Clinical Technology Strategy

2019 - 2024

Brilliant Care, Brilliant People, Brilliant Future

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Contents

Overview and Summary

It is recognised that Information Technology (IT) is an essential clinical tool, with widespread benefits for both staff and service users. Appropriate resourcing and use of IT impacts the quality of clinical outcomes, patient safety and patient satisfaction. Our Clinical Technology Strategy sets out how we plan to deliver outstanding services and support the digital priorities of:

- Strengthening our digital foundations
- Delivering a rolling programme of enhancements
- Engaging with staff and patients when designing technical improvements

Consolidating what we have, Delivering what we need, Developing what we want

There has never been a time of greater demand on our services. We have difficulties recruiting clinical staff and we know nationally that there are financial pressures across the system. In order to continue to provide high quality care, effectively using our resources we must continue to modernise and transform our digital space. This Clinical Technology Strategy describes how the Trust can digitise and make appropriate use of data at every level in order to meet national and local strategic priorities.

We must look at how we support staff to deliver services, how we improve the quality of those services and how we work with partners to ensure that our service users and carers experience continuity of care at all times.

The ICT Directorate aspires to move to a user-centred development model

- We will foster collaboration with service users, clinicians , suppliers , and with partners across the health and care system locally and nationally.
- We will work together to identify unmet needs .
- We will develop evidence based technological solutions .

To deliver services which add value, reduce administrative burden and enable better patient care.

Section 1: National, regional and local context

This section sets the national framework within which we must deliver our digital services and includes details of the NHS Long Term Plan and the Kent and Medway Sustainability and Transformation Partnership. The Long Term Plan requires that by 2024 all secondary care providers in England will be fully digitised, including clinical and operational processes across all settings, locations and departments. It states that data must be captured, stored and transmitted electronically, supported by robust IT infrastructure and cyber security.

Section 2: Consolidating what we have – Strengthening our digital foundations

To deliver the transformational change that we aspire to provide it is essential that the Trust strengthens its digital foundations. This section describes the objectives and examples of potential projects to help us do this in order to support staff to increase the amount of time they spend with patients.

Section 3: Delivering what we need – delivering a rolling programme of enhancements

To support a culture of continuous improvement existing technology must be enhanced and new technology procured. To make the most of this new technology the whole workforce will need to be developed to realise the desired benefits outlined in this strategy. With the speed of change in IT the expertise in the ICT Directorate must be constantly developed to keep pace with technical innovation, and the IT literacy of the whole workforce must be advanced.

Section 4: Developing what we want – Engaging with staff and patients when designing technical improvements

The ICT Directorate aspires to move to a user-centred development model. Systematic programmes of engagement with stakeholders will be used to identify digital needs and training requirements, articulate requirements, test and implement solutions. We will work across departmental, functional and geographical boundaries to bring together different groups of staff, patients and partner organisations to deliver our vision for the future. By doing this we will deliver clinically-led improvements and put the patient at the heart of the system.

Section 5: Next steps

This section describes how we must adapt our current practices to turn this strategy into workable and deliverable annual plans. By its nature IT is always changing, updating and improving and so must we. The process of consolidating what we have, delivering what we need and developing what we want is not linear. The projects which fall into each category will change as national and local priorities change. Systematic engagement programmes with patients, carers, staff and other organisations will be used to develop annual plans.
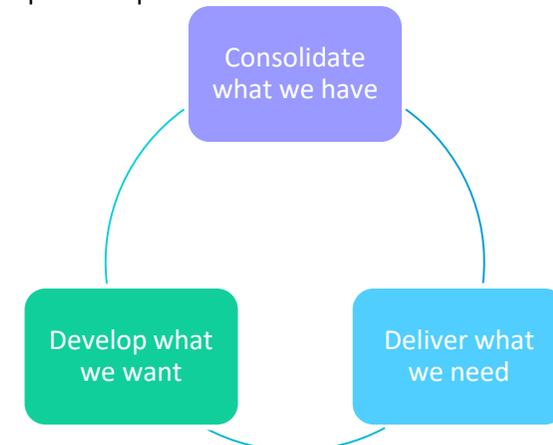
Section 1: Building a digital vision to support the future of the NHS

The NHS Long Term Plan (January 2019) seeks to build on the work that began with the Five Year Forward View to use digital technology to deliver better health for everyone, better care for all patients and sustainability for the whole NHS system. The LTP sets out specific digital goals for the next 5 years which include:

- Online advice and digital tools for self-care
- Virtual appointments
- Mobile access to health records
- Patients able to contribute directly to their health record
- Decision support technology and Artificial Intelligence
- Tools to reduce administrative hassle from clinical staff
- Sharing data to support research
- Interoperable systems for seamless care

The Future of Healthcare: our digital vision, data and technology in health care (October 2018) gives Trusts the following targets:

- Removing repetition for patients who give information as they move through the system
- Personalise patients' use of the services
- Enable patients to access and contribute to their care records
- Provide apps that enable self-care
- Secure all information held and shared
- Make information available to all care professionals
- Provide a consistent and convenient user experience
- Enable clinicians to access information when and where they need to
- Enable clinicians to record information about the patient which is readily available to others involved in their care
- Provide decision support tools to support the delivery of care
- Make data available to researchers and service commissioners

All providers are expected to be fully digitised by 2024, including clinical and operational processes across all settings, locations and departments. Data must be captured, stored and transmitted electronically, supported by robust IT infrastructure and cyber security

The Mental Health Implementation Plan (July 2019) sets the challenge for 100% of mental health providers to be fully digitised and integrated with other parts of the health and care system by 2024. The plan identifies specific initiatives including:

- community based staff to have mobile access to clinical systems
- patients to have access to their care plans
- self management apps for patients
- digital models of therapy
- digital consultations
- digital processes to support clinical monitoring
- digital clinical decision-making tools.

The Global Digital Exemplar (GDE) Programme has been leading the way in adopting and exploiting technology and working with suppliers to develop new capabilities. As well as routinely visiting other trusts and working in partnership, we have been working with two of the mental health GDEs (Birmingham & Solihull and Berkshire) to take advantage of work they have already started and learn from their blueprinted approach and lessons learned. Common areas of interest include:

- capabilities to improve patient flow and bed management
- developments to improve productivity and release time to care
- Patient apps, in particular a mood diary app
- Mobile RiO

Local Health and Care Records (LHCR) for information sharing is a golden thread through almost all NHS digital policies and strategies. The Kent Care Record is the LCHR for the Kent and Medway health and care system and KMPT has been an active participant throughout. The objectives for the first two years of this initiative are:

