

The Transformation of the NHS: Improving Digital Solutions

Survey Report 2018



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The Survey

"The NHS needs to adapt to take advantage of the opportunities that science and technology offer patients, carers, and those who serve them."¹ So says the Five Year Forward View, published by NHS England in October 2014. As technology continues to advance, organisations across the public sector are presented with an increasing number of opportunities to improve service provision whilst reducing operating costs. The NHS is no different.

Yet many still face challenges when it comes to transforming the NHS with digital technology. In 2013, Health Secretary Jeremy Hunt announced a new government objective to ensure the NHS was paperless by 2018². Not only was this extended by the Health Secretary to 2020, in 2016, when the Watcher Review found that the target of 2018 would not be achieved, its author Dr Robert Watcher recommended a new target of 2023³.

Yet in April 2017, a report published by Digital Health Intelligence indicated that the paperless target would not be reached until at least 2027⁴.

Despite government initiatives to promote the use of digital technology, organisations continue to struggle to put these into practice. However, as technology continues to shape our world, it's perhaps not surprising that patients now expect a high-quality modern healthcare service that's digitally enabled.

The question then remains; in the face of significant challenges, how can the NHS improve digital solutions to successfully transform healthcare for the modern age?

This survey examines the thoughts and opinions of technology leaders across the NHS regarding the development and progress on digital transformation in the healthcare sector. This report also explores the key areas of focus as the organisation looks to exploit the potential of digital solutions.

The research focuses in particular on:

- The extent to which government initiatives, such as the NHS Five Year Forward View and the Paperless Initiative, inform digital strategies
- The main factors driving digital transformation in the NHS
- The greatest IT monitoring and management challenges healthcare organisations currently face

¹ NHS (2015) Five Year Forward View [Online]. Available at: <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf> (Accessed on 15 May 2018)

² GOV.uk (2013) NHS challenged to go paperless by 2018 [Online]. Available at: <https://www.gov.uk/government/news/jeremy-hunt-challenges-nhs-to-go-paperless-by-2018--2> (Accessed on 15 May 2018)

³ Wachter, R (2016) Making IT work: harnessing the power of health information technology to improve care in England [Online]. Available at: <https://www.gov.uk/government/publications/using-information-technology-to-improve-the-nhs> (Accessed on 15 May 2018)

⁴ Hoeksma, J (2017) NHS hospitals won't be paperless before 2027 [Online]. Available at: <https://www.digitalhealth.net/2017/04/nhs-will-not-be-paperless-before-2027/> (Accessed on 15 May 2018)

Key Findings

One third of participants (33%) do not have, or are not aware, of a digital transformation strategy at their organisation

This is quite surprising, particularly given the emphasis put on digital transformation across government as a means of modernising and improving public health service delivery. Interestingly, of those who do have a strategy in place, over 50% are no more than halfway through strategy implementation, with no survey participants reporting that they have yet completed execution of their strategic vision. Moreover, over a third (36%) have just begun work in this area.

