Part of ConnectNoW
Using technology to improve health and care in Norfolk and Waveney

Improving lives together
Norfolk and Waveney Integrated Care System

Norfolk and Waveney Integrated Care System

Digital Transformation Strategic Plan and Roadmap

Foreword

Improving lives **together**
Norfolk and Waveney Integrated Care System

Frankie Swords
Medical Director, ICB

We are at the start of an incredibly exciting, but incredibly challenging, digital transformation journey.

Together, we are determined to transform the way we use technology to deliver better, more personalised and easy to access care for the people of Norfolk and Waveney.

Following the release of our ICS clinical and digital strategies, we have developed this digital transformation strategic plan and roadmap. Building on recent digital successes, this strategy aims to sharpen our focus on how we use the digital and technology capabilities to achieve the goals of our ICB: *to ensure that the people of Norfolk and Waveney only have to tell their story once, to help them to live as healthy a life as possible, and to make our ICS the best place to work in health and care.*

Engaging over 250 staff and patients to develop this strategic roadmap from June to September 2022, we have heard about current experience and expectations from digital for the future. I want to thank everyone involved for the time and attention they have given to develop our vision of *"a digitally-enabled Norfolk and Waveney where access to information, services and support make it easy to deliver high quality health and care for and with our citizens".*

Our new strategic plan and roadmap sets out the steps we want to take on this journey, including:

- *improving our communication between different parts of our system so that people only have to tell their story once;*
- *delivering a single Electronic Patient Record (EPR) across all three of our acute Trusts so staff can access the same information about patients whenever they attend one of our hospitals cutting out so much wasted time;*
- *expanding our virtual services, so that people can be cared for in their own home, using the latest technology to monitor their progress remotely, and even prevent or shorten hospital admissions; and*
- *expanding how we store, interpret and use data to help us plan services much more wisely, focusing on the people who need the most help.*

This is a massive opportunity and an incredibly challenging prospect. To make these digital promises a reality, we will need to make wide-ranging and long-term changes across our health and care organisations. Probably the most important and hardest change will be to change our attitudes and culture to embrace digital opportunities. That is why we will also work together to adapt how we are organised (governance), our leadership, the training we provide to staff in digital skills, and crucially work to help our citizens who haven't previously used much digital technology to make sure that nobody is left behind.

Thank you for all your help getting us this far and for taking the time to read about our future plans for digital tools to improve the care we provide for the people of Norfolk and Waveney.

Contents

Improving lives **together**
Norfolk and Waveney Integrated Care System

Executive Summary

Improving lives **together**
Norfolk and Waveney Integrated Care System

There is a need to digitise health and care services across Norfolk and Waveney to support joined-up care, reduce inefficiencies, and improve patient outcomes.

In Norfolk and Waveney, we are setting out on an ambitious journey of transformation. Our current care models rely on a mixed economy of predominantly legacy disparate systems and paper, which fall short of delivering the best care experience for our patients and staff. The inefficiencies that surround these models of care are ***costly and unsustainable,*** posing clinical and quality risks.

Investing in digital is essential to supporting collaborative working, truly joined-up care, improved outcomes, and a reduction in health inequalities across our region. Digital holds the potential to ***empower our population*** to take an active role in their own health through personalised care journeys and choice over where and how they receive care. Digital plays a key role in ***supporting our staff*** to work efficiently as one workforce across the system, reducing duplication and making the best use of their time. Digital also sets the foundation for operational, finance and estates transformation to ensure we make best use of resources.

Building on our Strategic Transformation Partnership (STP) Digital Strategy developed in 2018, the **Norfolk and Waveney ICS Digital Transformation Strategic Plan and Roadmap,** takes into account the shifts in digital thinking since the COVID-19 pandemic and establishes updated shared priorities for digital investment. It sets out the direction of travel for delivering digital solutions across the ICS. Our transformation journey is rooted in key ***national guidance*** such as the NHS Long Term Plan and the NHSX What Good Looks Like framework, as well as the Digital Health and Social Care Plan.

Our Digital Transformation Strategic Plan and Roadmap has been developed collaboratively with our people and reflects the perspectives of our citizens, patients, front-line clinicians and staff across Norfolk and Waveney. They have helped shape our vision of a ***digitally enabled Norfolk and Waveney where access to information, services and support make it easy to deliver high quality health and care for and with our citizens.***

Our Plan is brought to life through the journeys of five fictional people, shown below, which demonstrate how digital capabilities will ***deliver better outcomes and experiences*** for citizens and staff.





Executive Summary

Improving lives **together**
Norfolk and Waveney Integrated Care System

The Digital Transformation plan outlines five strategic objectives that are underpinned by our guiding principles that enable us to achieve our strategic vision.

VISION: our overarching aim

A digitally-enabled Norfolk and Waveney where access to information, services and support make it easy to deliver high quality health and care for and with our citizens.

To realise our strategic vision, we have developed five strategic objectives for the next three years.

Together
Use digital technology and skills to work more efficiently and collaboratively across standardised systems.

Connect
Provide effective and joined-up care through systems integration and streamlined information flows.

Activate
Empower citizens with greater visibility and control over treatment and care journeys.

Understand
Use data to drive decisions and harness population health insights.

Innovate
Adopt a clear pathway for digital innovation and research to support the transformation agenda.

Our strategic objectives are underpinned by our guiding principles.

Our guiding principles were co-developed with clinical and digital stakeholders within the ICS to guide the development and delivery of the Digital Strategic Plan and Roadmap. The principles guide the capabilities we implement to ensure we achieve our vision and ensure we work together as a truly integrated care system.

Collaborative & Inclusive

Person-focused

Joined-up

Data-driven

Safe & Sustainable

Executive Summary

Improving lives together
Norfolk and Waveney Integrated Care System

To realise our digital ambition and deliver on our strategic objectives, we have established our core digital transformation capabilities.

To achieve our strategic objectives, we will invest in ***key digital and data capabilities:***

Digitised Patient Record, which will include a single Electronic Patient Record (EPR) across the acute Trusts, a Digital Social Care Record and also a Digitised Mental Health Record (EPR).

Shared Information, which will include the Shared Care Record (ShCR) roll-out and enhancements for information visibility across care settings.

Data and Analytics, including the development of the Health and Care Data Architecture (HCDA) and advanced business intelligence insight for consolidated and richer data analytics.

Population Health Management, developing the tools to understand our population and use data-driven insights to better engage with our citizens, system partners and tailor system resources to deliver maximum impact.

Citizen and Patient Tools, which will offer a single digital front door for streamlined access and greater self-care.

Virtual Health and Care, including the scaling-up of remote monitoring and virtual wards.

Infrastructure and Connectivity, enhancements and upgrades including cloud telephony, enhanced connectivity and information security, and optimised ICT infrastructure.

Digital Workforce Tools, which will support system-wide workforce planning and will include integrated learning management systems for staff, as well as a virtual careers office.

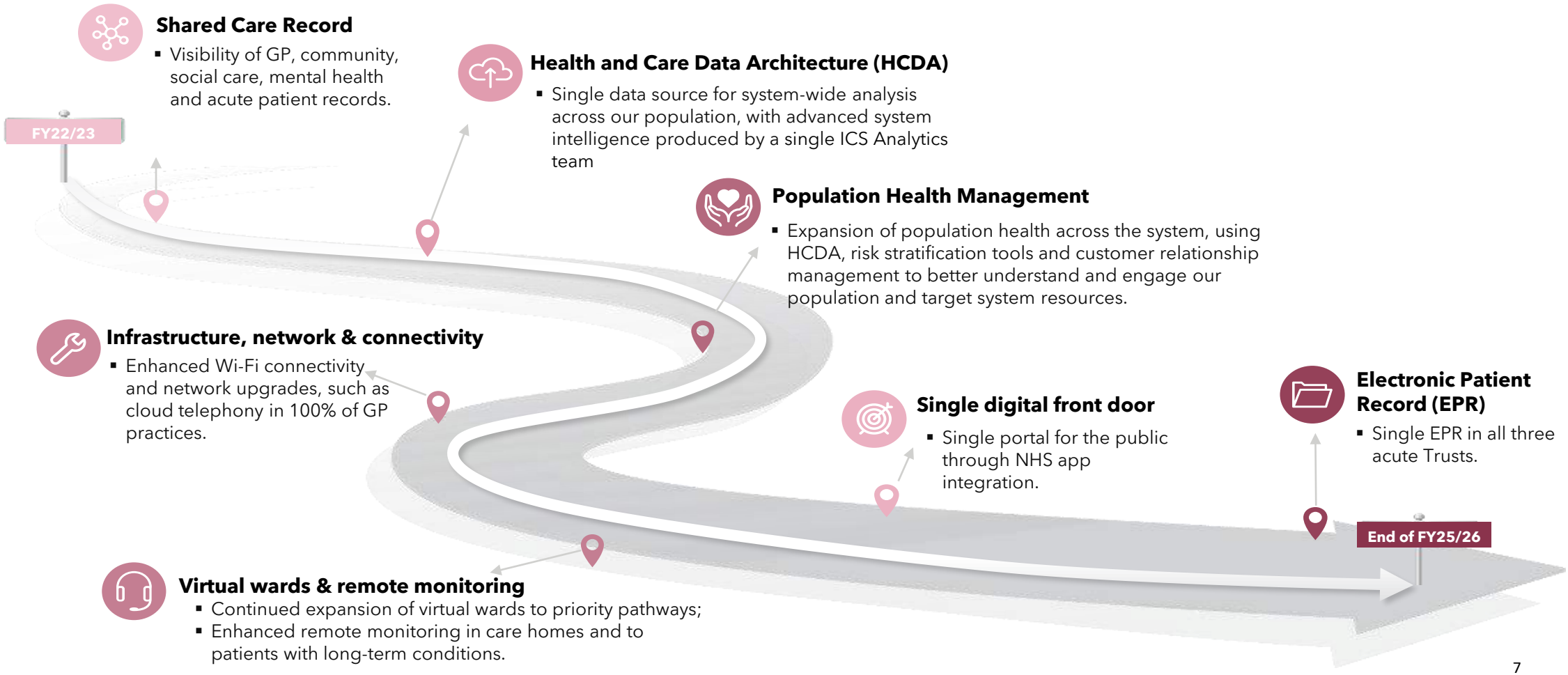
Executive Summary

Improving lives together
Norfolk and Waveney Integrated Care System

Over the next few years, we will achieve key milestones on our digital transformation strategic roadmap as we work together to improve the health and wellbeing of people living across Norfolk and Waveney.

Digital Transformation Strategic Roadmap

Digital will enable transformation across all care settings, including outpatients.



Shared Care Record
- Visibility of GP, community, social care, mental health and acute patient records.

Health and Care Data Architecture (HCDA)
- Single data source for system-wide analysis across our population, with advanced system intelligence produced by a single ICS Analytics team

Population Health Management
- Expansion of population health across the system, using HCDA, risk stratification tools and customer relationship management to better understand and engage our population and target system resources.

Infrastructure, network & connectivity
- Enhanced Wi-Fi connectivity and network upgrades, such as cloud telephony in 100% of GP practices.

Single digital front door
- Single portal for the public through NHS app integration.

Electronic Patient Record (EPR)
- Single EPR in all three acute Trusts.

Virtual wards & remote monitoring
- Continued expansion of virtual wards to priority pathways;
- Enhanced remote monitoring in care homes and to patients with long-term conditions.

Executive Summary

Improving lives **together**
Norfolk and Waveney Integrated Care System

Delivering our digital and data capabilities requires a set of underpinning system-wide enablers.

Digital innovation plays a crucial role in enabling progress towards our clinical objectives, improving quality and productivity and addressing the needs of patients, clinicians and our staff. Digital transformation will require ***sustained cultural change within our system***. This includes changes to the way we work, develop, and govern as an integrated system.

Alongside our core digital initiatives, we will implement a set of ***underpinning system-wide enablers*** that span ***leadership and decision-making***, ***governance***, ***digital and data skills and inclusion***, ***transformation and culture change***, and ***innovation and partnerships***. We will also set out a model and next steps around working as a ***unified digital team across the ICS.***

These are our commitments around key digital enablers. We will:

- *Engage **system leaders** to champion the digital transformation strategy objectives at all levels, supporting their teams to work differently, and collaboratively agreeing system priorities.*
- *Embed **a transparent governance structure** around digital, including ensuring streamlined processes, information governance, cyber security and clinical safety.*
- *Develop a culture that embraces digital and data and **embed a 'digital first' approach** as part of wider transformation efforts.*
- ***Upskill all our staff, patients and citizens** to use digital and data confidently and to encourage inclusion and digital adoption.*
- ***Leverage partnerships and opportunities to innovate** our services and embrace the potential of digitisation.*
- ***Bring together key digital transformation skills** to enhance collaboration across the system.*

Executive Summary

Improving lives together
Norfolk and Waveney Integrated Care System

Delivering our digital and data capabilities and enablers will require significant investment.

In order to ***transform and truly integrate***, investment in capabilities beyond our current funding commitments is required. The investment for each digital capability is described in the diagram on the right.

£236m

Investment required to implement our digital ambitions in full across the ***FY22/23 – FY25/26 strategy period*.***

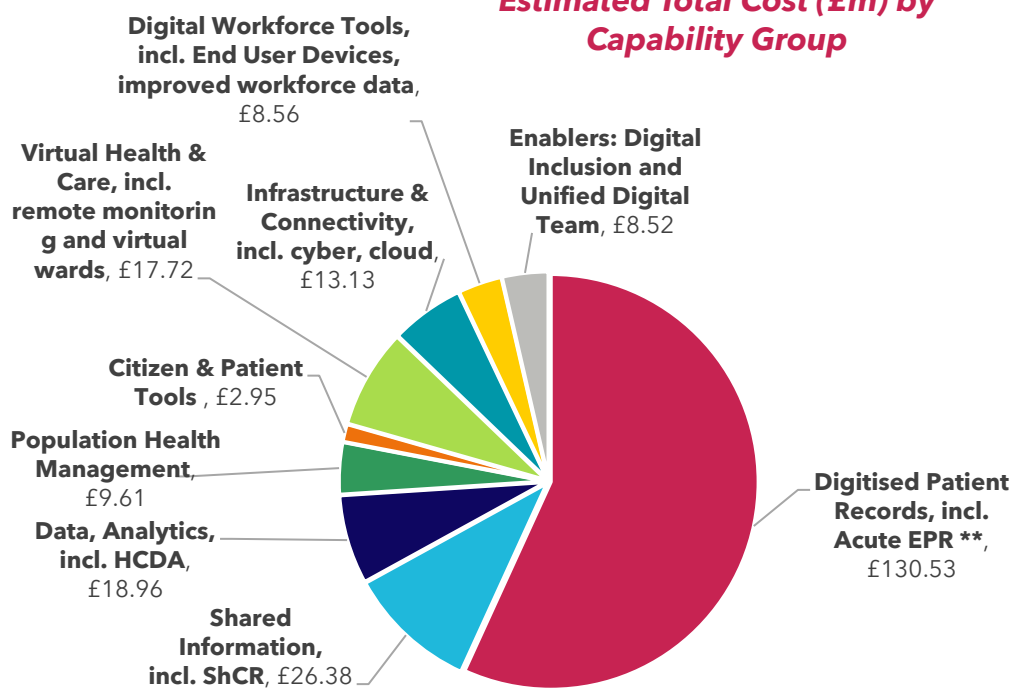
£132m

Funding identified to deliver our digital ambitions.

£105m

Additional funding required to deliver on Norfolk and Waveney's digital and data transformation beyond the sources already identified.

Estimated Total Cost (£m) by Capability Group



National guidance recommends that Trusts spend 5% of expenditure on technology.*** Our current spend on digital as a proportion of overall spend on health and care is approximately 1.6% (FY21/22). ***Investment in digital transformation will increase the proportion of health and care spend on digital to between 2.5 and 3.4% during the strategy period, bringing us closer to national guidance.***

The investments we are committed to and have secured funding for will ensure we can deliver some of the work packages we have committed to, however without further investment we will fail to realise the full outcomes that we wish to deliver. To fill this funding gap, we will work to secure additional regional and national funding. We will also consider, as a system, how to best increase our digital transformation budgets.

**Investment includes both capital and revenue. No optimism bias has been applied. 10% contingency has been applied to all costs and 8% inflation p.a from FY23/24.*
***Digitised Patient Records includes the Acute EPR programme costs for the strategy period (FY22/23 – FY25/26), as well as costs for digitising mental health records and optimising our primary care EPR.*
****Source: Lord Darzi and Institute for Public Policy Research, Better health and care for all, June 2018, referenced in the NAO Digital transformation in the NHS May 2020 report,* Digital transformation in the NHS - National Audit Office (NAO) Report

Executive Summary

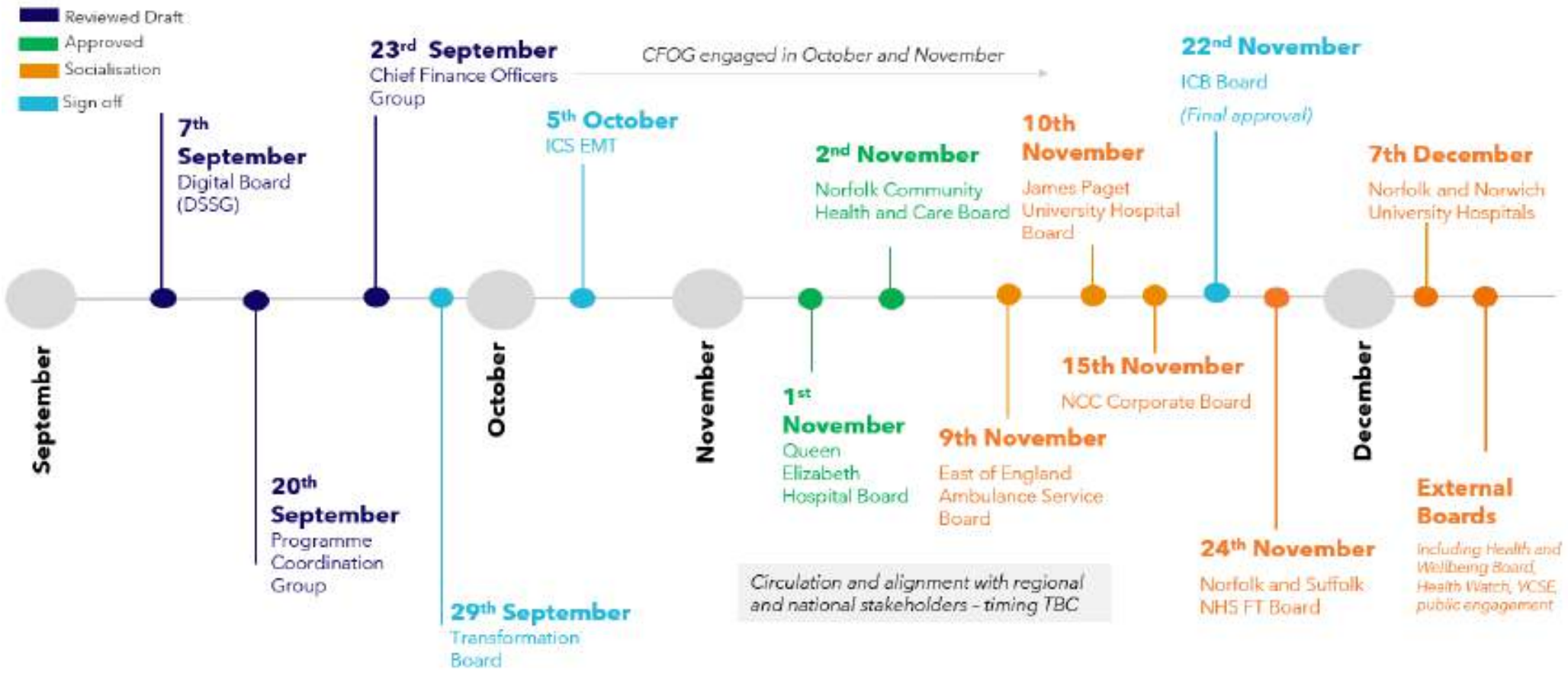
Improving lives together
Norfolk and Waveney Integrated Care System

Supporting our digital transformation journey will require leadership and buy-in, achieved through socialisation and agreement to the plan.

This Digital Strategic Plan and Roadmap provides ***a direction of travel*** and a delivery roadmap for digital health and care over the next ***3 years***.

A critical path has been established for review and approval of this document. The path enables representative agreement and ownership with all organisations across the ICS. Once approved, we will seek to review achievements against our goals and objectives at ***annual intervals***, addressing new priorities and adjusting our direction of travel as required.

The current approval timeline for this document is outlined below with final ICB Board approval expected on ***22nd November 2022***.



Introduction and Strategic Context

Our Integrated Care System

Improving lives **together**
Norfolk and Waveney Integrated Care System

Across Norfolk and Waveney, we have a growing population and our Integrated Care System is striving to meet the needs of our citizens.

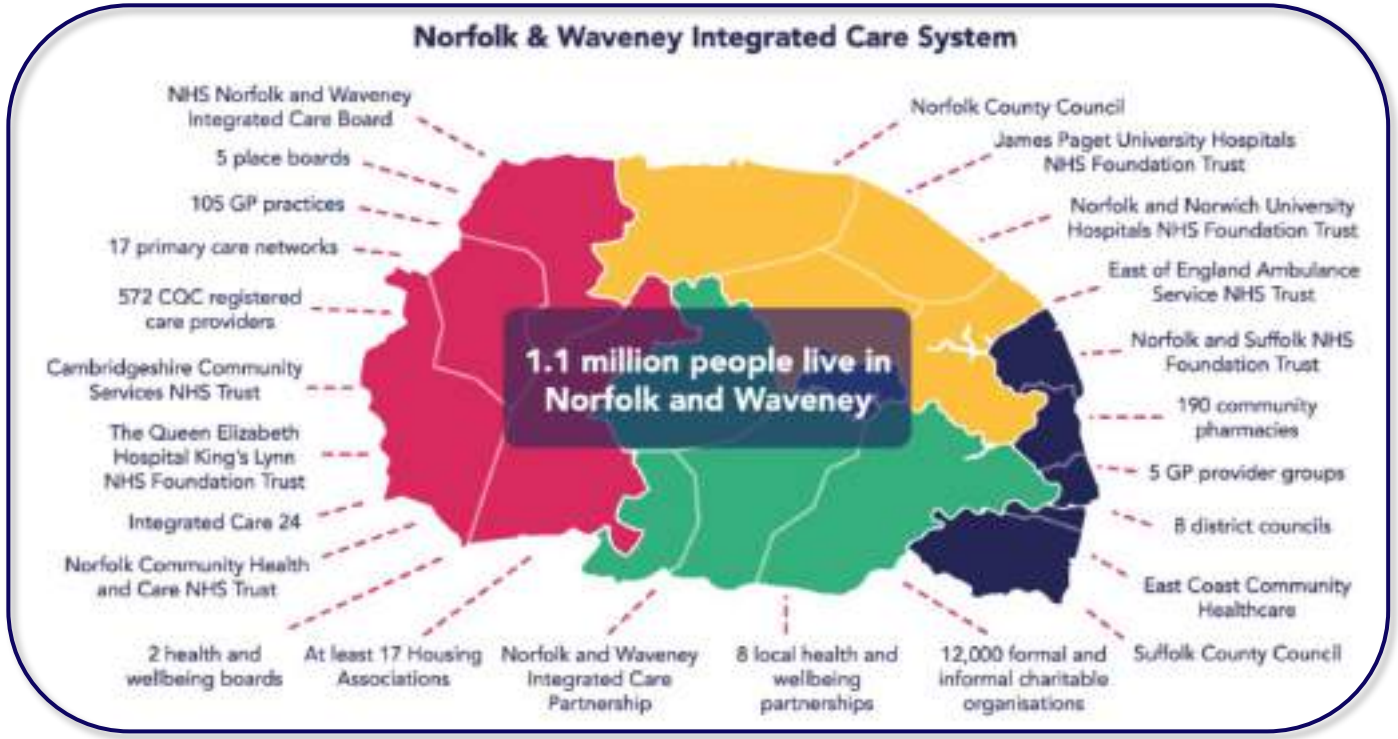
Norfolk and Waveney:

1.1 million citizens and growing*

80-84 years average life expectancy

3.3% of the population is minority ethnic

160 spoken languages



** A 110,000 increase is expected by 2040, with **74% of this being in the over-65s category,** larger than any other age group.*

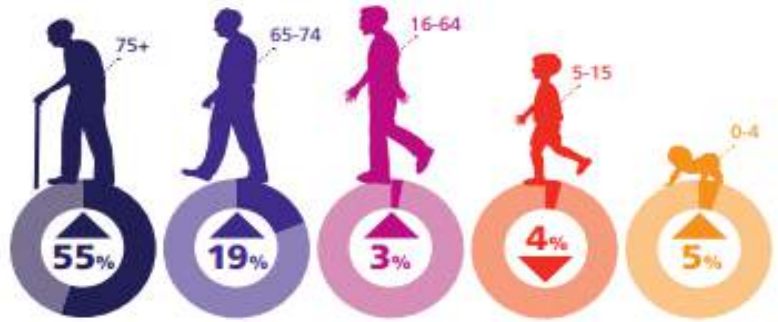
Sources - https://www.norfolkinsight.org.uk/wp-content/uploads/2022/01/Norfolk_and_Waveney_Population_Overview_December_2021_accessible.pdf
In Good Health - Demand and Capacity Review (norfolkandwaveneypartnership.org.uk)

Our population's health and wellbeing

Improving lives together
Norfolk and Waveney Integrated Care System

There is an urgent need to transform how we deliver care and support better health outcomes in order to address health inequalities, differences in life expectancy, and preventable causes of death.