- year 1 - the creation of an integrated record for every person
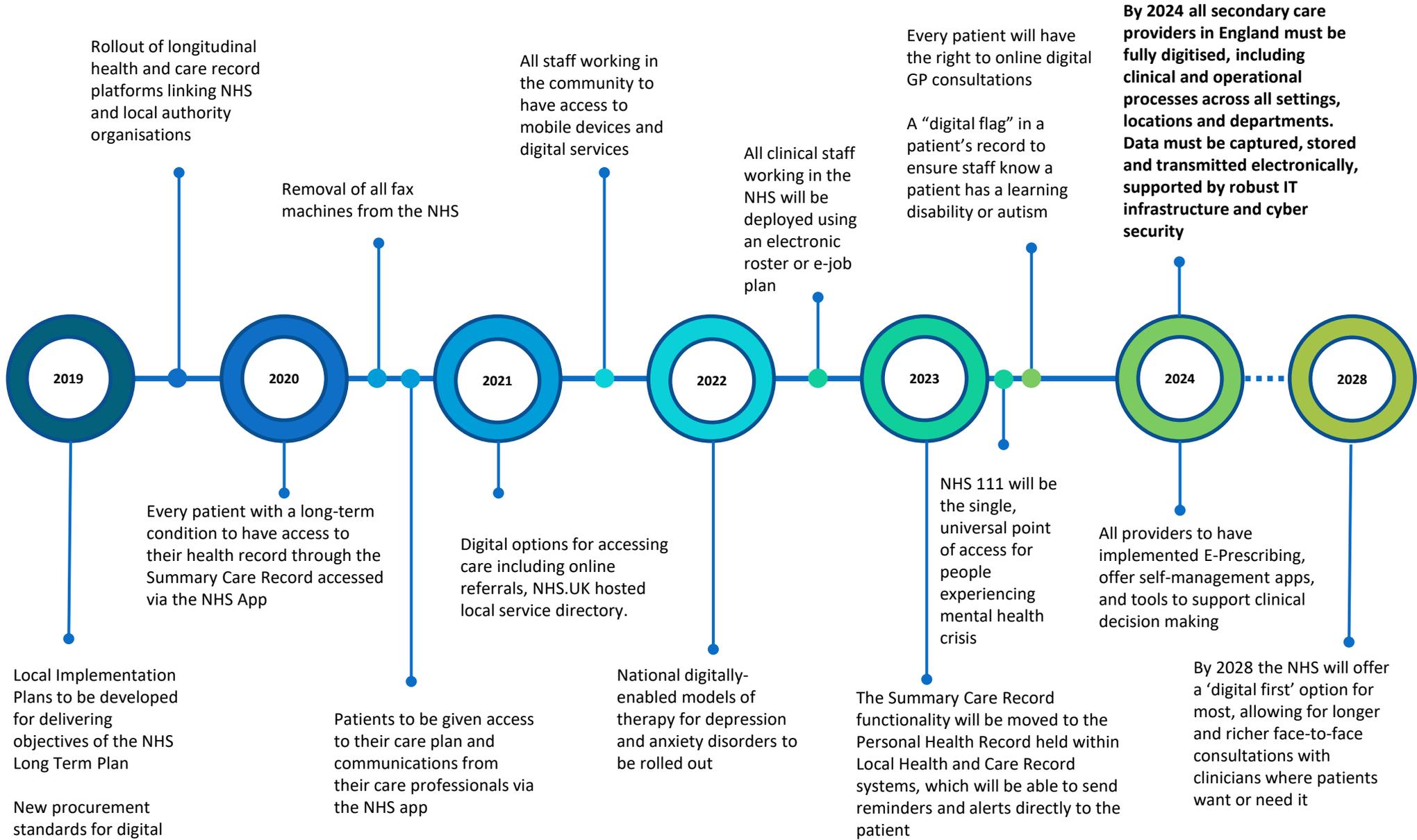- year 2 - the development of citizen facing records and services

The National Artificial Intelligence Laboratory (August 2019) initiative has been launched by NHSX with funding of £250m. Artificial intelligence is now receiving significant policy focus and the A.I. laboratory is intended to accelerate the use of this technology to save money, improve care, and save lives. Innovation is at the heart of KMPT values and we have already started to look at applications for A.I covering:

- appointment management
- patient engagement
- administration support
- alert management
- coding and classification
- predictive forecasting
- record summarisation
- information governance

Internet First (June 2019) follows the local government lead in moving services to the internet. It requires that externally accessible health and social care digital services must be securely accessible over the public internet by default. Although no dates have yet been published for moving services to the internet, the policy does set the following expectations:

- health and social care organisations to have sufficiently scaled and functional internet connectivity to support the needs of the organisation in consuming and where applicable providing internet hosted services
- digital services to be accessible over the internet at the earliest opportunity

Digital highlights in the NHS Long Term Plan

Rollout of longitudinal health and care record platforms linking NHS and local authority organisations

Removal of all fax machines from the NHS

All staff working in the community to have access to mobile devices and digital services

All clinical staff working in the NHS will be deployed using an electronic roster or e-job plan

Every patient will have the right to online digital GP consultations

A "digital flag" in a patient's record to ensure staff know a patient has a learning disability or autism

By 2024 all secondary care providers in England must be fully digitised, including clinical and operational processes across all settings, locations and departments. Data must be captured, stored and transmitted electronically, supported by robust IT infrastructure and cyber security

2019 — **2020** — **2021** — **2022** — **2023** — **2024** ⋯ **2028**

Local Implementation Plans to be developed for delivering objectives of the NHS Long Term Plan

New procurement standards for digital systems introduced

Every patient with a long-term condition to have access to their health record through the Summary Care Record accessed via the NHS App

Patients to be given access to their care plan and communications from their care professionals via the NHS app

Digital options for accessing care including online referrals, NHS.UK hosted local service directory.

National digitally-enabled models of therapy for depression and anxiety disorders to be rolled out

NHS 111 will be the single, universal point of access for people experiencing mental health crisis

The Summary Care Record functionality will be moved to the Personal Health Record held within Local Health and Care Record systems, which will be able to send reminders and alerts directly to the patient

All providers to have implemented E-Prescribing, offer self-management apps, and tools to support clinical decision making

By 2028 the NHS will offer a 'digital first' option for most, allowing for longer and richer face-to-face consultations with clinicians where patients want or need it

National picture

This Clinical Technology Strategy also seeks to address and support the delivery of other national policy requirements including:

The Five Year Forward View - exploit the information revolution

Personalised Health and Care 2020 - use technology to empower staff, patients and carers

Making IT Work - outlines a plan to digitise the NHS and appoint Chief Clinical Information Officers (CCIOs) to lead digital adoption

The Five Year Forward View for Mental Health
- Data revolution to support innovation and research to drive change
- Consistent and reliable data in mental health which is appropriately shared
- Integration of care with rapid use and sharing of data with other organisations
- Technology to collect data for improved services and research
- Technology used to support choice and personalised care

The Carter Review which describes the need to deliver improved operational efficiency and better use of clinical staff time.

Regional Aspirations

The Kent and Medway Sustainability and Transformation Partnership has been set up with the following aims
- **Care Transformation**: Preventing ill health, intervening earlier and bringing excellent care closer to home
- **Productivity**: Maximising synergies and efficiencies in shared services, procurement and prescribing
- **Enablers**: Investing in estates, digital infrastructure and the workforce needed to underpin a high-performing system
- **System Leadership**: Developing the commissioner and provider structures which will unlock greater scale and impact

The Kent and Medway Sustainability and Transformation Partnership (STP), soon to become the Kent and Medway Integrated Care System (ICS), has noted that failing to use digital technology to share information across different organisations can negatively impact upon patient experience, care and safety.