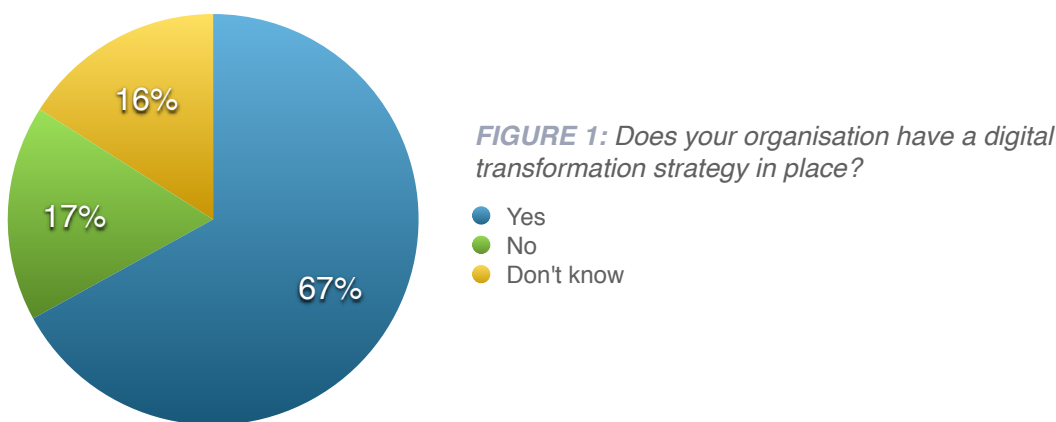
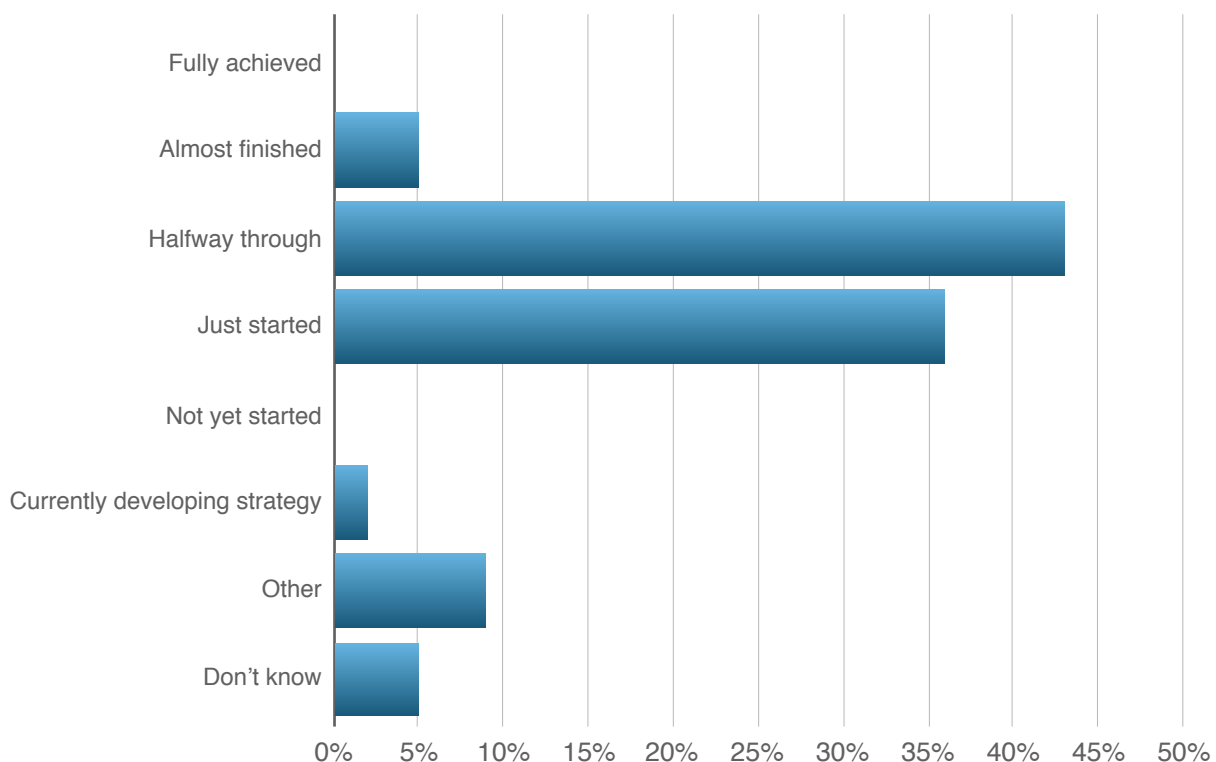
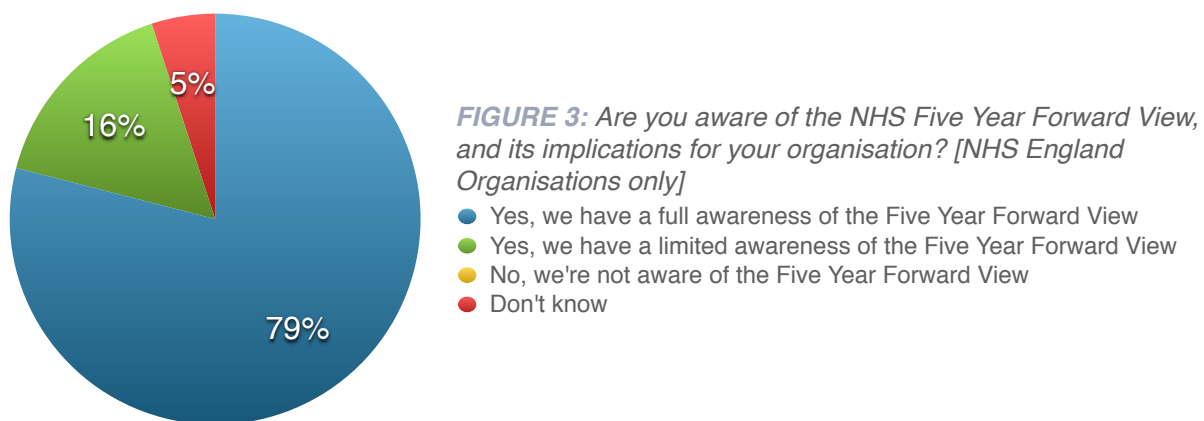


FIGURE 2: Approximately, how far along the digital transformation journey are you?



79% of all NHS trusts across the UK have a full awareness of the Five Year Forward View set out by NHS England and its implications for their organisations

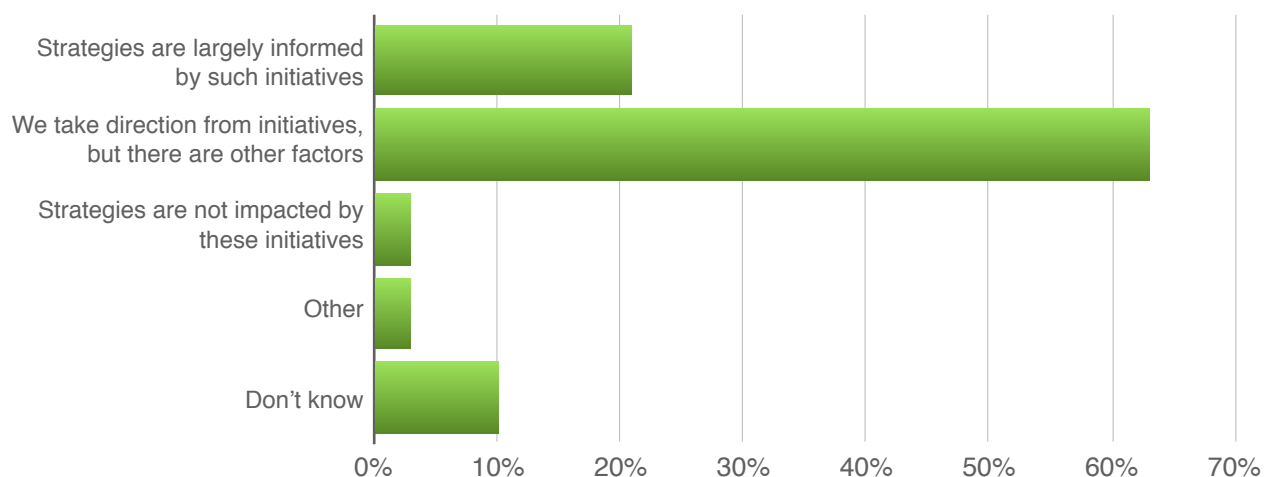
It's good to note that all of our survey participants from NHS England organisations have an awareness of NHS England's Five Year Forward View, with 16% stating they have a limited awareness. However, 5% indicated that they are unaware of how embedded an understanding of the Five Year Forward View is in their organisation.



Interestingly, across the NHS, it seems that organisations have a much higher confidence in their own ability to achieve the Paperless Initiative set forward by the NHS before the 2023 deadline, compared to their confidence in the wider NHS. Two-thirds (66%) believe they will achieve this goal internally, whilst just 26% believe it is achievable for the wider NHS.

