DIGITAL BOARDS

NHSProviders public digital NHS Health Education England NHS

Digital delivery principles

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DIGITAL BOARDS

PROGRAMME OVERVIEW

About us

This guide has been prepared jointly by NHS Providers and Public Digital as part of the Digital Boards programme.

Digital Boards has been commissioned by Health Education England as part of their Digital Readiness Education Programme and is supported by NHS England and NHS Improvement.

Through good practice sharing and peer learning, the programme aims to build board understanding of the potential and implications of the digital agenda and increase the confidence and capability of boards to harness the opportunities it provides.

Alongside our guide series, a number of webinars and events are available to trust leaders, focusing on case studies of digital leadership in the NHS and other sectors and practical take-homes for boards. The programme also offers free board development sessions on a bespoke basis to reflect the development needs of your organisation. To find out more please contact us.

DIGITAL DELIVERY PRINCIPLES

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FOREWORD

All chief executives should have digital on their agenda. It should just be what we do now, it's your business, not just your chief clinical information officer's (CCIO) or your chief digital officer's (CDO). Life has changed – now most transformation investments are underpinned by digital. Chief executives and their boards can set a tone for an organisation, that technology is taken seriously and talked about at all levels of the organisation.

Digital can't just be discussed when a business case is submitted to the board. As leaders, we must understand how digital is delivered:

Be proactive. You must create the case and environment for change, and then go out and actively find the resources to make it happen. In my experience, it works best when you have a board that is assertive, dynamic, and willing to take some risks and iiterate based on what they learn.

Take the long view on digital transformation. The journey to digital transformation is a long one, but it is one well worth doing. There will often be bumps and bruises along the way: you have to keep a robust mentality and know that the discomforts of change will be temporary, but the impact of having a truly digital organisation will be transformative and long-lasting.

Capitalise on opportunities to collaborate with others. Understand the limited latitude you have as one organisation. When it comes to scaling technologies and your commercials, you may get better value from working with others in your system, rather than trying to go at it alone. Even a large group of hospitals like the Royal Free isn't big enough to do this on our own. Understand what the national team is doing, find things that you can do at scale with partners, such as pooling digital skillsets, and pursue these together.

Plan for proper resourcing. We know that good health systems are clinically led and data driven. Invest in good infrastructure to take advantage of the data, train clinicians and encourage them to be curious and ask the right questions. It costs a lot to curate data and turn it into something useful. Digital initiatives can go wrong when boards undercook the resourcing and try to cut corners.

Most importantly, go out and learn from others. There are opportunities for peer learning all around you and it is critical that leaders take the time to learn from the successes and challenges of others. To be successful, you need to understand digital in a level of detail you might be surprised about. Just as with finance or quality, sometimes it will require you to understand a bit 'under the bonnet'. Therefore, it is worth visiting others who have done things well. If you really want to accelerate the pace of digital progress, you have got to have board leaders who don't mind standing on the shoulders of others.

Caroline Clarke
Group Chief Executive
Royal Free London NHS Foundation Trust

QUESTIONS FOR BOARDS

In our previous guides, we set out some pre-conditions for successful digital transformation: clear leadership, brilliant digital teams, a good digital strategy and making the right technology decisions.

In this guide, we have set out eight principles to help guide digital delivery. These principles are designed to help trusts realise the opportunities of digital transformation and to avoid common mistakes. We've based these principles on some hard-learned lessons from digital successes and failures across the NHS and other sectors. These principles are complementary to the NHS service standard, which sets out how to build and run great digital services.

We also suggest the following list of questions that board members – both executives and non-executives – may find useful to evaluate their trust's digital approach.

1 Deliver things that patients and staff need

- Do you talk about your users' needs or the business' requirements?
- How regularly do your digital teams get feedback from users?
- What's the riskiest assumption your digital team has made?

2 Set clear, realistic goals

- What's the primary aim of your digital investments?
- Are your digital transformation business cases realistic, given the risk of optimism bias and challenge of realising benefits?
- Can you clearly articulate the impact your digital investments will have on staff and patients?

3 Test, measure and learn how it's working

- Are delivery teams focused on delivering the plan, or delivering benefits?
- How will you know if your digital investments are working?
- Do you have weekly or monthly reporting in place for key metrics?

4 Think long term, deliver in the short term

- Are your digital initiatives working towards a 'north star' vision?
- How frequently are you able to release improvements to patients and staff?
- Do your funding, governance and procurement structures encourage incremental delivery and ongoing improvements?

5 Invest in a dedicated, cross-functional in-house digital team

- Do you have a 'minimum viable digital team' in place?
- Are clinicians supporting digital initiatives as part of their job, or as a favour?
- How dependent are you on technology suppliers and contractors?

6 Get the best out of technology suppliers

- Do you have the in-house skills to navigate technology markets?
- Are you using the right contracting methods?
- What would happen if your relationship with an important technology supplier went wrong?

7 Build trust, not barriers

- How frequently are digital teams able to release changes to digital services?
- How joined up are your digital transformation, system integration, quality improvement and practice development initiatives?
- How often do those actually building digital services have direct contact with users?

8 Don't stick to the wrong plan

- Do your business cases create a false sense of certainty?
- Are teams able to be honest about the risks involved in digital transformation?
- What mechanisms do you have to review and reprioritise digital initiatives?

1 DELIVER THINGS THAT PATIENTS AND STAFF NEED

Delivering any digital healthcare service is always a balance between organisational goals, clinical needs, user needs and technical constraints. If your trust has decided to invest in a digital service or IT system, it's likely that there's a clear organisational goal behind this: perhaps efficiency, clinical safety and quality or improved communication.

However, no matter how strong the business case is in theory, the promised benefits won't be realised in practice until the service is properly adopted by staff, patients and service users. Unless the digital service solves a real problem for these users – not one assumed by leaders or digital teams – it is unlikely to succeed.