By 2040 our population is expected to increase by over 110,000, with older age groups growing faster than younger age groups.



280,000 adults could eat better and 100,000 smoke.

143,430 adults estimated to have a mental health condition.

In 2019 more than 160,000 people in Norfolk and Waveney lived in areas categorised as the least wealthy 20% in England. While these are mainly located in urban areas, there are also pockets of rural deprivation.

Inequalities exist from birth to older age (e.g. smoking in pregnancy, obesity, educational outcomes, lifestyle, unemployment). These contribute to life expectancy inequality of 8.6 years for men and 6.8 years for women between the least wealthy and most wealthy areas in Norfolk and Waveney. The life expectancy gap between these communities is mainly due to more people dying at an earlier age of circulatory, cancer and respiratory diseases.

Sources - https://www.norfolkinsight.org.uk/wp-content/uploads/2022/01/Norfolk_and_Waveney_Population_Overview_December_2021_accessible.pdf
In Good Health - Demand and Capacity Review (norfolkandwaveneypartnership.org.uk)
02 NW Clinical Strategy 2022.2027 (1).pdf

Our need to embrace digital

Improving lives together
Norfolk and Waveney Integrated Care System

Maximising the opportunities enabled by digital is required to achieve our goals for citizens and staff. There is a need to digitise health and care services across Norfolk and Waveney to support joined-up care, reduce inefficiencies and improve patient outcomes.

Since the establishment of Norfolk and Waveney ICS, efforts have progressed in digitising the provision of health and care in the system. According to NHS Improvement figures (2018), Norfolk and Waveney STP was significantly less digitally mature than other systems in the country at that time, with examples of innovation existing in many areas such as primary care.

The level of digital maturity in our organisations has significant implications for the health of our population and sustainability of the system. The criticality of embracing digital in the health and care setting is renowned. ***Digital can support systems to reduce inefficiencies, enhance clinical safety and promote significant cost savings.***

Digital transformation is required to meet the needs of our citizens and our staff and help achieve our three primary goals:

- To make sure that people can live as healthy a life as possible.
- To make sure you only have to tell your story once.
- To make Norfolk and Waveney the best place to work in health and care.

The lack of digital maturity in the system has resulted from many years of under-investment in digital technologies. For example, our three acute Trusts are reliant on ageing Patient Administration Systems. Such digital immaturity results in significant issues for the many dedicated people who work in our NHS services, including ***time wasted finding patient information***, switching between the ***multitude of legacy systems and paper*** in use, and ***clinical safety concerns***.

To enable people to live as healthy a life as possible, to only tell their story once and to make Norfolk and Waveney the best place to work in health and care, we have to take advantage of digital to ensure our staff has ***the right skills and tools to provide safe and equitable health and care.***

Our clinical objectives drive our digital ambitions

Improving lives together
Norfolk and Waveney Integrated Care System

The Norfolk and Waveney clinical strategy objectives anchor our digital ambitions to ensure we are delivering a service that is reliable, resilient, holistic, proactive, and addressing health inequalities.

Digital plays a crucial role in enabling progress towards our clinical objectives and in helping to redesign health and care pathways.

Digital supports the dedicated workforce with the right tools and capacity to reduce administrative burden and release time to provide reliable services.

Preventative and proactive measures are vital to acting early in health and care provision. Digital tools enhance predictive capabilities to support early intervention and treatment.

Digitisation of scheduling tools enables better management of clinical time. In addition to this, general efficiencies enabled by digital reduces the demand on services by directing people to the right place of care, freeing clinical time for those in need.

Better collection and analysis of data allows for a better understanding of our populations to address inequalities in a more proactive and preventative health and care model.

Digital enables information sharing across services and agencies which ensures the patient or citizen is cared for holistically.

Information sharing to enable integrated care pathways and collaborative working reduces duplication and enables safer, more efficient joined-up health and care service.

Our clinical objectives are critical in shaping our digital ambitions and portfolio. The improved outcomes and experience that digital will enable for our patients is illustrated in the following section describing example future patient journeys.

Our Engagement: What We Heard From Our Patients, Citizens and Staff

How will digital transform care for our patients?

Improving lives together
Norfolk and Waveney Integrated Care System

Future patient journeys, co-developed with clinical and social care leads from across the ICS, bring to life our vision for how digital will transform care models and improve experiences for illustrative patients like Jake, Bruna, Maciej, Faiza and Arthur.

	 JAKE	 BRUNA	 MACIEJ	 FAIZA	 ARTHUR
Workshop Dates	28th July, 12-1pm	29th July, 12-1pm	2nd August, 4-5pm	3rd August, 12-1pm	4th August, 4-5pm
	Jake is 14 years old. He lives with his mother who has recently split up with an abusive partner. He is prone to anxiety and has been diagnosed with ADHD and also has a learning disability. As a result, he doesn't enjoy school and sometimes misses his classes.	**Bruna** is 26 years old and pregnant for the third time. She lives in Great Yarmouth and has recently arrived from Guinea-Bissau. She is overweight and is a heavy smoker. She is suffering from chronic fatigue following long Covid which has left her unable to hold down a full time job. She is entering her third trimester when she is diagnosed with placenta accreta.	**Maciej** is 55 years old and moved to the UK from Poland six years ago and speaks limited English. He has experienced bouts of homelessness and suffers from depression. He has been admitted to A&E in the past for alcohol and drug dependency issues. He presents to A&E after an overdose, receives treatment and is referred to urology.	**Faiza** is 75 years old, retired and lives with her husband. Both her and her husband are physically inactive and have been for many years. Faiza speaks limited English and has poor digital literacy. Faiza suffers from diabetes and is overweight. She has been recently diagnosed with stage 2 breast cancer.	**Arthur** is 86 years old and lives in a care home where he requires around the clock care. He has dementia and is more prone to falls and accidents due to his limited mobility and loss of peripheral sensation. He recently had a fall trying to get out of bed and has been transported to A&E.

Our future patient journeys (1/2)

Improving lives together
Norfolk and Waveney Integrated Care System

Population health management, virtual support, and digitised records will enable joined-up care and more targeted interventions for people most in need.

Our ambition for
JAKE

Male
14 years old

King's Lynn

English

Diagnosed learning disability and ADHD, suffers from anxiety

Using ***population health and advanced analytics,*** Jake is proactively assessed and referred to CAMHS and other support services. Jake's treatment is managed holistically by multiple agencies who have access to his ***digital record***. Jake and his mother are supported and digitally signposted via a ***portal*** to virtual and community resources tailored to their needs.

Our ambition for
BRUNA

Female
26 years old

Great Yarmouth

Mixed heritage

Pregnant for third time. Overweight, heavy smoker

Bruna self-refers to maternity services and digitally books her first appointment. All appropriate care professionals have access to her ***EPR***. She is able to easily flag the support she requires and is ***digitally signposted to weight management and smoking cessation services***. In her third trimester she is diagnosed with placenta accreta and scheduled for c-section. She undergoes delivery at week 36, and 7 days later her and her baby are discharged for ***remote virtual care.***

Our ambition for
MACIEJ

Male
55 years old

Norwich

Polish

Drug/alcohol dependency, depression. Bouts of homelessness

Maciej is assessed by paramedics when found unwell by a member of the public. The paramedics use a ***mobile translation app*** and update his ***digital record***, and notify A&E of his incoming. Maciej is treated but diagnosed with pyrexia of unknown origin and diagnosed with renal stones. He undergoes a fluoroscopy and lithotripsy procedure (after watching a ***preparatory procedure video***). After recovering he is discharged for community support, and has ***virtual follow ups***. He uses ***apps for self-management*** and is signposted to support networks.

Our future patient journeys (2/2)

Improving lives together
Norfolk and Waveney Integrated Care System

Innovative ways to remotely monitor people living across Norfolk and Waveney will also improve outcomes and experiences.

Our ambition for
FAIZA

Feale
75 years old

Breckland

South Asian heritage

Diabetic
Stage 2 Brest Cancer

Faiza visits her GP due to a concerning lump. She is referred to NNUH and diagnosed with stage 2 breast cancer. She is signposted to the local library to upskill and use virtual services as part of a community programme e.g. ***patient portal***. Faiza's blood glucose is ***remotely monitored***, the data automatically feeds into her ***EPR*** which informs her treatment plan. MDT agree her treatment plan and use ***Virtual Reality*** to show her what to expect. She prepares for surgery with ***digital prehabilitation***. After recovery, she is discharged.

Our ambition for
ARTHUR

Male
86 years old

Norwich

English

Dementia
Prone to falls

Movement sensors and ***remote monitoring*** in use in Arthur's care home have supported him in avoiding previous hospital admissions. However, one morning, he falls out of bed and requires an ambulance. Paramedics complete a ***digital assessment*** and conduct an x-ray (***portable x-ray***). During a ***video triage,*** the ED consultant advises that Arthur attend the hospital. His ***digital shared care plan*** is accessible to all agencies. He is assessed and discharged with agreement from his family and ***remotely monitored*** during his end of life care.

Jake's future journey is described on the next pages to exemplify the capabilities required in the future.

The full version of the other future patient journeys may be found in Appendix B.

Jake's Journey

JAKE'S BACKGROUND

Male | 14 years old

King's Lynn

English

Diagnosed learning disability and ADHD, suffers from anxiety

Jake lives in **King's Lynn** with his mother who is in the process of leaving an abusive partner that has lived with them on and off for several years.

Jake has been diagnosed with **ADHD** and suffers from **anxiety**. He doesn't enjoy school and has a diagnosed **learning disability**. His most recent experience with acute anxiety has prompted a referral to **CAMHS** where he is **prescribed medication** for his anxiety and ADHD.

During a particularly difficult month, he **starts missing school** and confides in a schoolteacher about **troubles at home**.

Jake's Journey

Improving lives together
Norfolk and Waveney Integrated Care System

- **Male | 14 years old**
- **Learning disability and ADHD**
- **Anxiety**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Referred to CAMHS → Prescribed medication → Safeguarding concerns raised → Social services & Police informed → Social Worker / Police visits Jake's home → Ongoing support for Jake and his mother

Jake receives support for his anxiety

Jake is struggling with his anxiety and begins missing school.

Jake's recent poor school attendance prompts a referral to CAMHS.

Jake's CAMHS referral is analysed and prioritised.

Jake's appointment is prioritised as his data is analysed with system insights pulling together all risk factors and calculating that he is high risk.

Prior to the appointment, the Psychology team review Jake's SEND plan notes.

The CAMHS team also review Jake's health and social care records, ensuring they are already aware of his story before he arrives to the appointment. Jake inputs his current concerns into the notes too.

During the appointment, Jake's patient record is updated, and he is prescribed medication for his anxiety and ADHD.

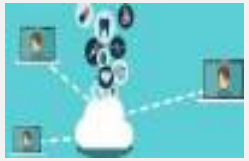
The Psychology team update Jake's SEND plan, noting his prescription. All relevant professionals have the appropriate access and visibility of Jake's care. Jake and his mum are also informed about self-help apps, support groups, crisis lines and virtual therapy available.

Following the appointment, Jake is able to access information about his treatment.

Jake and his mum have access to all appointments, his care plan and medication lists via the patient portal. Jake's medicines reconciliation is accessible to community pharmacies too. The portal allows Jake to input his progress and personalise his care plan. Jake also has visibility of parent/guardian access rights for his account.

Digital Capabilities

Process automation



Information sharing between all health, care and education partners

PHM Risk Stratification using HCDA (Health & Care Data Architecture)

Patient portal (with accessible content)

Jake's Journey

Improving lives together
Norfolk and Waveney Integrated Care System

- **Male | 14 years old**
- **Learning disability and ADHD**
- **Anxiety**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Referred to CAMHS → Prescribed medication → Safeguarding concerns raised → Social services & Police informed → Social Worker / Police visits Jake's home → Ongoing support for Jake and his mother

Jake receives safeguarding support

Jake's anxiety worsens and it's not clear if he is taking his medication despite receiving digital reminders.

Jake uses electronic medication management technology which alerts his mother when he takes his medication. Jake also begins missing classes again and the school inform his mother.

Jake confides in a schoolteacher of troubles at home. Safeguarding concerns are raised by the school and social workers and police are informed.

A social worker guides Jake on how to interact with social media to avoid exploitation. The social worker and Jake work together to develop a support plan, which is updated on his record for parent and care professionals' visibility.

Jake is visited at home by the police and social services.

The police visit Jake's home and speak to his mother. Jake is assigned regular visits by social workers (who have access to his record). A way forward is agreed with Jake's mother and both her and Jake are offered online and community resources and support. Resolution documented and multiagency assessments shared with all appropriate care professionals.

Digital Capabilities


Personalised education and support (e.g., CBT app)


Electronic medication management technology


Electronic Patient Record (EPR)


Digital signposting to community resources

Jake's Journey

Improving lives together
Norfolk and Waveney Integrated Care System

- **Male | 14 years old**
- **Learning disability and ADHD**
- **Anxiety**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Referred to CAMHS → Prescribed medication → Safeguarding concerns raised → Social services & Police informed → Social Worker / Police visits Jake's home → Ongoing support for Jake and his mother

Jake and his mother receive ongoing support

Jake receives ongoing support, and his SEND plan is regularly reviewed and updated on the EPR.	Jake is also working with a Child Wellbeing Practitioner (CWP) to support his CBT therapy.	Jake's mother is given ongoing support.	Jake manages his annual learning disability health check appointment on the patient portal.	Jake's data is analysed for future treatment improvement.
Jake's SEND plan is regularly updated by Jake, his mother, his GP, his social care worker(s) and educators via integrated sources that feed into the patient record. Jake records his personal preferences on this portal.	Jake's mother is informed of his progress on a regular basis via the patient portal. Jake's treatment plan is guided by decision support and outcome analytics.	Jake and his mother are signposted to support apps and resources.	His Social Worker reviews his SEND plan on his record and adds progress notes for all appropriate care professionals' visibility.	Aggregated data and advanced analytics are used to analyse Jake's initial presentation, treatment and progress overtime to enable continuous improvement.

Digital Capabilities


Advanced analytics to evaluate outcomes


Online accessible patient portal


Electronic Patient Record (EPR) (including SEND plan)


Seamless information sharing

We see from Jake's future journey that significant transformation, enabled by advanced digital and data capabilities is required. Our patients and citizens living across Norfolk and Waveney have echoed the aspirations reflected in Jake's future journey. Feedback received via our public forum is outlined on the following pages.

What our patients and citizens want from digital transformation

Improving lives together
Norfolk and Waveney Integrated Care System

We gathered feedback from patients and citizens in Norfolk and Waveney through a public forum*, to understand how they would want to use digital technology for more reliable information sharing, improved access to services, and access to resources to support living well.

*This feedback was gathered during the citizen / patient engagement forum held on 26 July 2022

Reliable information sharing

People told us that…

"Carers need to know all required information before the patient is discharged. The carer's identity and services provided should also be recorded"

"Alerts/flags capability to ensure acknowledgement of disabled patients to ensure appointment type/location is appropriate and accessible"

"Real-time information sharing system-wide (not restricted to health). This could prevent delays in patients' treatment, e.g. patients seen by a specialist then referred back to GP for follow up but GP did not receive this info/referral"

Service convenience

People told us that…

"Online appointment booking that is available 24/7 supports carers or people in employment who cannot ring a reception between 9-5. It also offers a quick way to manage your booking e.g. change or cancel"

"Many people have disabilities, long term conditions and fears regarding COVID-19 – virtual access enables easier access to services"

"Peer support and virtual communities for carers and patients"

Access to resources to support living well

People told us that…

"Online information sharing of useful services for patients to utilise to self-manage their wellbeing without having to go to their GP. We need tailored and localised information shared about services. A virtual info hub that goes beyond health and signposts support e.g. energy grants would be useful"

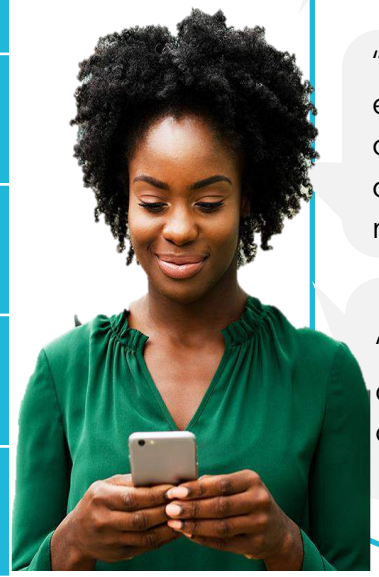
"Wellbeing content available online, e.g. tips and recipes or exercise guidance / physio videos available online for all service users would be very helpful"

Concerns our patients and citizens have about digital transformation

Improving lives **together**
Norfolk and Waveney Integrated Care System

Our patients and citizens have told us they would like the ICS to ensure that their information is kept confidential and shared securely, inequalities are not exacerbated, and the human element of care is preserved*.

*This feedback was gathered during the citizen / patient engagement forum held on 26 July 2022



Confidentiality and security of information shared

People told us that…

"Patients may not want their medical information to be accessible to the wider care system e.g. a disabled patient may not want their assessment shared due to the risk of their disability care needs not being met by another care service. "

"There's concerns around entering personal information onto a shared device, e.g. library computer and the data entered not being secure."

"Information shared with family can be a risk in cases of abuse or other concerning situations."

Inaccessibility of digital services

People told us that…

"Online appointment booking can be difficult to access, particularly for individuals who lack digital skills or people with learning disabilities. It can also be challenging for people with complex needs and several appointments."

"Any patient interface needs to cater for all levels of digital expertise and adjustments made for accessibility, e.g. patients who are visually impaired will not be able to use these services."

"Services across N&W should offer consistency in the use of digital and technology, or this could lead to inconsistencies across organisations and services, preventing equity."

Removing the human element in care

People told us that…

"Digital solutions need to add to existing services rather than replace them. There should be an option for human or digital services, so individuals choose what is best suited to them."

"Information being accessible to the patient without counselling can distress or confuse the patient e.g. test results shared online via a portal without explanation of these results."

"There are concerns of digital exclusion, particularly those with a learning disability who may feel more comfortable having a more personable approach of face to face."

What we heard from staff

Improving lives together
Norfolk and Waveney Integrated Care System

Over 250 ICS staff members shared their views in a staff survey on what they need from digital, including having leadership, infrastructure, and adoption support.

77% of staff are interested in being **more involved in digital.**

78% of staff state **digital improvement** is very important or moderately important relative to other priorities in their area.

35% of staff don't have the right **technology or data and information** to do their job.

of staff are either **unsure or state they're uncomfortable** with using **new digital tools and systems.**

of staff think their organisation **fully embraces digital** to support **transformation** and **quality improvement** work.

57%

of staff think their **leaders embrace digital change** and **drive uptake** within their teams, and their organisational **culture encourages cooperation** across organisational boundaries.

The **top 4 digital technology investments** staff think can be used to improve the **health and wellbeing of people living** in Norfolk and Waveney are:

Shared Care Record (ShCR) - supporting health and social care workers to share and access information about patients and citizens, combining information from acute hospitals, general practice, community and mental health, and social care.

Electronic Patient Record (EPR) – an electronic patient record to replace many paper medical records, providing instant access to key clinical information such as the latest results, letters and notes.

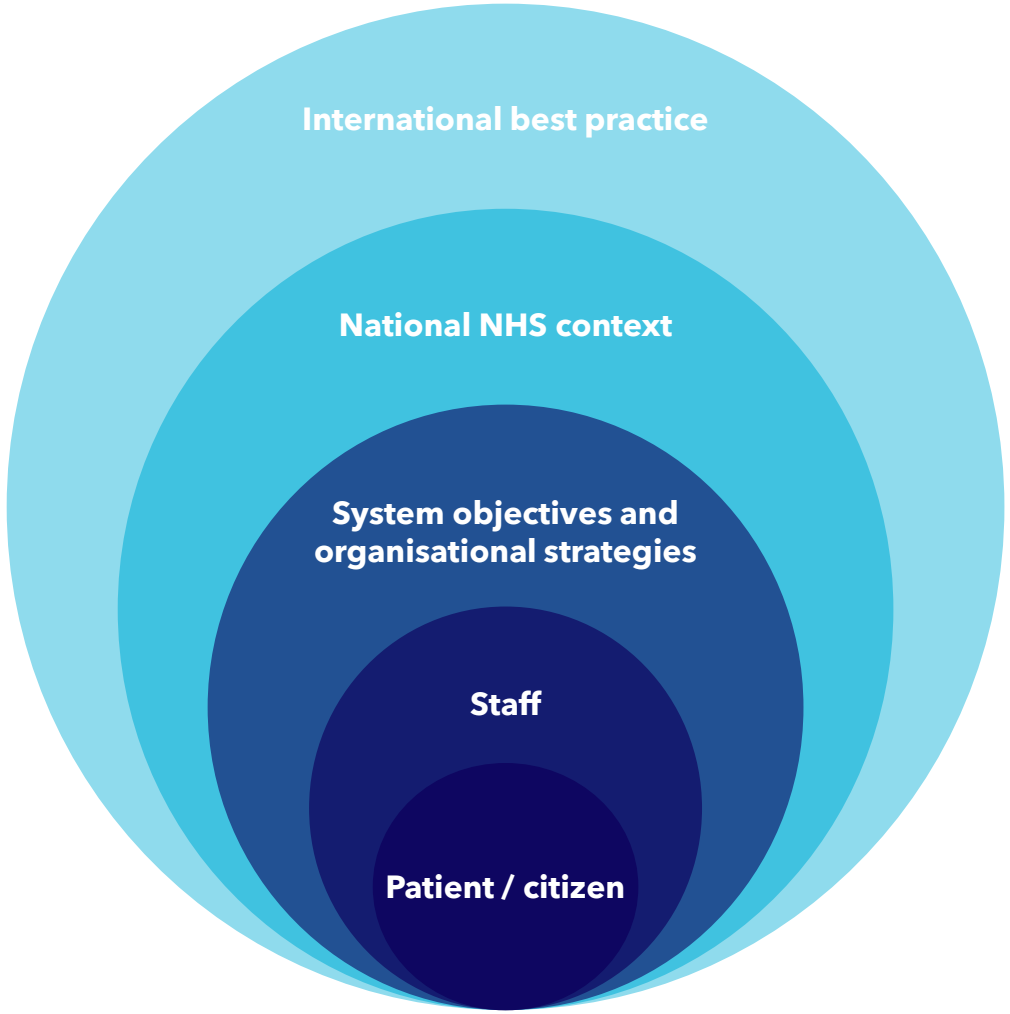
Improved Connectivity - faster and more reliable Wi-Fi and network connectivity across sites and remote working from anywhere across the system.

