Listening to digital health innovators

Publication date: 15 October 2019

Foreword from Tara Donnelly

Virtually every aspect of modern life has been reshaped by innovation and technology – and healthcare is no exception. In 1948, the NHS was founded on a single innovative principle; a national health service for all, free at the point of use. Today, innovation is continually opening up new possibilities for prevention, care and treatment, and NHSX has been created to deliver a single goal; to give citizens and staff the technology they need.

When NHSX formally launched on 1 July 2019, we committed to creating an environment where digital innovation flourishes. We are also establishing a digital innovation function within my team, to be our link to technology companies in health and care. We are also clear that all our work at NHSX should be founded on user need, so it felt appropriate to start by asking those digital innovators where we should focus first.

Thus in the same week, I chaired a listening event, in partnership with the Accelerated Access Collaborative (AAC), the Academic Health Science Network (AHSN), Office for Life Sciences (OLS) and techUK. Our CEO Matthew Gould and Sam Roberts, CEO of the AAC both attended and spoke, and we asked all the innovators one key question: 'If NHSX and partners were to focus on one or two things, what do you think are the most important priorities?'.

We also invited feedback via email for two months to get further input from stakeholders, and promoted this via social media. Over 100 digital health innovators attended the event, and we received over 200 responses to our feedback email address.

I am delighted to be able to share the insights and learnings that we gained from this exercise. The following report includes details of the key themes we heard; transparency in standards and interoperability; our approach and supporting scale, engagement and linking to the market, addressing barriers to procurement and increasing digital capability of staff working in the NHS and social care. It also provides information on how we are responding to each of these important themes.

This is a really exciting time for digital innovation in health and care. We are still only at the start of our journey at NHSX, but I believe that in time, together with our partners, we have the potential to deliver change that is truly transformational for the patients we serve and the staff we employ.

Tara Donnelly
Chief Digital Officer

Launching our programme: listening to innovators

Attendees were an invited group of health and care digital innovators put together by techUK and NHSX. Before the event we sent a survey to attendees asking for their thoughts on the biggest issues that they would like help with. We then ran the event by working through the main themes in plenary and having an open discussion around the comments submitted, to collect further views. Over coffee and lunch we asked attendees to vote on their priorities for change. Through this, we were able to identify the five priority themes addressed in this document.

Our innovation partners

NHSX held the event in partnership with the Accelerated Access Collaborative (AAC), the Academic Health Science Networks (AHSNs) and the Office for Life Sciences (OLS). Below, you can find a summary of what each of these organisations do and links to their work:

The Accelerated Access Collaborative, established in May 2019, is the umbrella body across the UK health innovation ecosystem. The AAC is led by CEO Sam Roberts and its chair is Professor Lord Ara Darzi, and it is focused on getting the best new treatments to patients faster than ever.

Its remit is across all types of innovation – new drugs and treatments, diagnostics, service innovations, devices and digital, working particularly closely with NHSX on the latter and also the National Institute for Health and Care Excellence (NICE), the Care Quality Commission (CQC) and the Medicines and Healthcare products Regulatory Agency (MHRA). Developments being led by AAC include the introduction of a funding mandate for digital tools that have been endorsed by NICE's new digital review process. Recognising the role of cross-sector partnership in accelerating access to transformative healthtech, the remit of the AAC has increased, to become the umbrella body across the UK health innovation ecosystem, providing more joined-up support for innovators and setting the strategy for innovation in the health system.

Identifying and supporting the uptake and adoption of the best, proven innovations will remain a key function of the AAC's remit. The priorities for the 'boosted' AAC are:

- Creating a "single front door" to the innovation ecosystem. This will take the form of an online portal with information, support, and signposting that links to existing teams that provide more detailed advice on certain aspects of the innovation pipeline.

- Establishing a single horizon scanning approach to identify the best new innovations, so that the UK's health services have an idea of what is coming down the track and is aligned and prepared to support them.