The STP Digital workstream has been created to develop
- shared health analytics
- online patient services
- a Kent-wide care record

This strategy will also work to deliver closer working relationships, facilitated by technology, with various different organisations and groups in order that we can work together to increase patient satisfaction and improve patient outcomes, the quality of our services and patient safety. These working relationships will include working more closely with

- General Practitioners
- Commissioners
- Charities
- Academics
- Patients

- Other Trusts
- Global Digital Exemplars
- Suppliers
- Researchers
- Carers

Strategic alignment

This Clinical Technology Strategy aligns with current national strategy and policy available at the time of development and takes account of published priorities and timescales.

More locally, there are a range of strategies in development across the Sustainability and Transformation Partnership (STP) in Kent, within each of the Integrated Care Partnerships (ICPs), and system wide strategies to meet the needs of specific patient populations - most notably for KMPT the STP workstream for mental health. Our Clinical Technology Strategy will need to influence and align with each of these as they become more mature and to facilitate this requirement we have representation on all of these agendas.

Within KMPT our Clinical Technology Strategy must dovetail with other clinical and corporate strategies as these are developed:

KMPT Estates Strategy
A range of technology developments enable aspects of the Estates Strategy including:
- technologies that facilitate flexible working such as hot-desking, video-conferencing, video-consultations, WiFi (also to support mobile phones)
- technologies that reduce our need for space such as home-working, GovRoam for working from other public sector sites, and document management to reduce our dependency on filing cabinets
- technologies to facilitate improved service delivery such as the use of our IT Helpdesk software to also log and manage estates calls

KMPT Information Strategy
There are several points of connection between our Clinical Technology Strategy and our Information Strategy to:
- ensure information systems can provide data to inform planning and management decisions based on a single source of integrated data
- integrate systems and allow data to flow between systems to ensure consistency and efficiency of data collection processes
- migrate paper-based and manual data collection processes to allow data to be used for direct care and for secondary uses
- ensure information benefits are defined and delivered wherever such opportunities are made available through technology developments – for example, new electronic data will become available from our e-referrals, e-observations , and e-prescribing projects
- ensure all new systems are specified with interoperability and application programming interfaces (APIs) to expose data from those systems
- ensure our technology infrastructure supports the aims and needs of our data processing activities
- coordinate the move to cloud based infrastructure and internet-first service delivery
- exploit new technologies including artificial intelligence to build more capable analytics and predictive forecasting

It is recognised that further alignment will be necessary as subsequent strategies are developed including the strategy for fixed and mobile telephony currently being developed by our estates colleagues, and for this reason the Clinical Technology Strategy will be considered and reviewed alongside the development of all new strategies.

KMPT Strategic Objectives

The Clinical Technology Strategy is designed to support the delivery of the Trust's strategic objectives, the Clinical Strategy, the Informatics Strategy and all other elements of the Strategic Framework (diagram below).

1. Consistently deliver an outstanding quality of care
2. Recruit, retain and develop the best staff making KMPT a great place to work
3. Make continuous improvement the heart of what we do
4. Develop and extend our research and innovation work
5. Maximise the use of digital technology
6. Meet or exceed requirements set out in the Five Year Forward View
7. Deliver financial balance and organisational sustainability
8. Develop our core business and enter new markets through increased partnership working
9. Ensure success of our system-wide sustainability through active participation and leadership

Our Vision

We will work together to identify unmet needs, develop digital solutions which add value, reduce administrative burden for our staff and enable better patient care; and we will do this in collaboration with service users, clinicians and suppliers.

Our Objectives

Following extensive consultation with stakeholders from across the Trust, a review of the national policies and in reference to the work of the STP/ICS we have identified 10 digital strategic objectives.

Culture and Engagement

The vision set out in this strategy is ambitious and will represent a new way of working for the organisation. There will be many challenges to overcome along the way but this is deliverable. One of the largest challenges will be the culture change, by this we mean the consideration of technology in all quality improvement and service transformation projects. The strategy will aim to demonstrate to the organisation the added value that will arise if technology is implemented and used correctly.

With recognition of the need to harness greater value from our investment in technology it is essential that the cultural challenges faced are addressed in order to deliver benefits and outcomes. The key stakeholders for engagement will be:

Operational Staff
Working closely with the operational staff the programme of work will look to provide a framework by which operational dependencies / benefits of technology can be reviewed and subsequently met. The ability of operational staff to consider and convey what technology will help them deliver effective services will be key.

Clinical Staff
Ensuring our technology investments are meeting clinical needs and making the lives of clinicians easier will enhance uptake of and interest in technology, therefore having engaged clinical staff in the design, testing and sign off process will be essential.

Technology and clinical systems support staff
This staff group will be key in designing a framework for delivery which will effectively engage the other stakeholders as well as developing the required skills and approach to build and implement solutions.

Our Consultation Process

This strategy has been written following extensive consultation and engagement activities during which we spoke to colleagues across the Trust to understand their priorities both now and for the future, our patients and carers, other mental health Trusts, partner organisations and system suppliers. In total we joined 47 engagement events and listened to the feedback from 491 stakeholders.

From our staff the top three requested digital improvements were
- Better video conferencing facilities
- More devices, especially mobile devices
- Live access to RiO in the community or walking around the wards

From our patients and carers the top three requested digital improvements were
- Electronic access to Care Plans
- Digital methods for communicating with Care Coordinators
- Audio and visual meetings with the Trust

Engagement will be a continuous and essential part of the delivery of this strategy ensuring the right people are involved in the design, testing and implementation of solutions.

Clinical engagement is of particular importance in order to allow the delivery of the objective to use technology more effectively to improve care, the role of the trusts Chief Clinical Information Officer (CCIO) and the new deputy CCIOs will be involved in all aspects of delivery.

Objective 1: Develop our clinical engagement practices to ensure we digitise the correct process
Clinicians and developers must work together to select the right processes and deliver the right solutions in order to improve clinical outcomes

Objective 2: Develop and extend our commitment to interoperability
Interoperable systems facilitate the delivery of seamless care across organisational boundaries and allow staff to access all parts of an individual's health and care record

Objective 3: Develop and extend our cyber security capabilities
Use technology to ensure that the Trust's data assets are protected from malicious and accidental harm

Objective 4: Develop our workforce's digital capabilities
To ensure they have the skills to fully realise the benefits of new technology

Objective 5: Develop co-production processes to ensure the design of our systems and services are user-centred
Good design requires user engagement to ensure that they are useful, usable and improve the status quo

Objective 6: Ensure easy access to systems and data at the point of care
Through the delivery of mobile working technologies

Objectives 7: Develop and deploy technology which will support a paperless operating environment
Technology must be as portable, user-friendly and reliable as paper forms

Objective 8: Develop systems which support research and clinical audits
By improving access to data in easily consumable formats

Objective 9: Deploy technology which minimises negative impact of our activities on the environment
Taking all opportunities to improve sustainability and reduced energy consumption

Objective 10: Deliver improvement through continuous digital development
Never accepting 'good enough' - always striving for better