Business requirements aren't enough

The traditional approach to IT often involves project managers or business analysts working with stakeholders to define how a new system should work. These requirements are then passed on to a software development team to be built, or form the basis of a procurement where suppliers are assessed against these requirements. It is rare for actual users – staff, patients and service users – to be involved in this process, and clinical experts are often side-lined, too.

This is an outdated approach to designing digital services, but it is still common in many organisations. The best way to meet the expectations of staff and patients – and avoid costly mistakes – is to establish a clear understanding of clinical or user needs from the start of any new digital initiative. This requires researching, observing and testing what these users need, not just asking what they want. It also requires understanding of digital inclusion: how will your service work for patients who lack digital skills or access to the Internet?

For professional users like clinicians a co-design approach works best, where subject matter experts work closely with digital teams to design the service. The challenge is to properly resource this time to ensure that it is not simply squeezed into an already busy day job. Some trusts are exploring whether digital co-design can be incorporated into job specifications and annual appraisals.

> ***Adoption of digital technologies is always better when there is a collaborative process between clinicians, IT teams and the vendor that allows clinicians to co-design, steer and shape the technology into what they want and need.***
>
> Andy Carruthers, Chief Information Officer, University Hospitals of Leicester NHS Trust

Validate assumptions early

By the time mistakes are realised it is often too late. Contracts may have been signed, systems built and changes too costly to make. A common reaction to failures like this is to blame the requirements defined at the start of the project: *the specification wasn't clear enough, or detailed enough – next time, we'll invest more time on this planning phase*. However, this ignores the bigger problem: the lack of a meaningful user feedback loop throughout the development process that enables you to course-correct – it's almost impossible that you'll get everything right the first time. Boards should expect their digital teams to be able to articulate what assumptions have been made, and how they're going to test these assumptions early on to avoid wasted effort and spend.

Beware of solutions looking for a problem

It can be tempting to assume that digital services are the answer to every problem in your trust. Perhaps there is national funding available that can only be spent on a specific digital solution; or a supplier is pushing for a pilot of their new software – maybe even for free. These initiatives may deliver some value, but too often can be a distraction from the business of fixing the basics and solving real problems for your users – patients and staff. Whatever the origin of the initiative, it has the potential to be successful if a user-centred, iterative approach is used.

Key questions for boards

- Do you talk about your users' needs or the business' requirements?
- How regularly do your digital teams get feedback from users?
- What's the riskiest assumption your digital team has made?

CASE STUDY

Delivering meaningful change at Cambridge University Hospitals NHS Foundation Trust (CUH)

"Most NHS frontline staff aren't here to be 'digital people'. They want to deliver high quality care for patients. Therefore during any digital transformational change, you need to ensure there is a freeflow conversation about work, prioritisation and pain points."

DR AFZAL CHAUDHRY, CHIEF MEDICAL INFORMATION OFFICER
CAMBRIDGE UNIVERSITY HOSPITALS NHS FOUNDATION TRUST

Context

CUH is a healthcare information and management systems society (HIMSS) level 7 site with an advanced electronic patient record (EPR) system. It is considered one of the most digitally mature trusts in the country, and has extensive experience introducing new digital services and Epic EPR modules. But this success has only been achieved following years of learning how to deliver change effectively.

Approach

CUH's leaders recognise that on a day-to-day basis there is limited bandwidth for change within the workforce. And crucially, most staff will find workarounds if they feel a new process or tool is inhibiting them from doing their job well. Therefore, a significant amount of effort must be taken at a leadership level to understand how changes to behaviours and ways of working are delivered:

1. Start with the problem and then form a vision around this. It may sound like a cliché but the vision provides the board and the organisation with a single sense of purpose which will become crucial during the minutiae of implementation (and when inevitable problems arise).
2. Understand the workflow and describe what the ideal circumstance will look like: the who, the what and the why. Only then look to see how digital can support this new process from start to finish.
3. In the run-up to 'go live' or implementation, the trust's leaders start doing the hard work around harmonising, aligning and reducing variable practices across services. When the switch is then made to a digital process there is less time and money spent on the change management piece which has already been done upfront.

In working this way, CUH's leaders have developed a mature digital culture within the trust. Below board level, changes are discussed monthly by speciality leads with senior level oversight. The digital team itself now comprises nurses, pharmacists, allied health professionals and junior doctors.

This way of working takes time to embed but the board is now reaping the benefits. There are few digital sceptics within the trust but more interestingly, the digital teams are receiving fewer trivial requests and instead are engaged in conversations with clinicians about redesigning entire pathways.

SET CLEAR, REALISTIC GOALS

2

For digital transformation to be successful, trusts should have a strong conviction of what they want to achieve by investing in digital. Without a clear goal – closely aligned to trust and system strategy – there's a risk that you'll make things more 'digital' but not necessarily better for patients and staff. This is true even for 'foundational' investments such as implementing an EPR: it's important to define the benefits these will deliver for staff and patients – reduced adverse events, improved flow, better adherence to prescribing guidelines – not just the technical milestones.

Digital can help trusts achieve the triple aim of **better health, better care, lower cost**. Boards should be clear on the benefits they plan to realise by investing in digital: perhaps reduced prescribing errors, improved scheduling or better communications across departmental and organisational boundaries. If the primary aim is improved data collection or achieving cost savings, this will be hard to realise without delivering – first and foremost – real, tangible benefits for patients, service users and staff. Improved data and efficiency can be a valuable by-product of digital transformation, but these are hard to achieve without widespread adoption of digital services. Trusts should design for adoption, building services that are genuinely useful for patients and staff – *pull* rather than *push*.