Accelerated Access Collaborative
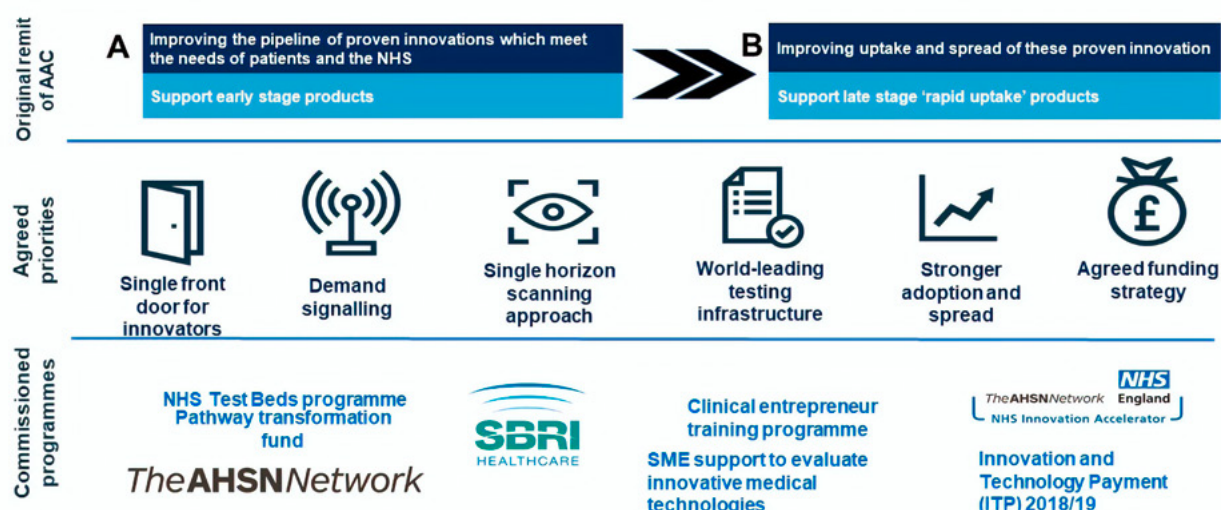
- Developing an approach to local and national demand, sending clear signals to the market about what the NHS needs, or the problems it is facing and would like the market to address.

- Establishing globally leading testing infrastructure that provides the necessary opportunities for innovators to develop and improve their products, collaborate with the NHS, and establish the high-quality evidence that clinicians need for adoption and spread.

- Improving the quality of adoption and spread support for the best new innovations, to deliver on the innovation commitments in the NHS Long Term Plan and the second Life Sciences Sector Deal, including through better join up between the AAC and Specialised Commissioning.

- Deliver better practical innovation support funding in line with the health innovation funding strategy set out by Her Majesty's Government (HMG).

You can also view the AAC explainer leaflet.

There are 15 Academic Health Science Networks within the AHSN Network and these operate as the key innovation arm of the NHS within their regions. Guy Boersma is the AHSN Network Chief Officer for Digital and Artificial Intelligence (AI). AHSNs provide support to digital innovators in their regions as well as providing highly effective scale support to those innovations on the NHS Innovation Accelerator, the Innovation and Technology Payment and within the AHSN National Programmes.

The Office for Life Sciences champions research, innovation and the use of technology to transform health and care.

About NHSX

NHSX has five missions

We will...

1. Reduce the burden on clinicians and staff, so they can focus on patients
2. Give citizens the tools to access and use information and services directly
3. Improve patient safety across the NHS
4. Deliver efficiency of NHS processes with digital technology
5. Create a system that means clinical information can be safely accessed, wherever needed

We've also agreed an approach to ensure delivery of these missions.

NHSX will focus on driving standards and interoperability, creating a platform on which innovation can flourish. We will push resources out to improve local capability.

Standards and platforms

We will move to an internet-like model of centrally agreed standards and local delivery. It will mean that NHS organisations can build or buy what they want, as long as they meet our standards of interoperability, accessibility, cyber security and so on;

A platform for innovation

We will be encouraging and facilitating innovation using the standards that we set rather than trying to do everything ourselves. We will only build from the centre where it makes sense for us to do so, for example screening and booking, where it makes sense to have a single national system; and

Developing local capability

We will help front line NHS organisations get the capability they need, both in human and in technological terms.

Previously, the NHS had around 30 digital transformation programmes. We reviewed these, reducing silos with fewer programmes, transitioning programmes to live services where it makes sense and realising the benefits of teams working more closely together. The result is 11 programmes of work.