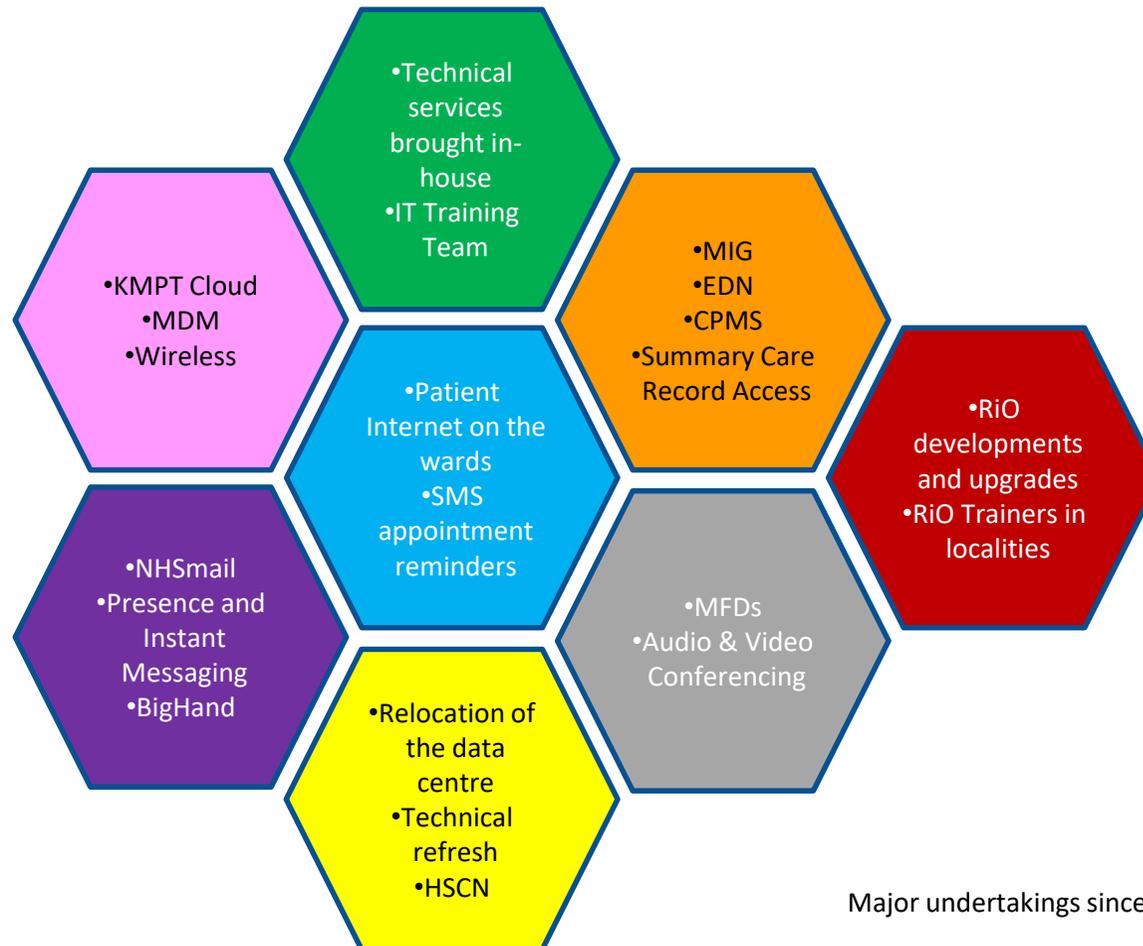# Digital objectives from the national strategies to the stakeholder feedback

The different priorities of the stakeholders and national policies are summarised below.

	Clinical engagement	Interoperability	Cyber Security	Workforce's digital capabilities	Co-production	Mobile working	Paperless operating environment	Research	Environmental impact	Continuous digital development
NHS Long Term Plan January 2019	√	√	√	√	√	√	√	√	√	√
Digital Paper	√	√	√	√	√	√	√	√		√
Five Year Forward View	√	√		√	√	√	√	√		√
Five year Forward View for Mental Health		√	√		√	√	√	√		
Personalised Health and Care 2020	√	√	√	√	√	√	√	√		√
Making IT work AKA Watcher Report	√	√	√	√	√	√	√	√		√
Carter Review	√	√		√	√	√	√		√	
Staff Engagement feedback	√	√		√	√	√		√		
Patient and Carer Engagement feedback		√	√		√					

Section 2: Consolidating what we have

The Information Technology revolution needs to make the NHS a more satisfying place for our staff to work. "*At the moment, too much of the technology in the NHS is a burden on our staff - slow to log in, clunky to use and unreliable in moments of crisis*" (The NHS Long Term Plan, 2019, Pg 94)

"*The state of online services, basic IT and clinical tools in health and care is far behind where it needs to be… As a result, some people are getting suboptimal care, staff are frustrated and money could be saved and released for the front line… To reach the potential we need to focus on getting the basics right; the digital architecture of the health and care system*" (The Future of Healthcare, 2018)

- Technical services brought in-house
- IT Training Team

- KMPT Cloud
- MDM
- Wireless

- MIG
- EDN
- CPMS
- Summary Care Record Access

- Patient Internet on the wards
- SMS appointment reminders

- RiO developments and upgrades
- RiO Trainers in localities

- NHSmail
- Presence and Instant Messaging
- BigHand

- MFDs
- Audio & Video Conferencing

- Relocation of the data centre
- Technical refresh
- HSCN

Major undertakings since 2012-2018 IM&T Strategy

Objective 1: Develop our clinical engagement practices to ensure we digitise the correct process
Clinicians and developers must work together to select the right processes and deliver the right solutions in order to improve clinical outcomes

We must develop ways of helping our time-poor staff to identify and use digital innovations that are highly effective. The right technology can remove wasted time and irritating tasks, so that staff are able to focus on patient care. The use of IT systems should not be an additional burden that they need to be extensively trained for (Future of Healthcare).

We must ensure that we design and deliver digital solutions that support our clinicians. By improving technology we can help staff to prioritise their work more effectively, identify opportunities for process improvements and reduce bureaucracy in order to free up expensive staff time and give them more time to care.

By automating and standardising the generation and storage of data we can help to reduce the administrative tasks completed by frontline services and eradicate unnecessary and duplicate activities. Intuitive tools can be used to capture data as a by-product of care in ways that empower clinicians.
Projects to deliver this objective will include:

- Creating a programme of systematic staff engagement to ensure clinician led innovations are delivered
- RiO enhancements to improve the user friendliness of the system that tie to the strategy
- Our Software Developers building bespoke solutions to meet local needs vs off-the-shelf packages
- A rolling programme of hardware replacements to ensure all laptops and desktops are fast and reliable
- Improving and increasing our audio and visual conferencing capabilities
- Upgrading to Windows 10 to ensure we have stable and secure operating systems
- Continue to develop our digital governance structure to improve accountability and oversight of this programme of work

Object 2: Develop and extend our commitment to interoperability
Interoperable systems facilitate the delivery of seamless care across organisational boundaries and allow staff to access all part of an individual's health and care record

Many of the initiatives described in the Long Term Plan, the aspirations of the Kent and Medway STP/ICS and the partnership working demands of our staff require cross-organisational actions. This work will only be enabled through the rollout of more interoperable systems that can seamlessly share information, which will make care planning and delivery faster, safer and better for our patients. By working together to take a system-wide approach we will be able to design care around patients and not services or organisations. Too often the burden of managing complex interactions and data flows between Trusts, systems and individuals falls on our patients and our staff. Digital services and data interoperability gives us the opportunity to free up time and resources to focus on clinical care and staying healthy.