Better, faster and more flexible data from across health and care to improve direct and secondary care, research, policy making, commissioning and management decisions.

Digital transformation opportunities

Improving lives together
Norfolk and Waveney Integrated Care System

Overarching themes have emerged from input from our patients, citizens and staff, existing organisational strategies, NHS guidance, and international best practice*. We have developed the digital strategic roadmap with these core themes in mind.



Overarching digital transformation opportunities:

Patient empowerment
Providing patients with the tools to enable self-management of their health and care.

Collaborative care
Working collaboratively to provide joined-up care and share learnings to enable best practice.

Information sharing
Improved information sharing across and within health and care settings to allow for collaboration and holistic care.

Access to data
Better and quicker access to data and analytical tools to derive insight for population health management, improving outcomes and personalising health and care.

Alleviate burden on workforce
Reduced burden on administrative and duplicative tasks to release time to the workforce for care.

*Please see Appendix E for alignment of our digital transformation strategic roadmap and the NHSX 'What Good Looks Like' guidance.

Our Guiding Principles, Vision, and Strategic Objectives

Guiding principles

Improving lives **together**
Norfolk and Waveney Integrated Care System

Principles have been designed with stakeholders to guide the development and delivery of the Digital Strategic Roadmap as a truly integrated care system.

Collaborative & Inclusive – Shared vision and jointly agreed priorities, co-ordinated at the system level and catering to local realities to improve health outcomes for the citizens of Norfolk and Waveney.

Person-focused – Citizens and patients at the core of everything that we do to deliver a seamless experience and best possible outcomes for citizens and patients across Norfolk and Waveney.

Joined-up – Connected pathways across health and care underpinned by joined-up systems, streamlined governance, and efficient data and information sharing.

Safe & Sustainable – Solutions that cater to the diverse needs of the Norfolk and Waveney population with quality, safety and sustainability at the heart of everything we deliver.

Data-driven – A culture that leverages data securely, in line with regulations and with individuals' consent, to drive insight for continuous improvement.

Vision and strategic objectives

Improving lives **together**
Norfolk and Waveney Integrated Care System

Anchored in the ICS vision, the Digital Transformation strategic roadmap outlines five strategic objectives that illustrate our ambition to work together, to provide joined-up care, to empower citizens, and to understand data and innovate.

VISION: our overarching aim

A digitally-enabled Norfolk and Waveney where access to information, services and support make it easy to deliver high quality health and care for and with our citizens.

STRATEGIC OBJECTIVES: the results we want to achieve

Together
Use digital technology and skills to work more efficiently and collaboratively across standardised systems.

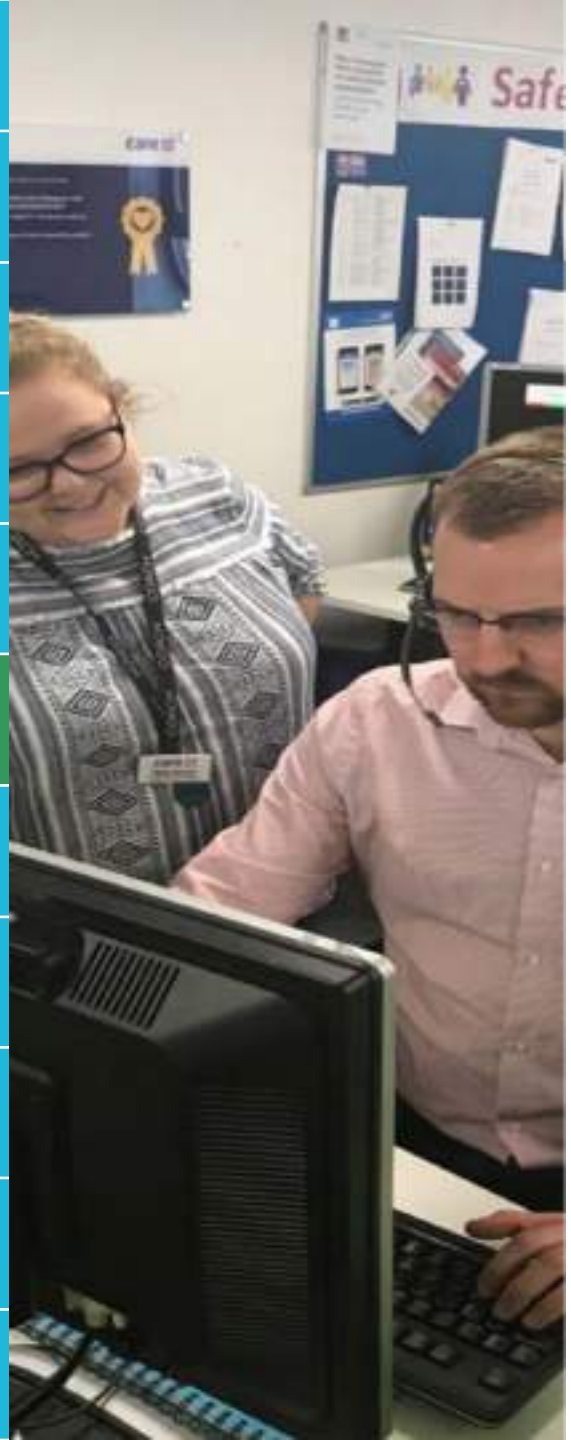
Connect
Provide effective and joined-up care through systems integration and streamlined information flows.

Activate
Empower citizens with greater visibility and control over treatment and care journeys.

Understand
Use data to drive decisions and harness population health insights.

Innovate
Adopt a clear pathway for digital innovation and research to support the transformation agenda.

The following slides explore our vision and strategic objectives, describing our future vision and how we get there.



Together

We will work in a more integrated and collaborative way as a system.

Improving lives **together**
Norfolk and Waveney Integrated Care System

Strategic Objective

Use digital technology and skills to work more efficiently and collaboratively across standardised systems.

What this means

Staff working across standardised systems and the same data to enhance care delivery through advanced and joined-up digital solutions.

How we get there

We will:

- Work together to create a shared digital record and insights that support a single version of the truth and enables the best possible care for the citizens of Norfolk and Waveney;
- Work collaboratively across our system, support staff development and aligned ways of working, build relationships with key partners, national bodies, the voluntary sector and our citizens, and consolidate our technology systems.

Connect

We will create joined-up care experience with full visibility of health and care data.

Improving lives **together**
Norfolk and Waveney Integrated Care System

Strategic Objective

Provide effective care through systems integration and streamlined information flows.

What this means

Delivering efficient and patient focused health and care regardless of service provider through simplified, consolidated, secure, and reliable infrastructure.

How we get there

We will:

- Join up care through consolidated IT infrastructure, information sharing, data governance and shared systems that provide a single version of the truth;
- Encourage a shift from the illness to wellness model by connecting our information and acting upon it more proactively with all our ICS partners, including VCSE, community, ambulance, and non-health and care services.

Activate

We will give citizens greater control through personalised and tailored care.

Improving lives **together**
Norfolk and Waveney Integrated Care System

Strategic Objective

Empower citizens with greater visibility and control over treatment and care journeys.

What this means

Citizens only need to tell their story once and be supported to drive the personalisation of their own care.

How we get there

We will:

- Enhance self-management through increased remote monitoring tools, streamlined access to applications and personal health and care records, and accessible information;
- Continue to build our inclusive digital literacy support programmes, benefiting our citizens, workforce and all ICS partners.

Understand

We will leverage data for better health and care decisions.

Improving lives together
Norfolk and Waveney Integrated Care System

Strategic Objective

Use data to drive decisions and harness population health insights.

What this means

Access to secure and timely data insights on demand, to support the best outcomes for individuals, our population, and the system.

How we get there

We will:

- Deliver population health management insights through whole population analysis using intelligence, data sharing, reporting, monitoring and evaluation;
- Improve accessibility and quality of data to drive better system decisions;
- Ensure robust information governance and data protection standards;
- Develop the Health and Care Data Architecture (HCDA) as a single source of comprehensive data, with advanced system intelligence produced by a single ICS Analytics team.

Innovate

We will accelerate the adoption of innovative solutions to support our transformation.

Strategic Objective

Adopt a clear pathway for digital innovation and research to support the transformation agenda.

What this means

Become a centre for excellence, harnessing digital approaches to innovation and research.

How we get there

We will:

- Develop an agile approach that harnesses and builds upon local and regional examples of excellence;
- Support the identification, scaling and dissemination of innovation;
- Embed a culture of innovation across the system and expand collaboration with key partners.

Digital and Data Capabilities

Capabilities overview

Improving lives **together**
Norfolk and Waveney Integrated Care System

To realise our digital ambition and deliver on our strategic objectives, we will build our core digital transformation capabilities.

Digitised Patient Record
Digitising records across all health and care settings will provide streamlined access to a single source of truth.

Shared Information
Shared Information across health and care settings will optimise the way professionals interact and work together.

Data & Analytics
Data and analytics solutions will improve accessibility and quality of patient data and insights-driven decisions.

Digital Workforce Tools
Digital workforce tools will enhance care delivery though standardised systems and collaborative tools.

Citizen and patient tools
Citizen and patient tools will provide a joined-up care experience through enhanced self-management and innovative support.

Virtual Health and Care
Virtual health and care will improve referrals ensuring faster access to treatment and offer personalised care from home.

Population Health Management
Population Health Management will apply a holistic view to our population and use data-driven insights to tailor system resources to best engage and support our people.

Infrastructure & Connectivity
Integrated infrastructure and connectivity will improve working and collaboration amongst staff, ensure robust data protection standards and cyber security.

The following slides explore the capabilities, highlighting how we will build on our recent successes to positively impact patients and staff.
A summary view of our key milestones and a high-level implementation plan may be found in Appendix C.

Building on our digital foundations

Improving lives together
Norfolk and Waveney Integrated Care System

Improvement in digital capabilities, evident prior to and throughout the pandemic, provides a firm foundation for our forward plan.

Primary Care

"We're the second highest area in the country for submission of online consultations. At two million forms submitted a year, this demonstrates excellent engagement in digital access by the public."

"We are also the first area in the country to move GP practices to cloud on a journey to provide them interoperability with ICS partners."

Associate Director of Digital, Norfolk and Waveney CCG

Chief Clinical Information Officer (CCIO), Norfolk and Suffolk Foundation Trust

Mental Health

"At NSFT we embedded an Electronic Prescribing and Medicines Administration (ePMA) across all in-patient units in less than nine months. This has transformed our safety with medication prescribing by reduction in errors. Thanks to close working with our amazing pharmacy team, it has reduced the time taken for many activities while improving decision support.
As this data is digital, we would love to share it with the Health and Care Data Architecture (HCDA) for population health improvements."

Social Care

"In Norfolk, we successfully made significant improvements in digital connectivity across the county. We connected c. 400 public sector buildings including schools and libraries to gigabit fibre, and improved access to Superfast or better connectivity to over 96% of Norfolk's properties."

Chief Digital Officer, Norfolk County Council

Acute Care

"NNUH were asked to set up a virtual ward by NHSE/I for Covid inpatients in January 2021. Since then, we have welcomed over 1,400 patients through the services, of which 98.2% reported 'very satisfied' with the service. This saved us over 11,000 bed days! We are keen to continue to expand this further to enable patients to receive care in the comfort of their own home."

Medical Director, Norfolk and Norwich University Hospitals

Chief Digital Information Officer, East of England Ambulance Service NHS Trust

Urgent and Emergency Care

"We have successfully deployed electronic patient records, removing paper from ambulances arriving at acute hospitals. Further increasing access to data and shared information will improve safety and reduce conveyances."

Community Care

"We share a common electronic patient record system with our community and primary care partners which has enabled us to access the same patient data, and join up the care we all provide. We've an established mobile working package used by over 1,100 community clinicians which enables them to enhance patient care by updating digital patient records during or straight after appointments."

Nursing Information Officer Norfolk Community Health and Care NHS Trust

Physiotherapist, Norfolk and Norwich University Hospitals NHS Foundation Trust

Podiatrist, organisation TBC

Digitised patient record

Improving lives **together**
Norfolk and Waveney Integrated Care System

Digitising records across all health and care settings will provide streamlined access to a single source of truth improving communication and coordination between clinicians, staff, and teams.

What are our priorities?

- Acute Electronic Patient Record (EPR)
- Digital Social Care Record
- Digitised Mental Health Record (EPR)

What this means for our patients

- Only telling their story once as all appropriate clinicians and staff have access to a consolidated view of their record;
- Receiving reliable, high-quality care;
- Joined-up care as clinicians and staff have the same patient record information at their fingertips irrespective of location.

What this means for our staff

- Enhanced clinical safety with immediate access to critical patient information and functionality, e.g. Clinical Decision Support, embedded protocols;
- Time released to care, reduced duplication, and efficient ways of working due to consolidated view of information;
- Joined-up care and information accessible across providers, gives care professionals the full picture of the patient's story improving shared decision-making and outcomes.

Physiotherapist, Norfolk and Norwich University Hospitals NHS Foundation Trust

Podiatrist, organisation TBC

Digitised patient record

Improving lives **together**
Norfolk and Waveney Integrated Care System

Digitised patient records will include the roll out of the acute Electronic Patient Record, the Digital Social Care Record, and the digitised Mental Health Record.

What we will deliver over time

FY22/23

- **Provide access to our Primary Care EPR (SystmOne)** for mental health nurses working in GP practices;
- **Digital Social Care Record in 60% of registered care home providers** by *March 2023 (and all CQC registered providers).*

FY23/24

- Optimise our Primary Care EPR (e.g., improved reporting capability);
- **Digital Social Care Record in 80% of registered care home providers** by March 2024 (and all CQC registered providers).

FY24/25

- **Commence Acute EPR implementation** to achieve a single, shared, integrated system across the three acute Trusts.

FY25/26

- **Implement a single EPR** in in all three acute Trusts (Trust A – April '25, Trusts B and C – June '25);
- **Fully digitise the Mental Health record.**


Job role and organisation TBC

Shared Information

Improving lives **together**
Norfolk and Waveney Integrated Care System

Shared Information across health and care settings will optimise the way professionals interact and work together, including through paperless systems, and streamlined information flows.

What are our priorities?

- Shared Care Record (ShCR)
- Digital Histopathology
- Single Infection Prevention Control System
- Single waiting list
- Interoperable Radiology Information System (RIS)
- Vendor Neutral Archive (VNA)

What this means for our patients

- Only telling their story once with improved continuity of care across settings;
- Faster imaging results as imaging reporting backlogs are reduced and eliminated;
- Less time spent waiting for appointments and procedures;
- Better cancer outcomes due to improved turnaround times and earlier diagnoses of all cancer MDTs requiring a biopsy result.

What this means for our staff

- Improved quality, availability and reliability of information;
- Integrated systems that 'speak' to each other helping to keep information up to date and reduce duplication;
- Streamlined and faster referrals process with necessary information about a patient easily accessible to all relevant care providers;
- Reduced reporting backlogs and improved governance and reporting through digitised imaging.


Job role and organisation TBC

Shared Information

Improving lives together
Norfolk and Waveney Integrated Care System

Shared Information will include deployment of the Shared Care Record, digitised histopathology solution, a single acute waiting list, infection control system, vendor neutral archive, and the interoperable Radiology Information System.

What we will deliver over time

FY22/23

- **Deploy core Shared Care Records (MVS)** with read-only view of GP, community, social care, mental health and acute patient records;
- **Digitise histopathology** to streamline diagnostics and support remote working for staff;
- **Implement a single waiting list** across all three acute Trusts;
- **Implement a single Infection Prevention Control system** across all three acute Trusts.

FY23/24

- **Enhance the Shared Care Record** – with write/read functionality, expanding to Community Pharmacies, Care Homes, carers/third party providers and district councils for shared care plans and advanced treatment decisions;
- **Seamless image transfer and viewing amongst the acute Trusts** via the interoperable RIS Solutions enabling the Diagnostic Assessment Centre;
- **Deploy a Vendor Neutral Archive (VNA)** as a safer way to store clinical images easily accessible across organisations.

FY24/25

- **Further enhance the Shared Care Record;**
- **Continue to enable sharing and consuming of patient data from the ambulance service EPR to ensure safe care in the right time and at the place;**
- **Review and agree opportunities for further consolidation of digital systems** to streamline access and achieve financial benefits.

FY25/26

- **Single system wide RIS & PACS imaging** which is integrated with the Electronic Patient Record (EPR).

Healthcare Practitioner, Norfolk and Norwich University Hospitals NHS Foundation Trust

Reablement Support Worker, Norfolk County Council

Data and Analytics

Improving lives **together**
Norfolk and Waveney Integrated Care System

Data and Analytics solutions and advancements will improve accessibility and quality of patient data, providing insights across end-to-end pathways.

What are our priorities?

- Health and Care Data Architecture (HCDA)
- Business Intelligence (BI)
- Advanced Analytics
- Robotic Process Automation (RPA)

What this means for our patients

- Improved and personalised care through advanced data insights;
- Targeted range of services to match population health needs of citizens reducing health inequalities and unwarranted variation in care;
- Improved experience of using healthcare services due to better planning;
- Access to new medical treatments through research and innovation data insights.

What this means for our staff

- Proactive care approach with interventions and resources targeted at those people and groups who need them;
- Planning and commissioning improvements for services that suit local needs, including areas that need support or improvement;
- Capacity and demand analysis, including for appraisal of safety risks and good practice;
- Workforce planning analysis and management in real-time;
- Richer data analytics to allow understanding of conditions and risk factors to support prevention;
- Clinical safety benefits from AI/machine learning tools.

Healthcare Practitioner, Norfolk and Norwich University Hospitals NHS Foundation Trust

Reablement Support Worker, Norfolk County Council

Data and Analytics

Improving lives **together**
Norfolk and Waveney Integrated Care System

Data and Analytics solutions will include the scaling of the Health and Care Data Architecture (HCDA), as well as BI and analytics capabilities.

What we will deliver over time

FY22/23

- **Stand up the HCDA** to enable system wide data collection, sharing and insights;
- **Establish a single ICS Analytics team;**
- **Create consistent system wide data and analytics reporting** to empower intelligent led decisions.

FY23/24

- **Integrate HCDA data and BI analytics** (e.g. whole population analysis including public health and ambulance data) for improved demand and capacity management across the system;
- **Integrate the PHM risk stratification tool with HCDA**, improving population health management insight from pilots;
- Deliver 'self-tooling' functionalities to allow staff to directly access data and analytics.

FY24/25

- **Deliver a longitudinal patient record** to consolidate disparate 'patient encounters' information into a single, patient centric record to support PHM and pathway analytics;
- **Introduce and utilise more advanced data concepts** such as AI to support clinicians and operational staff in their work.

FY25/26

- **Continuously enhance the HCDA** allowing better flow of information into the population health management capability to for improved system insight.


Healthcare Assistant, James Paget University Hospitals


Podiatrist, organisation TBC

Population Health Management

Improving lives together
Norfolk and Waveney Integrated Care System

Population Health Management will apply a holistic view to our population, use data-driven insights to better engage with our citizens and system partners and tailors system resources to better support people.

What are our priorities?

- Population Health Management
- Risk Stratification
- Population Insights
- Personalised Care

What this means for our patients

- Personalised and proactive services that work together to better support people to manage their health and wellbeing;
- Expanded focus that goes beyond care and treatment to support people to stay healthy and better maintain health;
- Equitable access and support that reduces health inequalities across the population;
- Access to personal data to empower citizens to self-manage their needs.

What this means for our staff

- Enhanced population insights to improve our understanding and forecasting for the needs of our population as they evolve and allocate system resources accordingly;
- Shift from a reactive to a proactive delivery model for health and care services and actively address health inequalities;
- Wider reach and impact across our system partners and support adoption of consistent population health management approaches;
- Joined-up system approach that supports working together to improve access and support for all citizens, which also works to address sustainability across the system.

Healthcare Assistant, James Paget University Hospitals

Podiatrist, organisation TBC

Population Health Management

Improving lives **together**
Norfolk and Waveney Integrated Care System

Widening and scaling our Population Health Management reach and impact across the system by enhancing and connecting our digital and data capabilities into a population health management programme for the ICS.

What we will deliver over time

FY22/23

- **Continue establishment of PHM Programme** building team capacity, standardising methodology and tools, developing enablers and requirements;
- **Continue expansion of Population Insights**, existing tools and capabilities, integration of existing data sets into Eclipse and Shared Care Records;
- **Agree priority use cases for risk stratification** using existing risk stratification insights, initiate 18-month procurement for risk stratification tool;
- **Expand Customer Relationship Management (CRM) capability** to enable personalisation approaches.

FY23/24

- **Continue development, enhancement and scaling of PHM Programme** (building robust insights to support monitoring and evaluation of existing pilots and initiatives);
- **Build PHM Platform** in HCDA including BI / reporting dashboards, continued integration of data flows to undertake/enhance whole population analysis;
- **Agree risk stratification tool** to scale across system, integrate tool into HCDA;
- **Continue to scale adoption of CRM tool**, linking into PHM programme pilots and initiatives.

FY24/25

- **Scale PHM capabilities to system partners**, with system partners using tools and analysis to inform clinical and operational decision making;
- **Develop ability to undertake large-scale population health analysis**, PHM platform is live and being used across the system, real-time pull of health and care data from HCDA;
- **Continue to expand risk stratification tool** capability drawing on HCDA expanded data.

FY25/26

- **Continue evolution and development of PHM programme** and capability (e.g. PHM platform / population insights, risk stratification tools with expanded data sets and personalisation approaches using CRM across the system).

Volunteer, organisation TBC

Registered Manager, PCT Care Services LTD

Citizen and patient tools

Improving lives **together**
Norfolk and Waveney Integrated Care System

Citizen and patient tools will provide a joined-up, personalised care experience through enhanced self-management.