Importantly, less than a quarter (21%) are carrying out their digital strategies to fully conform to the aims and objectives set forward by government initiatives such as the Paperless NHS and the Five Year Forward View. The majority (63%) state that while they take direction from these initiatives, they also have to take into account their own circumstances and resources before finalising the scope and aims of their strategy.

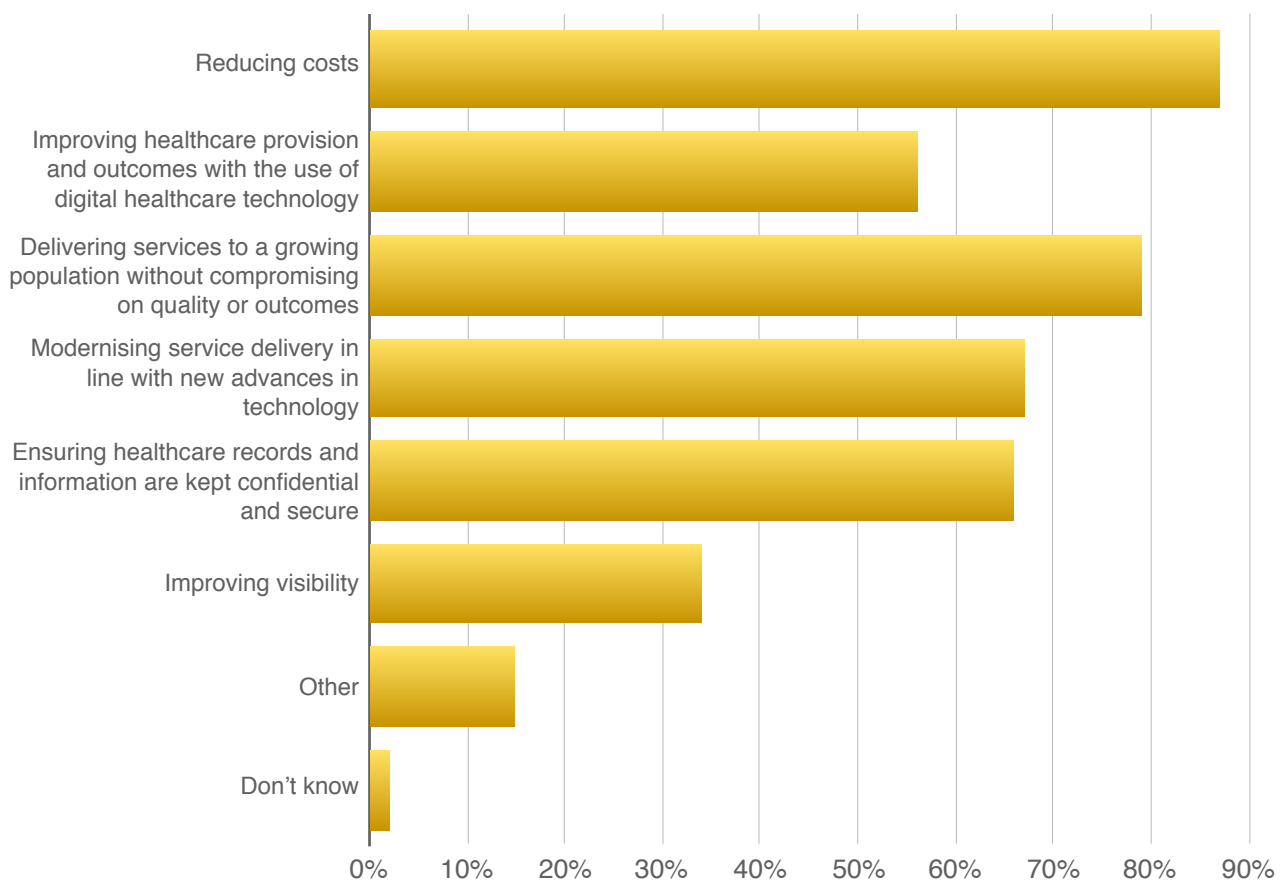
FIGURE 4: To what extent do you believe that government initiatives, such as the NHS Five Year Forward View and the Paperless Initiatives, inform your organisation's digital strategy?



The biggest factor currently driving digital transformation in the NHS is improving healthcare provision and outcomes with the use of digital healthcare

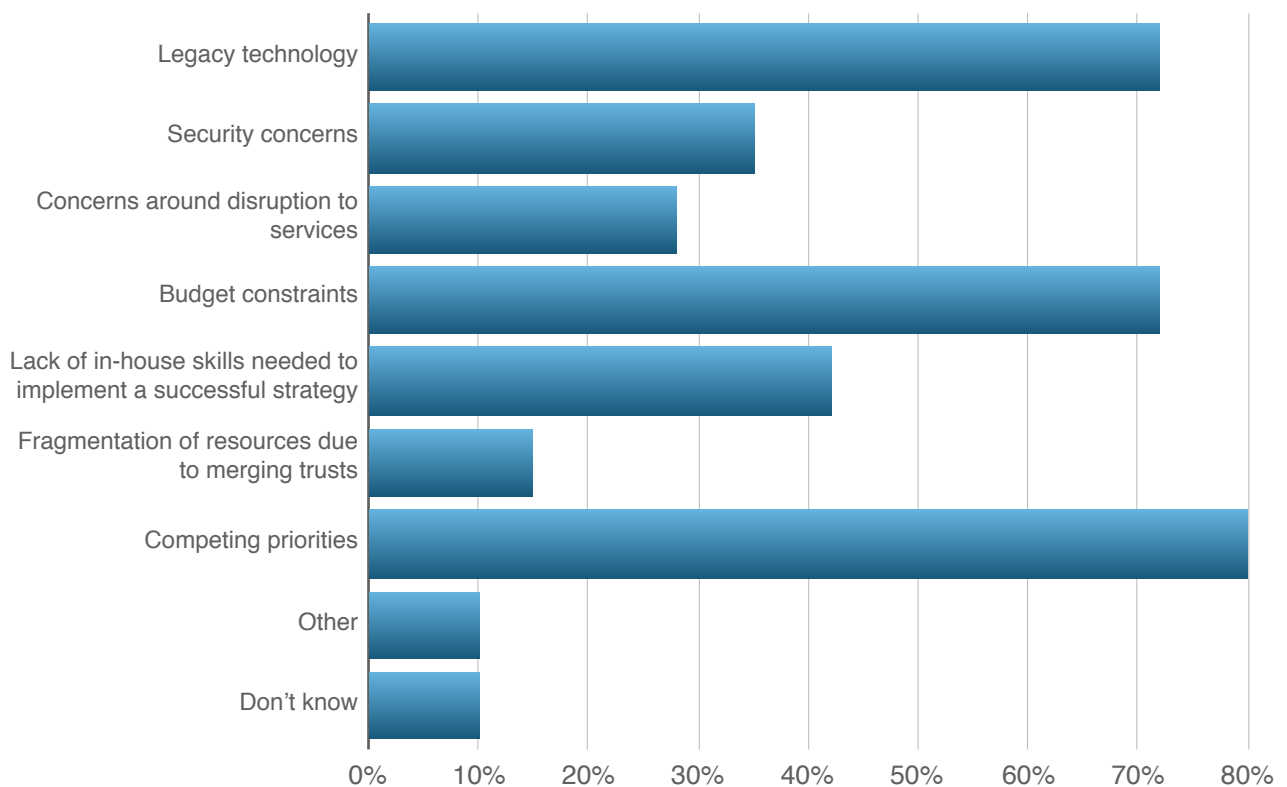
This is closely followed by modernising service delivery in line with new advances in technology (79%) and ensuring healthcare records and information are kept confidential and secure (67%). Interestingly, the need to reduce costs was a lower priority (66%), alongside improving automation and freeing up resource time.