A system-wide approach to digitisation will allow us to make the most of all possible resources and take advantage of economies of scale. By working in partnership with other organisations we will be able to deliver bigger changes and realise greater benefits than would be possible if we were working alone.

Future CQC inspections will place greater emphasis on partnership working and the management of system-wide quality. This will mean being held to account for our contribution to the work undertaken to drive-up quality across the local area. NHS Improvement will also take a more proactive role in supporting collaborative approaches between Trusts.

We will work will other colleagues in Information Governance to remove barriers from information sharing.

Projects to deliver this objective will include:

• Information sharing to GP working arrangements
• MIG development and CPMS
• RIV and MIV (RiO information viewer and Mosaic information viewer)
• E-Referrals
• Corporate systems integration
• APIs and Connexus
• Kent and Medway Care Record

Objective 3: Develop and extend our cyber security capabilities
Use technology to ensure that the Trust's data assets are protected from malicious and accidental harm

The NHS is a potential target for cyber criminals and so we must ensure that our systems and the data they hold are secured through the implementation of security technology, monitoring systems and staff education. We have already made extensive investments to ensure our systems and services are resilient and recoverable, but this is an area which requires continuous focus.

We need to hold our data securely and use it appropriately to ensure that our patients have confidence in us.

A safe and secure digital infrastructure is a vital basis for everything we wish to do. We will continue to build on the existing safeguards in legislation (e.g. GDPR) security standards (ISO 27001), toolkits (DSP) and independent advisory bodies (e.g. TiAA and NHS Digital)

The ICT Directorate and the systems and services it provides to the Trust have been ISO 27001 and ISO 9001 accredited since 2010.

ISO27001 covers Information Security and requires that we have the correct hardware, software, processes and suitability trained personnel in place to ensure that the Trust's data assets are protected from malicious and accidental harm. There is a significant focus on identifying and managing risks, developing and testing business continuity and disaster recovery plans and ensuring staff are adequately trained.

ISO9001 covers Quality Management and requires that we have documented and tested policies and processes in place to provide excellent and consistent services to staff and patients. It also requires that we have highly trained staff who are capable of following the processes and delivering the services. There is a significant focus on demonstrating continuous improvement, learning lessons from incidents, developing staff and auditing services.

Accreditation in both ISO27001 and ISO9001 demonstrates that the ICT Directorate is committed to both information security and quality management and is operating at a consistently high standard in both.

Objective 4: Develop our workforce's digital capabilities
To ensure they have the skills to fully realise the benefits of new technology

The Future of Healthcare states that by 2024 every NHS Board will include either a Chief Information Officer (CIO) or a Chief Clinical Information Officer (CCIO).

We also need to develop the technical skills across our whole workforce to help professionals to manage their technology, articulate their user needs better and buy the best technology. In short, we need tech-savvy staff.
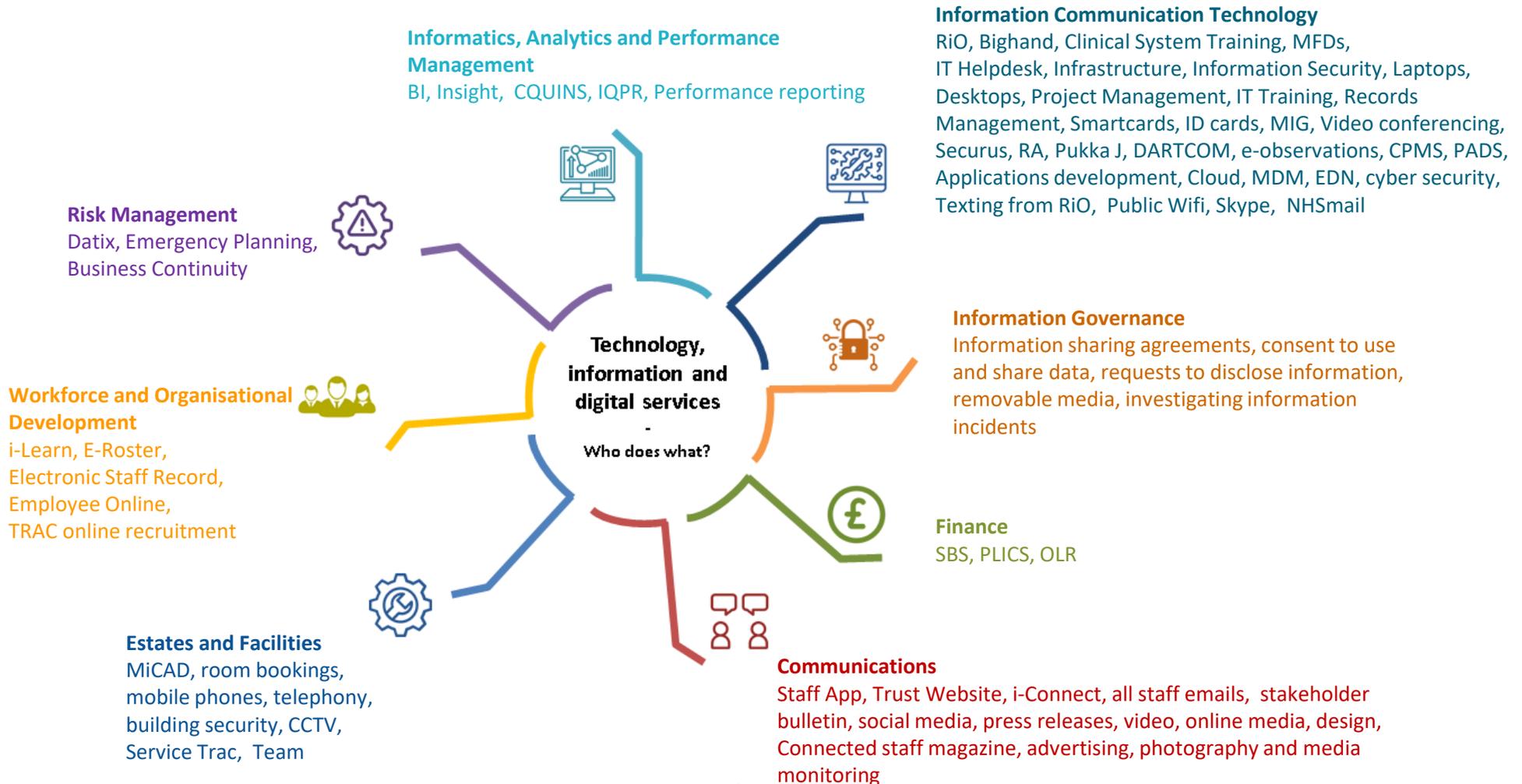
We now have an in-house team of highly skilled technical experts to train our workforce to help us deliver our Clinical Technology Strategy. National initiatives are being established to professionalise the roles of NHS IT with the creation of a Federation of Informatics Professionals and a Faculty of Clinical Informatics. These experts will continue to support the workforce to develop the digital skills they need to make effective use of existing digital tools and those we deploy in the future.