Be honest about benefits, even when it's uncomfortable

Trusts should avoid becoming hostage to unrealistic business cases. As HM Treasury makes clear in their **guide to optimism bias**, "*there is a demonstrated, systematic, tendency for project appraisers to be overly optimistic*". And there are incentives for both project promoters and approvers to inflate potential benefits, in order to get projects approved and to justify budget plans. This can result in one-sided business cases that set out the upside of an investment without assessing the downside: perhaps a decrease in pressure in one part of the trust will increase pressure elsewhere, offsetting any potential benefit. For example, some trusts have reported how electronic prescribing, while reducing certain prescribing errors, creates entirely new ones.

The reality is that not all digital expenditure will have a positive return on investment in purely financial terms. Trusts shouldn't shy away from this; it's better to set out an honest business case than create unrealistic expectations. And although it may be embarrassing or uncomfortable to admit where your trust hasn't been able to deliver the benefits promised by previous digital initiatives, it will help your organisation make better investment decisions in future if you are able to reflect on and learn from this.

Set specific goals and make progress visible

Often, business cases focus on output metrics like costs rather than controllable input metrics like adoption rates, error rates and wait times. This can make it hard to understand the specific aims of digital investment, and provide unclear direction for delivery teams. Boards should demand business cases that contain both a clear, concise set of input goals alongside the estimated financial impact.

It's also important to break these goals out of business case documents (which soon become stale) and turn them into a living tool to help guide delivery decisions and measure benefits. Making these goals easy to grasp and highly visible is a great way to focus minds across delivery teams, decision makers and partners. Boards should ask for weekly or monthly reporting on these goals from their digital teams, providing a more meaningful way to verify whether things are on track than a traditional project status report.

Key questions for boards

- What's the primary aim of your digital investments?
- Are your digital transformation business cases realistic, given the risk of optimism bias and challenge of realising benefits?
- Can you clearly articulate the impact your digital investments will have on staff and patients?

CASE STUDY

Making clear to users what change means at Central London Community Healthcare NHS Trust (CLCH)

"Over the course of the pandemic we've seen a real mindset shift about the possibilities of digital. And virtual wards are a great example of this change. As a member of the board a critical part of my role is to communicate to colleagues the art of the possible."

ELIZABETH HALE, DIRECTOR OF IMPROVEMENT
CENTRAL LONDON COMMUNITY HEALTHCARE NHS TRUST

Context

Central London Community Healthcare took the decision to invest in virtual wards as part of their response to the COVID-19 pandemic. As an organisation that works across four different integrated care systems (ICSs) this involved taking different approaches in different areas which has led to the development of a range of successful virtual ward implementations.

Approach

The success of this approach was due to a number of factors:

- Despite a lack of significant evidence available, the trust took the view that there was a sufficient case to invest in virtual wards both because of the strategic importance of digitally enabled services and because of the importance of learning from developing these new services. For example, in some areas this meant taking financial risk to pilot services with partners ahead of securing funding from commissioners.
- The implementation of new digital ways of working and virtual wards would not have been possible without a mindset shift across the organisation. The real difference now is that staff across the trust and the system are comfortable with what it is possible to do with technology and understand what it means for them. This increased confidence has contributed to a wider culture of service innovation at the trust. Since the deployment of virtual wards, the trust's medical director chairs a new "80/20 group" to explore how to turn other clinician-led innovations that are "80 per cent of the way there" into reality.
- Clinical leadership has also been vital. This has involved clinical leaders thinking about how better care can be provided for patients using technology, rather than compartmentalising ideas as separate 'digital' projects. Another key part of this has been making the change feel real and exciting for clinicians. Patient stories and videos were used to highlight to staff the positive impact of the programme on patients (one video explained the impact on those able to be discharged home earlier). And discussions at business meetings focused on what it meant for clinicians.

TEST, MEASURE AND LEARN HOW IT'S WORKING

3

We've heard from many trust leaders who believe that their trust isn't good enough at benefits realisation: once a project is delivered everyone moves on to the next big thing and rarely measures whether the benefits expected in the business case were delivered. This isn't unique to digital transformation, but it is particularly important given the significant investment that trusts are making in the digital space. Measurement is fundamental for any digital transformation: without it, there's a risk of investing in something that doesn't deliver the intended outcomes.

Benefits realisation isn't just a reporting exercise, it's why we invest in digital

Realising benefits from digital investments should be the primary objective of everyone involved in digital transformation. If we're not aiming to deliver positive outcomes for patients, staff and organisational goals, then why bother to invest? But sometimes the aim can get lost: teams end up focusing on delivering the plan (outputs), rather than delivering the benefits (outcomes).

In response, some organisations have created dedicated 'benefits management' functions, or rely on academics and consultancies to evaluate whether digital investments have delivered the expected outcomes. However, external evaluation such as this should complement – rather than replace – a benefits-focused approach within the delivery team, much like external audits provide assurance that a trust has a robust approach to financial management. Trusts should ensure that delivery teams have a benefits-focused mindset, clear goals and the skills and tools needed to measure progress against them without waiting for an external review. Embedding data analysis skills in a digital delivery team can act as a force-multiplier: enabling teams to rapidly understand how they can make the biggest impact.

> ***It's about creating measures that matter. It is the responsibility of the whole board to understand how data is used to improve services and know the most important questions to ask of their analysts. At DCHS, conversations at board-level and across the organisation focus on identifying and measuring the things that matter most to our teams so we can better understand what good looks like for each service.***
>
> Jim Austin, Chief Information and Transformation Officer,
> Derbyshire Community Health Services NHS Foundation Trust

Understand what you're trying to change and how you're going to measure it

There's a few reasons why trusts find it hard to measure the impact of digital transformation:

- **Attribution problems**: it's often difficult to isolate the impact of a particular initiative from everything else. Other changes, external factors, staff changes and seasonality can have a big impact on key metrics.
- **Poor data**: trusts may not have the right data infrastructure to report effectively on impacts. Some data may be unstructured, data may not be linked in the right way and some data may not exist at all.
- **Vague benefits**: if a benefit is not expressed in a clear and measurable way, it will be difficult to determine whether the benefit has been realised or not.
- **Lack of skills or capacity**: delivery teams may lack the analytical skills required to evaluate benefits.