What are our priorities?

- Patient Portal and apps
- Digital Patient Triage
- Digital Social Prescribing
- Emerging Tools (e.g. Virtual Reality)
- eRedbook

What this means for our patients

- Better visibility of data, care plans, and resources to keep patients well informed;
- Improved access to services with easy appointment booking, results visibility, and consultation options;
- Streamlined access to tailored community resources, peer networks, and online support channels.

What this means for our staff

- Released administrative burden as patients take on tasks to manage their care;
- Reduced duplication of tasks, unnecessary activity, and DNAs, alleviating system capacity constraints;
- Improved patient outcomes and reduced number of failed discharges, frequent A&E attendances, and other avoidable admissions.


Volunteer, organisation TBC


Registered Manager, PCT Care Services LTD

Citizen and patient tools

Improving lives **together**
Norfolk and Waveney Integrated Care System

Citizen and patient tools will include a single digital front door for the public, deployment of eRedbook, integrated patient portal and AI-enabled patient triage.

What we will deliver over time

FY22/23

- **Mental Health Integrated Front Door,** CYP and Adult websites and directory of operational services;
- **Single Triage Hub** for emergency care, 111 and 999 at proof-of-concept stage;
- **Deploy apps**, such as the colorectal cancer pre-habilitation app;
- **Continue to pilot home sensors** to support independent living.

FY23/24

- **Offer single digital front door** for the public by integrating existing patient portals with the NHS app across all health care settings; Streamline access to self-management apps;
- **Deploy eRedbook** solution to securely store information about mother and child from pregnancy to age 5;
- **Enhance digital social prescribing** to include a shared platform of community asset mapping and community resources accessible to all partner organisations;
- **Digital triage for Urgent and Emergency Care** with enhanced referral management in place.

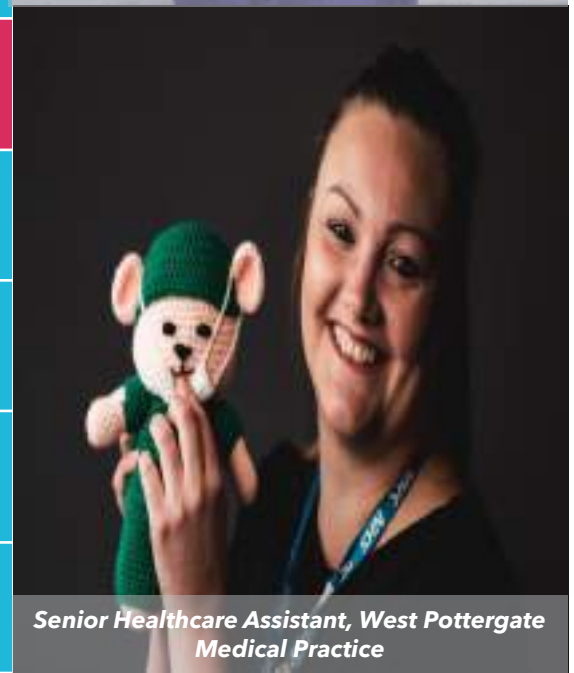
FY24/25

- **Integrate patient portal** with social media and wellness apps for holistic support;
- **Implement AI-enabled triage** to reduce A&E attendances; and
- **Enhance the single digital front door** by integrating social care information to further streamline access.

FY25/26

- **Deploy Virtual Reality** solutions, for example in end-of-life care.

Reablement Support Worker, Norfolk County Council



Senior Healthcare Assistant, West Pottergate Medical Practice

Virtual health and care

Improving lives together
Norfolk and Waveney Integrated Care System

Virtual health and care will streamline referrals ensuring faster access to treatment, offer personalised care from home, improve digital referrals and pre-operative assessments, and enable outpatients transformation.

What are our priorities?

- Remote monitoring and virtual wards
- Improved E-referrals
- Digital pre-operative assessments

What this means for our patients

- Access to health and care services from home and optimised patient care prior to any procedure;
- Improved access for patients with disabilities, inability to travel, work/childcare commitments;
- Reduced time between referral and treatment improving quality of care;
- Reduced waiting times for procedures and appointments;
- Reduced hospital length of stay as well as avoidable A&E visits and hospital stays.

What this means for our staff

- More efficient consultations as time released to care;
- Reduced footfall in the care setting and supports prioritisation of procedures, addressing long waiting lists and back logs;
- Improved referrals and referral management,
- System-wide approach and efficient use of resources for remote monitoring and virtual wards;
- Easier coordination and communication between different settings of care.

Reablement Support Worker, Norfolk County Council

Senior Healthcare Assistant, West Pottergate Medical Practice

Virtual health and care

Improving lives **together**
Norfolk and Waveney Integrated Care System

Virtual health and care will include a system approach and scaling of remote monitoring and virtual wards, enhanced e-referrals, and digital pre-operative assessments.

What we will deliver over time

FY22/23

- **Deploy digital pre-operative assessments** across all three acute Trusts;
- **Enhance e-referral system** to enable more streamlined referrals;
- **Agree system approach for remote monitoring** with scaling of virtual wards;
- Enable personalised outpatient pathways, including patient-initiated follow-up (PIFU).

FY23/24

- 173 virtual ward beds effective in April 2023;
- **Continue to expand virtual wards** to priority pathways – 368 beds by January 2024;
- Expand use of assistive tech in care homes;
- **Scale remote monitoring to care homes** and to patients with long term conditions.

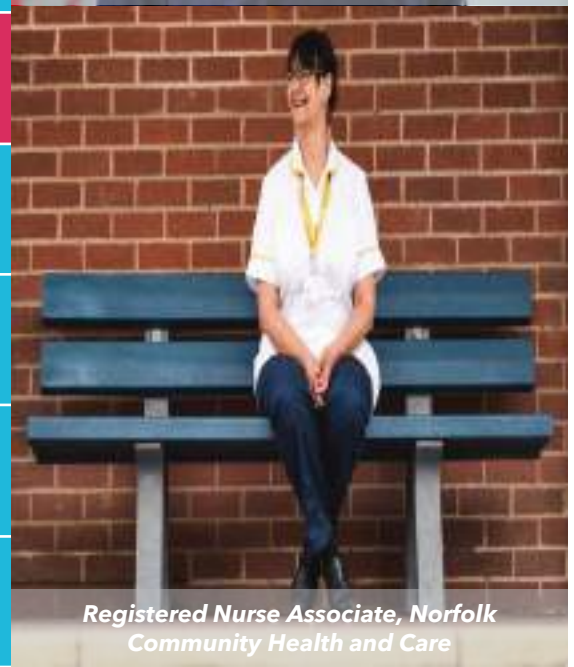
FY24/25

- Support increasing numbers of patients in virtual wards beds (450-550) co-ordinated via a central hub;
- **Deploy virtual A&E assessments** as part of virtual wards to ease pressure on ambulatory services and A&E.

FY25/26

- **Continue to enhance, scale, and innovate remote monitoring models** learning from previous roll-outs (1,000+ virtual ward beds).

Job role and organisation TBC



Registered Nurse Associate, Norfolk Community Health and Care

Digital workforce tools

Improving lives **together**
Norfolk and Waveney Integrated Care System

Digital workforce tools will enhance care delivery though advanced digital solutions across standardised systems to optimise collaboration and promote learning and development opportunities for staff.

What are our priorities?

- Virtual Careers Office
- End User Devices
- Integrated Learning Management System
- Integrated Electronic Staff Record & Digital Staffing Bank
- Streamlined Learning Placements

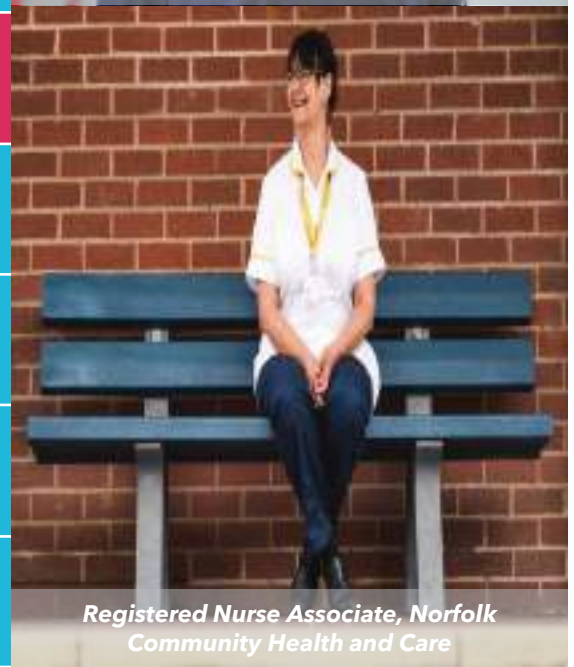
What this means for our patients

- Patients supported by staff who have access to better systems and training, improving experiences;
- Greater consistency and quality of care received from staff who are better equipped to do their job.

What this means for our staff

- Staff are equipped with the tools they need to do their job regardless of location;
- Greater collaboration, reduced duplication and error, releasing staff time;
- Investment in staff to build digital skills to enable career progression and learning, including in their digital leadership skills;
- More effective workforce planning and rostering across the system to enable better use of resources;
- Smoother learning placement process and secondment opportunities to enable staff to work as a single workforce across the system.

Job role and organisation TBC



Registered Nurse Associate, Norfolk Community Health and Care

Digital workforce tools

Improving lives **together**
Norfolk and Waveney Integrated Care System

Digital workforce tools will include user devices refresh, the standardisation of the Electronic Staff Record (ESR) systems including the e-roster, creation of the virtual careers office and an integrated Learning Management System (LMS).

What we will deliver over time

FY22/23

- **End user devices – IT refresh** to replace and upgrade 'out of warranty' devices;
- **Standardise use of Electronic Staff Record systems** for accessible and accurate workforce data;
- All nursing and AHP staff included on the e-roster;
- **Roll out the Carers Passport** to assist discussions around flexible working and support available to staff.

FY23/24

- **Establish a virtual careers office for staff** to enable joined-up ways to think about progression, scan job opportunities or talk to other professionals;
- Streamline the learning placement process across the ICS;
- Ensure all medical staff are added to the e-roster, enhancing and integrating the Electronic Staff Record (ESR);
- Improve workforce analytics enabling more efficient use of resources across the system.

FY24/25

- **Enhance digital training and courses**, including in digital leadership and management;
- Optimise workforce analytics;
- Develop the staff central bank – an integrated database of clinical, administrative and HCA staff to aid recruitment into posts across the system.

FY25/26

- **Implement an Integrated Learning Management System** enhancing consistency and improving e-learning across the ICS.

Fully integrated infrastructure and connectivity

Improving lives together
Norfolk and Waveney Integrated Care System

Fully integrated infrastructure and connectivity will improve ways of working and collaboration among staff and enable robust data protection and cyber security.

What are our priorities?

- Infrastructure & Connectivity upgrades
- Cloud First Infrastructure
- Enhanced Collaboration
- Cyber security and Compliant Standards

What this means for our patients

- More efficient and reliable care as clinicians and staff can access information required from anywhere and quickly;
- Improved clinical safety/outcome in urgent situations where patient information is required fast;
- Secured systems, where patient privacy and confidentiality are protected.

What this means for our staff

- Time released to care with optimal running solutions and increased connectivity;
- Less frustration waiting for load time and reduction in duplication of tasks;
- Improved accessibility to connectivity with compatible devices;
- Improved quality and performance of hardware and devices;
- Enhanced integrated working across the system.

Fully integrated infrastructure and connectivity

Improving lives **together**
Norfolk and Waveney Integrated Care System

Fully integrated infrastructure and connectivity will include a new cloud solution, cyber security solutions and enhanced Wi-Fi network and connectivity.

What we will deliver over time

FY22/23

- Deploy new cloud solution and cyber security solution;
- **Enhance Wi-Fi connectivity** across primary care and care homes;
- Implement WAN wide area network.

FY23/24

- **Implement Cloud telephony in 100% of GP practices**;
- Provide access to high-speed connectivity and devices for care providers;
- Enhance collaborative working via Office 365 upgrades and information sharing agreements across providers;
- Deploy Community Diagnostic Hubs infrastructure and connectivity requirements.

FY24/25

- Implement an information security management system;
- Continue to upgrade Wi-Fi, server, and network infrastructure across the acute Trusts in advance of the EPR implementation.

FY25/26

- **Improve and optimise ICT infrastructure** to evolve with market technology trends and needs.

Key Enablers

Enablers overview

Improving lives together
Norfolk and Waveney Integrated Care System

Delivering our digital and data capabilities will require a set of underpinning system-wide enablers that span leadership, digital skills and inclusion, culture, governance, innovation and working as a unified digital team across the ICS.

Leadership and Decision Making
We will align our priorities and continue to enhance our digital leadership skills.

Governance
We will optimise governance structures for transparent and efficient decision making.

Transformation and Culture Change
We will nurture a 'digital first' culture and embed digital within system transformation.

Digital and Data Skills and Inclusion
We will upskill all our staff, patients, and citizens to use digital and data confidently.

Innovation and Partnerships
We will leverage partnerships and opportunities to innovate our services and embrace the potential of digitisation.

Unified Digital Team
We will expand our unified digital and analytics team, ensuring collaboration and system working.

The following slides explore the enablers identified above in more detail, describing recent progress and key milestones.

Building on our enablers

Improving lives together
Norfolk and Waveney Integrated Care System

Recent progress across our system provide a robust basis and lessons learnt for our forward plan.

Chief Digital Officer, Norfolk County Council

Digital Inclusion in Social Care

"At Norfolk County Council, we created a strategic programme working with our NHS district and voluntary partners and delivered over 5,000 laptops and tablets to Norfolk's students and 1,400 to adults, along with various programme through our libraries network and video trials in care homes."

Clinical Digital Leadership

"We have come a long way as a Trust at Norfolk and Norwich University Hospitals. We have our C(x)IO network to collaborate as a system. We are clinically-led with our CCIO and CNIO roles, whereby clinicians are leading our change management and digital transformation."

Chief Digital Information Officer, Norfolk and Norwich University Hospitals

Nursing Information Officer Norfolk Community Health and Care NHS Trust

Responsive Care Provision

"Our talent and expertise in technical design and service delivery with the provision of responsive support for our frontline clinicians and corporate staff is award winning. We have a Chief Allied Health Professional and Nursing Information Officer within our digital team who champions the clinical and patient voice at the heart of all digital solutions. These things have all placed us at the forefront of digital maturity."

Digital and Data Skills and Inclusion

"We have a great library network that acts as a community hub which can reach the elderly population. It's used for teaching the community to use digital tools such as remote GP consultations."

Comms and Engagement Manager, Norfolk and Waveney ICS

Care Co-ordinator, PCT Care Services Ltd

Leadership and decision making

Improving lives **together**
Norfolk and Waveney Integrated Care System

Our leaders will champion a digital first culture, support their teams to work differently, and collaboratively agree system priorities.

What are our future aspirations?

We will engage system leaders to champion the digital transformation strategy objectives at all levels, seeking to develop collaborative ways of working and transparent governance around digital.

What we will deliver over time

FY22/23

- **Appoint ICS Digital Lead**;
- **Align system priorities**, ensuring leaders champion digital transformation strategy objectives;
- **Sign off digital investment priorities** and agree investment in digital;
- **Implement procurement convergence** and alignment across the system;
- Enhance our digital leadership community and integrate with clinical leaders, e.g. C(x)IO network.

FY23/24

- **Join up decision-making with a transparent funding approach** consistent with the annual business planning cycle and aligned to the strategic roadmap priorities;
- Establish the Digital Leadership development programme.

FY24/25

- Enhance and scale Digital Leadership development programme;
- **Ensure aligned decision-making and consolidation of digital systems**, leveraging buying power and enabling standardisation, inter-operability and cross-system working.

FY25/26

- Continuously ensure digital leadership is focused on delivering a shared vision and joint outcomes.

A&E Nurse, Queen Elizabeth Hospital

Governance

Improving lives **together**
Norfolk and Waveney Integrated Care System

Effective and efficient governance will form a key part of our transformation to ensure we are optimising the way we work across the ICS.

What are our future aspirations?

We will embed a transparent governance structure around digital, including ensuring streamlined process around digital, information governance, cyber security and clinical safety.

What we will deliver over time

FY22/23

- **Optimise governance processes** across the ICS (e.g. single ICS Digital Board);
- Streamline cyber security, IG process and standards across the ICS, ensuring consistent and standardised data sharing approaches;
- Streamline clinical safety processes across the ICS;
- Establish a Population Health Management Board.

FY23/24

- **Standardise policies and ways of working** (IG, Cyber, HR, remote working, etc.) to ensure streamlined adoption of digital and reduction in duplication across provider organisations.

FY24/25

- Establish robust and mature system-wide IG, cyber, clinical safety and security functions, building on previously undertaken work.

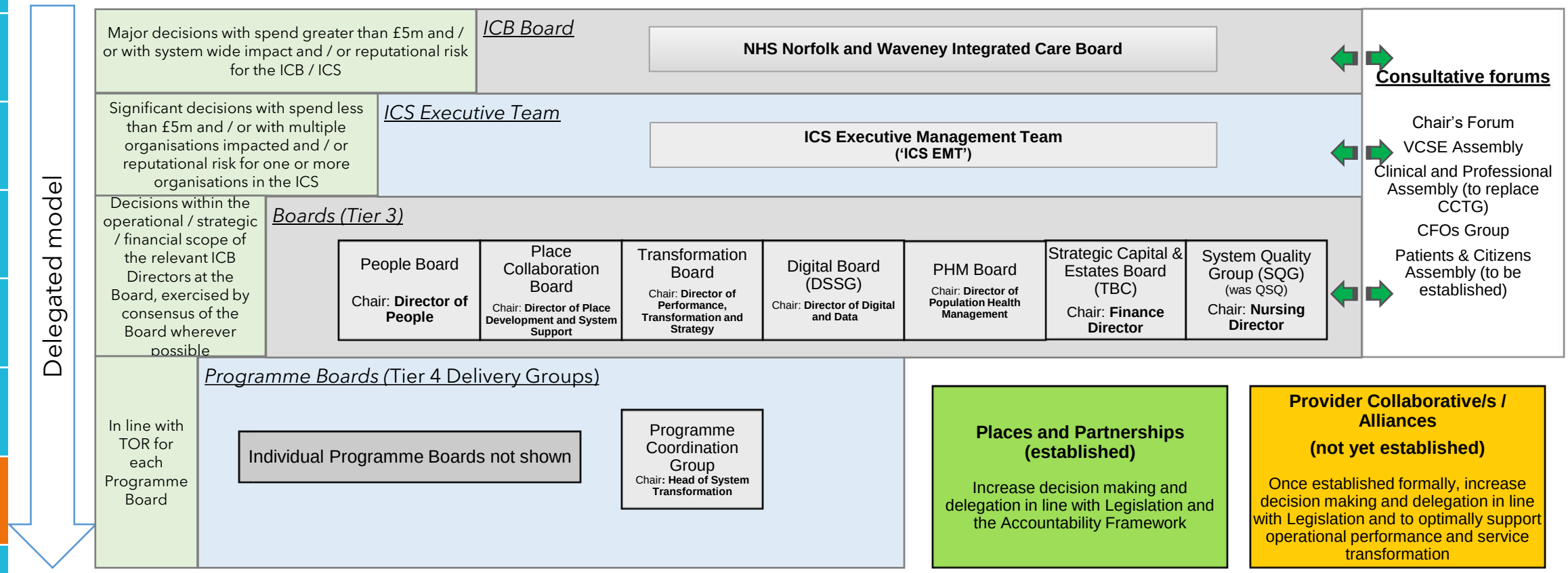
FY25/26

- Ongoing review to ensure efficient, effective governance structures embedded in the ICS.

Governance structures

Improving lives together
Norfolk and Waveney Integrated Care System

Digital leadership will be embedded throughout our ICS governance structures to ensure alignment and integrated system decision-making.



Our digital governance includes:

- Digital representation (Digital SRO) at the executive level (ICS EMT);
- Digital leadership embedded in our Tier 3 Boards, with digital representation at the Transformation, People, Strategic Capital & Estates, and PHM Boards;
- The Digital Board which will serve as the Digital Design Authority, driving system strategic thinking across digital and data, and aligning to a system-wide future state Enterprise Architecture; and
- A Digital PMO to ensure collaboration and alignment across all system-wide digital initiatives.


Job role and organisation TBC

Transformation and culture change

Improving lives **together**
Norfolk and Waveney Integrated Care System

Transformation will be digitally-enabled, embedding key data and digital capabilities in pathway redesign and new models of care.

What are our future aspirations?

We will develop a culture that embraces digital and data and embed a 'digital first' approach as part of wider transformation efforts.

What we will deliver over time

FY22/23

- **Agree communications plan**, incorporating digital champions, dedicated digital communications staff, and OD;
- **Embed digital and change champions** amongst staff at all levels for 'digital first, data-driven' approaches;
- Deploy best practice, standardised approaches collaboratively across organisations.

FY23/24

- **Continue to build staff support through change champions**, including for frontline staff;
- Embed digital and data capabilities in pathway redesign and new models of care.

FY24/25

- **Improve monitoring and evaluation** to enable decision-making capability.

FY25/26

- Review ICS Strategic Transformation objectives and begin planning for future strategy delivery with digital and data capabilities embedded in transformation.

Infection Prevention and Control (IPAC) Nurse, Norfolk Community Health and Care

Digital and data skills and inclusion

Improving lives **together**
Norfolk and Waveney Integrated Care System

Our staff will be supported through training and development programmes, delivered with our community partners.

What are our future aspirations?

We will upskill all our staff, patients and citizens to use digital and data confidently and to encourage inclusion and digital adoption.

What we will deliver over time

FY22/23

- **Baseline digital skills amongst staff** and invest in training and resources to address gaps;
- Support access to devices and equipment through libraries and schools schemes;
- **Expand digital inclusion initiatives for citizens in partnership with community organisations** (e.g., libraries, outreach workers, religious groups);
- Establish a digital patient voice or citizens forum for continuous input.

FY23/24

- **Develop a digital skills competency framework**;
- Include digital skills in career pathways and future job training / jobs of the future;
- Support staff with digital and data apprenticeships and secondment opportunities;
- **Standardise digital inclusion programme for staff**, incorporating induction, training, recruitment and career progression; nominate digital champions.

FY24/25

- Maintain a pipeline of key digital roles that could work flexibly across the system;
- **Ensure continuous review of ICS-wide digital professional development opportunities**, peer support mechanisms and training.

FY25/26

- Expand targeted community engagement and support programmes, learning from past efforts and initiatives.


Job role and organisation TBC

Innovation and partnerships

Improving lives together
Norfolk and Waveney Integrated Care System

Innovation will form a key part of our digital strategy to scale and spread best practice across our system.

What are our future aspirations?

We will leverage partnerships and opportunities to innovate our services and embrace the potential of digitisation.

What we will deliver over time

FY22/23

- **Promote learning and sharing of best practice through localised innovation** and sharing of good practice across the system;
- **Expand academic partnerships through the Evaluation Hub**, e.g. University of East Anglia and the Eastern Academic Health Science Network to develop a robust quality improvement / evaluation capability.

FY23/24

- **Develop 'Innovation Hub' capability** accessible across the ICS that acts as a repository for best practice, emerging technology, and access to innovation partners;
- **Expand networks and collaborations** with other NHS partners, academia and private industry partners to drive innovation;
- Establish formal innovation partner(s), e.g., a 'buddy ICS' or private sector partner.