Programmes

1. NHS App and NHS login
2. Digital child health and maternity
3. Integrating community providers (inc pharmacists, optometrists, dentists, ambulances)
4. Screening
5. Booking, referrals and appointments management
6. Standards (including medication standards)
7. Primary care
8. Urgent and emergency care
9. Social care
10. Local capability Local Health and Care Records (LHCR), Health System Led Investment (HSLI), Global Digital Exempars (GDE) and Carter
11. Infrastructure Health and Social Care Network (HSCN)

For more on NHSX see our website www.nhsx.nhs.uk

Five top themes

which we heard from innovators

① **Standards**

② **Procurement**

③ **Approach and scale**

④ **Engagement**

⑤ **Digital capability**

1. Standards

A clear position on standards was widely supported by the innovators, who felt that some of the larger incumbent technology companies were resistant to interoperability and linking to their systems. There were a number of questions received about the commitment to standards of all types – technical and professional – and how they can be consistently implemented as well as plans for achieving greater system interoperability. This was the highest ranked topic over all.

British SMEs will export – therefore standards should be truly international.

Neil Mortimer, West Midlands AHSN

I would like assurance that standards will be applicable to all Trusts.

Saadi Hussain, SmartMed

Would request that standards are not set by NHSX in isolation, but with input from other voices such as tech suppliers.

Mindy Daeschner, Doctor Link

Interoperability should include other sources beyond the clinical such as GMC and NMC data.

Jonathan Knight, Perfect Ward

Will large providers open up access, and what will the consequences be if they don't?

Pharmatrust

How we are responding

NHSX believes that open standards are essential. We are committed to supporting interoperability. We believe that there needs to be consistent uptake of these standards across the NHS, social care, and all providers of digital solutions.

This work will be led by the Chief Technology Officer for NHSX and will involve:

- adopting open standards to ensure that all new NHS technologies are interoperable; and
- publishing APIs for key national services.

It is important that we agree common rules, so that different systems can talk to each other. Software that delivers value in one place can do so in another. We want to make sure that everyone who should have access to data can have access to that data – wherever it is stored.

We will establish:

- which use cases we should adopt and mandate standards for;
- which international open standard we use for that use case, if one or more viable options exist;
- whether there are other use cases that can use the same standard, or pieces of it; and
- if no standard meets our user needs, then working with Standards Development Organisations to improve existing standards.

These rules will be important in terms of helping innovation flourish by:

- Making it possible for multiple, diverse suppliers to create interoperable user journeys covering the same transaction. This then increases the number of choices of apps and software each user has.
- Making it possible for suppliers to build one app/software/user journey that crosses organisational boundaries.
- Making it possible to create user-interfaces, visualisation and analysis at a more granular level than the patient, and documents about them.
- Encouraging the social care tech sector to grow by adopting mandated, predictable standards for each interaction between the NHS and social care.
- Reducing the amount of "data wrangling" needed, encouraging the ecosystem of AI, analysis and digital services to grow with less capital.
- Documenting all APIs in a consistent format to ease the burden of integration.

In terms of interoperability, this is also an area of considerable focus. A major investment area has been into the Local Health and Care Exemplars to enable regions to link up patient information across geographies.

As per best practice among open standards organisations and central government, we will have to be careful to maintain an open and unbiased ecosystem, with a minimum level of burden to the innovators.

2. Procurement

There was a consistent view that procurement could be made easier, with requests to create a more positive environment for small companies innovating in this space. It was felt that existing frameworks were not always suitable for digital health innovators. Companies who were already on frameworks provided feedback that they would like to see existing frameworks more strongly encouraged or even rigorously enforced.

Link up procurement to accreditation and commercial systems. This will lead on naturally to a custodian model with an end-to-end process. Getting on the DAQs (digital assessment questionnaires used for NHS Apps Library assessment) ought to mean you can more easily join a framework.

Tim Andrews, ORCHA Health

It takes effort to get onto the right framework, so the model should be simplified.

Ben Moody, techUK

The future market should ensure that social care is included in any engagement, and procurement is not treated as a separate entity.

Julia Ross, RSM Digital Council

How we are responding

We have worked with the team at NHS England and NHS Improvement to create a new "Lot" on the Health Systems Support framework (HSSF). The Health Systems Support Framework (HSSF) was established in August 2018 to provide a mechanism for Integrated Care Systems (ICS) to access the support and services they need to transform how they deliver care. It focuses on specialist services that enable the digitisation of services, for example through establishing standards based interoperability between patient records, and the use of data to drive proactive population health management approaches across Primary Care Networks and integrated provider teams.