Regardless of these common challenges, there are some tried-and-tested ways to measure the impact of digital investments:

- **Experimental methods**: rolling out changes to a subset of users and observing the differences between this group and a control group is a great way to isolate and accurately measure the impact of a particular change.
- **Proxy measures**: if it's not possible to track a particular metric, there may be other metrics that could be used as a proxy.
- **Sampling**: if universal, regular reporting is not possible, then running periodic samples can provide a good alternative evidence source.

Don't wait until the end of a project to measure the benefits

The way programmes, business cases and contracts are constructed can lead to benefits only being measured when a new digital service is fully implemented. There are some advantages to taking the long view: digital transformation often takes time to bed in, as staff adapt to new ways of working and the technology improves. However, the end of a project is far too late to find out that you've made a poor investment. It's better to deliver and measure incrementally, using early indicators to track whether you are on track or need to change course. You may also find benefits you didn't expect, that open up new opportunities.

Key questions for boards

- Are delivery teams focused on delivering the plan, or delivering benefits?
- How will you know if your digital investments are working?
- Do you have weekly or monthly reporting in place for key metrics?

CASE STUDY

Measuring value at Cheshire and Wirral Partnership NHS Foundation Trust (CWP)

"The role of a finance director is ultimately to enable change. Our job is to make [the case for digital transformation] simple and accessible to all. It has to be communicated in a language that people can understand and demonstrated in a way that people can see and feel."

TIM WELCH, DEPUTY CHIEF EXECUTIVE AND DIRECTOR OF BUSINESS AND VALUE
CHESHIRE AND WIRRAL PARTNERSHIP NHS FOUNDATION TRUST

Context

For a number of years, the trust has been making substantial regular revenue investments into digital devices and system development. During the height of the pandemic, the trust signed-off the development of a new EPR and began gradually developing the system with clinical champions and ultimately deploying the first phase in October 2021. Across all these digital endeavours the board has taken a novel approach to measuring the value of its investment.

Approach

As part of a broader approach to embed quality improvement within the organisational culture, the trust's leadership began avoiding references to cost improvement plans and instead talked about efficiency. The board took this one step further and focused on the currency that would make sense to those on the frontline delivering service improvement, such as ward managers and clinicians. They determined this would be about value.

Consequently, the finance department was rebranded to business and value, and the trust began appraising its digital investments based on value. For most digital decisions this largely revolves around time saved. The board categorises time savings into three categories:

1. Additional time that allows staff to do more or better things (e.g. time for additional home visits and time to care).
2. Efficiency savings that can add up to a budgetary release.
3. Additional time to allow teams the space to think and perpetuate a virtuous cycle of improvement.

Not only does this method work for larger scale digital investments but it also helps the board rationalise regular investment into device refreshes and other day-to-day upkeep.

This approach isn't perfect in terms of benefits realisation. For example, the trust recognises that there is often a degree of running existing and new processes in parallel when rolling out changes, however, they try to resource this where possible.

Freeing up time requires CWP's leaders to:

- Make change as easy as possible for staff – for example by establishing multiple training sites.
- Acknowledge that staff are only able to properly familiarise themselves as users outside of the classroom. So, make training short and sharp and invest in floorwalkers to smooth the transition.
- Understand that in order to realise value you need to build confidence across the workforce. Use everything you have to reach a "critical mass of confidence".

By using time savings as a measure of success, the board sends a clear signal to the wider organisation that improving quality of care and making life easier for staff to do their job well are top board priorities. This in turn has led to improved clinician engagement and buy-in.

THINK LONG TERM, DELIVER IN THE SHORT TERM

4

Digital initiatives can suffer from short-sightedness: a 'quick win' delivered to satisfy a need today, without a clear view of how it joins up with other services. Piecemeal developments such as these can cause more problems than they solve adding to a 'spaghetti architecture' of technology systems and confusing experiences for staff and patients. At a time when NHS organisations are working towards integration at system level, it's critical to think about the long-term consequences of major technology decisions made today.

On the other hand, some digital initiatives let 'perfect be the enemy of the good' by trying to solve every use case at once – sometimes taking years to deliver any value to users. Although these attempts are often thorough and well thought-through they can fail under the weight of their own complexity. By the time these initiatives make it into users' hands things have moved on – technology has progressed, needs have evolved and user expectations have raised.

Trusts should aim for the best of both worlds: a clear digital strategy combined with incremental, iterative delivery.

> ***Dream in years, plan in months, evaluate in weeks, ship daily.***
> DJ Patil, Former U.S. Chief Data Scientist

Deliver step-by-step

Where possible, trusts should avoid mega-projects that only deliver value at the end of a long development cycle – the only digital service of value is one that is being used by staff and patients. Rolling out improvements to real users every few days or weeks – rather than once or twice a year – is a good habit to build. Not only will this speed-up the realisation of benefits, but it will also reduce risks by helping to spot problems early. It will also help build trust with users and stakeholders by demonstrating how progress is being made. Where this isn't possible, make sure you have the feedback loops in place to let you know when something is going wrong.

Build an environment that enables this approach

Shifting to a long-term mindset for digital transformation often requires changes to how work is organised, funded and governed. Funding temporary projects can lead to short termism 'feast or famine' cycles of investment and systems that never improve beyond the initial implementation. Project-by-project funding can also result in siloed and narrowly focused initiatives, rather than digital teams working together to solve problems.