FIGURE 5: What do you believe are the main factors driving digital transformation in the NHS? Please tick all that apply.



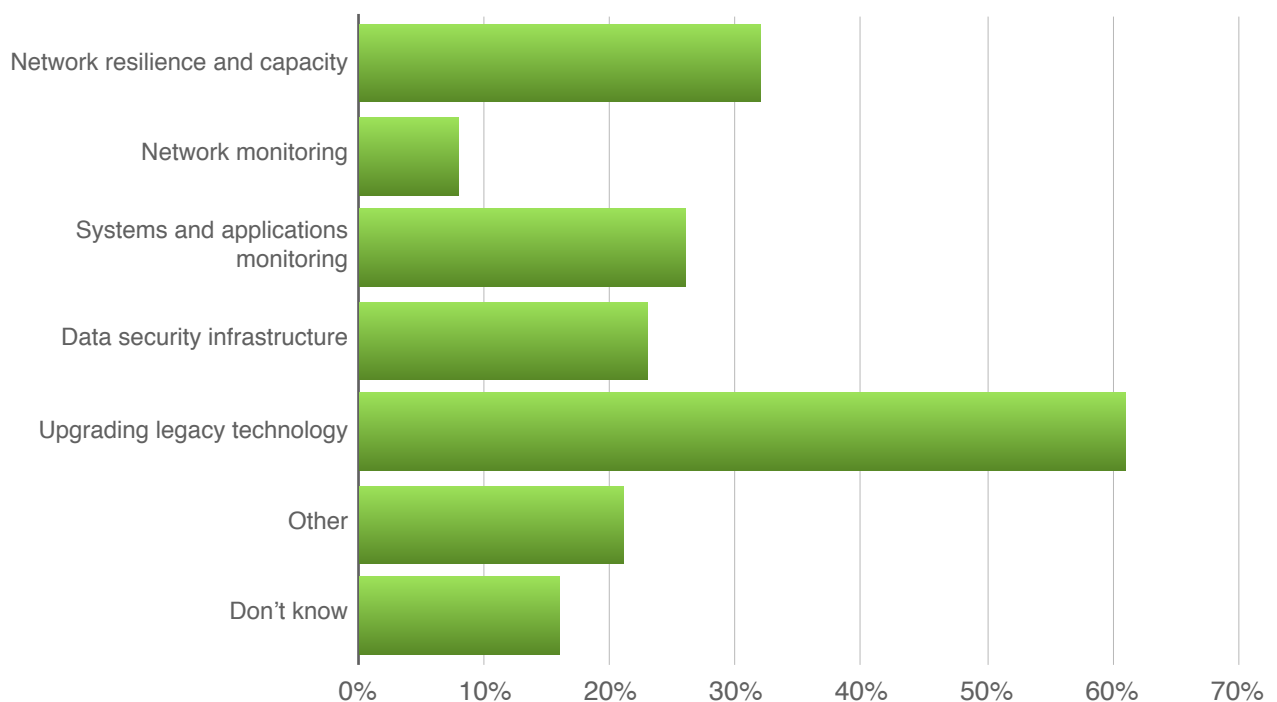
When considering the barriers to embracing digital transformation, competing priorities (80%) is the most common issue, closely followed by budget constraints (72%) and legacy technology (72%). It is worth noting that security issues are only a concern for 35% of our participants. This is lower than expected given the recent NHS controversy around the WannaCry virus. One of the main issues around legacy technology is its vulnerability to cyberattacks, perhaps indicating a lack of awareness around the problems legacy technology can have beyond being outdated and lacking integration.

FIGURE 6: *Is your organisation experiencing any of the following barriers to embracing digital transformation? Please tick all that apply.*



Importantly, legacy technology is also reported as the area in which most participants feel most unprepared to deal with (61%). Following this, by quite a margin, is network resilience and capacity (32%).