When the HSSF was established there was an expectation that it would change as the needs of ICS became clearer and the market evolves to meet these changing development and infrastructure needs. It was therefore created with the intention that it would be refreshed on a regular basis to update the scope and provide suppliers with further opportunities to bid for a place on the framework.

To support the scaling of innovative solutions a new Lot will be established on the Framework. Market engagement was conducted on this Lot, also known as the "Innovation Greenhouse", until 4 October 2019. To find out more, please email hssf.refresh@nhs.net

The new "Innovation Greenhouse Lot" will be established to support Integrated Care Systems to access the market for tried and tested innovations for patients, populations and NHS staff (for example, from initiatives like the NHS Innovation Accelerator Programme or the Test Beds Programme). This Lot may have a lighter touch process specifically for innovative organisations and small to medium size enterprises and allow existing relevant accreditations to be carried forward into the bid process.

The aim is that it will:

- be straightforward for innovative organisations to apply;
- promote awareness of innovations across the NHS;
- enable evidence-based innovations to be scaled.

When reviewing the existing framework we have adopted the following principles:

- The refreshed framework must be simple to use;
- The framework bid process will be streamlined to minimise duplication and make the process simpler for bidders;
- A high-quality threshold will be maintained to ensure that only capable organisations are accredited but steps will be taken to ensure that smaller organisations aren't disadvantaged;
- Bidders will have the option to deliver defined parts of the framework – they will not be required to offer all of the services in the scope;
- Where there is an existing framework that adequately covers the current gaps and has an appropriate contract in place we will signpost to it rather than replicate its scope in the HSSF – unless there is a reason to do so to support integrated buying requirements;
- The contract will be updated to reflect the latest standards (for example around interoperability and cyber security) but these will be proportionate and achievable.

For more information on the HSSF see england.nhs.uk/hssf.

While this is by no means the complete answer to the issue of procuring digital tools and services, it is an important step forward and has been achieved at pace. Our thanks to the HSSF team who, subject to the results of the market engagement, plan to open the Lot during October 2019 and award within the next three months.

We are also having discussions with others in the procurement arena including those leading on Technology for the Crown Commercial Service, about how we can ensure that our frameworks don't have unintended consequences for innovators, and can help support those keen to commission digital tools and services for their populations.

3. Approach and scale

These comments were about how NHSX will approach its projects and included feedback on scale support, by which we mean helping to get digital health products in more locations more rapidly. This is a key objective of the AHSN Network which has a role in supporting innovators in their region.

> Provide a clear roadmap to common technologies and services including the NHS App and NHS login.
>
> **Anonymous**

> Align with NHSE clinical programmes by linking objectives more closely to scaling up of proven technology.
>
> **Anonymous**

> Important not to throw away work already done – it is important to consider the innovations already in the market that could have increased reach.
>
> **Paul Targett, RIVIAM Digital Care**

> NHSX should actively promote parity in access in technology across physical and mental health. Help to improve clinical care by delivering agile, user-focused projects that really deliver.
>
> **Anonymous**

How we are responding

Approach

A number of the actions in the "Engagement" section also relate to approach.

A new team at NHSX has been formulated to lead our partnerships with industry. This is led by our Chief Digital Officer, and will work with SMEs and larger scale industry partners to leverage benefits and accelerate innovation. Our work with SMEs will encompass a range of events and programmes to support how we scale innovation across the NHS. This has started with smaller scale Innovation Surgeries that give bespoke advice to companies; to the Innovator Portal, a collaboration with the AAC which will be completed in the New Year; and the wider Innovation Forums that will join the NHS and Innovators from all areas.

More information will be available as these initiatives develop. Our Digital Innovation Programme will give opportunities to showcase products, co-create new products in collaboration with the NHS and work collectively to streamline the innovation pathway to speed up adoption of new products. All activities will be completed in collaboration with the AAC to build on existing work and link into local networks where appropriate.