Equally, adopting an incremental approach to delivery can be hampered by existing structures. Long-winded business case, procurement and change approval processes can encourage digital teams to design large, waterfall, single vendor projects to avoid going through bureaucratic processes multiple times. This approach increases the risk of delivering digital services that don't meet the needs of staff and patients and reduces the ability to make changes without incurring significant cost.

Fund teams and services, not projects

Many organisations have found that funding digital teams is more effective than funding project-by-project. This approach 'moves the work to the people' rather than 'moving people to the work', enabling teams to maintain momentum rather than resetting each time a new project team is formed. While this may not always be possible, trusts should design structures and processes that promote long-term thinking, incremental delivery and ongoing improvements – discouraging siloed, linear, stop-start delivery of digital services.

Key questions for boards

- Are your digital initiatives working towards a 'north star' vision?
- How frequently are you able to release improvements to patients and staff?
- Do your funding, governance and procurement structures encourage incremental delivery and ongoing improvements?

CASE STUDY

Incremental EPR delivery at Kent Community Health NHS Foundation Trust

"It is the human bit that matters the most. As a board you have to be aware of the cumulative impacts that change has on staff. It is important not to overburden people with too much change all at once. Pick projects that will give the biggest benefit and do it in a phased way that lessens the burden and allows you to learn and refine as you go along."

GORDON FLACK, ACTING CHIEF EXECUTIVE
KENT COMMUNITY HEALTH NHS FOUNDATION TRUST

Context

Implementing a single EPR system at Kent Community Health NHS Foundation Trust posed a challenge because there was a legacy system that had been implemented differently in different services. The trust began an incremental roll-out of their RiO EPR system in October 2020 with the aim of releasing clinical time, enabling joined up care and improving clinical outcomes.

Approach

The trust realised that it was important to look at their processes and standardise their IT. This would help to meet the needs of multiple services by identifying commonalities between teams and consolidating divergent systems. The trust then took a phased approach during implementation, launching the EPR in children's services first, followed by adult services. The board began deploying the new system in services that they knew would be less complex so they could learn and iterate their approach for those where roll-out was expected to be more challenging.

During a period of increased operational pressure the phased roll-out allowed the trust to lessen the overall burden of the EPR launch on staff and allowed them to see the improvements earlier.

Board-level learning:

- The business case process requires a lot of input. Don't just read and review. You need to properly understand if the proposal is realistic.
- Make sure you can draw on real life experience. Kent Community seconded an IT director from another trust who had an existing relationship with their new supplier.
- The chair and chief executive need to ensure the board has an effective approach to assurance which utilises the varied experience around the table and avoids a division between executive and non-executive directors.

INVEST IN A DEDICATED, CROSS-FUNCTIONAL IN-HOUSE DIGITAL TEAM

5

Successful digital transformation requires digital and clinical practitioners – doers – on the ground who can deliver. It's critical that these teams are:

- Multi-disciplinary – not just staffed by the IT team.
- Hands on, with skills that go deeper than strategy and project management.
- Not wholly dependent on outside consultants or contractors.

Digital is part of the NHS workforce challenge

Digital talent is in short supply across the NHS and the wider economy. As trusts become more reliant on digital transformation to achieve their aims, these shortages can put delivery at risk. Given the need for joined-up digital transformation and the scarcity of skills, we recommend that trusts work together to build shared digital teams with system partners. While technology suppliers play an important role across the NHS, they can't take the place of in-house digital teams entirely. Retaining at least a '**minimum viable digital team**' is critical to get the most from technology suppliers and ensure that digital transformation is anchored in the needs of your users, clinical outcomes and local context.

> ***There is no point in undertaking digital transformation unless you are prepared to totally change the culture of your organisation.***
>
> Caroline Clarke, Group Chief Executive, Royal Free London NHS Foundation Trust

Digital transformation can't be done as a hobby

Clinical input is critical to successful digital transformation. Digital services with limited or late clinical involvement are unlikely to deliver good clinical outcomes, or be adopted widely by staff. However, clinicians can't make significant contributions to digital transformation on top of a full-time day job. Trusts need to find ways to fund clinical time to support digital transformation – not just senior leaders but those close to the details too. And those involved need to reflect your wider workforce and the population you serve because it will lead to safer, more efficient and inclusive services. Trust leaders need to actively review recruitment practices, find new networks and consider the impact on equality and diversity when negotiating with commercial partners.

Don't expect transformation to be led by the IT team

Successful transformation is about much more than technology, it usually involves changing the way people work and communicate. Trusts should be prepared for the scale of change required here; transformation will involve changing processes, culture and mindsets, not just kit. IT teams are experts in technology; they're not necessarily experts in user-centred design, healthcare and organisational change. That's why a diverse, multi-disciplinary digital delivery team, supported by senior leaders across the trust, is a critical condition of digital transformation.

Key questions for boards

- Do you have a '**minimum viable digital team**' in place?
- Are clinicians supporting digital initiatives as part of their job, or as a favour?
- How dependent are you on technology suppliers and contractors?

GET THE BEST OUT OF TECHNOLOGY SUPPLIERS

6

Technology suppliers play an important role for all trusts – even those with strong in-house digital teams. With the right suppliers and ways of partnering, these commercial arrangements can be beneficial for both sides. But there are always risks attached; when these relationships go wrong, it can pose a serious threat to digital delivery.

Buy the right things, in the right way

When a supplier relationship doesn't work out, it is often because the customer didn't really know what they needed during the procurement phase. This can result in organisations buying the wrong thing from the wrong supplier using the wrong contracting methods. That's why it's so important for trusts to establish – as precisely as possible – what technology they need to buy. There's a big difference between buying established technologies like cloud services or laptops and buying complex software systems that need to be customised to the needs of your organisation. Ideally, technology and purchasing decisions should be coordinated across an ICS: it's difficult to deliver joined up care across organisations with fragmented systems and poor interoperability.