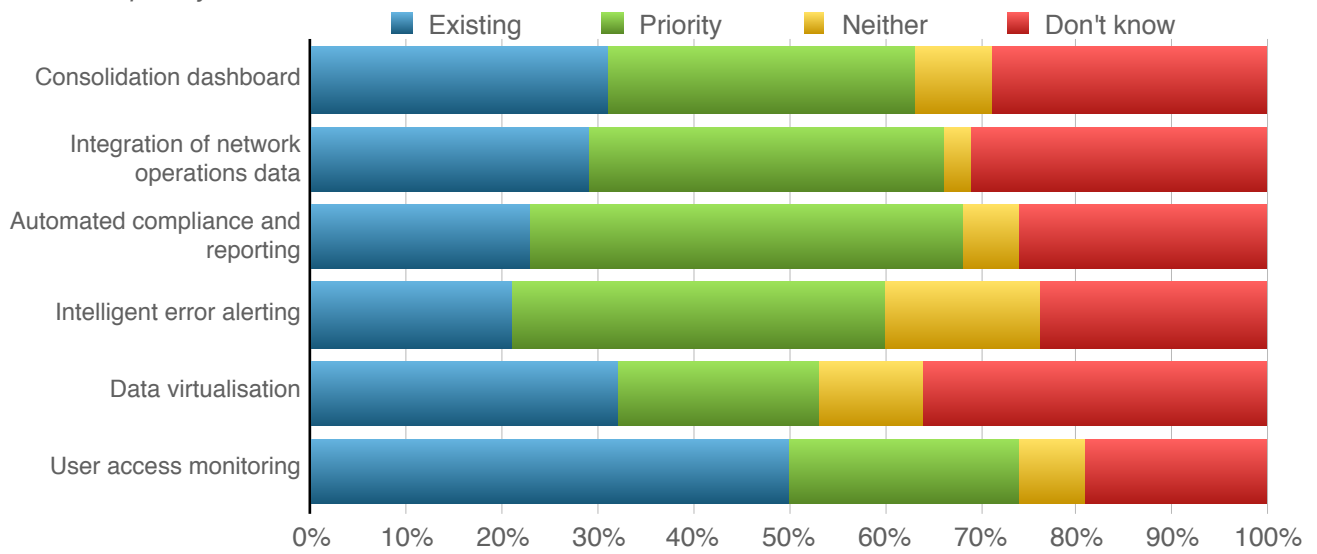
FIGURE 7: *In what area(s) do you believe you are most unprepared when it comes to embracing digital transformation? Please tick all that apply.*



Half of all survey participants (50%) currently place a high priority on user access monitoring

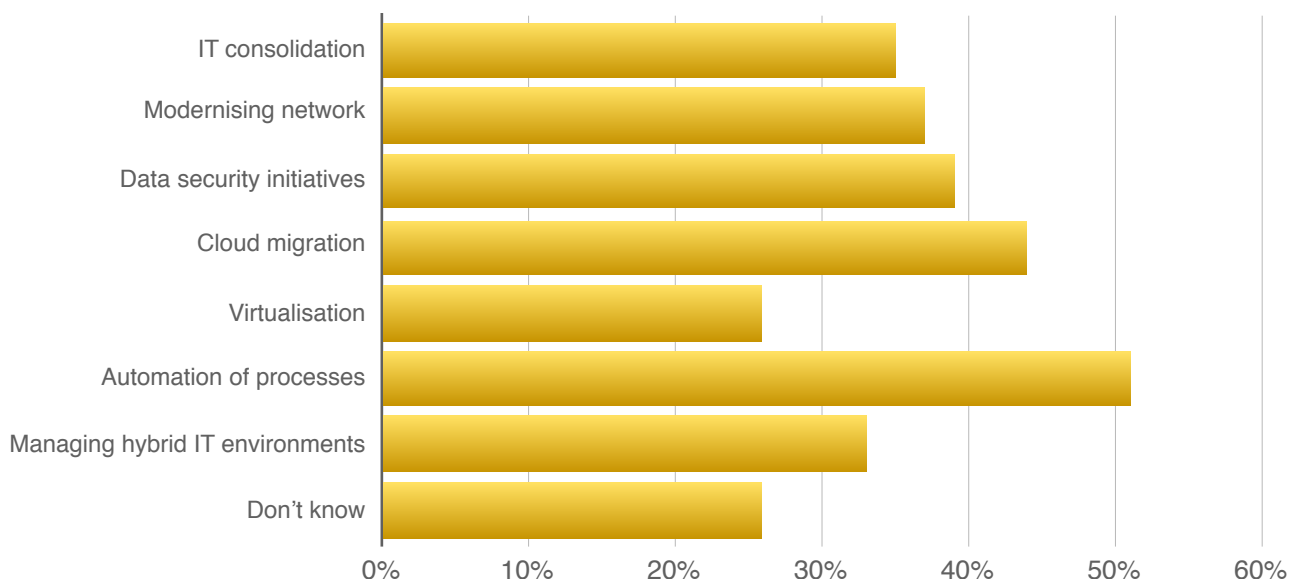
This is followed by data virtualisation (32%) and a consolidation dashboard (31%). Interestingly, looking ahead, the priority appears to be on automated compliance and reporting (45%), alongside intelligent error reporting (39%) and integration of network operations data (37%).

FIGURE 8: When thinking about your own IT infrastructure, which of the following already exist, and which would be a priority for the future?



Perhaps unsurprisingly, the most common elements of IT environments are data security initiatives (70%), followed at some distance by modernising network (57%) and IT consolidation (43%). Once again, we looked ahead to the areas participants are looking to implement for the future, and automation of processes was again the top response (51%), alongside cloud migration (44%).

