regard, national funding will continue to misrepresent local challenges and will unintentionally divert funding away from real local need.

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Funding Transformation:

Improved mechanisms for NHS digital investment

NHS 10-Year Plan Recommendation: Commit to long term revenue funding for digital infrastructure and transformation in allocations for local NHS Trusts.

The Wanless Review 20 years ago recommended a doubling of "ICT" spend to around 3% of turnover, whilst acknowledging that the US system was spending around 6%. The model hospital data shows that many are not achieving this, with the midpoint sitting at around 2.5% with a range from just over 1% up to around 5%. Of those that were interviewed as part of this project, the majority were operating on budgets below 2.5% of local hospital spend.

"National capital is not spread evenly, and the hospital is not received any for more than 4 years. If you're not failing, they won't give you any money"

Over the past fifteen years, local CIOs have faced a range of national funding mechanisms for digital projects. There was a prevailing view that recent trends in national funding allocations were prioritised towards poor performing Trusts. This contrasts with the previous funding models of the Global Exemplar Programme which, as recommended in the Wachter Review, prioritised funding towards the extrapolation of local examples of digital best practice.

Those interviewed as part of this project consistently outlined that they were increasingly dependent on the allocation of ad-hoc, in year funding to maintain existing digital infrastructure. CIOs outlined that they were increasingly having to make assumptions about the availability of future funding, above and beyond the Frontline Digitisation Plan, in order to instigate digital transformation projects, which comes with an increasing level of risk.

"Under Global Digital Exemplars we saw the money early"

The unpredictability of NHS digital funding, and the consequent inability of local digital teams to plan well in advance of allocations, is compounded by short-term deadlines in which capital allocations must be spent. There is widespread frustration with the utilisation of Capital Departmental Expenditure Limits (CDEL) which propagate a "use it or lose it" mentality to short term NHS digital spend. Increasingly, CIOs are finding themselves in an abbreviated financial environment: they are receiving funding allocations at shorter notice and have shorter timelines by which it needs to be spent. This inevitably encourages an attitude of short-term investment over long-term transformation.

A further challenge with short-term capital funding allocations for digital programmes is that increasingly digital solutions are moving towards a service model as opposed to a single upfront cost. This has resulted in widespread variation in the funding model for digital services including combinations of lease and capital spend. The reliance on short-term capital rather than longer term revenue limits the ability of local teams to develop business cases for robust solutions to local challenges.

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Case Studies:

NHS Mail and Office 365 Convergence

The transition towards a national Office 365 tenant exemplifies the challenges local services face in adapting to imposed system changes. Many local NHS services have developed their Office 365 setups to accommodate specific workflows, making the shift to a national tenant costly and complex. Addressing these financial and operational challenges will require careful consideration and sufficient funding to support local services in the transition to national standards without disrupting their established workflows.

Moving to Cloud: One size fits none

Nowhere is the limits of capital funding more apparent than in the implementation of cloud services in local NHS hospitals. Cloud systems will invariably operate under a textbook service funding model, based on recurring long-term costs rather than single funding allocations.

There was widespread scepticism from CIOs as to the cost savings that were often advertised in moving services into the cloud. There were concerns about the implications of backing up data in the cloud in order to provide an immutable service with real time logs to aid recovery from a potential cyber incident. Concerns about the prohibitive cost of moving to Cloud were particularly apparent in discussions of hosting electronic patient records in the Cloud.

There were also concerns about the local workforce, and skill mix, requirements of a widespread shift to cloud-based provision; with several CIOs reporting that they would struggle to recruit the necessary expertise to local services in order to support a wholesale move to Cloud. As a partial compromise, most CIOs reported moving towards cloud on a “case by case basis”, dependent on application suitability and cost.

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Forced Convergence:

Balancing local need with wider interoperability

NHS 10-Year Plan Recommendation: Targeted Funding for Federated Data Platform (FDP) Implementation

As the NHS moves towards greater digital alignment, the Federated Data Platform (FDP) is positioned as a central component in advancing data interoperability across Integrated Care Systems (ICSs). However, the path to implementing FDP is varied, with some ICSs making swift progress towards shared data structures, while others are hindered by legacy systems and historical contractual obligations that limit interoperability.

Local Trusts require targeted funding to support FDP implementation in ways that address these challenges. Targeted funding is required to support Trusts to effectively engage with FDP, helping to align local and national systems while addressing unique local needs. Without this investment, the capacity to prioritise interoperability across NHS systems remains constrained, and the potential benefits of the FDP risk being unrealised in local Trusts.

NHS 10-Year Plan Recommendation: Targeted Funding for Convergence of Local Systems Across Integrated Care Systems

To achieve integration across ICSs, it is also essential to provide targeted funding that supports the convergence of local systems, including electronic patient records (EPRs). This convergence effort faces obstacles, including competing local systems, varied procurement requirements, and existing contractual obligations, which create financial and operational barriers for local providers. The benefits of convergence have not been articulated well and there is still considerable doubt among some in the community that it is worthwhile investment.

The challenge is further compounded by the need to align ICS operating systems with wider clinical networks, such as radiology and pathology, that already operate on converged data platforms. Ensuring that ICS convergence is integrated with these broader networks is vital for achieving a fully connected NHS and maximising the effectiveness of data-driven insights across healthcare services. When convergence is attempted in isolation from these networks, the resulting silos can limit interoperability and hinder patient care coordination across services.