FY24/25

- **Explore funding opportunities for the innovation hub**, mature partnership arrangements, begin running agile pilots to test initiatives;
- Maximise opportunities enabled by the Trusted Research Environment (built on the HCDA) to support innovation.

FY25/26

- Use innovation to address and support system challenges;
- **Mature the innovation hub** – run agile pilots and scale and spread initiatives.

ICS Unified Digital Team

Improving lives together
Norfolk and Waveney Integrated Care System

We will bring together and further invest in key skills to support existing digital programme teams, align as an ICS, and reduce duplication.

Our commitments include to:

Bring together a single EPR team to support the implementation of an integrated Electronic Patient Record system across our three acute Trusts;

Establish an ICS Intelligence/Analytics team to support system-wide data and analytics, including population health management, segmentation, and risk stratification;

Enhance capacity by supporting and bolstering local teams around key digital skills;

Establish a central digital team to own and manage the digital strategy, receive and disseminate information from regional/national bodies, support organisations in their funding bids for future projects providing the necessary guidance and support; and

Increase investment in and collaboration and co-operation for key functions, including information governance, cyber security, clinical safety, transformation, communications, contract management, IT service management, software development, application, tech, and infrastructure services, PMO, workforce development and digital innovation.

Our model of working together based on the principles outlined above will be agreed in future based on the most effective and efficient outcome for our system. Model Health System productivity benchmarking demonstrated variation in digital spend amongst our provider organisations. By bringing our skills together more effectively as an integrated system, we will drive efficiencies and make best use of digital transformation investment.

Investing in Digital Transformation

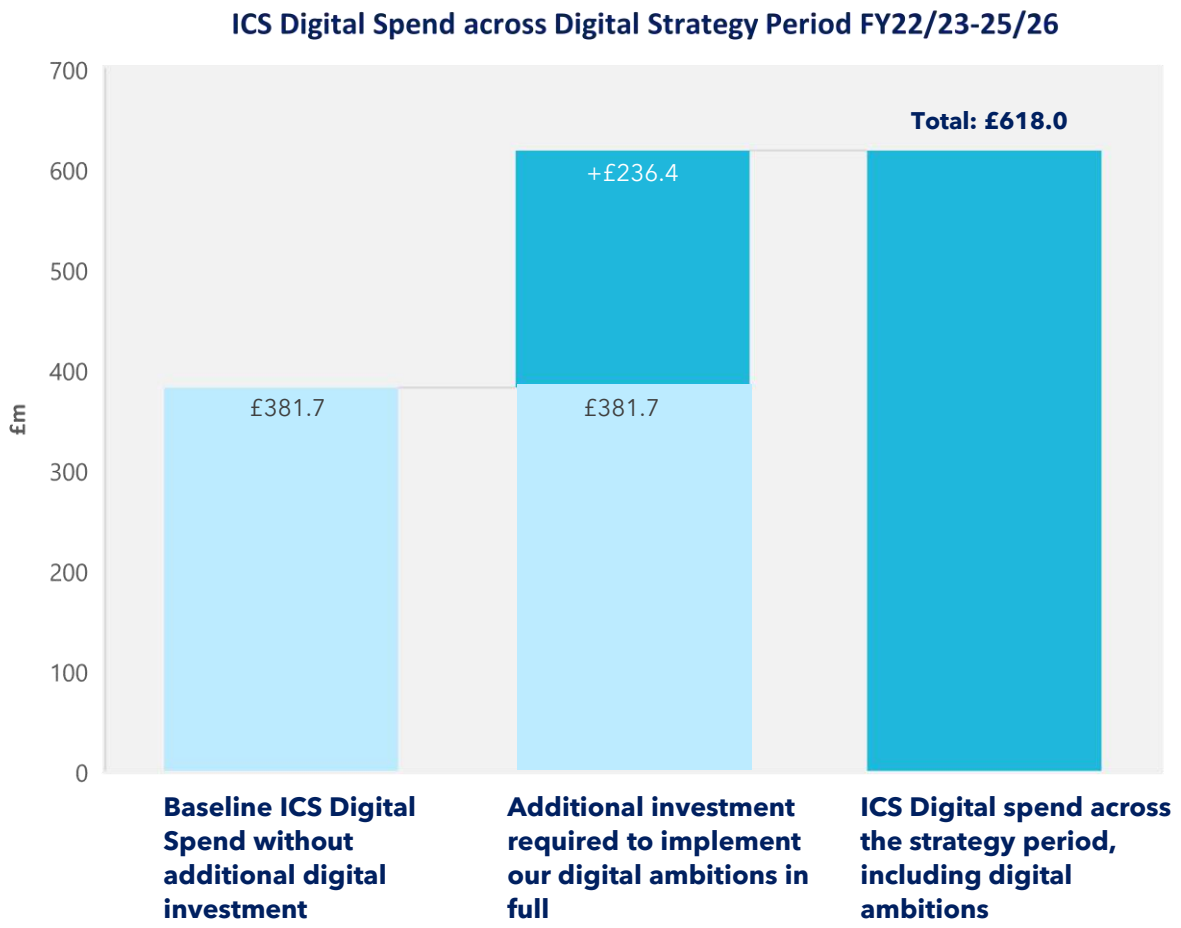
Investing in digitally-enabled transformation

Improving lives together
Norfolk and Waveney Integrated Care System

In order to transform and truly integrate, investment in digital beyond our current funding commitments is required.

- National guidance recommends that Trusts spend ***5%*** of expenditure on technology.*
- In FY21/22, our annual spend on digital as a proportion of overall spend on health and care was approximately ***1.6%***, or £84.1m.
- The total estimated cost of the Digital Transformation Strategic Roadmap (FY22/23 – FY25/26) is ***£236m*****;
- Investment in digital transformation will increase the proportion of health and care spend on digital to between ***2.6 and 3.5%*** during the strategy period, bringing us closer to national guidance.

- **Due to the early stage at which some of the cost estimates and scope have been captured, a 10% contingency has been applied to all costs at programme level from FY22/23 to FY25/26. As scope for each programme is further defined, it is expected that specific levels of contingency and optimism bias will be applied. This will remove the need to apply a standard 10% contingency to all costs. A 5% contingency has been applied to EPR programme costings provided.
- An annual 8% inflation rate has been applied (from FY23/24). Though the published national tariff inflation rate is 5.2%, given the high proportion of non- pay costs, it was deemed appropriate to use a higher rate that was closer to 10% to reflect real costs/ current inflation rate.



The costed investment plan has been developed collaboratively with system digital and financial leads and will be further validated with system financial leads.

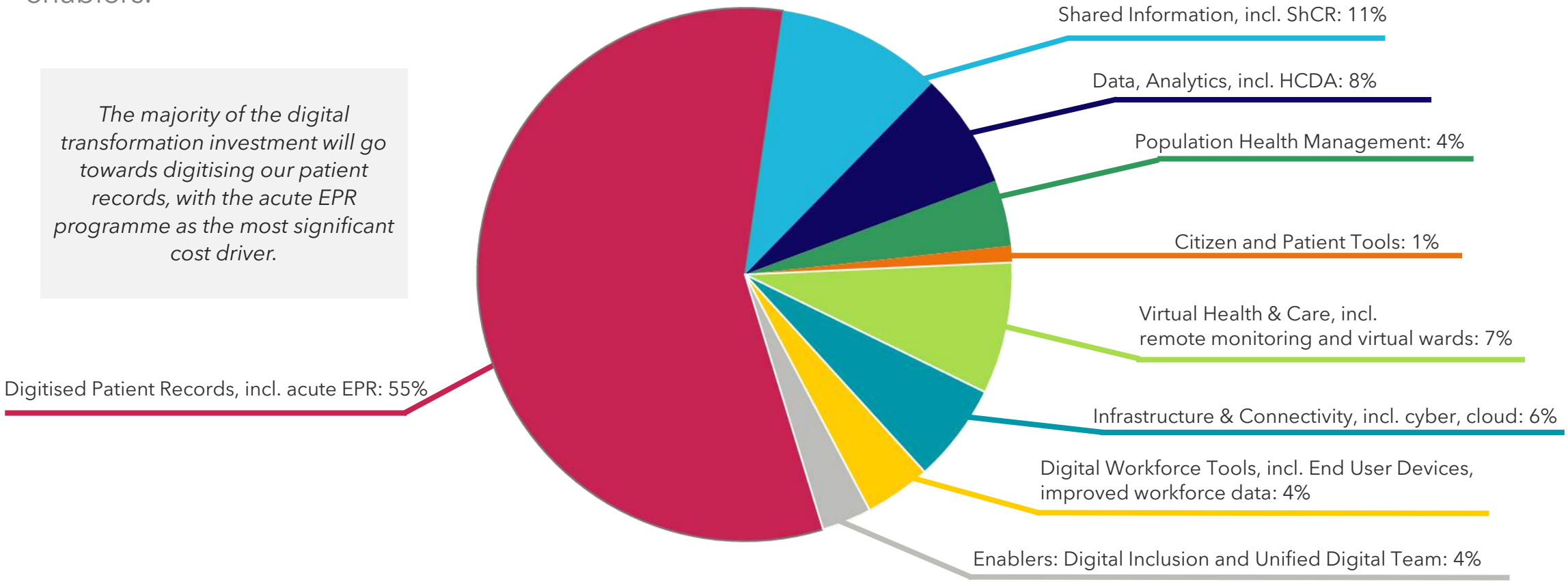
**Source: Lord Darzi and Institute for Public Policy Research, Better health and care for all, June 2018, referenced in the NAO Digital transformation in the NHS May 2020 report, Digital transformation in the NHS – National Audit Office (NAO) Report*
***Total estimated cost of £236m includes both Capital (£106.6m) and Revenue (£129.7m) costs.*

Funding required by digital capability

Improving lives together
Norfolk and Waveney Integrated Care System

The Digital Transformation strategic roadmap will require significant investment to build our capabilities and enablers.

The majority of the digital transformation investment will go towards digitising our patient records, with the acute EPR programme as the most significant cost driver.



FUNDING REQUIRED FOR:

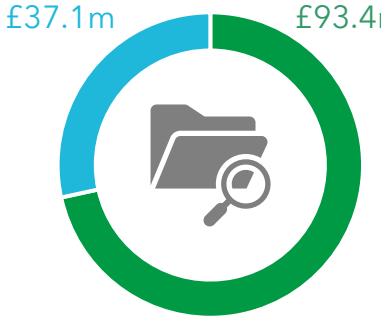
People	Hardware: Devices and Technology Kit	Tools and Systems	Integration, Sharing, Management of Data and Information

Additional funding sources required

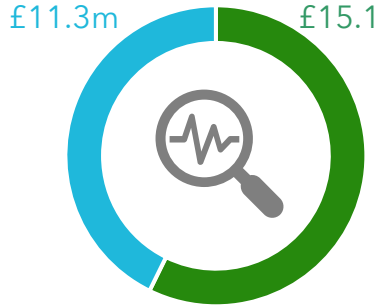
Improving lives together
Norfolk and Waveney Integrated Care System

In order to maximise the opportunities enabled by digital, investment beyond our current funding commitments is required.

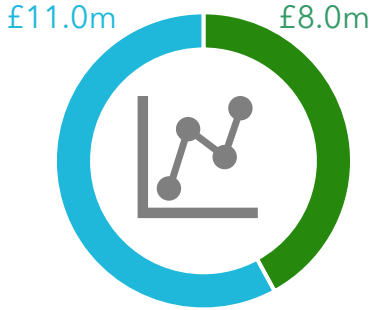
ADDITIONAL FUNDING REQUIRED BY DIGITAL CAPABILITY



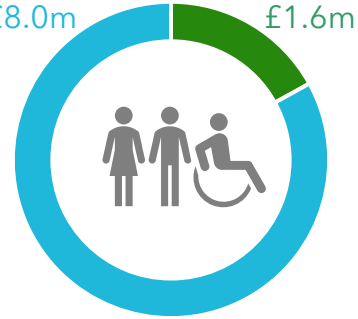
Digitised Patient Record, incl. Acute EPR



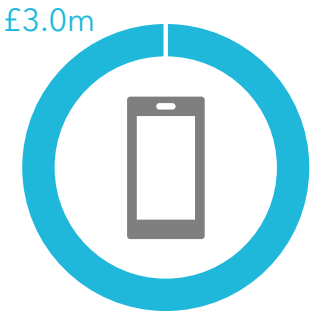
Shared Information, incl. Shared Care Record (ShCR)



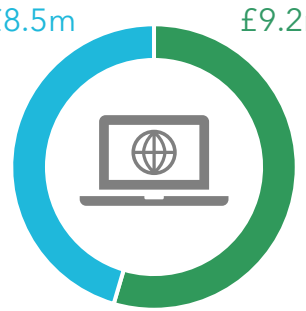
Data, Analytics, incl. HCDA



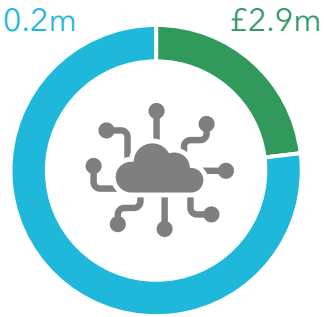
Population Health Management



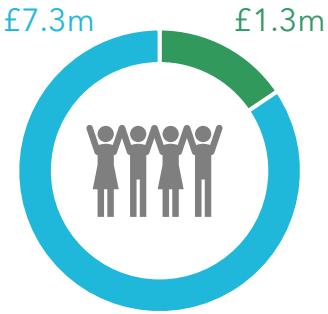
Citizen and Patient Tools



Virtual Health and Care



Infrastructure, Connectivity, Cyber Security



Digital Workforce Tools

Enablers: Digital Inclusion and Unified Digital Team

Funding Identified or Secured | **Funding Gap**

Note: 'Funding identified' - Funding has been earmarked/requested for but not necessarily confirmed/allocated, 'Funding secured' - Funding that has been confirmed/allocated.

Costed plan

Improving lives together
Norfolk and Waveney Integrated Care System

To deliver our digital transformation strategic roadmap, ~£236m of total investment is required, of which ~£105m requires additional funding.

Digital Capabilities	FY22/23 – 25/26 (Years 0-3)					
	Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Digitised Patient Records, incl. Acute EPR	91,689	38,845	72,272	21,171	19,417	17,674
Shared Information, incl. ShCR	4,946	21,429	2,673	12,435	2,273	8,994
Data, Analytics, incl. HCDA	2	18,962	-	7,974	2	10,988
Population Health Management	-	9,606	-	1,631	-	7,975
Citizen & Patient Tools	1,582	1,371	-	-	1,582	1,371
Virtual Health & Care, incl. remote monitoring and virtual wards	3,703	14,015	2,115	7,085	1,588	6,930
Infrastructure & Connectivity, incl. cyber, cloud	1,362	11,769	863	2,043	499	9,726
Digital Workforce Tools, incl. End User Devices, improved workforce data	2,938	5,618	1,250	2	1,688	5,616
Enablers: Digital Inclusion and Unified Digital Team	413	8,104	-	-	413	8,104
Total ('£000)	**106,635**	**129,718**	**79,173**	**52,341**	**27,462**	**77,377**

To fill this funding gap, we will work to secure additional regional and national funding. We will also consider, as a system, how to best increase our digital transformation budgets, including agreement on a target percentage spend on digital.

Please see Appendix D for further details of the costed investment plan.

Implementing Our Strategy

Benefits of digital transformation

Improving lives together
Norfolk and Waveney Integrated Care System

Digital transformation will enable significant benefits across our system. Implementation of digital capabilities will improve patient outcomes, reduce administrative burden, release time to care, and ensure effective use of our resources.

Improved patient outcome and quality of care
through earlier detection and diagnosis and reduction in error and improved staff satisfaction

Reduced re-admissions / failed discharge
with tools to support self-management and accessible information

Fewer A&E attendances
through preventative measures, enhanced triage processes, and reduced conveyances

Cost savings
with reduced use of printing paper, and post, and consolidation of systems

Reduced attrition
with improved staff satisfaction and more productive working years

Time released to care
with automation and digitisation of administrative tasks

Proactive and preventative care
with better access to data to analyse trends

Reduced inequalities
with improved access knowledge of health disparities and therefore better targeting of resources

Reduced waiting lists and length of stay
as digital unlocks efficiency opportunities and improved system capacity to address rising demand

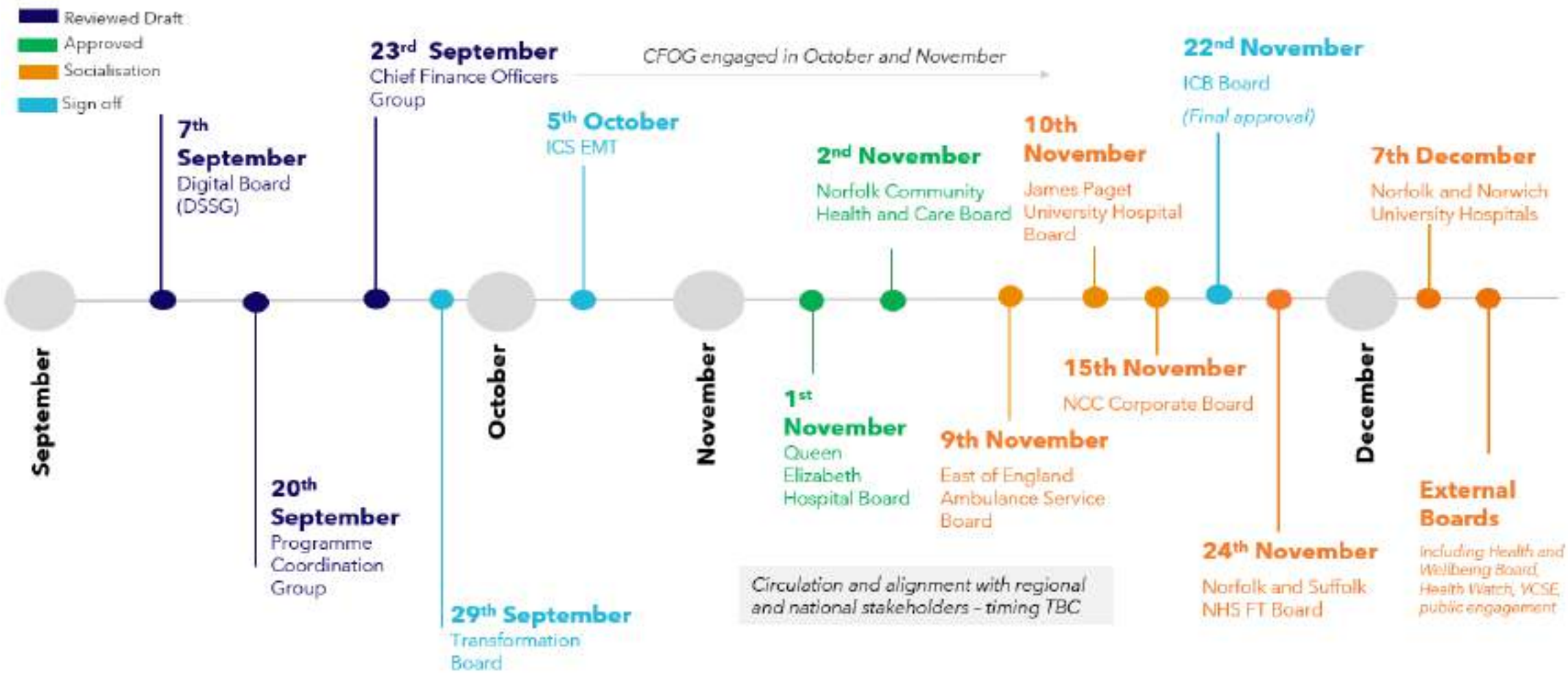
Reduced carbon emissions
with less patient and staff travel to health and care settings

We will ensure we implement a robust approach to evaluating and realising benefits, with a dedicated focus on change management.

Socialisation plan

Improving lives together
Norfolk and Waveney Integrated Care System

A critical path has been established for review and approval of this strategic plan and roadmap. The path promotes agreement and ownership with all organisations and the ICS.



Next steps

Improving lives together
Norfolk and Waveney Integrated Care System

This Digital Strategic Plan and Roadmap provides a direction of travel and a delivery roadmap for digital health and care over the next 3 years. Our priority actions for the ICS Digital Transformation Strategic Roadmap and Investment Plan are to:

Agree and ***continue appointment*** of key digital transformation roles

Further develop strategic implementation plans and investment cases for each digital capability, working closely with the Chief Finance Officers Group

Director of Digital & Data for Norfolk and Waveney ICB to ***lead delivery of the strategy*** via the DSSG leadership; ***Ongoing collaboration*** of the digital teams and existing digital PMO resources to ***progress delivery of the digital transformation strategic plan***

Approval of strategic roadmap and plan via the ICB Board on 22nd Nov, then wider socialisation through external boards (e.g. Health watch, VCSE Assembly)

Review achievements against our goals and objectives at annual intervals, addressing new priorities and adjusting our direction of travel as our clinical strategy evolves.

Thank you

Improving lives together
Norfolk and Waveney Integrated Care System

Thank you to the clinical, operational and digital stakeholders from our ICS and partner organisations who supported the co-development of this Digital Transformation Strategic Plan and Roadmap.

Special thanks to the following for contributing to the development of the Digital Transformation Strategic Plan and Roadmap:

- Our front-line clinicians and staff, leaders in our ICS and partner organisations, and citizens and patients across Norfolk and Waveney for giving of their valuable time to invest in the design of the future digital vision for care.
- Our Digital Transformation Strategic Planning Working Group (DTSPWG), a dedicated group of clinical and digital leads from our ICS and partner organisations.






Key risks and proposed mitigations

Improving lives together
Norfolk and Waveney Integrated Care System

Delivering digital transformation on this scale entails the effective management of risks including the lack of joined-up leadership, transformation siloes, insufficient funding, significant cultural change required, as well as governance challenges.

Area	Risk	Next steps for mitigation
Leadership	• Lack of alignment between system and organisational leaders given competing priorities	• Galvanize leadership on compelling case for change, articulating risks of not digitising and championing this digital roadmap
Funding	• Limited funding to fully deliver strategic ambitions	• Further prioritise digital capabilities, as required • Agree as a system to set a target percentage for digital spend • Engage with regional and national leaders on additional potential funding sources
Culture	• Lack of workforce readiness for transformation • Significant cultural change required, potential for 'change fatigue' • Siloes when it comes to digital and wider transformation efforts across the system	• Join-up efforts around digital and wider transformation including a comprehensive change management programme/workstream that includes digital • Support frontline champions among staff of digital and wider transformation efforts
Governance	• Potential for inertia and delayed decision-making while governance structures are formed and matured	• Rapidly enact the digital governance so that it provides effective and transparent support to the transformation ambitions

Appendix A: Engagement Approach

Our engagement approach

Improving lives together
Norfolk and Waveney Integrated Care System

Stakeholders were engaged to co-develop the ICS Digital Transformation Strategic Plan and Roadmap using a variety of channels including interviews, staff survey, workshops and a public patient and citizen forum.