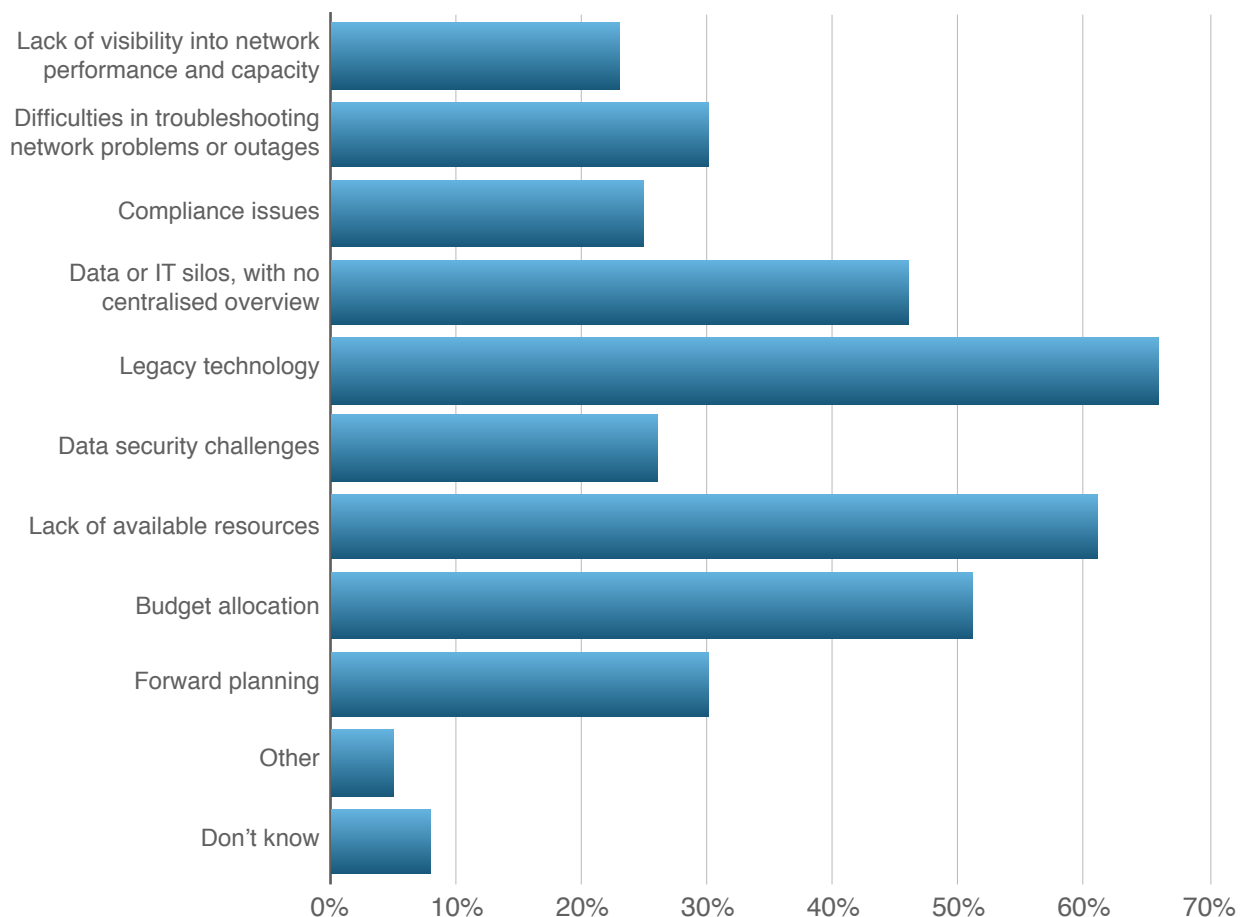
FIGURE 9: When thinking about your own IT infrastructure, which of the following already exist, and which would be a priority for the future?



While participants report a range of issues when it comes to the greatest IT monitoring and management challenges in their organisations, legacy technology is again given as the top concern (66%)

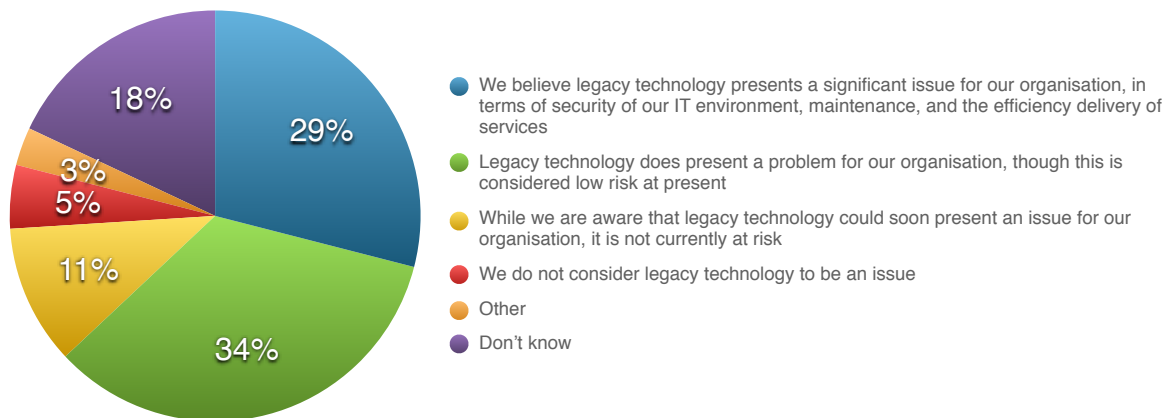
However, this is closely followed by a lack of available resources (61%) and budget allocation (51%). Participants also report data or IT silos are an issue (46%), which could represent an issue going forward, particularly with GDPR's arrival.

FIGURE 10: What do you believe are the greatest IT monitoring and management challenges your organisation currently faces? Please tick all that apply.



When asked specifically the extent to which legacy technology affects their organisation, nearly a third (29%) report that legacy technology is a significant issue for them in terms of security, maintenance and the efficiency and delivery of services. Moreover, over a third (34%) state that it presents a problem, though it is considered low risk at present, suggesting it could soon become a much bigger issue.

FIGURE 11: *To what extent do you believe legacy technology presents an issue for your organisation?*



Conclusion

by Paul Parker, Chief Technologist of Federal and National Government, SolarWinds

The NHS has so far relied on proven technology when it comes to their infrastructure. With the survey revealing that nearly a fifth of trusts haven't begun their digital transformation at all, it is evident that implementing new strategies is not considered a simple, or necessary, process. This, however, should be the role of the IT teams within the healthcare industry—to integrate the most efficient technology solutions that then enable the medical staff to do their jobs.

Public cloud, for example, could—and should—be adopted to improve data storage and accessibility, while allowing for ease of implementing cybersecurity measures, thereby meeting the suggestions of the government's digital transformation programme. This transition will also be eased from the use of monitoring and management tools that work across all technologies, like cloud, and legacy environment infrastructure. Tools like this provide visibility into performance and efficiency, which can help ease any anxiety about the transition and the continuation of services.