One CIO reported that transitioning from an existing EPR system to one favoured within the ICS incurred £4 million in project costs, along with an additional £3 million per annum in ongoing expenses. Given current financial constraints—described by Lord Darzi as a period of "capital starvation"—local Trusts are hesitant to bear these costs, especially when the benefits of convergence are still uncertain.

If Trusts are to advance interoperability without sacrificing local service quality or incurring increasing costs, there needs to be dedicated funding for ICS operating system convergence, alongside strategic alignment with radiology, pathology, and other interconnected networks.

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Optimising Device Utilisation:

A Need for Better Management Tools

CIOs across NHS Trusts have limited visibility into the utilisation of devices, despite a significant rise in their deployment, particularly during the pandemic. This presents an opportunity to ensure that the right devices are in the right place and that their performance is measured effectively for end users.

In one large NHS Trust, approximately 12,000 mobile devices were deployed, primarily to support mobile Electronic Patient Record (EPR) access, often using iPhones for data entry. These devices were used in two ways: some passed between staff “baton style,” while others were assigned individually. However, the consumer-driven nature of mobile technology, including personal features such as iTunes accounts, creates challenges in managing these devices at scale within a corporate environment.

The cost of enterprise management tools often makes them unaffordable for NHS Trusts, resulting in inefficiencies in deployment and limited visibility into device utilisation. CIOs expressed a clear need for more accessible and effective tools to manage end-user devices, particularly mobile technology, to drive greater efficiency and improve oversight.

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Workforce Clarity:

Defining local roles for the future NHS digital

NHS 10-Year Plan Recommendation: Improved guidance, based on local best practice, on specific roles and responsibilities for digital roles in local Trusts.

There is widespread variation in the titles and job descriptions in digital roles across NHS Trusts. CCIOs, CNIOs, CxIOs and Clinical Safety Officers all hold different, yet often overlapping responsibilities with little consistency or continuity between local settings. This adds another layer of complexity to local, regional and national convergence, as implementation will often involve local leaders with misaligned and potentially competing priorities.

While all the CIOs that were interviewed as part of this project recognised a positive relationship that they had with their local Trust Boards; they also recognised that the term "digital" was ill defined and often used as a catch-all to describe all manner of service transformation. They also recognised that the variety of digital roles that currently operated in the NHS lead to a myriad of reporting structures to Trust Boards and contrasting working relationships with relevant offices, including that of the Chief Operating Officer. This only serves to compound the strategy-funding disconnect highlighted previously; particularly when digital leads are landed with broad responsibilities for "transformation" of back-office functions such as HR and finance, without official responsibility for their day-to-day operations.

One area of agreement between the CIOs interviewed for this project was the importance of local cyber security roles in the future of NHS digital service provision. All the CIOs recognised that they had a strong working relationship with the Cyber Security team at NHS England. However, they also reported the challenge of recruiting sufficient Cyber Security roles to local services. Local services struggle to compete with the private market when hiring for these roles.

Workforce challenges: Cyber and Cloud Specialists

A number of CIOs interviewed for this project reported a particular challenge in competing with the private market in hiring for cyber security and cloud specialist roles.

This challenge to recruit was equally true of specialist cloud support roles. If the NHS is to realise its ambition to move more services towards cloud-based infrastructure; more needs to be done to support local NHS Trusts to recruit a level of expertise that can run an effective, safe and good value service.

Going forward, there is a need for clear guidance on what digital roles should be prioritised by local NHS Trusts, including specific guidance on what responsibilities these roles should undertake. This should be based on the potential extrapolation of successful local implementation of effective digital team working.

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Conclusion:

A Call for Collaboration

This report has been published to prompt a conversation about what the future of Government support for local digital transformation of NHS services should look like. We would welcome the opportunity to hear from CIOs, CNIOs, CxIOs and Clinical Safety Officers on their experience of driving digital transformation in local NHs contexts and to how we can strengthen the recommendations of this report and advocate on their behalf in discussions with national leaders.

About Mastek

Mastek has a long-standing reputation for delivering transformative digital solutions across various sectors, with a strong and dedicated focus on healthcare. Our healthcare business is driven by a commitment to enhance patient care, improve operational efficiencies, and enable data-driven decision-making for the NHS. Leveraging our two decades experience, deep industry expertise and innovative technology capabilities, we support NHS organisations navigate the complexities of digital transformation and achieve their strategic objectives.

At the core of Mastek's healthcare solutions is our core software engineering abilities and capability to seamlessly integrate data across healthcare systems. This data integration enables the NHS to harness the power of data, gaining valuable insights that drive clinical and operational improvements. By facilitating real-time data access and predictive analytics, Mastek empowers the NHS to make informed decisions, ultimately enhancing patient outcomes and service delivery.

Mastek's healthcare portfolio includes a wide range of services tailored to meet the unique needs of the healthcare sector. From developing secure and user-friendly patient services to implementing robust health related payment systems, we ensure that our solutions are aligned with industry standards and regulatory requirements. Our commitment to data security and privacy, alongside meeting technical standards, ensures that patient information is protected, and the NHS can trust in the reliability, scalability, and safety of our solutions. Our focus on interoperability and seamless data exchange ensures that the NHS can deliver coordinated and comprehensive care, reducing the risk of errors and improving overall efficiency.

In addition to our technological capabilities, Mastek places a strong emphasis on user-centric design and stakeholder engagement. We work closely with the NHS, patients, and other stakeholders to understand specific user needs and challenges. This collaborative approach ensures that our solutions are not only leveraging the latest digital technologies but also practical and user-friendly.

By prioritising user experience and continuous feedback, Mastek delivers healthcare solutions that are both innovative and effective in addressing the evolving demands of the healthcare industry.