Interviews

Interviews conducted with over **50 key stakeholders** across the ICS to understand the strategic context, **current state, future vision, capabilities** and **challenges**

Survey

Survey distributed and **over 250 responses** gathered to gain perspectives on the **priorities** for digital transformation and **barriers**

Patient journeys

Five patient journey workshops co-facilitated with clinical leads to bring the **digital vision to life** via five exemplar future patient journeys

Working group sessions

Five sessions held to co-develop the strategic plan and roadmap, gaining views on the **digital ambition, key strategic priorities and key capabilities and enablers,** and agreement on the **resource plan and investment priorities**

Patient / citizen forum

Patient and citizen forum held to listen to **patient and citizen voices** on their needs to inform **strategic priorities and the roadmap**

Established governance groups were used for collaboration and decision-making during the development of the roadmap and plan. This ensured ***commitment and ownership of the strategic ambitions***. Governance groups included CCTG, C(x)IO, DSSG and EMT.

Stakeholders interviewed (1/2)

Improving lives together
Norfolk and Waveney Integrated Care System

Interviews were held between 6th and 27th of June with key ICS stakeholders to understand the strategic context of the organisations within the system and priorities for digital transformation

Name	Role	Date
Dave Allen	Head of Ops, EEAST	15th June
Pete Best	Head of Insight and Analysis	9th June
Dr Zac Blake	Clinical Lead for ShCR Programme	21st June
Tracey Bleakley	ICB CEO	8th June
Alex Briggs	Associate Director of Information (Primary Care & Commissioning)	9th June
Stephen Bromhall	CIO, EEAST	14th June
Carly West-Burnham	Director of Strategy and Integration, QEH	8th June
Anne Burrows	Associate Director of Special Projects	14th June
Dr Hilary Byrne	GP, Clinical Lead, CCG	16th June
Daryl Chapman	DOF, NSFT	10th June
David Chapman	Technical and Solutions Architect	21st June
Vivek Chitre	Chief Medical Officer, Lead for Digital, JPUHFT	22nd June
Geoff Connell	CIO, NCC	21st June
Dr Dan Dalton	Medical Director, NSFT	10th June
Prof. Erika Denton	Medical Director, NNUHFT	14th June
Martin Evans	EPR Programme	8th June
Ben Everitt	Associate Director of Digital Health, NNUHFT	14th June
James Grainger	Head of Finance – Primary Care & Continuing Health Care	13th June
Shawn Haney	PHM Manager	13th June
Dr Venu Harilal	Medical Director, NCHCT	13th June
Anne Heath	Associate Director of Digital, CCG	16th June
Rt Hon Patricia Hewitt	ICB Chair	16th June
Andrew Hopkins	Director of Finance & Performance at NCHC and Exec Dir for Digital for N&W ICS	13th June
Ian Hutchison	CEO, ECCHC	16th June
Dr Mark Lim	Interim Director of Clinical Services and Clinical Transformation	20th June
Adele Madin	Exec Director of Ops, ECCHC	16th June
Ceinwen Mannall	Assistant Director Clinical Workforce Projects	14th June
Howard Martin	Director for Population Health Management and Health Inequalities	13th June

Stakeholders interviewed (2/2)

Interviews were held between 6th and 27th of June with key ICS stakeholders to understand the strategic context of the organisations within the system and priorities for digital transformation

Name	Role	Date
Amy Metcalf	Communications & Engagement Manager	8th June
Terry Newman	Head of Digital, NCHCT	13th June
Sandy Oosthuysen	Assistant Director of Learning and Organisational Development	14th June
Dr Louise Smith (Norfolk)	Director of Public Health	16th June
Andrew Palmer	Director of Performance, Transformation, Strategy	16th June
Jocelyn Pike	Director of Special Projects	9th June
Jonathon Reddington	Head of Digital Services, JPUHFT	13th June
Mike Shemko	Head of Data Science, NNUH	22nd June
Martin Pettifor	Head of Special Projects	14th June
Dr Ed Prosser-Snelling	Associate MD, NNUHFT	14th June
Stuart Keeble (Suffolk)	Director of Public Health	16th June
Ben Smith	Associate Director System Workforce Efficiency	14th June
Dr Frankie Swords	Medical Director, QEHFT	17th June
Dr Edward Turnham	Clinical Advisor for Digital Strategy	9th June
Emma Wakelin	Associate Director of Workforce Transformation	6th June
Samantha Weston	PHM Programme Manager	13th June
Daniel Williams	VSCE Place Network Lead	17th June
Bill Wilson	ShCR/HCDA Programme	21st June
Dr Clara Yates	Associate Director of Research	13th June

Digital Transformation Strategic Planning Working Group (DTSPWG)

Improving lives together
Norfolk and Waveney Integrated Care System

The DTSPWG was set up to help guide the development of the Digital Transformation Strategic Plan and Roadmap. The purpose and objectives of the DTSPWG are outlined below.

Purpose:

Define and co-develop the ICS Digital Transformation Strategic Plan, including a coherent system vision, 3-year roadmap, and investment priorities.

Objectives:

- Collaborate with a smaller group of core senior stakeholders **to develop and agree a robust and cohesive digital transformation strategic plan** while also reporting progress to the DSSG group;
- Understand the **current state and future vision** for the use of data and digital technology to enable the ICS strategic vision;
- Define the **strategic plan, key capabilities, enablers, resource plan and roadmap;**
- Facilitate **open discussion** to gather and track ideas;
- Share relevant documents and outputs with this group, the wider **DSSG**, and additional key governance groups for comments.

Digital Transformation Strategic Planning Working Group (DTSPWG)

Improving lives together
Norfolk and Waveney Integrated Care System

The DTSPWG was composed of clinical and digital leaders from across each partner organisation. The membership of the DTSPWG is outlined below.

NW CCG

- Edward Turnham, Clinical Digital Lead (Primary Care)
- Alex Briggs, Head of BI
- James Grainger, Financial Lead (Digital)
- Anne Heath, Digital Lead

NCHC

- Terry Newman, Head of Digital
- Emma Jackson, CNIO
- Venu Harilal, MD
- Andrew Hopkins , Dir. of Finance

QEHKL

- Carly West Burnham, Exec Lead for EPR Workstream
- Nigel Hall, CIO

NSFT

- Dave Huggins, CIO
- Toral Thomas, CCIO
- Tracey Holland, CNIO

JPUH

- Vivek Chitre, Assoc MD, Lead for Digital
- Britt van Rooyen, Operations Director
- Rachael Rider, CNIO
- Reet Johal, CCIO for JPUH

NNUH

- Ed Prosser-Snelling, Exec Digital Lead
- Ben Everitt, AD of Digital Health
- Victoria Colman, AD of Quality Improvement
- Emily Wells, CNIO
- Delyse Maidman, Digital Midwife
- Victoria Braide, Matron

ECCHC

- Nick Ansell, Digital Programme Lead

EEAST

- Stephen Bromhall, CIO

NCC & SCC

- Geoff Connell, CIO
- Krishna Yergol, CIO
- Sarah Rank, Head of Business & Tech

ICS

- Andrew Palmer, ICS Director of Planning & Transformation
- Howard Martin, Director for PHM and Health Inequalities
- David Chapman, Technical Solution Architect for the ICS
- Pete Best, BI & Analytics
- Phil Reidlinger, Head of PMO
- Claire Dyke, ICS Social Prescribing Lead
- Claire Euesden, Elective Recovery Lead

Appendix B: Bringing our Digital Transformation Strategy to Life (Patient Journeys)

Overview of patient journeys

Improving lives **together**
Norfolk and Waveney Integrated Care System

Illustrative future patient journeys were co-developed with clinical and social care leads from across the ICS, highlighting ideal future care models and digital capabilities. The clinical leads for each workshop are noted below, and the full attendance list is at the end of each journey section.

	 JAKE	 BRUNA	 MACIEJ	 FAIZA	 ARTHUR
Workshop Dates	28 July, 12-1pm	29 July, 12-1pm	2 August, 4-5pm	3 August, 12-1pm	4 August, 4-5pm
	Jake is 14 years old. He lives with his mother who has recently split up with an abusive partner. He is prone to anxiety and has been diagnosed with ADHD and also has a learning disability. As a result he doesn't enjoy school and sometimes misses his classes.	**Bruna** is 26 years old and pregnant for the third time. She lives in Great Yarmouth and has recently arrived from Guinea-Bissau. She is overweight and is a heavy smoker. She is suffering from chronic fatigue following long Covid which has left her unable to hold down a full time job. She is entering her third trimester when she is diagnosed with placenta accreta.	**Maciej** is 55 years old and moved to the UK from Poland six years ago and speaks limited English. He has experienced bouts of homelessness and suffers from depression. He has been admitted to A&E in the past for alcohol and drug dependency issues. He presents to A&E after an overdose, receives treatment and is referred to urology.	**Faiza** is 75 years old, retired and lives with her husband. Both her and her husband are physically inactive and have been for many years. Faiza speaks limited English and has poor digital literacy. Faiza suffers from diabetes and is overweight. She has been recently diagnosed with stage 2 breast cancer.	**Arthur** is 86 years old and lives in a care home where he requires around the clock care. He has dementia and is more prone to falls and accidents due to his limited mobility and loss of peripheral sensation. He recently had a fall trying to get out of bed and has been transported to A&E.
	Lead: Sarah Flindall	**Lead:** Delyse Maidman	**Lead:** Mark Shepperd	**Lead:** Maggie Tween	**Leads:** Dave Allen, Sharon Brooks, Jamie Weavers

Patient journey: Jake

Improving lives **together**
Norfolk and Waveney Integrated Care System

JAKE'S BACKGROUND

Male | 14 years old

King's Lynn

English

Diagnosed learning disability and ADHD, suffers from anxiety

Jake lives in **King's Lynn** with his mother who is in the process of leaving an abusive partner that has lived with them on and off for several years.

Jake has been diagnosed with **ADHD** and suffers from **anxiety**. He doesn't enjoy school and has a diagnosed **learning disability**. His most recent experience with acute anxiety has prompted a referral to **CAMHS** where he is **prescribed medication** for his anxiety and ADHD.

During a particularly difficult month, he **starts missing school** and confides in a schoolteacher about **troubles at home**.

Patient journey: Jake

Improving lives together
Norfolk and Waveney Integrated Care System

- Male | 14 years old
- Learning disability and ADHD
- Anxiety

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Referred to CAMHS → Prescribed medication → Safeguarding concerns raised → Social services & Police informed → Social Worker / Police visits Jake's home → Ongoing support for Jake and his mother

Jake receives support for his anxiety

Jake is struggling with his anxiety and begins missing school.	Jake's CAMHS referral is analysed and prioritised.	Prior to the appointment, the Psychology team review Jake's SEND plan notes.	During the appointment, Jake's patient record is updated, and he is prescribed medication for his anxiety and ADHD.	Following the appointment, Jake is able to access information about his treatment.
Jake's recent poor school attendance prompts a referral to CAMHS.	Jake's appointment is prioritised as his data is analysed with system insights pulling together all risk factors and calculating that he is high risk.	The CAMHS team also review Jake's health and social care records, ensuring they are already aware of his story before he arrives to the appointment. Jake inputs his current concerns into the notes too.	The Psychology team update Jake's SEND plan, noting his prescription. All relevant professionals have the appropriate access and visibility of Jake's care. Jake and his mum are also informed about self-help apps, support groups, crisis lines and virtual therapy available.	Jake and his mum have access to all appointments, his care plan and medication lists via the patient portal. Jake's medicines reconciliation is accessible to community pharmacies too. The portal allows Jake to input his progress and personalise his care plan. Jake also has visibility of parent/guardian access rights for his account.

Digital Capabilities

Process automation

Information sharing between all health, care and education partners

PHM Risk Stratification using HCDA (Health & Care Data Architecture)

Patient portal (with accessible content)

Patient journey: Jake

Improving lives together
Norfolk and Waveney Integrated Care System

- Male | 14 years old
- Learning disability and ADHD
- Anxiety

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Referred to CAMHS → Prescribed medication → Safeguarding concerns raised → Social services & Police informed → Social Worker / Police visits Jake's home → Ongoing support for Jake and his mother

Jake receives safeguarding support

Jake's anxiety worsens and it's not clear if he is taking his medication despite receiving digital reminders.

Jake uses electronic medication management technology which alerts his mother when he takes his medication. Jake also begins missing classes again and the school inform his mother.

Jake confides in a schoolteacher of troubles at home. Safeguarding concerns are raised by the school and social workers and police are informed.

A social worker guides Jake on how to interact with social media to avoid exploitation. The social worker and Jake work together to develop a support plan, which is updated on his record for parent and care professionals' visibility.

Jake is visited at home by the police and social services.

The police visit Jake's home and speak to his mother. Jake is assigned regular visits by social workers (who have access to his record). A way forward is agreed with Jake's mother and both her and Jake are offered online and community resources and support. Resolution documented and multiagency assessments shared with all appropriate care professionals.

Digital Capabilities


Personalised education and support (e.g., CBT app)


Electronic medication management technology


Electronic Patient Record (EPR)


Digital signposting to community resources

Patient journey: Jake

Improving lives together
Norfolk and Waveney Integrated Care System

- Male | 14 years old
- Learning disability and ADHD
- Anxiety

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Referred to CAMHS → Prescribed medication → Safeguarding concerns raised → Social services & Police informed → Social Worker / Police visits Jake's home → Ongoing support for Jake and his mother

Jake and his mother receive ongoing support

Jake receives ongoing support, and his SEND plan is regularly reviewed and updated on the EPR.	Jake is also working with a Child Wellbeing Practitioner (CWP) to support his CBT therapy.	Jake's mother is given ongoing support.	Jake manages his annual learning disability health check appointment on the patient portal.	Jake's data is analysed for future treatment improvement .
Jake's SEND plan is regularly updated by Jake, his mother, his GP, his social care worker(s) and educators via integrated sources that feed into the patient record. Jake records his personal preferences on this portal.	Jake's mother is informed of his progress on a regular basis via the patient portal. Jake's treatment plan is guided by decision support and outcome analytics.	Jake and his mother are signposted to support apps and resources.	His Social Worker reviews his SEND plan on his record and adds progress notes for all appropriate care professionals' visibility.	Aggregated data and advanced analytics are used to analyse Jake's initial presentation, treatment and progress overtime to enable continuous improvement.

Digital Capabilities


Advanced analytics to evaluate outcomes


Online accessible patient portal


Electronic Patient Record (EPR) (including SEND plan)


Seamless information sharing

Jake's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Caroline Aldridge	Social Worker	Self-employed
Zac Blake	Clinical Lead for ShCR	NHS Norfolk and Waveney ICB
Robert Black	Clinical Team lead	East Coast Community Healthcare CIC
Helen Bradley	Modern Matron of C&YP	Norfolk Community Health and Care NHS Trust
Sharon Brooks	CEO	Carers Voice
Daryl Chapman	Director of Finance	Suffolk NHS Foundation Trust
Claire Euesden	Elective Recovery Programme Lead	Norfolk & Waveney ICB
Abigail Ford	Occupational Lead (Neurodevelopmental service)	UK Health Security Agency
Sarah Flindall	GP and Clinical Advisor	NHS Norfolk and Waveney CCG
Rachel Gates	Senior Programme Manager	NHS Norfolk and Waveney ICB
Shawn Haney	PHM Manager	Norfolk & Waveney ICB
Reet Johal	Chief Clinical Information Officer (CCIO)	James Paget University Hospitals NHS Foundation Trust
Ian Marsland	e-RS Deployment Lead	Norfolk and Suffolk NHS
Thandie Matambanadzo	Chief Operating Officer	Norfolk and Suffolk NHS Foundation trust
Tracy McLean	Head of C&YP & Maternity	NHS Norfolk and Waveney CCG
Terry Newman	Head of Digital Services	Norfolk Community Health and Care NHS Trust
Rachel Gates	Senior Programme Manager	NHS Norfolk and Waveney ICB
Jeanine Smirl	GP and Clinical Advisor	NHS Norfolk and Waveney ICB
Toral Thomas	Chief Clinical Information Officer (CCIO)	Norfolk and Suffolk NHS Foundation trust
Samantha Weston	Programme Manager	NHS Norfolk and Waveney CCG
Sarah Watling	Respite Services Manager	Norfolk Community Health and Care NHS Trust

Patient journey: Bruna

Improving lives **together**
Norfolk and Waveney Integrated Care System

BRUNA'S BACKGROUND

Female | 26 years old

Great Yarmouth

Mixed heritage

Pregnant for the third time. Overweight and heavy smoker.

Bruna is an **expectant mother** who resides in Great Yarmouth and has recently moved to the UK from Guinea-Bissau. She had two previous pregnancies. Bruna is overweight and is a heavy smoker. She is also suffering from **chronic fatigue** following long Covid which has left her unable to hold down a full time job.

After finding out that she is pregnant she makes an appointment with a midwife. She chooses to deliver her baby at **James Paget University Hospital.**

Bruna attends her third trimester prenatal appointment where she is diagnosed with **placenta accreta** and has her care transferred to **Norfolk and Norwich Hospital.** She undergoes a planned **caesarean section** and delivers her baby at 36 weeks.

Patient journey: Bruna

Improving lives **together**
Norfolk and Waveney Integrated Care System

- **Female | 26 years old**
- **Third time pregnant**
- **Overweight & heavy smoker**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Self referral to Maternity | Community support | Third trimester ultrasound scan | C-section | Postnatal and Neonatal wards | Discharge and continued care at home

Bruna self-refers to Maternity services (antenatal)

Bruna self-refers to maternity services digitally after discovering she's pregnant (self-referral available in several languages.

Bruna's self referral includes all medical, surgical, obstetric, mental health and social history. Her risk assessment is auto-calculated, based on her responses. She identifies the areas of care for which she would like support and advice. She is then directed to resources and auto-referred to services tailored to her needs (midwife notified). Her pregnancy risk is predicted and flagged to all care team members electronically.

Bruna books her first antenatal appointment with her continuity team midwife.

Bruna has a dedicated midwife who proactively works with her and the wider team to coordinate personalised support that is tailored to her needs. She books her appointment electronically in her specified language. This triggers a translator request during the appointment, and notifies primary care and health visitors of expected care. Bruna is able to track her pregnancy and appointments via the patient portal.

During the appointment, Bruna's midwife updates her patient record and advises Bruna on information sources.

Bruna's complete record is accessible to all appropriate care professionals and interoperable across services from any setting. Bruna has access to her record via a portal where she submits an image/video to support symptoms reporting. Tailored antenatal education is available on the portal, which can be translated. An exemption form for prescriptions is automatically generated on the EPR. The midwife can manage her caseload and monitor patients digitally which is efficient and releases sufficient time to care for patients by reducing manual administrative tasks.

The midwife records Bruna's smoking status and weight which automates a referral suggestion.

Bruna agrees to attend smoking cessation and weight management support services.
Her personalised care plan is developed with the midwife. The midwife also records that Bruna suffers from long Covid and episodes of depression, which has impacted her employment. She is automatically connected to employment support and referred for mental health support.

Digital Capabilities

Maternity digital record, including a patient portal

Online booking system with translation support

AI techniques to predict pregnancy risks

Electronic Patient Record (EPR)

Patient journey: Bruna

Improving lives **together**
Norfolk and Waveney Integrated Care System

- **Female | 26 years old**
- **Third time pregnant**
- **Overweight & heavy smoker**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Self referral to Maternity → Community support → Third trimester ultrasound scan → C-section → Postnatal and Neonatal wards → Discharge and continued care at home

Bruna is scheduled for a C-section

Bruna attends her third trimester scan and is diagnosed with placenta accreta and Bruna is referred for a c-section.

Bruna's patient record is updated and HCP contacts Bruna to offer support and guidance (as HCP has access to her record). Her care is transferred to Norfolk and Norwich University Hospital for her C-section. Information flows seamlessly to all care settings to support cross boundaries. Translated information is available on her portal and with her Midwife/care team. A health visitor is assigned to Bruna for proactive planning of support. AI supports decision making in her treatment plan by assessing risk factors and generating care recommendations.

She is scheduled for a c-section and remotely monitored.

Scheduling is seamless and integrated with theatres, worklists and e-rostering, enabling effective pre-op and staff planning. Bruna is advised how to manage her care in a virtual ward setting at home and provided the necessary devices to record her levels. She is also signposted to support groups and information which is all available in her first language. Bruna's health visitor communicates with Bruna and her partner to support them with any concerns (e.g. financial).

Bruna attends NNUH for her c-section and delivers her baby at 36 weeks.

Prior to attending the hospital, Bruna completes her pre-op assessment and consents to the c-section digitally. The pre-op assessment automates a notification to issue information leaflets in her first language and to issue pre-op medication and topical preparations with supporting information. When she attends the hospital, care professionals, including the theatres team are updated on her real-time location and status. This allows the Post- and Neo-natal teams to prepare for transfer. The care team signpost Bruna to virtual peer support functions for families with babies in the neonatal unit.

Digital Capabilities

Seamless information flows between all appropriate care professionals

Advanced data analytics and AI

Intelligent scheduling (AI)

Digital pre-op assessment and e-consent tool

Virtual wards

Patient journey: Bruna

Improving lives **together**
Norfolk and Waveney Integrated Care System

- **Female | 26 years old**
- **Third time pregnant**
- **Overweight & heavy smoker**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Self referral to Maternity → Community support → Third trimester ultrasound scan → C-section → Postnatal and Neonatal wards → Discharge and continued care at home

Bruna and her baby receive neonatal and postnatal care

Post delivery, Bruna is transferred to a post natal ward.

The c-section has no complications and Bruna is transferred to ward care. Bruna's patient record is updated and accessible to all appropriate care professionals and integrated to avoid any unnecessary duplication.

Her baby was born prematurely and is cared for in the neonatal unit.

Central monitoring can track the location of the mother and baby in real time, as baby tags and electronic tracking are generated automatically at birth. Bruna is provided with a tablet to virtually see her baby while apart. Bruna's partner also has access to a video-link as he cannot visit their baby in NICU.

Her baby is registered onto the record.

The maternity digital record automatically pre-populates the baby's records, e.g. NIPE, eRedbook and refers to primary care for ongoing support with development and immunisations. Failsafe is built into the record to automate referrals and follow ups. The baby's screening tests are performed within the neonatal unit and the results are updated on the record.

Data is collected throughout the patient journey.

Maternity data is collected to feed into data and PHM dashboards for healthy population planning. These dashboards are created automatically.

Digital Capabilities

Electronic Patient Record (EPR) linking mother and baby's records

Video monitoring in NICU

eRedbook with reminders and auto-booking of immunisation and vaccines

Virtual physio tool to support recovery from home

Virtual consultation

Patient journey: Bruna

Improving lives **together**
Norfolk and Waveney Integrated Care System

- **Female | 26 years old**
- **Third time pregnant**
- **Overweight & heavy smoker**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Self referral to Maternity → Community support → Third trimester ultrasound scan → C-section → Postnatal and Neonatal wards → **Discharge and continued care at home**

Bruna and her baby receive neonatal and postnatal care

After 7 days Bruna and her baby are discharged.

Discharge is completed by the care team and a discharge letter is auto-populated on the EPR and accessible to the care team. There is a seamless discharge to community services, including cross border transfers. Electronic discharge notifications are automatically sent to the health visitor and GP involved in Bruna's maternity care. Bruna can schedule appointments in the community digitally which track and monitor her screening pathways. An automatic postnatal follow up is arranged as part of discharge from acute services, and an e-discharge generates electronic prescriptions in primary care.

Upon discharge, Bruna is connected with an HCP and other support services.