Projects to deliver this objective will include:

- Staff training to improve digital confidence and competence
- Supporting the development of our leaders' digital skills and introducing a CCIO and CIO to the Trust Board
- Ensure our technical staff have opportunities for Continued Professional Development
- The development of bespoke training programmes to accompany digital implementations where applicable
- Rolling training programme of staff published on I-Learn

Section 3: Delivering what we need

In the information age IT is at the core of everything we do. We need to adopt a collaborative approach so that every service is designed around users' needs, whether patients, the public, or staff. Services which are designed around users and their needs enable more people to get the right outcome for themselves and so are more likely to be used. ICT will work with system managers from across the Trust, region and country to deliver our digital objectives.

Informatics, Analytics and Performance Management
BI, Insight, CQUINS, IQPR, Performance reporting

Information Communication Technology
RiO, Bighand, Clinical System Training, MFDs, IT Helpdesk, Infrastructure, Information Security, Laptops, Desktops, Project Management, IT Training, Records Management, Smartcards, ID cards, MIG, Video conferencing, Securus, RA, Pukka J, DARTCOM, e-observations, CPMS, PADS, Applications development, Cloud, MDM, EDN, cyber security, Texting from RiO, Public Wifi, Skype, NHSmail

Risk Management
Datix, Emergency Planning, Business Continuity

Technology, information and digital services - Who does what?

Information Governance
Information sharing agreements, consent to use and share data, requests to disclose information, removable media, investigating information incidents

Workforce and Organisational Development
i-Learn, E-Roster, Electronic Staff Record, Employee Online, TRAC online recruitment

Finance
SBS, PLICS, OLR

Estates and Facilities
MiCAD, room bookings, mobile phones, telephony, building security, CCTV, Service Trac, Team

Communications
Staff App, Trust Website, i-Connect, all staff emails, stakeholder bulletin, social media, press releases, video, online media, design, Connected staff magazine, advertising, photography and media monitoring

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Objective 5: Develop co-production processes to ensure the design of our systems and services are user-centred
Good design requires user engagement to ensure that they are useful, usable and improve the status quo

Technologies must work for everyone, from the most digitally literate to the most technology adverse and reflect the needs of people trying to stay healthy as well as those with complex conditions. For this reason we will take a systematic approach to engage patients in decisions about all digital services which impact their health and wellbeing and empower them to interact with services seamlessly.

Engagement activities will enable us to identify individual digital preferences to allow us to create multichannel digital services which could include online therapies for common mental health problems, online triage to direct people to the appropriate service and virtual clinics with escalation to face-to-face appointments where needed.

We acknowledge that those with the greatest health needs are also the most at risk of being left behind so we will build our digital services with this in mind, ensuring the highest levels of accessibility wherever possible. We recognise that in-person services will always be there to do what computers cannot and provide personal contact for those who need or want it. Different people will need different services and while some people will never use digital services themselves directly, they will still benefit from others using digital services and freeing resources to help them.

Digital technologies will provide convenient ways for patients to access advice and care, and improve prevention of avoidable illness and its exacerbations. People will be helped to stay well, to recognise important symptoms early and to manage their own health, guided by digital tools.

The Future of Healthcare states that patients need to be able to communicate with us about appointments and administrative issues in the way they run the rest of their lives – via email, text messaging and apps. No service should refuse to communicate electronically about these issues with a patient where they would previously have sent a letter.

The national NHS App will provide a 'digital front door', a single place where patients register to access NHS services and they will be able to personalise the content of digital tools and services. Any online offering that we develop for patients must be compatible with the NHS App.

Carers will also benefit from greater digitisation, not only to address their own support needs but also with formal recognition of their carer status, perhaps through the adoption of the national 'carer's passport', they will be able to be directly involved in a patient's care. This will help to ensure information is freely shared so that carers do not have to with deal with emergencies on their own.

Projects to deliver this objective will include:

- A systematic programme of patient engagement to create a co-production approach to digital development
- Producing personalised and relevant health information online
- Producing digital tools linked to the NHS App to make our systems and services available on smartphones
- Providing secure online access to patient records into which patients can directly contribute
- Electronic feedback systems to collect patient satisfaction data

Objective 6: Ensure easy access to systems and data at the point of care
Through the delivery of mobile working technologies

We need to ensure that clinicians can access and interact with patient records and care plans wherever they are, including in a person's home, in order for them to give the best possible care. Mobile access to digital services will also allow health and care workers to work more flexibly. Without the need to return to base to type-up notes and accesses systems mobile technology will allow clinicians to increase the amount of time they spend with patients and the number of patients they see.

Projects to deliver this objective will include

- Developing our Cloud technology to support greater mobile working
- Expanding the use of Mobile Device Management (MDM) to share documents securely on mobile phones
- Deploying reliable mobile technology to allow flexible working with the correct technology available at the point of care
- Deploying reliable mobile technology to reduce staff travel and allow more time for patient care

Section 4:Developing what we want

The potential of cutting-edge technologies to support preventative, predicative and personalised care is huge (The Future of Healthcare). To take advantage of innovation opportunities we must create a system whereby anyone with an idea for a new digital tool, whether a clinician, patient, academic, citizen or commissioner can easily contact the ICT Directorate to discuss and implement their ideas.