Our monthly Innovation Surgeries are held by NHSX in collaboration with the AHSN Network. These are open to other partners to join, and the CQC will also join a number of these to offer advice on implementation and regulation within the NHS. There are slots that can be booked by phone, video or in person for innovators in health and care to engage with the team. If you would be interested in attending please register your interest at DNHSX@nhsx.nhs.uk

There are also specific programmes underway at NHSX, where we will be implementing our new transformation model.

Mental health and Screening are the two new areas of focus of NHSX's new transformation and delivery model working with the National Mental Health team at NHS England and NHS Improvement.

In terms of recruiting the strongest possible team across NHSX, the aim is to get very strong commercial expertise, particularly within the Centre for Expertise, as well as an excellent blend of NHS and social care experience, including clinicians and strong technologists.

Scale support

We recommend that all digital innovators in health and care make contact with their local Academic Health Science Network (AHSN). AHSNs are well linked into their regions and know the problems being faced by their members, so are well placed to offer advice and signpost to where solutions meet a local need. They also have a mandate to support their local innovators, via their Innovation Exchanges. The Innovation Exchanges are funded by the government's Office for Life Sciences, as part of its offer to grow British businesses and jobs based here, as well as encouraging inward investment from overseas companies seeking to create a base.

The AHSN has created a single Innovation Exchange website: www.AHSNinnovationexchange.co.uk

The site highlights opportunities for funding, current challenges and has a handy postcode look-up to direct you to your local AHSN.

Many thanks to those of you who attended the event held in August 2019 to input into the design of an innovation portal for the AAC, which is due to launch in the new year.

4. Engagement

There was an enthusiasm to work better with the NHS, but many companies found this difficult due to the sheer scale of the NHS and their past experiences. The opportunity to engage more closely with NHSX and the value of recent events was referenced. Innovators asked for roadmaps to continue to be published regularly and the approach of the NHS login team within NHS Digital was commended as a great example of how to link well with digital health innovators.

It is important to be able to meet other companies to learn more about each other.

Shane Tickell, IMS Maxims

How are we using the NHSX communications channels as an exciting way to inform, with celebrations of successes which can alter the perception of tech?

Costas Fantis, Encode Health

Maintain some of the old fashioned ways so that engagement is not purely through a channel/portal. There should be a radar of what is hot/not hot.

Mark Hindle, Evergreen

Cooperation and collaboration between SMEs and CCGs can be met by alliances. Create a facilitated network for collaboration and partnership.

ME2 Digital Mental Health

How do we become aware? Will there be a single place for engagement or will there be a chosen few? Or more collaboration and coordination and extend to innovate together.

Lloyd Humphreys, Silver Cloud Health

How we are responding

NHSX have committed to develop a National Centre of Expertise (the "Centre"), which will oversee the policy framework, provide specialist commercial and legal advice to NHS organisations entering data agreements, develop standard contracts and guidance, and ensure that the advantages of scale in the NHS can deliver benefits for patients and the NHS.

The core functions will include:

- Providing hands-on commercial and legal expertise to NHS organisations – for potential agreements involving one or many NHS organisations. The Centre will also develop and provide tailored legal advice on relevant issues (eg intellectual property, state aid).

- Providing tools and products including good practise guidance and examples, standard contracts, and methods for assessing the value of different partnership models to the NHS.

- Signposting NHS organisations to relevant expert sources of guidance and support on matters of ethics and public engagement, both within the NHS and beyond.

- Engagement and understanding the landscape – building relationships and credibility with the research and industry community, regulators, and with NHS organisations and patient organisations,

- Developing benchmarks and scenarios to provide NHS organisations with reference points on what "good" looks like in agreements involving their data

We will explore what additional functions, or nuancing of these functions, would be useful ahead of the development of the centre later this year.

The feedback we received on the value of the listening event was very positive, particularly around how useful it was to have NHSX team members openly sharing information on their plans. It was also recognised that creating a mix of NHS, social care staff, regulators, innovators and others at formal and informal events was really important in developing a community.

We will therefore be establishing a series of regular events. These will be on an alternate basis between London, and other cities in England.

The next is being held on 16 October in Leeds and we are currently planning a December event in London. We are also developing a full programme for 2020.

We will also continue to use the NHSX website to share information on our roadmaps and to provide updates to the market, as well as (https://developer.nhs.uk/) and NHS Digital's website (www.digital.nhs.uk/) to share technical information.