She is offered an array of support options and choice of appointment types (face-to-face, phone, video-call), and is provided with information on caring for herself and her baby. She is also signposted to educational videos. She receives digital support for feeding choices, monitoring and support for weight loss and jaundice. She also receives virtual screening and ongoing support for her mental health.

Bruna's continuity team midwife visits her home and advises continuous care measures.

Bruna is diagnosed with post-natal depression and chronic back pain following her delivery. She is verbally and digitally signposted to self-help apps and community support groups, as well as referred to Physiotherapy who offer virtual consultations. Her pregnancy record automatically closes after 6 weeks, accessible to suitable HCPs through the archive.

Digital Capabilities

Electronic Patient Record (EPR) linking mother and baby's records

Video monitoring in NICU

eRedbook with reminders and auto-booking of immunisation and vaccines

Virtual physio tool to support recovery from home

Virtual consultation

Bruna's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Louise Asprey	Health Records Services Manager	Queen Elizabeth Hospital King's Lynn NHS
Nick Ansell	Digital Programme Lead	East Coast Community Healthcare CIC
Sarah Anguish	Service Engagement Officer • Smoking Cessation Team	East Coast Community Healthcare CIC
Sam Bassett	Head of Midwifery Department	Suffolk County Council
Kristy Ellwood	Postnatal Ward Team Leader	Norfolk and Norwich University Hospitals NHS Foundation Trust
Lorna Edge	Stop Smoking Consultant • Smoking Cessation Team	East Coast Community Healthcare CIC
Rachel Gates	Senior Programme Manager	NHS Norfolk and Waveney ICB
Shawn Haney	PHM Manager	NHS Norfolk and Waveney ICB
Alana Hunt	Midwife	NHS Norfolk and Waveney ICB
Toni Jeary	LMNS Programme Manager	NHS Norfolk and Waveney
Sian Larrington	Community teams	Cambridgeshire Community Services NHS Trust
Delyse Maidman	Digital Midwife	NHS Norfolk and Waveney ICB
Suzanne Meredith	Deputy Director of Public Health	Norfolk County Council
Phillipa Noble	LMNS Practice Development Team	Norfolk and Norwich University Hospitals NHS
Terry Newman	Head of Digital Services	Norfolk Community Health & Care NHS Trust
Jemma Parker	Service Engagement Officer • Smoking Cessation Team	East Coast Community Healthcare CIC
Fay Spencer	Community teams	Cambridgeshire Community Services NHS Trust
Lorna Shailer	Digital Health Clinical Safety Officer	James Paget University Hospitals NHS Foundation Trust
Anne-Louise Schofield	Commissioning Manager	Norfolk County Council

Bruna's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

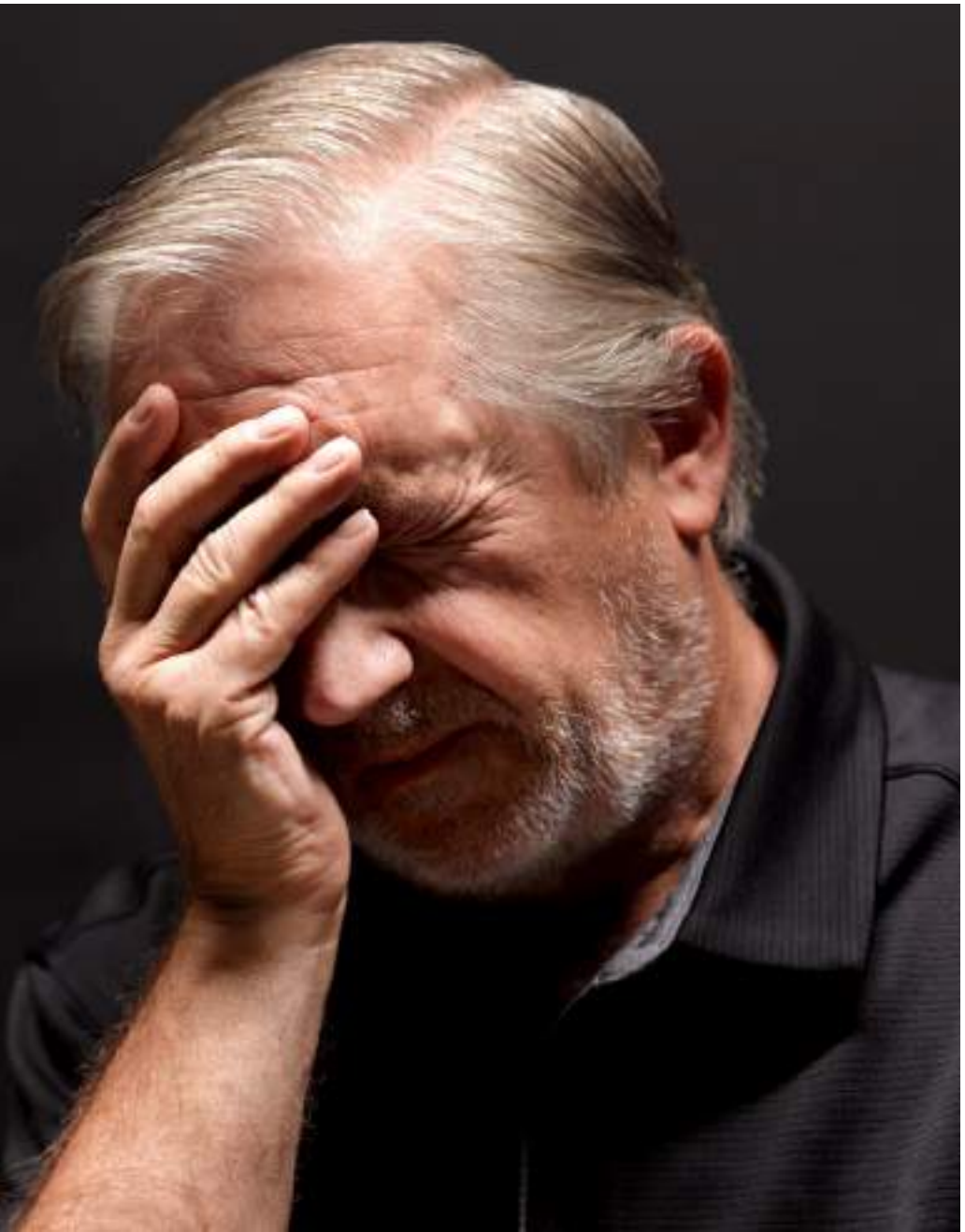
Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Hannant Tracey	Digital Midwife	James Paget University Hospitals NHS Foundation Trust
James Wade	Smokefree Operations Manager	East Coast Community Healthcare CIC
Samantha Weston	PHM Programme Manager	NHS Norfolk and Waveney ICB
Emma Wiskin	Associate Director of Workforce Transformation	NHS Norfolk and Waveney ICB

Patient journey: Maciej

Improving lives **together**
Norfolk and Waveney Integrated Care System



MACIEJ'S BACKGROUND

Male | 55 years old

Norwich

Polish

Drug/alcohol dependency, depression. Has also experienced bouts of homelessness.

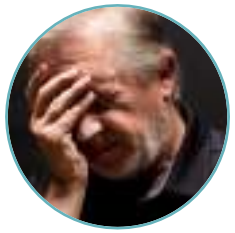
Maciej is 55 years old. He moved to **Norwich from Poland** six years ago and speaks **limited English**.

He has experienced **bouts of homelessness** and suffers from **depression**. He has been admitted to A&E in the past for **alcohol and drug dependency issues**.

During a particularly difficult month, Maciej suffers an **overdose** and a member of the public finds Maciej unwell and calls 999. He presents to A&E, is treated for an overdose and is referred to hepatology and urology.

Patient journey: Maciej

Improving lives together
Norfolk and Waveney Integrated Care System



- Male | 55 years old
- Drug/alcohol dependency
- Depression

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Treatment for overdose → Referral to Hepatology → Urology referral → Surgery → Recovery and discharge → Ongoing support for Maciej

Maciej is admitted to A&E after an overdose

A member of the public finds Maciej unwell and calls 999. Paramedics arrive on scene

The Paramedics acknowledge Maciej's translation support required. They use a mobile translation app to communicate with him. Paramedics access his record and note his unstable living situation. A&E are aware of Maciej's ETA prior to arriving to allow for bed preparation.

Maciej is treated in A&E for the overdose but suffers pyrexia of unknown origin

While in A&E, the CGL (Change, Grow, Live) drug and alcohol team are electronically notified to assess Maciej. All communication is supported by a translation app. Collaboratively all care professionals update Maciej's record and begin proactive discharge planning. Time is saved in efficient documenting, releasing time to care. His natural support network is identified and contacted to update on his condition.

When Maciej's condition stabilises, he is transferred from A&E to a Hepatology Guist Ward to complete detox

Maciej is assessed by mental health services virtually, reducing barriers between services. Further tests are also conducted to determine the cause of his pyrexia. Care teams have digital codes so care professionals are aware of who is caring for Maciej, helping CGL to track him.

Digital Capabilities

Mobile translation app

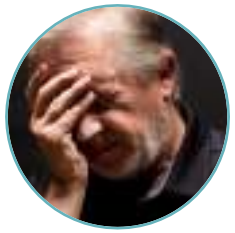
Digital codes for team association

Integrated Electronic Patient Record (EPR) sharing information between ambulance and hospital

AI techniques to support diagnostics

Patient journey: Maciej

Improving lives together
Norfolk and Waveney Integrated Care System



- Male | 55 years old
- Drug/alcohol dependency
- Depression

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Treatment for overdose → Referral to Hepatology → Urology referral → Surgery → Recovery and discharge → Ongoing support for Maciej

Maciej receives further treatment

Maciej's pyrexia is confirmed as a urinary tract infection secondary to renal stones

He is therefore referred from hepatology to urology for further tests. Maciej's case manager discusses this referral with him and supports appointment booking as Maciej does not have access to a phone. His record is updated with the referral and the care professionals (mental health and CGL) have visibility of this referral. This feeds into his discharge planning which also accounts for Maciej's worries and preferences, in addition to what has / hasn't worked in the past to support discharge.

MDT meet virtually to discuss Maciej's case after being reviewed in urology and decide a fluoroscopy and lithotripsy are required

Maciej is provided a tablet with videos explaining the procedure (in Polish) to enable him to make an informed decision. He consents to the surgery, and the surgical team is automatically electronically notified of his status to prepare. Admin use intelligent scheduling to identify an available surgical team and theatre. He is then transferred to surgery where the procedures are performed.

Following surgery, Maciej recovers in the surgical ward, completes his detox and is transferred back to CGL for community follow up

Collaboratively, Maciej's care team explore support options with him and signposted to a charity that provides him with a mobile phone and limited data for use with health services. Maciej accesses apps which tailor recovery plans and allow him to virtually connect with care professionals. Maciej uses this to video chat with family and friends back in Poland while he recovers. He is then discharged from the hospital with seamless follow-up care into community support teams.

Digital Capabilities

Integrated EPR accessible by all appropriate members of his care team

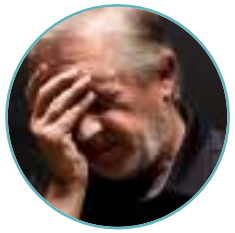
Procedure surgical videos

Recovery self-help apps

Virtual consultation

Patient journey: Maciej

Improving lives **together**
Norfolk and Waveney Integrated Care System



- **Male | 55 years old**
- **Drug/alcohol dependency**
- **Depression**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Treatment for overdose → Referral to Hepatology → Urology referral → Surgery → Recovery and discharge → Ongoing support for Maciej

Maciej is discharged and receives ongoing support

Local Council support Maciej to find temporary accommodation upon discharge

CGL assign Maciej a social worker who supports him in obtaining financial support, exploring opportunities to connect with community support, and digitally upskilling him to virtually communicate with friends / family online. He can also consult with his care professionals when required.

Maciej is supported by the CGL social worker with his mental health

As Maciej was a known opiate user, him and his carers are trained in administering naloxone in case of a relapse. He is also given support in attending his appointments (transport, reminders). His hydration consistency is a concern, so he uses a hydration app.

As Maciej's living situation stabilises, he continues to follow his recovery plan (available on the patient portal from his mobile)

He is signposted to local food banks, a Polish-speaking community centre and a rehabilitation centre by his social care team. Maciej is signposted to networks and charities that can assign him to an available volunteer to connect with in addition to his case manager. Maciej receives medication reminders on his app to manage his condition.

Maciej's experience is analysed as data for PHM analytics

Analysing his data supports care model improvements and enables prevention of similar cases with use of AI. Real time data analysis flags up any similar issues in the local Polish/Eastern European population to enable swift and co-ordinated community action.

Digital Capabilities

Medication reminder app

Patient portal accessible from mobile device

Digital social prescribing

AI and advanced data analytics enabling PHM initiatives

Maciej's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Philip Beck	Head of Committees	Norfolk County Council
Sharon Brooks	CEO	Carer Voice
Beverly Chambers	Team manager	Suffolk County Council
Karen Erskine	Quality and workforce	James Paget University Hospitals NHS Foundation Trust
Sarah Flindall	GP and Clinical Advisor	East Norfolk Medical Practice
Catherine Freeman	Operation lead	East Coast Community Healthcare CIC
Venu Harilal	Medical Director	Norfolk Community Health and Care NHS Trust
Pippa Harrold	GP, clinical and mental health advisor	Norwich Practices Health Centre
Jamshid Melekzad	Health improvement practitioner	East Coast Community Healthcare CIC
Jamie Miller	Health improvement practitioner	East Coast Community Healthcare CIC
Jo Riley	CGL Lead	Change Grow Live
Jonathan Reddington	Head of Digital Services	James Paget University Hospitals NHS Foundation Trust
Mark Tattum-Smith	Digital care advisor	Suffolk County Council
Newman Terry	Head of Digital Services	Norfolk Community Health and Care NHS Trust
Cheal Sarah	Team manager	Norfolk Community Health and Care NHS Trust
Jamie Stewart	Transformation manager	Suffolk County Council
Mark Sheppherd	Director of Integrated Discharge for the System	Norfolk and Norwich University Hospitals NHS
Jeanine Smirl	GP Clinical Advisor	NHS Norfolk and Waveney ICB
Peter Spears	Senior manager	NHS Norfolk and Waveney ICB

Maciej's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Mark Speight	Programme manager	Norfolk and Norwich University Hospitals NHS Foundation Trust
Diane Steiner	Deputy director of public health	Norfolk County Council
Jackie Walls	Physiotherapist and Frailty Specialist	Queen Elizabeth Hospital King's Lynn NHS Foundation Trust
Mandy Webb	Integrated discharge manager	Norfolk Community Health and Care NHS Trust

Patient journey: Faiza

Improving lives **together**
Norfolk and Waveney Integrated Care System

FAIZA'S BACKGROUND

Female | 75 years old

Breckland

South Asian Heritage

Diabetic and Stage 2 Breast Cancer

Faiza is 75 years old, retired and lives with her husband.

Both her and her husband are physically inactive and have been for many years. Faiza speaks limited English and has low digital literacy.

Faiza **suffers from diabetes and is overweight**. She attends her annual eye screening assessments and manages her condition from home.

She has been recently diagnosed with **stage 2 breast cancer.** Following MDT review, her treatment plan of undergoing a **mastectomy**, together with **chemotherapy and radiotherapy** is agreed.

Patient journey: Faiza

Improving lives together
Norfolk and Waveney Integrated Care System

- Female | 75 years old
- Diabetic
- Stage 2 Breast Cancer

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

GP referral → Diagnostics → MDT → Treatment → Post op and cancer care services → Discharge and continued care at home

Faiza is referred on the urgent suspected cancer pathway

Faiza visits her GP due to a concerning lump.	After reviewing the lump, the GP refers Faiza to NNUH for further tests on an urgent suspected cancer pathway (2WW).	Faiza attends her diagnostics appointment. The hospital provides a translator to support all communication.	Faiza is diagnosed with Stage 2 breast cancer.	Due to her diabetes, her blood glucose levels are monitored remotely to determine her patient care plan.
Her practice is automatically notified that she requires translation support. Translation AR glasses are provided during her consultation.	Her data is seamlessly available for public health and genomics research to improve cancer identification and outcomes. Educational and support material are provided on the patient portal in her first language. She is also directed to in-person support forums and networks.	Faiza informs the care team that she has no access to digital services and therefore the patient portal. She is provided with a free tablet to loan and signposted to Norfolk Libraries for support using the tablet and digital services. She now has access to her record via the patient portal, and can use the device to support with translation via an app.	With support from the digital translation app on her tablet, Faiza is informed of her diagnosis and next steps are discussed. She is signposted to the Cancer Connect scheme and research opportunities that may be of benefit to her. She is also signposted to local networks with women who are from her cultural background with breast cancer.	She does this using a remote implanted monitoring device. Her blood glucose levels automatically feed into the cloud and are analysed with other daily stats. Her levels and tailored advice for management are accessible from the patient portal. A notification is sent to a community diabetes nurse if the levels exceed a threshold.

Digital Capabilities


AR translation glasses


Patient portal


Remote glucose monitoring device


Cloud storage for data

Patient journey: Faiza

Improving lives **together**
Norfolk and Waveney Integrated Care System

- **Female | 75 years old**
- **Diabetic**
- **Stage 2 Breast Cancer**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

GP referral → Diagnostics → **MDT** → Treatment → Post op and cancer care services → Discharge and continued care at home

Faiza is referred on the urgent suspected cancer pathway

MDT review occurs virtually and Faiza's treatment plan is agreed *(mastectomy, supported with chemotherapy and radiotherapy).*

The MDT have quick access to all required information to discuss patients efficiently. The outcome is communicated straight away. A translator helps Faiza to understand her treatment and the care team use VR to provide visual overview of the surgery and what to expect to ensure she understands.

Faiza prepares for her surgery with digital prehabilitation.

Faiza's patient portal provides links and images/videos guiding her on how to physically and mentally prepare for surgery to ensure the best outcome.

Faiza's mastectomy is scheduled and easily amendable by Faiza through the patient portal.

Her translation support requirements are already noted on her record for the surgical team to prepare for. Her records are consistently updated and integrated with health and care services which allows routine data to be collected for trials directly.

Faiza attends the hospital for her mastectomy. She is then referred for chemotherapy and radiotherapy.

Prior to attending the hospital, Faiza completes her pre-op assessment using remote monitoring tools and consents to surgery digitally from home. When she attends, she is prepared in pre-op and transported to Theatres. Her location is updated by recording onto the EPR and tracked in real-time to update Theatres on her arrival, optimising theatre and staffing planning.

Digital Capabilities


Virtual Reality (VR)


Patient portal


Advanced data analytics


Digital pre-op and e-consent tool


Electronic Patient Record (EPR)

Patient journey: Faiza

Improving lives together
Norfolk and Waveney Integrated Care System

- Female | 75 years old
- Diabetic
- Stage 2 Breast Cancer

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

GP referral → Diagnostics → MDT → Treatment → Post op and cancer care services → Discharge and continued care at home

Faiza is referred on the urgent suspected cancer pathway

Faiza is cared for and monitored in post-op.

Based on Faiza's holistic needs assessment, individual care plan and end of treatment summary, resources relevant to her are flagged on the system. The nurse discusses this tailored list of community resources with her, with translation support. Her discharge letter is prepared efficiently as information auto-populates from her record.

Faiza is discharged and returns home. She is provided a care package, and her family are provided a family support plan.

She receives ongoing support for her weight management, diabetes and long-term surveillance. She is also signposted to several recovery support networks and has access to a cancer care review in primary care. She is provided with a telehealth wearable to continue monitoring her stats which also triggers notifications to her family / support network.

Faiza continues to manage her diabetes and attends an annual eye screening.

Her grandchildren are briefed by care professionals on how to support upskilling Faiza to access digital services. With these skills, she records her blood pressure and completes sensory testing of her feet for her diabetic foot check. This information automatically uploads to her EPR record. Her family receive diabetes education via links to useful information including low sugar recipes. She attends virtual routine check- ups to ensure full recovery.

Digital Capabilities

Telehealth wearable for remote monitoring

Electronic Patient Record (EPR)

Information website links available via patient portal

Virtual consultation

Faiza's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Tracy Amies	Diabetes specialist	Norfolk Community Health and Care NHS Trust
Philip Beck	Social work advocate	Norfolk County Council
Sharon Brooks	CEO	Carer Voice
Yvonne Christley	Deputy Chief Nurse	Norfolk and Norwich University Hospitals NHS Foundation Trust
Georgina Chapple	Breast cancer support group	NHS Norfolk and Waveney ICB
Katy Dogbey	Consultant Midwife	James Paget University Hospitals NHS Foundation Trust
Rachel Donovan	Planned Care & Cancer Services Administrator	NHS Norfolk and Waveney ICB
Sarah Flindall	GP and Clinical Advisor	East Norfolk Medical Practice
Shawn Haney	PHM Manager	NHS Norfolk and Waveney ICB
Lauren Isaacs	Pathway Administrator	Norfolk Community Health and Care NHS Trust
Georgina Jones	Outpatients Transformation Delivery Partner	NHS England
Kerry Jones	Compliance Manager	Norfolk Community Health and Care NHS Trust
Vera Litza	Acute medical consultant	James Paget University Hospitals NHS Foundation Trust
Julie Marks	Office Manager	Together for Mental Wellbeing
Luis Marques	Critical Care Nurse	East Coast Community Healthcare CIC
Wendy Marchant	Information Service Manager	Norfolk and Norwich University Hospitals NHS Foundation Trust
Howard Martin	Director of Population Health Management and Health Inequalities	NHS Norfolk and Waveney ICB
Terry Newman	Head of Digital Services	Norfolk Community Health and Care NHS Trust
Lee Pike	Community Matrons	East Coast Community Healthcare CIC
Rachael Rider	Chief Nursing Informatics Officer (CNIO)	James Paget University Hospitals NHS Foundation Trust
Jonathan Reddington	Head of Digital Service	James Paget University Hospitals NHS Foundation Trust

Faiza's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Mike Shemko	Head of Data Science	Norfolk and Norwich University Hospitals NHS Foundation Trust
Sandra Sharman	TBC	Norfolk Community Health and Care NHS Trust
Patrick Spragg	TBC	NHS Norfolk and Waveney ICB
Clare Symms	Senior Manager	NHS Norfolk and Waveney ICB
Mark Tattum-Smith	Social Worker	Suffolk County Council
Sue Trohear	Cancer Transformation Project Officer	NHS Norfolk and Waveney ICB
Maggie Tween	CCG Cancer Lead	NHS Norfolk and Waveney ICB
Michael Twigg	Surgery Consultant	NHS Norfolk and Waveney ICB
Sally Watson	Project Manager	East Coast Community Healthcare CIC
Marie Willgress	Community Matrons	East Coast Community Healthcare CIC
Helena Wilson	Operational Business Manager	Norfolk Community Health and Care NHS Trust

Patient journey: Arthur

Improving lives **together**
Norfolk and Waveney Integrated Care System

ARTHUR'S BACKGROUND

Male | 86 years old

Norwich

English

Dementia and prone to falls

Arthur lives in a care home where he requires around the clock care.

He has **dementia** and is more prone to falls and accidents due to his **limited mobility and loss of peripheral sensation.**

Arthur has a fall, trying to get out of bed, and is transported to A&E. He is assessed and has sustained no serious injuries but is **extremely frail**.

