optimity ADVISORS

ORANGEPAPER

NHS IT – OLDER, FATTER, AND TWISTED

INFORM

THE UNSUSTAINABLE STATUS QUO

We've all read the headlines: with the population growing and the rising costs of 21st century ailments, the National Health Service will not be able to keep up under the strain.

The status quo for the NHS is unsustainable

The same afflictions could be attributed to the UK National Health Service IT infrastructure. Old database technologies, paper documentation, and disconnected information systems will also buckle under the weight without sufficient investment. While the government promises to increase the NHS budget to about £8 billion above inflation, we don't yet know whether this will cover the full five-year period. However, if the cost to the economy of the single largest disability in England (mental illness) is estimated at £100 billion annually, £8bn over five years is simply not enough to maintain the current status quo. In fact, the diagnosis is dire. Without a drastic life change, the health services that England has proudly benefited from, will perish.

This Orangepaper provides a peek into the state of health of the NHS Information Technology systems that support providers and offers a diagnosis for its sustainability and longevity.

THE NHS FIVE YEAR FORWARD VIEW

The last major blueprint for changes for the NHS occurred in 1962 with the Hospital Plan for England and Wales.

The aim of the modernisation plan was not just to rebuild hospitals, but to change their pattern and content, and integrate them with health and social services provided in the community. In October of 2014, a revision of this plan was introduced in the NHS Five Year Forward View. While many of the community integrations remain, the new plan attempts to make adjustment to meet the changing needs of patients and to fully advantage new technologies and treatments that ensure and track greater efficiencies.

The Five Year Forward View and Personalised Health and Care 2020 framework aims to digitize patient data and provide the foundation for system interoperability that has the potential of transforming the way information is accessed and shared in the medical communities. "Big data" in other industries have demonstrated success in cross-referencing data to surface valued insight and this same approach to data is anticipated to bring similar benefits to the NHS along with significant cost reductions.

THE NHS IT INFRASTRUCTURE

The relationship between IT and the people in the organisation it serves are typically strained. With recent memory of the abandoned NHS Connecting for Health initiative fresh in the mind, confidence in technology may be low, yet it is the technology, and how people work with it, that requires attention. This time, however, the NHS plans to do things differently.

Older

Lessons from the failure of the Connecting for Health initiative have informed the direction of the Five-Year Forward View to deliver a Digital Transformation in the NHS. Rather than one large monolithic

system, this plan requires smaller implementations with constant feedback. Following the principles used by the software development community, the proposed approach is for local communities to collaborate with those who will actually rely on the platforms and tools.

While everyone agrees to the general approach and the potential of technologies to advance healthcare, our research indicates that most providers operate on a barebones budget with overloaded IT and information departments taking months to respond. Moreover, teams within a health organisation are often siloed and unresponsive and operate without cross team governance or formal processes. In this context managers and clinicians are forced to rely on key internal knowledge holders, or knowing "who to ask" in order to obtain specific information. Our research also found that basic efficiencies such as Wi-Fi are often lacking, data transfers from system to system typically require manual intervention, and multiple sign-on or authentication processes actually inhibit access to vital information. Old processes, poor design, aging systems, insufficient integration and antiquated software will need replacing in order to fully take advantage of the potential described in the Five Year Forward View.

Fat and Twisted

The ambition of going "paperless" is not an exercise in scanning and storing records digitally. Scanned documents are not data. Scanned documents do not lend themselves easily to text or concept extraction, and replacing manual efforts with automated processes is key to optimizing efficiencies. If the time spent searching, manually inputting, duplicating, and transferring information from spreadsheets to electronic forms were to be calculated, it would no doubt reveal wasted time that could have been better spent.

Data flows also have a propensity for gluts when technology systems and tools are procured at different times and set up independently to solve a narrow focus. We found that a single hospital will have numerous systems of record that are managed separately and are incompatible with each other. Multiple patient in-coming records are duplicated in isolation dependent on the door they walked into first. To further compound data confusion, records are eventually aggregated by an intermediary databases and some data loss or data corruption is inevitable in the transition. This leads to a mistrust of the information and clinicians often go out of their way to seek the original source system in order to find vital clues or instructions. This wild goose chase following breadcrumbs is time consuming and completely avoidable.

"This approach is past its sell by date. We need to consign to the dustbin of history the industry in referral letters, the outdated use of fax machines and the trolleys groaning with patients' notes."