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To mitigate many of the challenges being faced by UK government organisations, SolarWinds products can provide effective and accessible monitoring management capabilities to help with the digital transformation process.

- **SolarWinds software is available** through numerous channel partners and systems integrators both in the UK and worldwide, **as well as the United Nations Global Marketplace (UNGM)**, Crown Commercial Service (CCS), and United Nations Atlas.
- **SolarWinds offers out-of-the-box, automated compliance assessments and reports, which meet requirements of most major auditing authorities.**
- **SolarWinds' THWACK® online user community** provides a number of [out-of-the-box compliance report templates](#), available to download for free, that are designed to help users prepare for an inspection. THWACK also provides information on [CardSmart Card and Common Access Card](#) (CAC) product support.

For more product and pricing information, visit the [SolarWinds Government Solutions](#) page.

Survey Methodology and Respondents Profile

This survey was conducted by iGov Survey in collaboration with SolarWinds. The project ran from Thursday 11 January 2018 to Monday 19 February 2018.

Survey respondents represented a broad cross-section of job functions across the healthcare sector. This included: Business Management, Clinical, Commissioning, Computer Security, Contract Services, Corporate Services, Customer Services, Digital, Education, Engineer, Environment, Facilities and Estates, Finance Management, General Manager, General Practitioner, Human Resources, Information, Information Governance, IT Management, Medical Director, NHS Planning, Nursing Director, Operations, Organisational Planning, Partnerships, Performance, Planning, Programme Management, Project, Public Health, Quality Assurance, Records Management, Registrar, Research, Security, Senior Manager, Service Delivery, Social Services, Strategy, Sustainability, Technical Services, Telecoms, Training, Transformation/Change Management, and Transport/Fleet.

A total of 103 individuals from 88 unique organisations participated in the survey, each of whom will receive a complimentary copy of the findings report. There was no inducement to take part in the survey, and SolarWinds was not introduced as the survey partner.

The results displayed throughout this report are based on those who fully completed the questionnaire and are displayed as a percentage of this group, unless explicitly stated otherwise.

Appendix 1: Full Survey Questions

Question: Are you aware of the NHS Five Year Forward View and its implications or your organisation?

Answer	Percent
Yes, we have a full awareness of the Five Year Forward View	74%
Yes, we have a limited awareness of the Five Year Forward View	14%
No, we're not aware of the Five Year Forward View	5%
Don't know	7%

Grid Question: Do you believe the Paperless Initiative, which hopes to see a paper-free healthcare service by 2023, is achievable in:

Your organisation

Answer	Percent
Yes	66%
No	26%
Don't know	8%

The wider NHS

Answer	Percent
Yes	26%
No	47%
Don't know	27%

Question: To what extent do you believe that government initiatives, such as the NHS Five Year Forward View and the Paperless Initiative, inform your organisation's digital strategy?

Answer	Percent
Our strategies are largely informed by the aims and objectives outlined by such initiatives	21%
Our strategies take direction from these initiatives, however we also take into account our own circumstances and resources before finalising the scope and aims of our strategy	63%
Our strategy is developed in-house based on our internal needs and abilities, and is not impacted by these initiatives	3%
Other - please specify	3%
Don't know	10%

Question: Does your organisation have a digital transformation strategy in place?

Answer	Percent
Yes	67%
No	17%
Don't know	16%

Question: Approximately, how far along the digital transformation journey are you?

Answer	Percent
We have fully achieved our digital transformation strategy	0%
We have almost finished our digital transformation strategy	5%
We are halfway through our digital transformation strategy	43%
We have just started our digital transformation strategy	36%
We have not yet started our digital transformation strategy	0%
We are currently looking at developing our digital transformation strategy, before putting it into action	2%
Other - please specify	9%
Don't know	5%

Question: What do you believe are the main factors driving digital transformation in the NHS? Please tick all that apply.

Answer	Percent
Reducing costs	66%
Improving healthcare provision and outcomes with the use of digital healthcare technology	87%
Delivering services to a growing population without compromising on quality or outcomes	56%
Modernising service delivery in line with new advances in technology	79%
Ensuring healthcare records and information are kept confidential and secure	67%
Improving automation and freeing up resource time	66%
Improving visibility	34%
Other - please specify	15%
Don't know	2%

Question: Is your organisation experiencing any of the following barriers to embracing digital transformation? Please tick all that apply.

Answer	Percent
Legacy technology	72%
Security concerns	35%
Concerns around disruption to services	28%
Budget constraints	72%
Lack of in-house skills needed to implement a successful strategy	42%
Fragmentation of resources due to merging trusts	15%
Competing priorities	80%
Other - please specify	10%
Don't know	10%

Question: In what area(s) do you believe you are most unprepared when it comes to embracing digital transformation? Please tick all that apply.

Answer	Percent
Network resilience and capacity	32%
Network monitoring	8%
Systems and applications monitoring	26%
Data security infrastructure	23%
Upgrading legacy technology	61%
Other - please specify	21%
Don't know	16%

Grid Question: When thinking about your own IT infrastructure, which of the following already exist, and which would be a priority for the future?

Consolidation dashboard

Answer	Percent
Existing	31%
Priority	32%
Neither	8%
Don't know	29%

Integration of network operations data

Answer	Percent
Existing	29%
Priority	37%
Neither	3%
Don't know	31%

Automated compliance and reporting

Answer	Percent
Existing	23%
Priority	45%
Neither	6%
Don't know	26%

Intelligent error alerting

Answer	Percent
Existing	21%
Priority	39%
Neither	16%
Don't know	24%

Data virtualisation

Answer	Percent
Existing	32%
Priority	21%
Neither	11%
Don't know	36%

User access monitoring

Answer	Percent
Existing	50%
Priority	24%
Neither	7%
Don't know	19%

Question: Of the following list, which of these areas are already implemented as part of your IT environment? Please tick all that apply.