We must encourage all of our stakeholders to be horizon scanning and bring us solutions that they have seen elsewhere or want to create with us. We must encourage our staff and patients to be aspirational about the future we are building together. Continuous innovation will allow us to develop a variety of supportive apps and technologies to meet patient needs and support clinicians to do their jobs with minimum friction or distraction.
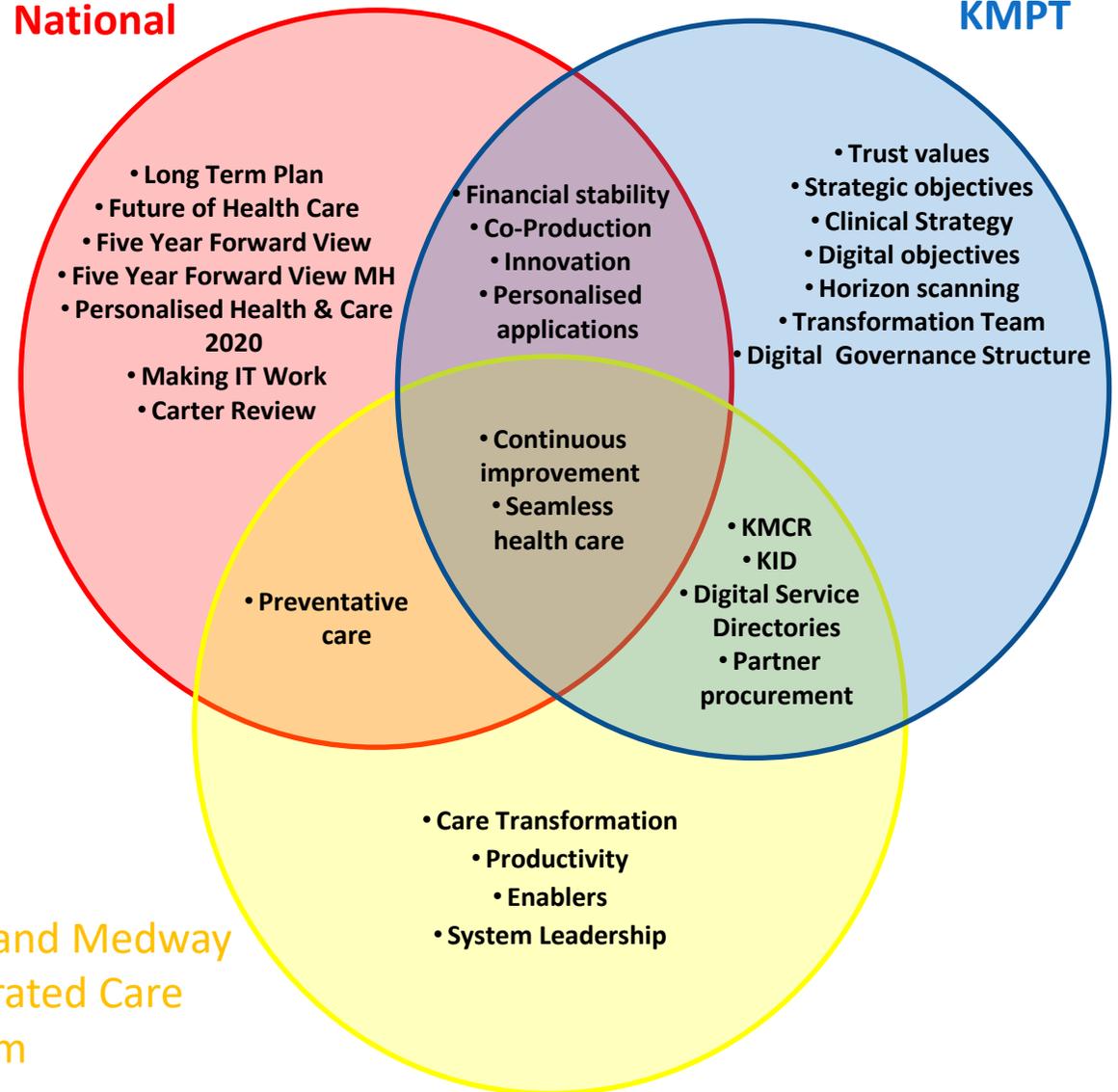
By working system-wide we will be able to

- **Share learning**
- **Minimise friction and distraction**
- **Cut duplication and waste**
in order to develop what we want for our aspirational future

National

KMPT

- **Long Term Plan**
- **Future of Health Care**
- **Five Year Forward View**
- **Five Year Forward View MH**
- **Personalised Health & Care 2020**
- **Making IT Work**
- **Carter Review**

- **Financial stability**
- **Co-Production**
- **Innovation**
- **Personalised applications**

- **Trust values**
- **Strategic objectives**
- **Clinical Strategy**
- **Digital objectives**
- **Horizon scanning**
- **Transformation Team**
- **Digital Governance Structure**

- **Continuous improvement**
- **Seamless health care**

- **Preventative care**

- **KMCR**
- **KID**
- **Digital Service Directories**
- **Partner procurement**

- **Care Transformation**
- **Productivity**
- **Enablers**
- **System Leadership**

Kent and Medway Integrated Care System

Objective 7: Develop and deploy technology which will support a paperless operating environment
Technology must be as portable, user-friendly and reliable as paper forms

The Long Term Plan notes that the NHS cannot fully embrace the opportunity offered by new technologies if many services remain largely paper-based. We will therefore work to deploy technology that will enable our staff to capture all health and care information digitally at the point of care. Staff should not have to waste vital time transcribing clinical data by hand or over the phone.

Projects to deliver this objective will include:

- Live access to RiO in a mobile form
- Speech recognition software introduced
- E-Observations used to reduce paperwork, prevent duplication and enable predictive technology to identify risks
- E- Prescribing to reduce medication errors, highlight allergies and drug interactions
- E-Job Planning software to aid service delivery planning
- A records management system that stores all clinical paperwork and where the content is fully searchable to make locating documents faster and easier
- Develop E-Forms which collect data once and populate multiple systems
- A Kent and Medway Care Record that provides a single record for each person, one which is accessible to all those involved in their care
- E-Referrals to allow GPs to directly refer to our services
- Real-time bed management and patient flow

Objective 8: Develop systems which support research and clinical audits
By improving access to data in easily consumable formats

The Trust holds and generates massive amounts of data in a variety of different systems and we need to harness that data in a way we can proactively and productively use it. By using comparative information we can facilitate the identification of best practice. The Clinical Technology Strategy will deliver improved methods of data collection, facilitating the analytic possibilities outlined in the Informatics Strategy.

- Patients benefit enormously from research and innovation, with breakthroughs enabling prevention of ill-health, earlier diagnosis, more effective treatments, better quality outcomes and faster recovery
- Research active hospitals have lower mortality rates, with benefits not limited to those patients who participate in research
- De-personalised data extracted from systems will enable us to conduct more sophisticated population health management approaches and support high quality research

Projects to deliver this objective include:

- Systems to collect, anonymise and share data for Research and Innovation
- Collaborative working with the Information Management Team to produce integrated reporting tools for quality, safety, research and performance management purposes in order to deliver the aims of the Informatics Strategy

Objective 9: Deploy technology which minimises negative impact of our activities on the environment
Taking all opportunities to improve sustainability and reduce energy consumption

The NHS has been tasked with improving energy efficiency and reducing its carbon footprint by a third from 2007 levels. The rollout of new technology can support us to significantly reduce our energy consumption. Online systems can mean less travel for both patients and health and care professionals (which also frees up clinical time) and new hardware is typically more energy efficient.

Projects to deliver this objective include:

- Improving and increasing our audio and visual conferencing capabilities
- Virtual appointments to offer choice to patients and reduce travel
- Delivery of training using eLearning rather than classroom based training
- Expanding the use of Mobile Device Management (MDM) to share documents securely on mobile phones
- Deployment of new hardware which is more energy efficient to run
- End point analytics to proactively monitor and fix computers remotely
- All systems where paperwork is replaced by digital systems as described in Objective 7

The ICT Directorate and the systems and services it provides to the Trust have been ISO 14001 accredited since 2010.

ISO14001 covers Environmental Management and requires that we take steps to minimise any negative impact of our activities on the environment. Through the services we deliver not only are we able to limit the negative environmental impact we have as a Directorate, but also through automating previously manual processes, investing in new technologies and upgrading systems, we can make a significant difference to the impact all Trust staff have on the environment.