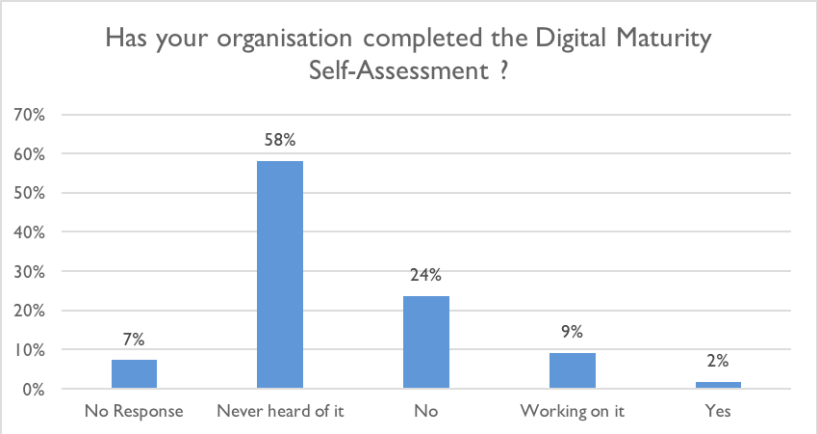
Tim Kelsey, NHS England's Former National Director for Patients and Information and chair of the National Information Board

RESULTS OF OUR SURVEY

In the month prior to the due data for the submission of the Digital Maturity Self-Assessment, Optimity conducted a survey with Healthcare Providers, Local Authorities and Clinical Commissioning Groups across England. The findings are illuminating.

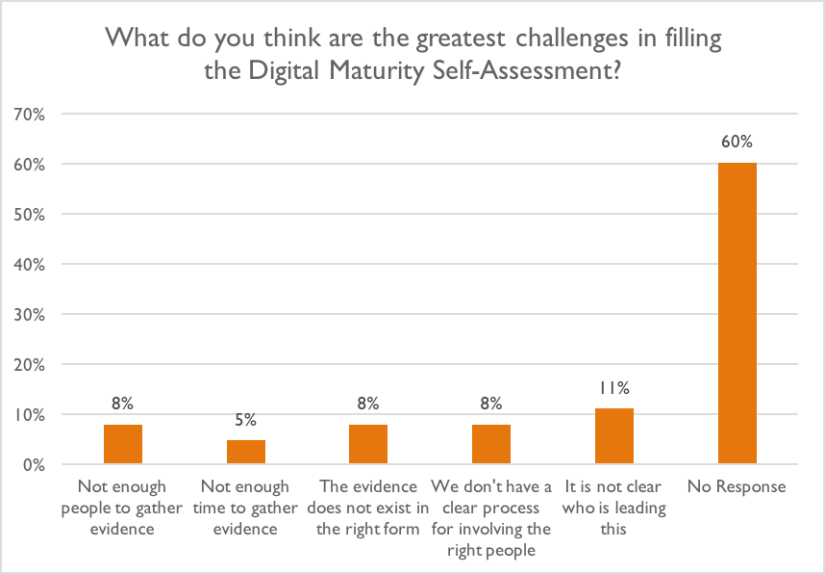
Has your organisation completed the Self-Assessment:

- 7% No Response
- 58% Never heard of it
- 24% No
- 9% Working on it
- 2% Yes



What do you think are the greatest challenges in filling out the Digital Maturity Self-Assessment?

- 60% Had no response
- 11% It is not clear who is leading this
- 8 % We don't have a clear process for involving the right people
- 8 % The evidence does not exist in the right form
- 5% Not have enough time to gather evidence
- 8% Not enough people to gather evidence



Does your organisation have a defined strategy and vision for "Personalised Health and Care 2020?

- 44% of the organisations had never heard of the Personalised Health and Care 2020 strategy
- 20% did not have any strategy in place
- 17% said they were working on it
- 2% were aware of the Digital Roadmap and believed they were in alignment with the strategy

To what extent are you collaborating with other public sector partners within your locality on the design and delivery of your strategy?

- 45% were somewhat engaged with partners
- 30% had no response
- 21% said not at all
- 2% reported full extent

What do you think are the greatest challenges in becoming a paper-free organisation?

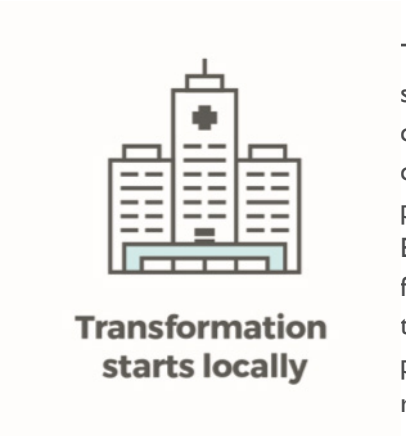
- 17% Financial Resources
- 17% People
- 14% Time
- 12% Skills
- 12% Legacy Information Systems
- 8% Internal Politics
- 4% Lack of Accountability
- 2% Other
- 14% No Response

Survey Conclusion

The Five Year Forward View and Personalised Health and Care 2020 framework aims to digitize patient data and provide the foundation for system interoperability that has the potential of transforming the way information is accessed and shared in health and social care communities. The NHS claimed that The Digital Maturity Self-Assessment results were favourable, however the survey indicates that many providers interpreted the assessment as another meaningless, time-consuming bureaucratic hurdle.