Answer	Percent
IT consolidation	43%
Modernising network	57%
Data security initiatives	70%
Cloud migration	21%
Virtualisation	38%
Automation of processes	33%
Managing hybrid IT environments	34%
Other - please specify	2%
Don't know	21%

Question: Of the same list, which areas are you looking to implement as part of your future IT environment? Please tick all that apply.

Answer	Percent
IT consolidation	35%
Modernising network	37%
Data security initiatives	39%
Cloud migration	44%
Virtualisation	26%
Automation of processes	51%
Managing hybrid IT environments	33%
Other - please specify	0%
Don't know	26%

Question: What do you believe are the greatest IT monitoring and management challenges your organisation currently faces? Please tick all that apply.

Answer	Percent
Lack of visibility into network performance and capacity	23%
Difficulties in troubleshooting network problems or outages	30%
Compliance issues	25%
Data or IT silos, with no centralised overview	46%
Legacy technology	66%
Data security challenges	26%
Lack of available resources	61%
Budget allocation	51%
Forward planning	30%
Other - please specify	5%
Don't know	8%

Question: To what extent do you believe legacy technology present an issue for your organisation?

Answer	Percent
We believe legacy technology present a significant issue for our organisation, in terms of the security of our IT environment, maintenance and the efficiency and delivery of services	29%
Legacy technology does present a problem for our organisation, though this is considered low risk at present	34%
We are aware that legacy technology could soon present an issue for our organisation, it is not currently a risk	11%
We do not consider legacy technology to be an issue	5%
Other - please specify	3%
Don't know	18%

Question: How do you currently procure IT solutions?

Answer	Percent
Single-vendor strategy that enables greater integration and visibility via a centralised solution	13%
Multi-vendor strategy, with each solution sourced dependent on individual requirements, regardless of vendor	63%
Other - please specify	5%
Don't know	19%

Question: Is your organisation planning to consolidate its IT solutions?

Answer	Percent
Yes	32%
No	16%
Not sure, but perhaps in the future	26%
Don't know	26%

Appendix 2: Participating Organisations

Alder Hey Children's NHS Foundation Trust
Aspen Healthcare Ltd
Barking, Havering and Redbridge University Hospitals NHS Trust
Barnsley Hospital NHS Foundation Trust
Barts Health NHS Trust
Basildon and Thurrock University Hospitals NHS Foundation Trust
Bridgewater Community Healthcare NHS Foundation Trust
Cambridge University Hospitals NHS Foundation Trust
Cardiff and Vale University Health Board
Care UK
Central and North West London NHS Foundation Trust
Chelsea and Westminster Hospital NHS Foundation Trust
Chesterfield Royal Hospital NHS Foundation Trust
Community Health Partnerships
Coventry and Warwickshire Partnership NHS Trust
Cumbria Partnership NHS Foundation Trust
Dartford and Gravesham NHS Trust
Derbyshire Healthcare NHS Foundation Trust
Dorset HealthCare University NHS Foundation Trust
East Cheshire NHS Trust
East Lancashire Hospitals NHS Trust
Gateshead Health NHS Foundation Trust
Guy's and St Thomas' NHS Foundation Trust
Health Education Wessex
Health Education West Midlands
Hywel Dda University Health Board
Isle of Wight NHS Trust
Kent and Medway NHS and Social Care Partnership Trust
Lancashire Care NHS Foundation Trust
Lancashire Teaching Hospitals NHS Foundation Trust
Leicestershire Health Informatics Service
Luton and Dunstable University Hospital NHS Foundation Trust
Mersey Care NHS Foundation Trust
NHS 24
NHS Aylesbury Vale CCG
NHS Blackburn with Darwen CCG
NHS Brent CCG
NHS Dorset CCG
NHS East and North Hertfordshire CCG
NHS Gloucestershire CCG
NHS Greater Glasgow and Clyde
NHS High Weald Lewes Havens CCG
NHS Interim Management and Support

NHS Lanarkshire
NHS Merton CCG
NHS National Services Scotland
NHS North Norfolk CCG
NHS Oldham CCG
NHS Sandwell and West Birmingham CCG
NHS South Kent Coast CCG
NHS South, Central and West Commissioning Support Unit
NHS Stockport CCG
NHS Sustainable Development Unit
NHS Wales Informatics Service
NHS Warwickshire North CCG
Norfolk and Norwich University Hospitals NHS Foundation Trust
North Bristol NHS Trust
North Cumbria University Hospitals NHS Trust
Northern Health and Social Care Trust
Nuffield Health
Oxford University Hospitals NHS Foundation Trust
Oxleas NHS Foundation Trust
Ramsay Health Care UK
Royal United Hospitals Bath NHS Foundation Trust
Sirona Care & Health
Somerset Partnership NHS Foundation Trust
South East Coast Ambulance Service NHS Foundation Trust
South Eastern Health and Social Care Trust
South London and Maudsley NHS Foundation Trust
South Warwickshire NHS Foundation Trust
South West Yorkshire Partnership NHS Foundation Trust
Southend University Hospital NHS Foundation Trust
Southern Health NHS Foundation Trust
Staffordshire and Stoke on Trent Partnership NHS Trust
Sussex Partnership NHS Foundation Trust
Tameside and Glossop Integrated Care NHS Foundation Trust
The East Midlands Leadership Academy
The Newcastle upon Tyne Hospitals NHS Foundation Trust
The Walton Centre NHS Foundation Trust
University Hospitals Birmingham NHS Foundation Trust
University Hospitals Bristol NHS Foundation Trust
University Hospitals of North Midlands NHS Trust
Walsall Healthcare NHS Trust
West London Mental Health NHS Trust
West Midlands Academic Health Science Network
Wirral University Teaching Hospital NHS Foundation Trust
Worcestershire Acute Hospitals NHS Trust
Wye Valley NHS Trust



Acknowledgements

The survey team at iGov Survey would like to take this opportunity to thank all of those who were kind enough to take part – and especially to those who found the time to offer additional insights through their extra comments. We would also like to thank our partner, SolarWinds, for their assistance in compiling the survey questions, scrutinising the responses, and analysing the results.

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