Objective 10: Deliver improvement through continuous digital development
Never accepting 'good enough' - always striving for better

Technology is continually opening up new possibilities for prevention, care and treatment. Continued improvement can drive up productivity, reduce unwarranted variations and eliminate waste but only if we create an agile culture to harness the power of technology. If we are able to adopt, iterate and continually improve innovations we will create an environment that can better manage the growing demand for services in order to create a secure and sustainable future.

There will be national investment to spread innovation between organisations, including the creation of more Global Digital Exemplars and more Fast Followers. This will ensure that the NHS achieves maximum value for money by reducing duplicated efforts by sharing digital innovations between organisations.

Technology that will be investigated to deliver this objective includes:

Artificial Intelligence (AI) will make it possible for many tasks to be automated, quality to increase and staff to focus on the complexity of human interactions that technology will never master. Data driven technologies such as AI can help to diagnose disease or conditions and to gain better insight into treatment and preventions that could benefit all of society.

Machine learning (an application of artificial intelligence where systems access data and use it to learn for themselves) can be used to create better insights from the data we collect and, when used with incident data, introduce a more effective system of patient safety alerts.

Unobtrusive remote health monitoring using **home-based and wearable monitoring equipment** will increasingly enable us to predict and prevent events that would otherwise have led to a hospital admission. When ill people will increasingly be cared for in their own home, with the option for the physiology to be effortlessly monitored by wearable devices. Location trackers can be used to provide freedom with security for someone with dementia and fall detection equipment can be linked to medical alert systems.

The use of **robotics and voice assistants** can be used to support people and their carers in rehabilitation, dementia support or medication management. Pilots have been conducted with Amazon Echo/Alexa to record tasks and give reminders for carers and service users to do certain things like take medication or remind them about appointments. In this way we can use consumer technology devices which are familiar and user-friendly rather than telecare equipment.

Avatars or **intelligent virtual assistants** can be used in videos, portals, and other educational and support materials for patients and their families. Avatars can help patients to navigate digital systems to locate information for self-care, ask questions and complete online tasks reducing the amount of time staff spend on these tasks.

We will also seek to learn lessons from the work conducted by the Global Digital Exemplars who are trialling **decision-support tools and machine learning** to augment our ability to deliver personalised care and predict future behaviour, such as risk of self-harm or suicide.

Section 5: Next Steps

To ensure that we can achieve the ambitious improvements outlined in this strategy and overcome challenges such as limited resources and complex organisational structures we must take steps to make digital services more accessible, increase the visibility of digital personnel and introduce systematic engagement programmes to produce, review and implement annual digital plans.

Annual Digital Plans

This is a long term strategy describing our aspirations for the future. The detail of its delivery will be described through the production of workable annual implementation plans. We will proactively engage with all of our stakeholders when developing annual plans to take into account current priorities, available resources, the latest digital advancements and a comprehensive assessment of population needs. This collaboration and co-production of digital plans will make sure that the resulting technology delivered is user friendly, useful and above all else improves patient care.

Digital Governance Structure

We have a Digital Governance structure that is in its infancy. During 2019/20 we will develop this further so it becomes an integral part of service planning and delivery. We will support our clinical leadership team to develop their digital knowledge and skills in order to articulate what they want and to make associated service changes that deliver the benefits they require. The Digital Governance Structure will help them to make these service changes happen. This structure will also provide the governance and accountability mechanisms to ensure that the Trust secures the best value from its combined resources and prioritises the projects which will bring the greatest benefits to our staff and patients.

Continued Learning from Stakeholders

We must never forget who we are building digital services for – those who depend on the health and care systems to look after them and for those who work within that system. We must therefore continue to talk to people who use our digital services to learn what they need and make changes in line with user experience and feedback.

Digital Business Partners

It is essential that digital representatives are accessible to all of our stakeholders to ensure that the digital implications of service redesign are addressed during the planning phase. In order to take a proactive approach to digital service planning we will create Digital Business Partner roles, similar to that already present in the Finance and Workforce Directorates. Digital Business Partners will help Care Groups and support services to articulate their digital and design solutions to deliver the desired benefits. With our Digital Business Partners we will launch a new point of contact for Digital ideas and issues KMPTdigital@nhs.net

A Digital Directorate

During the engagement sessions with teams across the Trust it is clear that there is a significant level of confusion about which services are managed by ICT and which are managed by other directorates. This confusion means staff can feel unable to access help to address their concerns. Therefore, it is essential to clarify what services ICT provides and the skills and knowledge they possess. As part of an awareness campaign to promote services the ICT Directorate will be renamed the Digital Directorate bringing us in line with national bodies (NHS Digital) national programmes (NHS Digital Vision) and other work across the country (Government Digital Service).

Clinical Technology Strategy 2019/2024

Clinical Engagement

Automation and standardisation
To reduce the administrative burden, remove duplication and empower clinicians

- **Digital Business Partners**
- **RiO enhancements**
- **App development**
- **Laptop replacements**
- **Video conferencing**
- **Digital Governance**

Working Together
Digital and clinical staff working together to identify problems and develop solutions

Digitise the correct process
Ensure we prioritise those initiatives which will improve staff satisfaction and clinical outcome

Continuous Digital Improvement

Always to better things
Technology to drive up productivity, reduce unwarranted variations and eliminate waste

- **Wearable technology**
- **Machine Learning/AI**
- **Robotics**
- **Chatbots/avatars**

Environmental Impact

Minimising negative impact
Technology used to reduce travel, printing and energy consumption

- **Video Conferencing**
- **e-Consultations**
- **e-Learning**
- **End point analytics**
- **MDM**
- **New hardware**

Interoperability

Seamless Care
Across organisational boundaries.
All those involved in care can access record

MIG · CPMS · e-Referrals · Conexes

Cyber Security

Digital protection
Ensure data assets are protected from malicious and accidental harm

Workforce's Digital Capabilities

Digital leadership
Building a digital ready workforce

Develop skills
Ensure all staff can use the new technology to change practice and realise benefits

- **CCIO and CIO**
- **CPD for technical staff**
- **Bespoke training programmes**

Research

Research and audits
Improving access to data in easily consumable formats

Learning Lessons
Access to comparative information to identify best practice

Innovation
Improve services, outcomes satisfaction and safety

- **Pseudonymisation**
- **Information sharing agreements**
- **Technology funding opportunities**

Paperless Operating Environment

Digitising all processes
Technology must be as portable, user-friendly and reliable as paper

Improved efficiency
Reducing wasted time and removing duplicated effort

- **Live access to RiO**
- **Speech recognition**
- **e-Observations**
- **e-Prescribing**
- **e-Referrals**
- **e-Forms**
- **EDRM**
- **Kent care Record**
- **Bed Management**

Mobile Technology

Easy Access
Systems and data available at the point of care

Flexible working
Staff can work wherever is most convenient and most appropriate

- **Developing the cloud**
- **Expanding the use of MDM**
- **Portable devices**
- **Total Mobile**

Co-Production

User-centred
Designing systems with user engagement

Useful and Usable
User friendly technology which improves patient and carer satisfaction

Accessibility
Offering digital means for interacting with the Trust, understanding and accessing treatment and planning care and recovery

- **Systematic engagement programmes**
- **Online access to health records**
- **Patient Apps**
- **Electronic feedback and outcome monitoring**