Regardless of the NHS' best intentions, it appears that the majority of those on the hospital floors are suffering from bureaucratic and administrative fatigue. Considering the enormous expectations we have of our care providers, it's no surprise to learn tha most of them cannot be bothered with a digital roadmap strategy. Yet so much is dependent on the success of local health organisations in the overall continuation of the NHS. The truth is that if the local organisations fail to reform, and they will if they cannot keep up with service demands under the constraints of dimishing resources, everyone will loose. The local community may lose their services and the NHS may privatize. Whether the communications can be improved or stronger incentives are necessary, something needs to change.

TRANSFORM



The plans for the reformation of the NHS and to secure its sustainability for the generations to come will require the collective effort of providers, social care, administrators, community teams and the independent sector to form partnerships to share the burden and extend resources. Beyond the goals of the NHS, the Five Year Forward View framework provides a guideline for providers to begin their own transformational strategy to meet the demands of their local population. The risks of inertia are too high to ignore, staff and resources are over-stretched and better solutions must be found.

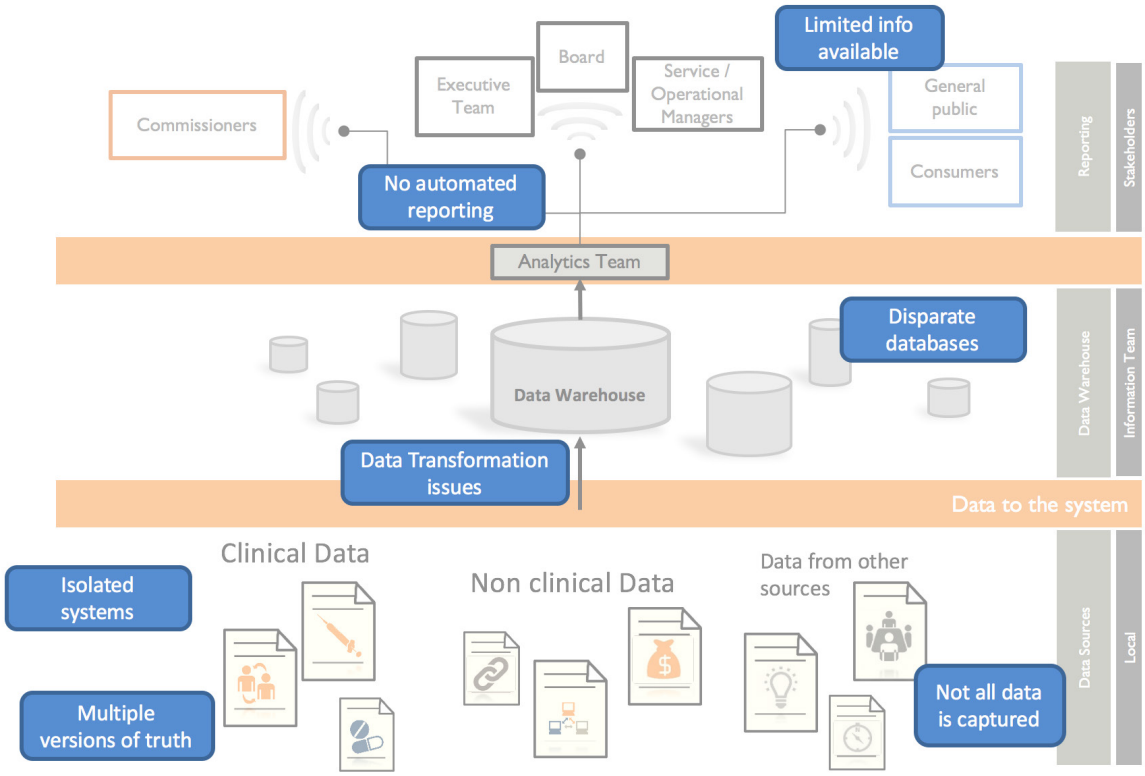
Transforming IT Architecture: A Vision beyond immediate obligation

When it comes to managing IT and information departments and their infrastructure, this approach is also applicable. Most IT Systems directly reflect user requirements that are narrowly focused on a specific task and consequently, tools and platforms stop short of delivering anything beyond a sole function. This concentration without oversight has led to the provisional approach to data management produced disconnected information repositories. Without a process that joins an over-arching enterprise information strategy, newly acquired systems are bolted on to the existing ones and over time, the technology architecture resembles a hazard of twisted wires.