Problems arise when organisations adopt a one-size-fits-all purchasing approach, especially when this approach is out-of-step with modern approaches to technology. For example, signing a fixed, multi-year contract for cloud services is probably a bad idea given the cost of cloud computing is decreasing year-on-year. Equally, adopting fixed scope contracts for complex software development projects is a recipe for disaster; building good digital services requires a user-centred, iterative approach. Fixed scope contracts prohibit this, resulting in costly 'change requests' to make the digital service fit-for-purpose and ensure it keeps pace with changing needs. It's important to understand the business model of your technology vendors, and design contracts with this in mind.

Bring together digital and commercial experts

While price is an important factor, trusts won't achieve value for money by buying an unsuitable, substandard or incompatible technology. To make smart buying decisions, you need digital and commercial experts in-house who understand both the healthcare and wider technology markets. This is essential to overcome familiarity bias; if you only consider the usual NHS technology suppliers you risk missing out on skilled small and medium sized enterprises or more modern, lower cost technologies used widely outside the NHS.

Beware of magic, turn-key solutions

Suppliers have a strong commercial incentive to claim that their product meets all of the trust's needs. The reality is usually less rosy; if it sounds too good to be true, it probably is. Many trusts find that in practice, even these 'off the shelf' systems require a significant amount of customisation to make them work for their needs. This kind of 'fake' off-the-shelf system can be the worst of both worlds, the amount of customisation required can negate

many of the benefits of adopting an off-the-shelf system in the first place. If you know of the technology being used elsewhere in the NHS, pick up the phone to your peers and find out what they did.

Keep your options open

Supplier management doesn't end with the signing of a contract – successful partnerships require ongoing effort and strong communication. Trusts should beware of the danger of 'lock-in' to technology suppliers. Being too dependent on a single supplier can limit your commercial leverage, control and flexibility. Some level of supplier lock-in is inevitable if you're adopting a trust-wide EPR, but there are ways to mitigate. For example, you should understand how you can get data in and out of the system. What guarantees do you have about data standards? Will you need to pay the vendor more money to build integrations when you need them? How are you linking up with other trusts who are using the same supplier?

Key questions for boards

- Do you have the in-house skills to navigate technology markets?
- Are you using the right contracting methods?
- What would happen if your relationship with an important technology supplier went wrong?

CASE STUDY

Five reflections on the board's strategic role in managing suppliers

Owen Williams, Chief Executive, Northern Care Alliance NHS Foundation Trust

You need to have a strong 'client side', and not just during the implementation period. You need to develop a mature relationship with your supplier to move beyond lengthy contract negotiations and into the collaboration space.

- Consider their business model, and how they're making money – is this through upfront costs or further down the line in terms of development and licensing? Boards need to understand life time costs.
- How does your supplier make decisions and who is authorised to make these? What is their process?
- How can your supplier help you when they don't have the answers themselves? And equally, when they want something from you, what will be the cost to the trust?
- When it is working well and agreed benefits are being realised, share the praise.

Sue Jacques, Chief Executive, County Durham and Darlington NHS Foundation Trust

Don't under-index the time and energy you need to put into your relationship with your EPR supplier. Our colleagues at Cerner had proposed an extensive 'future state' review as part of the scoping for our new EPR. But it was me as chief executive who pushed back on this as I knew it wouldn't be realistic to carry this out with our staff who were already fully stretched. Instead, we worked out a different way to undertake this review. Our experience is that suppliers will have a certain way of working but you need to push for a tailored approach that works for your organisation.

You also need to make sure there is a good personal fit with the supplier. For example, our Cerner colleagues feel like part of the team and even bring in cakes on a Friday. This may seem trivial, but it helps build trust and collaboration. Try to hold onto good people but be prepared to ask for personnel change if the fit isn't right.

Dr Gurprit Pannu, Chief Digital Information Officer, Sussex Partnership NHS Foundation Trust

Boards should be aware of the power differential between the NHS and IT suppliers, where the latter will have more experience in terms of negotiation and deployment. For example, board leaders should understand the dynamic of being one of many customers, which will have an impact on timescales and the personnel you're allocated. Boards should be clear on their organisational leverage that can be used to manage suppliers: payment schedules, a deeper understanding of the clinical safety imperative and your influence as leaders across the health and care system.

Andy Carruthers, Chief Information Officer, University Hospitals of Leicester NHS Trust

The board can't be across all supplier relationships. As a general rule, it is our chief executive who leads and is involved in our top two or three key IT supplier relationships, but it is me as chief information officer (CIO) who holds most of the relationships with our large suppliers. And then one level below that my senior team leaders will manage smaller suppliers. It depends on the scale and importance to the organisation. With each relationship, you need to be clear on roles and responsibilities, but crucially you need to be transparent with each other.

Caroline Clarke, Chief Executive, Royal Free NHS Foundation Trust

What is your latitude as an organisation? Might it be easier to jointly procure with your neighbour or system partners? Also reach out and learn from others who have already implemented the system you're buying. Only then will you understand the functionality and its potential.

BUILD TRUST, NOT BARRIERS

7

Digital transformation can be challenging. For staff, it will involve changes to how they work. And many trust leaders feel ill-equipped to lead on digital; it is often seen as too complex and technical. Even within IT teams, digital transformation can be unfamiliar and uncomfortable territory for some. All this can contribute to fear and uncertainty about digital transformation. What does it mean for my job? What are the consequences if it goes wrong?

More trust is better than more controls

If you've had problems with digital delivery before, it can be tempting to implement more controls. But this can often make it even harder to deliver successful digital services. A common example of this is requiring all technology changes to be approved by a 'Change Advisory Board'. The intent behind mechanisms such as these is sound – a desire to make sure all technology changes are well considered and don't lead to system outages. Unfortunately, this type of control has shown to be negatively correlated with system stability while also slowing down delivery. Organisations with a modern approach to technology reduce risks by releasing software changes in small pieces multiple times a day, rather than storing up big changes for release once or twice a year. They also use techniques such as peer code review, automated testing and automated deployment to spot problems at a level of detail Change Advisory Boards are not able to.