It was noted that other partners, such as techUK are also playing a key role in hosting events that bring SMEs and staff in the NHS and social care together.

You asked us to share more information, communicate openly and regularly as well as make the opportunities for digital health companies and methods of access clearer. The Innovation Exchange referenced in the Approach section is also helpful here. We plan to keep the NHSX website slim and simple; with an expanding section on key information and toolkits. This will contain useful and practical information such as roadmaps for the market, and the NHS.

5. Digital capability

Innovators emphasised how important it was that the NHS and social care staff they worked with understood the potential of digital, were inspired and digitally confident. The feedback showed that currently, while there were great examples of staff who were leading and supporting this work locally, not all felt confident and there was a strong feeling that this needed to change. There was a focused discussion on digital leadership at board level.

> The key challenge is culture not tech –
> some clinicians are struggling.
>
> **Stuart Mackintosh, OpenVL**

> There are differing attitudes toward entrepreneurs and innovation. Create positivity around innovation so we can work well with the NHS.
>
> **Jonathan Burr, HOWZ**

> Appoint a board level digital officer in trusts/CCGs with a defined budget and bandwidth to meet all deliverables.
>
> **Anonymous**

How we are responding

The national workstream on increasing digital capability is being led by Health Education England (HEE). This is one of the main strands of the national interim workforce plan and the response to the NHS Long Term Plan.

This programme of work, Building a digitally ready workforce, is underway and includes addressing digital literacy for the entire health and social care workforce and enhancing digital leadership. The four elements are:

- Leadership and culture
- Professionalism
- NHS Digital Academy
- Digital literacy

Improving the skills and knowledge at board level across the NHS is a core part of developing the required digital capability. HEE is currently testing a development model for this, which will be communicated in due course.

The work on digital literacy will develop a self assessment tool to assess requirements for staff, develop digital champions to accelerate sharing of knowledge, and create a signposting tool for e-learning. It will also support professions working with the training given by professional bodies, enabling all staff to better use existing products that are available.

The NHS Digital Academy is a virtual organisation set up to develop a new generation of excellent digital leaders who can drive the information and technology transformation of the NHS. The second cohort is currently underway; with a third due to start in April 2020.

The Topol Programme for digital fellowships in healthcare began with its first cohort earlier this month. This is part of an ambition to implement technologies such as genomics, digital medicine, artificial intelligence and robotics at a faster pace and on a greater scale than anywhere else in the world.

For more see www.hee.nhs.uk/our-work/building-digital-ready-workforce
HEE Chief Information Officer James Freed is leading on this.

Next steps

There was considerable consensus on the top five areas digital innovators in health and care would like the NHSX teams to focus on. This report outlines our initial response and we will continue to focus on these areas as priorities in the months ahead.

The next events are:

- Date: 16 October 2019
- Co-Space North, Leeds
- Afternoon workshop and early evening reception

Innovation surgeries in October, November, December 2019 and January 2020

- Date: 12 December 2019
- London
- Afternoon workshop and early evening reception

You can get involved in the following ways

- To get added to our circulation list please send contact details to the digital innovation mailbox DNHSX@nhsx.nhs.uk

Get in touch

Web: www.nhsx.nhs.uk

Email: DNHSX@nhsx.nhs.uk

Twitter: @NHSX

LinkedIn: www.linkedin.com/company/NHSX

Acknowledgements

Thanks again to the partners we've worked with the Accelerated Access Collaborative (AAC), the Academic Health Science Network (AHSN), Office for Life Sciences (OLS), NHS Digital and techUK.

Sincere thanks also go to Lisa Hollins, Director of Innovation Delivery at NHSX, for authoring this report.

Appendix

Below, you can see the comments we received in the survey that was circulated before the event on 4 July 2019. The numbers after each topic relate to the votes received for the top five. Any additional comments have been placed in the "other" category.