This "Vision Limited to Obligation" is responsible for the siloed and isolated workflows that is common today. Understanding the dependencies within an organisation and forming integrations where source data can be tracked throughout its lifecycle is the future goal of most providers.

The diagram below represents a typical IT architecture and some of the key people and technology challenges found in health organisations.

Most leaders had not heard of the Digital Maturity Self-Assessment



OUTPERFORM

Developing a Digital Strategy and Road Map

The Digital Maturity Self-Assessment provides a good framework and foundation to understand the local technology, information and governance landscape. No matter how frustrating the current state, it is essential to assess the baseline situation with an objective eye as it informs the development of the Digital Road-Map. Once the status quo has been mapped out, it this then possible to engage stakeholders to collaborate in the design and development of a road map for the future.

Information may be the lifeblood of an organisation but at the heart of an organisation are people, not systems. Changing human behaviour is the biggest challenge in any digital transformation and with so many dependencies, engaging stakeholders in architecting and coordinating the effort is a foundational task.

Complex environments

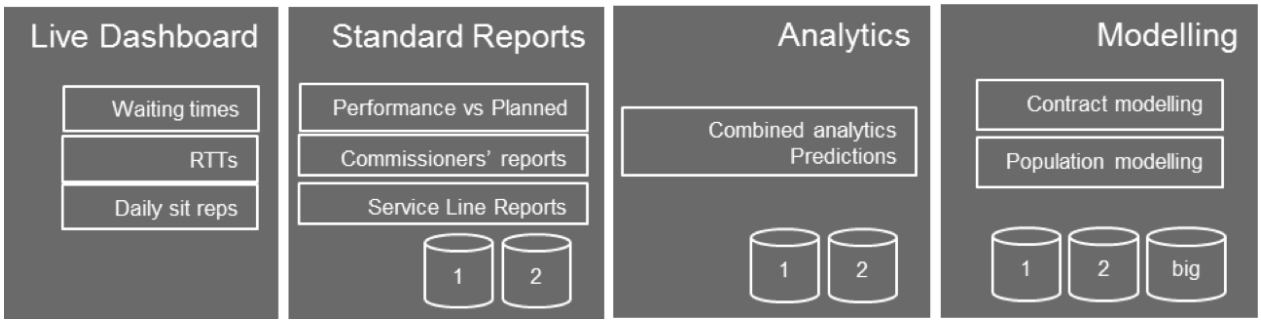
High performing technology companies have reversed the traditional perspectives of their business and based their entire revenue on customer data, not on the product they sell. Health providers could learn from this approach by examining how well their current architecture serves the patient's needs. The way in which consumers interact with practically every other service in their lives has transformed in the last 25 years. Health providers are no different. A shift from treating "patients" to working with "customers" of health services is taking place and a fundamental shift is occurring. Rather than waiting for customers to become patients, the collective goals across health and social services partners is to treat the whole person and to keep them healthy as long as possible.

One of the main goals of the NHS Five Year Digital Roadmap initiative is to offer a larger range of useful information made accessible to the patient. This step is vital in creating the collaborative agreement between the patient and clinician which can bolster preventative measures long before diagnosis. For the IT department, this requires an interoperability strategy where data flows are controlled and managed to protect patient privilege. It also includes the vision of information accessed and added to in real time by clinicians through a platform or dashboard and safely transferred to others in full compliance of regulatory measures.

Interoperability

This opportunity to flip traditional assumptions and begin scoping out a more customer or patient-centric data model that will extend to social services, community care and other sectors is a networked strategy. By broadening the resource and information pool, shared resources and cross-referenced information can reduce costs and track effectiveness. Interoperability is realized through shared standards that are systems-agnostic. Once these standards, or ways of working and collecting information, are uniform, it will enable systems of record to more easily transport data between systems. Additionally, data will be more accurately interpreted because a common process has been established. Systems may differ but if the community of providers, clinicians, and carers agree to input their data in a coordinated process, trust in the data quality can be restored. This does not imply strict rules forcing conformity, but an established information practice, as libraries, Amazon, Facebook and Google and countless retailers have already demonstrated.

Plan, Design, Refine



In our work, we have found 4 key use cases for reporting and analytics.