Jez Humble coined the phrase 'risk management theatre' for controls such as these that are "*imposed in a top-down way, which makes life painful for the innocent but can be circumvented by the guilty*". In contrast, an adaptive risk management approach starts from a position of trust rather than suspicion, where "*people work to detect problems through improving transparency and feedback, and solve them through improvisation and experimentation*". This involves focusing on principles rather than rules and uses failure as a learning opportunity, rather than an opportunity to apportion blame. There are many parallels here with efforts to create a just, learning culture across the NHS to improve patient safety.

Trusts should think carefully about how to establish the right governance mechanisms that give boards and senior leaders the right level of oversight without getting in the way of digital teams. The National Audit Office's *Governance for agile delivery* and Government Digital Service's *Governance principles for agile service delivery* are useful guides.

> ***It is important that senior leaders take the opportunity to play with the product, especially if it is coming from an established vendor – you wouldn't want to buy a car without a test drive and the same applies to technology at your organisation.***
>
> Dr John Byrne, Executive Medical Director, Humber Teaching NHS Foundation Trust

Most of all, boards and senior leaders should ask for 'demos not memos'; using digital services for themselves (or shadowing staff as they use them), rather than reading papers about them. This helps to break down barriers and can give a real insight into how well things are working on the ground.

> ***It's about being ambitious but not unrealistic. Don't forget about the barriers, but do begin to think about how you might manage them and make them into speed bumps rather than roadblocks.***
>
> Dr Sue Broster, Interim Director of Improvement and Transformation, Cambridge University Hospitals NHS Foundation Trust

Work in the open

Successful digital transformation requires strong cross-functional collaboration and – increasingly – system-wide working. However, without care, digital can become another silo – technical jargon and different ways of working can be off-putting to those less familiar with the subject. Digital transformation can be worrying for some – and their concerns should be taken seriously. Again, demonstrating how digital will benefit staff, rather than add more complexity to their jobs, is critical. Communicating clearly, talking about what you've already delivered and sharing real stories from patients and clinicians are great ways to start breaking down these barriers.

> ***At the heart of any transformation, it is all about improving patient experience and outcomes. In the NHS this is something that we all intuitively 'get'. Throughout my career, I've spent a lot of time acting as a translator between technologists and clinicians. There is an opportunity for the shared language and common goals of quality improvement to help break down barriers and bring teams together.***
>
> Anne Cooper, former Chief Nurse, NHS Digital Non-executive Director, Yorkshire Ambulance Service NHS Trust

Break down silos

Many trusts are realising that the best approach is to bring together different change initiatives: digital transformation working alongside system integration, quality improvement and practice development. This integrated way of working recognises that digital transformation is not a straightforward technical change, but rather an adaptive change that "*involves substantial and long-lasting engagement between the leaders implementing the changes and the individuals on the front lines who are tasked with making them work*".

Connect builders with users

It's important that those creating digital services – software developers, designers, data analysts, product managers – understand the needs of those who will use them. Unfortunately, there are often things that get in the way of this. Perhaps there are project managers or business analysts tasked with 'translating' between users and builders, passing requirements down the chain to builders (creating a 'feature factory'). Or maybe the builders are outside the organisation – supplier-side, perhaps even in another time zone. If a delivery team is not directly involved in research and problem exploration, or has little contact with users once a service is launched, this can be very disempowering for them and result in digital services that don't meet user needs. Trusts should find ways to connect digital teams (and suppliers) directly with users and empower them to solve their pain points.

Key questions for boards

- How frequently are digital teams able to release changes to digital services?
- How joined up are your digital transformation, system integration, quality improvement and practice development initiatives?
- How often do those actually building digital services have direct contact with users?

CASE STUDY

Doing the hard yards of culture change at the Royal Free NHS Foundation Trust

"This is all about patient care and all about what you are trying to get for patients. You start with that. Then you quite quickly go into how do we get clinical engagement. There is no point in undertaking digital transformation unless you are prepared to totally change the culture of your organisation."

CAROLINE CLARKE, GROUP CHIEF EXECUTIVE
ROYAL FREE LONDON NHS FOUNDATION TRUST

Context

Many leaders on the board had previous experience of implementing and deploying EPRs. The legacy across the Royal Free NHS Foundation Trust had left the trust with different editions of Cerner on each of its three main sites. In October 2021, the trust-wide version was deployed at the Royal Free Hospital, the last of its three sites. This latest implementation was done in partnership with West Hertfordshire Hospitals NHS Trust and yielded learnings on both sides from the collaboration.

Approach

Based on previous experience, the board understood that putting in a new system would expose clinical variation. Consequently, the trust invested a lot of resource and time in addressing these unwarranted variations and sought to avoid simply digitising existing varied processes. Work to reduce variation is continuing across the Royal Free, West Herts and the North Middlesex University Hospital NHS Trust, and starts with engaging clinical teams around their own data to devise the best pathways for their patients. Rich data produced by the trust-wide EPR now shows how pathways and systems are being used. This insight allows the trust to adapt and constantly improve to ensure the system enhances patient care, rather than distracts from it.

This is now beginning to have an impact on the quality of the trust's services, and is also starting to drive down costs. Having deployed Cerner across three large acute sites, the trust believes a successful EPR roll-out requires leaders to understand:

- The importance of scalability.
- Doing the hard work with system partners up front (as you will need to align sooner or later).
- Facilitating user interaction with the new system so ideas can be surfaced and then funnelled to the supplier during development.
- Considerable investment is needed to ensure clinical and operational teams have the training to use the rich functionality of a system and aren't relying on workarounds.
- Every team will need a champion – every service, ward and division will need someone who really appreciates what the impact on patients could be if a trust gets this right.