Number	Topic	Votes
1	Standards	12
2	Procurement	9
3	Approach and scale	9
4	Engagement	7
5	Digital capability	5
6	Other	N/A

1. Standards

Make sure NHS systems become interoperable.
Let specialist suppliers be the best they can be. Set standards. Define (and provide?) common infrastructure services.
Provide assurance that standards will be applicable across all Trusts.
Help the NHS to break vendor lock in on Electronic Patient Record (EPR), systems.
Simplify ability for innovations to integrate with existing care record systems.
Force large providers to open-up access to their systems.
Provide standard formats and processes for integrating with NHS data systems.
Define, co-develop, open source, enforce the standards and APIs necessary to unlock healthcare data (with appropriate consents).
Focus on interoperability and open standards for data transfer whilst decreasing time to access services such as Summary Care Records (SCR).
Open GP APIs, repeat prescription request API and pharmacy nomination API.
Set standards.
Publish and enforce digital standards for interoperability/dataflows.
Support development of standards.
Suggestion that standards are not set in isolation by NHSX but with input from other voices such as tech suppliers.
I am a member of Interopen and feel that once tech and data have been implemented it is necessary to make the two systems interoperable. Standards do not just apply to tech.
Do NHSX listen to the Professional Record Standards Body (PRSB)?
Implementation of standards can prove tricky and painful; how can this be overcome?

1. Standards

Can standards and interoperability be used to talk to the sceptics, such as those in Finance, to get their buy-in as essentially many Finance Directors don't seem to recognise time as money.

Should operate on one platform.
Standards should be mandated to ensure that capability is in the system.

Interoperability should include General Medical Council (GMC) and Nursing and Midwifery Council (NMC) data.

Tech standards should be physical and transparent and allow for analysis of data.

Will large tech providers open up access and what will the consequences be if they do not?

What is the role of the NHS Identity API? How much will be built around API?

Standards in health are typically not what the Open Standards Board (OSB) would constitute as standards as we would prefer internationally recognised standards.

Electronic Prescribing System (EPS) is not a level playing field and stifles innovation as it has to be opened up to nominate a pharmacy.

Standards and interoperability my top priority.

Small and medium-sized enterprises (SMEs) will export international opportunities therefore standards should be truly international in order to open export markets.

2. Procurement

Reform procurement for digital delivery of service.

Reform procurement.

Support procurement process for small companies and innovations.

Help define robust but proportionate procurement approaches and vfm guidance.

Brokerage of national contracts where appropriate.

Simplify procurement of new digital interventions across the NHS and create a single set of standards relating to evidence, savings, data protection and other matters that should be set nationally and not at a local level.

National Innovation Tariffs to rapidly scale solutions that have consistently demonstrated positive return on investment (ROI).

Generate levers to enable aligning of incentives between adoption of tech and existing funding mechanisms and flows.

Link up procurement to accreditation and commercial systems with similar questions for procurement. This will lead on naturally to Aperta, NHS Digital (NHSD), Open source and a custodian model and develop an end-to-end process.

Due to the legacy systems better and clearer guidance is needed for procurement and finance.

Procurement to be used to track and trace medical devices.

2. Procurement

The future market should ensure that Social Care is included in any engagement and procurement and is not treated as a separate entity.
As an SME how are things procured?
It takes effort to get on the right framework so the model should be simplified. Reconsider the nature of funding as there are underspends in tech funding and also the issue of being penalised for the wrong funding.
Tariffs are not working as intended. The funding process seems to be one of "risk-and-gain". Current information/news specific to the role needs to be shared.

3. Approach and scale

Help to improve clinical care by delivering agile, user-focused projects.
Drive delivery.
Employ commercially-astute people with strong private sector experience.
Align with NHS England and NHS Improvement (NHSE/I) clinical programs by linking objectives more closely to scaling up of proven technology. Aim to scale projects nationally, quickly.
Help technology providers get their innovations adopted across the NHS.
Coordination and consistency.
Deliver parity in access to technology across physical and mental health.
Promote and support innovation.
Innovation needs adoption and there should be a consistent approach for comms rather than "under development" message.
Stimulate growth and support proven evidenced-based technologies.

4. Engagement

Help to guide the market so that it becomes less fragmented, more consistent. I'd use Child Protection – Information Sharing project (CP-IS) as an example of good practice – the scope was constrained, suppliers knew what was required of us, and by and large we delivered.

Provide a clear roadmap on common technologies and services including the NHS App and NHS login.

NHSD could do more on industry engagement.

Maintain a regular dialogue with industry.

Engage with suppliers to ensure that the requirements you publish make sense in a real-world context.

Share, at high level, your plans for the next couple of years.