It's not about the technology

Advancing the opportunity for a Digital Roadmap and the Personalised Health Services begins with changes in People and Processes. Our survey reinforced the suspicion that the majority of providers interpreted the Digital Maturity Self-Assessment as yet another bureaucratic hoop to jump through and more than likely handed the assessment over to "Ted in Technology" because it sounded somewhat technical. This, unfortunately, has more potential for harm than good. By avoiding the need to modernize and change with the NHS, the chances of failure escalates for all. Instead, consider planning for a design-first approach using the Digital Maturity Assessment as a launching pad.

The formation of all stakeholders in the local information eco-system is the first step in changing the status quo . Bringing together the participants who can actively steer and guide ways to make improvements to their day-to-day tasks is the quickest way to progress. Leaders who create an environment where health and care professionals, as well as consumers and community members, are empowered to work together, collaboratively, have proven to deliver higher quality care and safety, perform better service, and improve return on investment. New data from Vanguard providers such as South Central Foundation in Alaska, Buurtzorg Home Care in the Netherlands, and Macmillan One to One Support for Cancer in the UK present very encouraging results.

A new generation of health worker is arriving with deep understanding of informatics and data management. These skills can surface patterns in large data sets that may be used to predict behaviours or prognosis, and the challenge of attracting this talent will be dependent on the future plans of the local data landscape. The goals of the future health services architecture can be grouped in four key outputs:

1. A platform or dashboard to provide clinicians and care givers access to data that represents a broader contextual perspective of the customer
2. Regular reporting of progress that allows for adjustments or interventions throughout
3. Combing data to surface otherwise hidden meaningful patterns that can be acted on
4. Comparing and correlating data to include external data from third party partnerships or open data to gain insight into community practices, behaviours, or risks

Hidden Opportunities

The Clinical Commissioning Groups have now extended the deadline for submitting local digital roadmaps to June 2016. While the NHS England described the completion responses as "extremely encouraging", they are still making provisions for those yet to be aware of the initiative. Detailed planning and guidance on creating local digital roadmaps is still expected to be released in the early months of 2016.

Being armed with a plan to proceed with a local digital transformation roadmap that is in accordance with the NHS Five Year Forward View may prove beneficial in more ways than one. There may be funding support for the early adopters to help build an impetus across the 89 digital footprints across England in addition to kick starting a launch at the local level. By placing the customer as an accountable partner with the health provider, and bringing in social services and other dependent sectors to form a wider community of support, the NHS may have a chance to survive and continue saving lives. First, however, it must save itself.

ABOUT US

Optimity Advisors is a rapidly growing, multi-industry strategy, operations, and information technology advisory firm with multiple locations throughout the United States, United Kingdom and Europe. Optimity's mission is to help clients in complex industries navigate rapid market and technological change. Optimity specialises in the critical set of services that sit between high-level strategy and long-term delivery and execution.

Optimity provides you with a strategic outlook through proven methodology, knowledge, and instinct, helping to craft an actionable future vision that aligns with your long-term goals and objectives. We bring an end-to-end industry understanding to help you rise above the day-to-day, focus on the opportunities ahead, and align the organization for success.

ABOUT THE AUTHORS

Madi Solomon

Madi brings knowledge and experience from a range of sectors. She is a creative technologist and specializes in business intelligence initiatives and semantic technologies that bridge the technical with social and cultural constructs. She has held executive roles in large multi-national companies and has initiated and led business transformation programs from the ground up. With the unique approach of combining soft skills with hard data, she has successfully introduced innovative products and new processes into operation.

Andrew Beale

Andrew is an outcomes-oriented executive with over twenty years' experience in healthcare supporting organisations deliver high performance through people, process, data and technology. A leader in Optimity's Information Management practice, Andrew has a substantial track record of delivering improvements in revenue, cost and reputation for policy makers, regulators, buyers, providers and innovators across a range of industries and in different contexts. An experienced strategy and data leader, he helps organizations understand and leverage the data and information which can disrupt traditional business models.

Niamh Lennox-Chhugani

Niamh has 25 years of experience at senior levels in health provision, commissioning, policy making and research internationally and is the firm's lead advisor for NHS and local government transformation. Niamh specializes in strategic delivery of innovative models of care across organisational boundaries and real-world implementation of public sector policies using rapid evaluation and learning cycle methods to inform implementation and provide real time feedback to decision-makers, frontline staff and service users.

PARTNER CONTACT

Andrew Beale
andrew.beale@optimityadvisors.com
1st Floor, Kemp House 152-160 City Road
London EC1V 2NP
Phone: +44 (0) 20 7553 4801
www.optimityadvisors.com