8 DON'T STICK TO THE WRONG PLAN

Digital transformation is not a linear process. Technology evolves, user expectations increase and organisational structures and priorities shift. Things don't always go to plan; many organisations make mistakes on their way to digital transformation. And, as shown by the impact of COVID-19 on the NHS, there are factors outside of your control that can have an outsized impact on any digital transformation plans you make.

Get comfortable with not knowing everything at the start

It's important to set a clear overall direction for digital transformation, it's not possible or desirable to detail everything upfront. Most large organisations have structures that can encourage a false sense of certainty. Business cases, funding conditions and programme planning are all designed to reduce risk, but in reality, these are just educated guesses. In fact, the start of a project or new investment is the point at which you know least. Trusts should create a culture where teams feel they can talk about assumptions and risks, not hide them away. Testing risky assumptions early is one of the best ways to avoid failure.

Be prepared for things to go wrong

No matter how good your digital transformation plans are, things will happen that you don't expect. Trusts should be realistic about timing and benefits, and avoid becoming hostage to fortune. It's best to plan for things going wrong. Trusts should find ways to make their organisations more fault tolerant, limiting the impact of any digital failures.

Reprioritisation is a sign of maturity

There can be a temptation to stick to a plan that's not working for longer than is healthy – likely because a lot of political and actual capital has already been invested. However, trusts should beware of the 'sunk cost fallacy' – if something isn't working, it can be better to change paths rather than throwing good money after bad. It's OK to reprioritise – in fact, it's a sign of a mature, learning organisation. Organisations that have undergone successful digital transformations have adopted mechanisms that make this easier: smaller, shorter delivery cycles, regular checkpoints and feedback loops to inform when an investment is working, and when course-correction is needed. Boards should make clear to everyone involved in digital transformation that what matters is not 'delivering to plan', it's delivering the right outcomes.

Key questions for boards

- Do your business cases create a false sense of certainty?
- Are teams able to be honest about the risks involved in digital transformation?
- What mechanisms do you have to review and reprioritise digital initiatives?

CASE STUDY

Delivering electronic prescribing across a hospital group during the pandemic

"Newham knows how to do Newham best. We had a plan for deployment, but the leadership accepted that each hospital site will have its own way of getting things done."

SARAH JENSEN, GROUP CHIEF INFORMATION OFFICER
BARTS HEALTH NHS TRUST

Context

The trust had previously piloted electronic prescribing and medicines administration (EPMA) in a single ward six years ago, but found its infrastructure wasn't advanced enough and it hadn't properly engaged with clinicians and the wider workforce to guarantee successful adoption. Crucially, there was no business case post pilot. Work began again in 2018 to deploy EPMA to replace paper, with go live scheduled for May 2020.

Approach

Based on its previous experience, the board decided to avoid piloting and started straight away with widespread engagement and training. However, the work had to be paused in its entirety during March 2020 when many digital and clinical staff were redeployed to support the first COVID-19 wave. Training was cancelled and kit that had been earmarked for the new EPMA rollout was repurposed for the London Nightingale hospital set up. After several weeks, the trust chief information officer (CIO), chief nursing information officer (CNIO) and chief clinical information officer (CCIO), along with the director of strategy, and chief medical and nursing officers worked through the pros and cons of further postponement. A 'drop-off point' was calculated, after which the trust would need to start over. As a consequence, the board took the decision to restart the EPMA deployment despite the ongoing pandemic response.

The trust began individual site roll-outs in September 2021, rather than a 'big bang' launch across the four acute hospital sites. The Bart's leaders recognised implementation would need to be tailored and localised; each site has different cultures and identities that the group needed to respect and engage. In addition to this each site has a clinical informatics lead and nursing informatic lead who have a forensic understanding of how to manage changes. The individual site roll-outs surfaced several issues at each stage. For example, at one the team found certain medicine sets which were specific to a speciality were unavailable on the new system which was a particular problem with the rapid emergence of new COVID-19 treatments. But it also meant it could be addressed before the rollout at the next hospital. This iterative problem-solving model was used throughout the full roll-out schedule until all sites were live and full adoption was achieved.

FURTHER READING

Digital transformation is hard. Many large organisations – inside and outside the NHS – struggle to get it right. Most senior leaders will have first-hand experience: digital programmes that raise expectations but fail to deliver any real benefits, technology supplier relationships that go sour or clunky new systems that get in the way of clinical care. When digital is done well, however, it can play a major role in the transformation of healthcare; delivering better health and better care at lower cost.

In this guide, we've set out eight guiding principles to help trusts to improve how they deliver digital services and avoid common mistakes. Building this digital delivery 'muscle' often requires practical changes to how your organisation works: communications, governance, procurement and funding. And – as Caroline Clarke, group chief executive at the Royal Free London NHS Foundation Trust, explains in the foreword to this guide – successful digital transformation takes time, investment and a culture of collaboration and learning.

These principles should be read alongside the previous guides we have published, which set out the 'pre-conditions' for digital transformation in the NHS. These guides are designed for boards and senior leaders:

- *A new era of digital leadership*
- *Building and enabling digital teams*
- *Building a digital strategy*
- *Making the right technology decisions*

We also recommend these resources from inside and outside the NHS, which go into more detail on the principles set out in this guide:

- *What good looks like*, NHS England and Improvement
- NHS digital service manual and service standard
- Government service manual
- 18F de-risking government technology guide
- Digital Readiness Education Programme, Health Education England
- Digital Boards Knowledge Hub, NHS Providers

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Interactive version

This report is also available in a digital format via:
www.nhsproviders.org/digital-delivery-principles

For more information

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