It is important to support innovations in the market.

Not always apparent where information is held, please can this be signposted for suppliers?

For navigation of health innovation there should be a more informal environment with useful conversations in order to move away from the entrenched views of industry and the NHS.There should be a user friendly central repository for information.

How do we become aware? Will there be a single place for engagement and there will be a "chosen few"? Or more collaboration and co-ordination and extend to innovate together.

How are we utilising the NHSX Youtube channel as this is an exciting way to inform with celebrations and successes which can alter the perception of tech?

Started to have conversations with YouTube for this standalone channel. Film is highly effective and can be used to inspire future clinicians.

There are differing attitudes in NHS staff towards entrepreneurs and innovation. Create positivity around innovation so that small businesses work well with the NHS as SMEs find it difficult to work with the NHS because of the NHS large organisation mindset.

Retain some of the old fashioned ways in order to maintain commonality and so that engagement is not purely through a channel/portal as small companies may have difficulty getting into the system.
There should be a radar of what's hot/not hot; a central incubation channel.

Important to meet other companies to learn more about each other.

Cooperation and collaboration between SMEs as Clinical Commissioning Groups (CCGs) have big objectives to be met. Therefore projects can be met by alliances. Create facilitated network for collaboration and partnership of SMEs.

The roadmap will not only be looked at by developers. The NHSX website should be thin so easier to navigate.

5. Capability
The key challenge is culture not tech; clinicians are struggling.
Enable the workforce to be ready to embed digital into care, through policy and education.
Undertake analysis of digital capability.
Increasing digital capability.
Give CCGs the confidence to adopt innovations quickly, evaluate and commission as a line of their business.
Digital capability.
A board level Digital Officer in Trusts/CCGs with a defined budget with bandwidth in order to meet all deliverables.
Necessary to train people – this should be contractual.
Tech standards and Interop – marshalling a new system necessitates skills development and it will be very important to support the individual.
Engagement and procurement, different sides of the same card.
Should be strong education within the NHS to understand how tech is developed using Agile rather than Waterfall.
Biggest challenge is the non-digitally enabled workforce.
Benefits of using Waterfall or Agile.

6. Other

Evaluation
An accreditation service evaluating solutions for data security, governance, interoperability, evidence of effectiveness, user satisfaction, perhaps even health economic impact (ROI).

Open
Help with data transparency and openness.
Ensure "level playing field" in relation to access to NHS data and resources.

Communications
Clarify remit of NHSX and NHSD as there is still confusion and lack of understanding on how to engage meaningfully to support common goals (ie sustainable NHS and support UK plc in leading on health = wealth).
Make it clear how NHSX will work with other organisations including NHSD and NHSE/I.

Data analytics
Empower data analysts across health tech industry.

Cyber
Reform cyber policy.

Social care
Help us improve the link of data between health and social care.

GDEs
Is it possible to get the Global Digital Exemplars (GDEs) out to the regions to engage with smaller hospitals.

Centre of Expertise
Valuable if NHSX can establish a centre of expertise.

Digital transformation must be rolled out across all areas.
Small Business Research Initiative (SBRI) programme is great; a real asset to take elsewhere.
Need to retain talent in the NHS.
What is NHSX's involvement with Association of Directors of Adult Social Services (ADASS). NHSD seems to have no mandate on social care. Should not be considered a burden. It is Matthew Gould's intention to do Social Care alongside the NHS and there will be one person and team focussing on Social Care.
Medical Healthcare records are not structured well. Potential should be locked into existing EPR systems.
During innovation the current system has to happen at the same time. The benefits from innovation must not displace current system but care provision across the system must be managed in tandem.

6. Other
Seems only to be the odd reference to not forget social care.
Economic and patient outcomes should be considered.
All development should be iterative.
The single biggest drain on clinicians time is not having single sign-on (SSO).
Important not to throw away work already done – for instance; Clinical Document Architecture (CDA) was ditched due to the introduction of Fast Healthcare Interoperability Resources (FHIR), GP Connect has killed a huge amount of innovation in the market. However, Interopen considers what is going on is going well.
Natural Language Processing is one of the fastest ways to develop research.
Whatever is next will have to have a patient theme because of the appetite of people to see their own data.
Single Sign On for Clinicians would be a top priority for me.