Arthur continues to deteriorate and is discharged back to the care home for **end of life care.**

Patient journey: Arthur

Improving lives together
Norfolk and Waveney Integrated Care System

- Male | 86 years old
- Dementia
- Prone to falls

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Fall at care home → Ambulance → A&E assessment → Discharge → End of life at care home → Arthur dies

Arthur has a fall and is taken to A&E

Arthur is in a care home for support with his frailty and dementia.

He is receiving end-of-life care in the care home. Arthur has previously avoided hospitalisation due to the number of technology interventions that support falls prevention such as remote monitoring and movement sensors.

Arthur has a fall one day and the nurses call 999 to get Arthur an ambulance.

Despite Arthur having sensors to alert carers if Arthur is getting out of bed, he falls before they could attend to him. The nurses access Arthur's record and update the record with the incident which automatically notifies his family.

Paramedics arrive at the scene and assess Arthur.

The paramedics complete a quick assessment on a tablet which updates his patient record. They conduct a scan with a hand held ultrasound device and confirm there is no skeletal injury. They are concerned about his frail state, so have a video call triage with an ED consultant to assess Arthur. The consultant advises Arthur should attend the hospital for further tests. This is updated on his record which automatically updates his family.

Arthur is taken to A&E.

Arthur's care plan is accessible from his record for all care professionals. En-route, the paramedics support Arthur in calling his family to keep him calm and ensure they're present when he arrives in A&E.

Digital Capabilities


Electronic Patient Record (EPR)


Motion Sensors

Digital assessment


Portable ultrasound

Video call triage

Patient journey: Arthur

Improving lives together
Norfolk and Waveney Integrated Care System

- Male | 86 years old
- Dementia
- Prone to falls

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Fall at care home → Ambulance → A&E assessment → Discharge → End of life at care home → Arthur dies

Arthur is assessed in A&E

Arthur is assessed in A&E.

Arthur's son attends A&E to support him. The clinician acknowledges Arthur's care plan and ReSPECT form on his record and can see his current medications, allergies and extent of dementia from one screen view (EPR). Arthur's record on the EPR flags he is on an anticoagulant which prompts the clinician to order a head CT. AI technology supports rapid reading of the CT to support clinical / radiology time. Blood tests are also conducted.

The care team inform Arthur and his son that he has not sustained any serious injuries after reviewing his results.

The results are automatically updated on his record which the care home have access to and are notified of his expected return. While there is no need for Arthur to remain in hospital, he remains frail and confused upon discharge. The team prepare effective discharge planning, including requesting transport support for Arthur via digital comms.

Arthur is discharged for end-of-life care in the care home and his physical condition continues to deteriorate.

Before he is discharged, Arthur and his carers are provided with remote monitoring technology to enable the clinicians to assess his condition without Arthur having to be in the hospital. This will help prevent a failed discharge where he returns to the hospital. The care home are prepared before he arrives and have access to his notes and updated care plan. Arthur's family are engaged in all stages of discharge planning to ensure they can feed into decisions.

Digital Capabilities


Artificial Intelligence (AI)


Clinical decision support (CDS) via the Electronic Patient Record (EPR)


Collaborative digital care plan


Remote monitoring

Patient journey: Arthur

Improving lives **together**
Norfolk and Waveney Integrated Care System

- **Male | 86 years old**
- **Dementia**
- **Prone to falls**

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Fall at care home → Ambulance → A&E assessment → Discharge → End of life at care home → Arthur dies

Arthur receives end-of-life care in the care home

Arthur receives end-of-life care at the care home.

Arthur's carers are aware of Arthur and his families' wishes as it is noted on his patient record. They also have visibility of his electronically prescribed medications, and a clinician can administer or amend his medication doses. They amend the infusion rate remotely using intelligent syringe drivers with some of his medications (not controlled drugs).

He is remotely monitored for the first 3 days after returning to the care home.

The hospital clinician can assess Arthur while he's at the care home as his vital signs automatically feed into the EPR. On the third day, Arthur and a carer have a remote consultation with the Frailty specialist. They advise that he is stable and no longer requires assessment and prescribe him medication to support with his palliative care. The carers are confident with using such digital tools as they receive virtual digital training regularly.

Arthur continues to deteriorate over the following weeks.

In addition to visiting in the care home, Arthur's family regularly video call Arthur as he has access to a tablet in the care home. Unfortunately after a few weeks, Arthur deteriorates. His family are notified, so they are with him as he dies. His family is digitally signposted to available community bereavement resources, as they have requested support.

Digital Capabilities

Electronic Prescribing and Medicines Administration (EPMA)

Intelligent remote syringe drivers

Remote consultation

Remote monitoring

Video calling

Arthur's Patient journey: Workshop Attendees

Improving lives together
Norfolk and Waveney Integrated Care System

Reimagining Care and Experiences: 2025 to 2030 Patient Journey

Thank you to all of the stakeholders who attended the patient journey workshop and provided their insight and expertise on the future care model and digital capabilities.

Name	Role	Organisation
Dave Allen	Head of Operations	East of England Ambulance Service NHS Trust
Abhijit Bagade	Public Health Medicine Consultant	Norfolk County Council
Zac Blake	Clinical Lead for ShCR	NHS Norfolk and Waveney ICB
Sharon Brooks	CEO	Carer Voice
Vivienne Donaldson	Co-ordinator of Children's Centre	Norfolk Community Health and Care NHS Trust
Sarah Flindall	GP and Clinical Advisor	East Norfolk Medical Practice
Tanya Garnham	Community Nurse	East Coast Community Healthcare CIC
Venu Harilal	Medical Director	Norfolk Community Health and Care NHS Trust
Maria Karretti	Adult safeguarding and SEND	NHS Norfolk and Waveney ICB
Deborah Lanagan	Programme Manager	Suffolk County Council
Andy McGowan	Head of Engagement	Caring Together
Silvia Nunes	Care Provider Quality Improvement Nurse	NHS Norfolk and Waveney ICB
Jennifer Parsons	Programme Director	James Paget University Hospitals NHS Foundation Trust
Jennie Starling	Head of communication	NHS Norfolk and Waveney ICB
Jamie Stewart	Transformation Manager for Practice & Culture	Suffolk County Council
Cheryl Topper	Associate Director Specialist Services	East Coast Community Healthcare CIC
Edward Turnham	Clinical Advisor for Digital Strategy	NHS Norfolk and Waveney ICB
Maggie Tween	CCG Cancer Lead	NHS Norfolk and Waveney ICB
Liz Waddy	GP Advisor	NHS Norfolk and Waveney ICB
Jamie Weavers	Clinical Programmes Manager	NHS Norfolk and Waveney ICB

Appendix C: Our Digital Transformation Implementation Plan

High-level Implementation Plan – Digitised Patient Records

Improving lives together
Norfolk and Waveney Integrated Care System

Digitising records across all health and care settings will provide streamlined access to a single source of truth through the roll out of the acute Electronic Patient Record in the acute trusts, as well as the Digital Social Care Record, and the digitised Mental Health Record.

	Year 0 – FY 22/23	Year 1 – 23/24	Year 2 – 24/25	Year 3 – 25/26
Acute EPR	• Approve Outline Business Case. • Commence procurement of the EPR solution.	• Develop Full Business Case for preferred EPR supplier. • EPR readiness works (e.g. current state process mapping).	• Commence implementation.	• **Implement a single EPR across all three acute Trusts:** • Trust A– April '25 • Trusts B and C– June'25
Mental Health EPR	• Provide access to our Primary Care EPR (SystmOne) to support Mental Health nurses working in GP practices.	• Develop FBC for preferred EPR supplier.	• Commence implementation.	• **Implement new EPR** with enhanced capabilities and usability achieving a fully digitised Mental Health record.
Adult Digital Social Care Record	• Digitise adult social care records, achieving 60% adoption of the DSCR by March 2023 by all CQC registered providers.	• **Continue digitising adult social care records, achieving 80% of registered care home providers by March 2024** (and all CQC registered providers).	• Optimise digital social care records.	• Continue to enhance digital social care records.
Primary Care EPR	• Continue to optimise current EPR systems (e.g., enhancing reporting capability).			

High-level Implementation Plan – Shared Information

Improving lives together
Norfolk and Waveney Integrated Care System

Shared Information across health and care settings will optimise the way professionals interact and work together through the deployment of the Shared Care Record, digitised histopathology solution, a single acute waiting list, infection control system, vendor neutral archive, and the interoperable Radiology Information System.

	Year 0 - FY 22/23	Year 1 - 23/24	Year 2 - 24/25	Year 3 - 25/26
Shared Care Record (ShCR)	• **Deploy core Shared Care Record (MVS)**, with read-only view of GP, community, social care, mental health and acute patient records.	• **Expand the Shared Care Record,** with write/read functionality, including access by Community Pharmacies, Care Homes, carers/third party providers, district councils to enable the use of shared care plans and advance treatment decisions.	• Further enhancements to the Shared Care Record.	
Interoperable Radiology Information System (RIS)	• Prepare for the interoperable RIS solution deployment.	• **Seamless image transfer and viewing among the 3 acute Trusts via the interoperable RIS Solution**, enabling the Diagnostic Assessment Centre.	• Optimise use of the RIS solution.	• Integrate with the acute EPR and other core systems.
Digital Histopathology	• **Digitise histopathology** to streamline diagnostics and support remote working.	• Implement PACS Reporting System. • Implement digital outsourced reporting.	• Optimise digital histopathology, considering opportunities for automation.	• LIMS (Laboratory Information Management System) replacement. • Explore AI and ML.
Infection Prevention Control Single System	• Procure IPC system to replace current outdated and siloed systems in the acute Trusts. • **Implement IPC system** - March '23, with all three acute Trusts on a single system enabling ease of information sharing.		• Enhance the IPC system, exploring analytic capabilities to further reduce infections.	• Integrate (or replace, subject to Trust decision-making) the IPC with the acute EPR.
Single waiting list	• **Implement a single waiting list** across the 3 acute Trusts.	• Optimise the management of the single waiting list, aligned to PHM and analytic capabilities, to reduce inequalities and improve outcomes.		• *Single waiting list via the acute EPR.*
Vendor Neutral Archive (VNA)	• Prepare for the VNA deployment (including data-sharing agreements, infrastructure requirements, process standardisation, etc.).	• **Implement VNA** as a safer way to store clinical images that are easily accessible across organisations.	• Optimise the VNA.	• Integrate VNA with the Acute EPR and other core systems.

High-level Implementation Plan – Data and Analytics

Improving lives together
Norfolk and Waveney Integrated Care System

Data and Analytics solutions and advancements will improve accessibility and quality of patient data through scaling of the Health and Care Data Architecture (HCDA), as well as BI and analytics capabilities.

	Year 0 – FY 22/23	Year 1 – 23/24	Year 2 – 24/25	Year 3 – 25/26
Health and Care Data Architecture (HCDA)	• **Complete and sign off business case with key stakeholders.** • Agree key data sources and priority use cases (i.e., system wide PTL solution). • Agree and sign of the data pipeline. process from provider organisations into the HCDA environment (for example the migration of Data Management Engine (DME) into HCDA). • Standardise data models and define common data model. • Agree governance structures, stand up programme and delivery team. • Begin to create the Master Patient Index (MPI). • **Stand up HCDA (summary version for single page view).** • Integrate discharge datasets for improved dataflows across the ICS.	• **Continuously develop datasets**, including the cleansing, transforming, and modelling of data. • Import and/or create hierarchy tables to match data to descriptors. • NHS data dictionary download. • Begin work to develop the Trusted Research Environment (TRE) & Clinical data environment.	• **Agree specification and deliver the Patient Longitudinal Record.**	• Continue to iterate and enhance HCDA with relevant and complimentary datasets. • **Develop the HCDA into the data layer for the Shared Care Record.**

High-level Implementation Plan – Data and Analytics

Improving lives together
Norfolk and Waveney Integrated Care System

Data and Analytics solutions and advancements will improve accessibility and quality of patient data through scaling of the Health and Care Data Architecture (HCDA), as well as BI and analytics capabilities.

	Year 0 – FY 22/23	Year 1 – 23/24	Year 2 – 24/25	Year 3 – 25/26
Business Intelligence	• **Agree the system model for roll out and use of PowerBI as the visualisation tool of choice across N&W organisations.** • **Agree standardised reporting** definitions and logic across N&W organisations. (I.e. for performance metrics). • **Agree standardised reporting suites** and priority analytics use case for system insight and develop. • Undertake a skills appraisal for individuals working in this space; agree role definitions and develop plan to upskill staff • Determine the specialist training required to upskill staff as required • **Deploy BI capabilities to benchmark performance and outcomes, reduce inequalities, and address unwarranted variation in care, including improved demand and capacity management across the system.**	• **Create Self-serve reporting tooling.** • **Define and deliver Predictive and Prescriptive Analytics** use cases • Shift towards a more proactive culture of analytical insight • Begin to shape a system wide 'Analytics Academy'.	• **Continue to advance and expand system-wide analytical capabilities, working in collaboration with the Advanced Insight (AI, ML) and PHM workstreams to provide joined-up insight.** • Build a 'one team' culture across organisations to encourage system wide collaboration and reduce analytical duplication and inefficiency in the system.	• Enhance BI, taking advantage of technology advancements.
Advanced Insight (Machine Learning and AI)	• **Identify prioritised use cases and develop business case for ML and AI.**	• **Deploy ML and AI** use cases, dependant on what is agreed in the year 1 business case.	• **Enhance ML and AI**, building on lessons learnt from initial use cases.	• Scale ML and AI, aligned to system needs and priorities.
RPA (Robotic Process Automation)	• **Deploy ongoing process automation** (e.g., automating information transfer between **ambulance service and adult social care system)** • **Agree system-wide RPA approach.**	• **Deploy additional RPA use cases** to improve system efficiencies (e.g., referral management, IT helpdesk responsiveness).	• Scale RPA across an increasing number of use cases to automate further clinical, administrative and back-office processes.	• Enhance RPA, applying AI and ML techniques for increasingly intelligent automation.

High-level Implementation Plan – Population Health

Improving lives together
Norfolk and Waveney Integrated Care System

Population Health Management applies a holistic view to a defined population and enables personalised and proactive care though enhancing population health management, population insights, risk stratification and personalised care.

	Year 0 – FY 22/23	Year 1 – 23/24	Year 2 – 24/25	Year 3 – 25/26
PHM Programme	• **Continue establishment of PHM Programme** building team capacity, standardising methodology and tools, developing and designing HCDA enablers/requirements including PHM platform, and BI/reporting to scale PHM).	• **Continue development, enhancement and scaling of PHM programme** (e.g. building robust insights, monitoring and evaluation of existing pilots and initiatives including closer working with the Evidence and Evaluation Hub).	• **PHM capabilities scaled to system partners** (e.g. system partners are using PHM tools and analysis to inform clinical and operational decision making).	• **Continue evolution and development of PHM Programme and capability** (e.g. PHM platform/population insights, risk stratification tools with expanded data sets and personalisation approaches using CRM across the system).
PHM Insights	• **Continue expansion of PHM capability using existing tools and risk stratification capability** (e.g. integration of existing data sets into Eclipse and integration into shared care record).	• **Build PHM platform/data layer in HCDA.** • **Build PHM BI/reporting dashboards.** • Continued expansion of capability to undertake whole population analysis (e.g. joining PHM and public health data in HCDA/integrated data flows). • Data sharing agreements in place with system partners.	• **PHM platform is live and being used by PHM Programme Team and system partners.** • **Real-time pull of health and care data from HCDA.** • Link the Evidence and Evaluation Hub into HCDA and PHM platform (timing dependent on HCDA development).	
Risk Stratification	• **Initiate 18 month procurement for risk stratification tool** • Agree priority use cases using existing risk stratification capabilities.	• **Agree consistent risk stratification tool and approach across ICS** (end of 18 month procurement). • Integrated risk stratification tool into HCDA and PHM platform/data layer. • Scale risk stratification tool across ICS.	• **Continued expansion of risk stratification tool capability drawing on HCDA** expanded dataset.	
Personalisation	• **Continue expansion of CRM capability to enable personalisation agenda** (e.g. consider patient portal functionality linked to NHS App).	• **Continue support to scale adoption of CRM tool**, linking into PHM programme pilots and initiatives.		

High-level Implementation Plan – Citizen and Patient Tools

Improving lives together
Norfolk and Waveney Integrated Care System

Citizen and patient tools will provide a joined-up, personalised care experience through deployment of a single digital front door for the public, eRedbook, integrated patient portal and AI-enabled patient triage.

	Year 0 - FY 22/23	Year 1 - 23/24	Year 2 - 24/25	Year 3 - 25/26
Patient portal and apps	• Deploy Norfolk and Waveney All-Age Single Digital Portal for mental health support with AI embedded, Mental Health Integrated Front Door (CYP Website & Adult Phase Website) and directory of services. • NHS App Development and PCN Hubs for direct bookable appointments with Mental Health Practitioners. • Deploy specialist apps, such as the colorectal cancer prehab app.	• **Integrate existing portals with NHS app, enabling a single digital front door across all health care settings** • **Digitally signpost citizens / patients to available resources** using voice recognition technology. • Streamline access to self-management apps via the single digital front door.	• **Enhance the single digital front door by integrating social care information** • Integrate social media and wellness apps with the single digital front door.	• Continue to explore and deploy AI and ML use cases.
eRedbook	• Project launch and initiation (planning, high level design, development)	• **Implement eRedbook** (national milestone)	• Optimise use of eRedbook	
Patient triage	• **Deploy a Directory of Services (DoS)** with extensive VCSE resource listings for 111 Option 2. • **Establish a Proof of Concept digital triage hub** (UEC, 111 and 999 services), including link from Mental Health Services to UEC DoS	• Roll out the digital triage hub for system efficiencies and improved patient experiences	• Implement AI-enabled triage to enhance the digital triage hub	• Optimise digital triage, enabled by HCDA data flows and advanced analytics
Digital Social Prescribing	• Map community asset resources • Creation of a shared directory for digital social prescribing available and accessible across primary, secondary, voluntary, community, social care and also to schools, police and emergency services	• **Expand capabilities to digitally refer citizens / patients to community resources** • ICS submission of numbers of personal health budgets to be in place by end 2023/24 (National Milestone)	• Enhance digital social prescribing, exploring opportunities for predictive and prescribe analytics	• Optimise digital social prescribing, informed by wider public sector data (e.g., housing, police, education) from HCDA
Emerging tools (e.g. IoT, Virtual Reality)	• **Deploy home sensors** to support independent living and advanced monitoring	• **Agree system-wide approach for emerging tools and innovation** • Continue pilots of emerging tools, sharing insights across the ICS	• Expand use of emerging technology, e.g. Internet of Things (IoT) use cases and Virtual Reality	

High-level Implementation Plan – Virtual Health and Care

Improving lives together
Norfolk and Waveney Integrated Care System

Virtual health and care will streamline referrals ensuring faster access to treatment, offer personalised care from home through scaling of remote monitoring and virtual wards, enhanced e-referrals, and digital pre-operative assessments.

	Year 0 - FY 22/23	Year 1 - 23/24	Year 2 - 24/25	Year 3 - 25/26
Remote monitoring and Virtual wards	• **Pilot remote monitoring pilot in care homes** • Offer falls prevention assistive tech to care home residents, using (Internet of Things) IoT network capabilities • Pursue additional remote monitoring pilots using home digital analysis (e.g., urine analysis) • Roll out weekend virtual ward rounds to care home residents • **Offer virtual ward support** (533 beds) to frailty and respiratory patients, expanding to an additional 173 virtual ward beds by April 2023 • **Agree cohesive system approach to scaling virtual wards and remote monitoring**, including the design of a central hub and prioritisation of clinical pathways	• Mobilise central hub • Scale remote monitoring in care homes • **Offer remote monitoring to patients with long-term conditions,** maximising opportunities from innovative tech (e.g., wearables) • **Expand virtual wards to priority pathways** (e.g., heart failure), achieving 368 beds by Jan 2024	• **Enable 440-550 virtual ward beds** by April 2024 (National Target) • Support increasing numbers of patients in virtual ward beds) and via remote monitoring, co-ordinated via the central hub	• **Continue to enhance, scale, and innovate** models (1000+ virtual ward beds)
Improved e-referrals	• **Improve referral functionality** (between primary and secondary care), including integration with image sharing and capability to better triage referrals • Deploy a referral management portal (central hub) • **Go-live of Portal:** UEC referral management through integration of portal and IC-24 system (including community providers) by Nov. '22 • **Explore and agree approach for the use of advanced analytics and automation** to improve referral management	• **Deploy advanced analytics (e. AI) and RPA capabilities** for improved efficiencies and patient outcomes	• **Continue to enhance** e-referrals across all care settings	• Further improve and streamline e-referrals via the acute EPR and advancements in analytics
Digital pre-operative assessments	• Deploy digital pre-op assessment across all 3 acute Trusts	• Enhance digital pre-op assessments through further integration with pathology systems	• Further optimise, considering opportunities for advanced analytics and risk stratification	• Integration with Acute EPR and other core systems

High-level Implementation Plan – Digital Workforce Tools

Improving lives together
Norfolk and Waveney Integrated Care System

Digital workforce tools will enhance care delivery though advanced digital solutions across standardised systems including user devices refresh, the standardisation of the Electronic Staff Record (ESR) systems including the e-roster, creation of the virtual careers office and an integrated Learning Management System (LMS).

	Year 0 – FY 22/23	Year 1 - 23/24	Year 2 - 24/25	Year 3 - 25/26
End User Devices	• **IT device refresh** – replace and upgrade 1000's of out of warranty devices, providing high quality, new equipment (rolling refresh)			
Integrated ESR (Electronic Staff Record) and Digital Staffing Bank	• **Standardise use of Electronic Staff Record systems** for accessible and accurate workforce data • Move all nursing and AHP staff to the e-roster • Review and assess e-rostering provider contract e	• Move all medical staff to the e-roster • **Enhance and integrate ESRs (full integration)** • Improve efficient workforce analytics, minimising manual interventions	• **E-roster continuous support and development** (centralised database for all provider organisations) • **Deploy a staff digital central bank** – an integrated database of clinical, administrative and HCA staff to aid recruitment into posts across the system (including an integrated database of locums)	• **Further enhance system-wide rostering and workforce planning,** enabled by advanced analytics and integrated rostering systems
Virtual Careers Office	• **Develop a virtual careers office website** for staff to broaden career development, using chatbots for quick access to resources, and automated access to career champions and career advisors.	• **Enhance leadership & management development digital offering**	• Continuously improve digital support across career pathways, in line with system and user needs	
Integrated system-wide Learning Management System (LMS)	• Support staff to optimise use of current LMSs	• Define requirements; develop investment case for an integrated LMS	• Prepare for implementation of an integrated LMS, including standardisation of key processes and training curriculum across the system	• **Deploy an integrated LMS**, enhancing consistency and improving e-learning across the ICS
Digital solution to streamline the learning placement process	• Define requirements, design digital solution, and standardise processes for learning placement management	• **Streamline the learning placement process and support self-management** with a single database/repository, incl. HEI placements, portfolio working and secondments	• Continuously improve, expanding scope	• Utilise advanced analytics (e.g. prescriptive and predictive analytics) to further support learning placements

High-level Implementation Plan – Infrastructure and Connectivity

Improving lives together
Norfolk and Waveney Integrated Care System

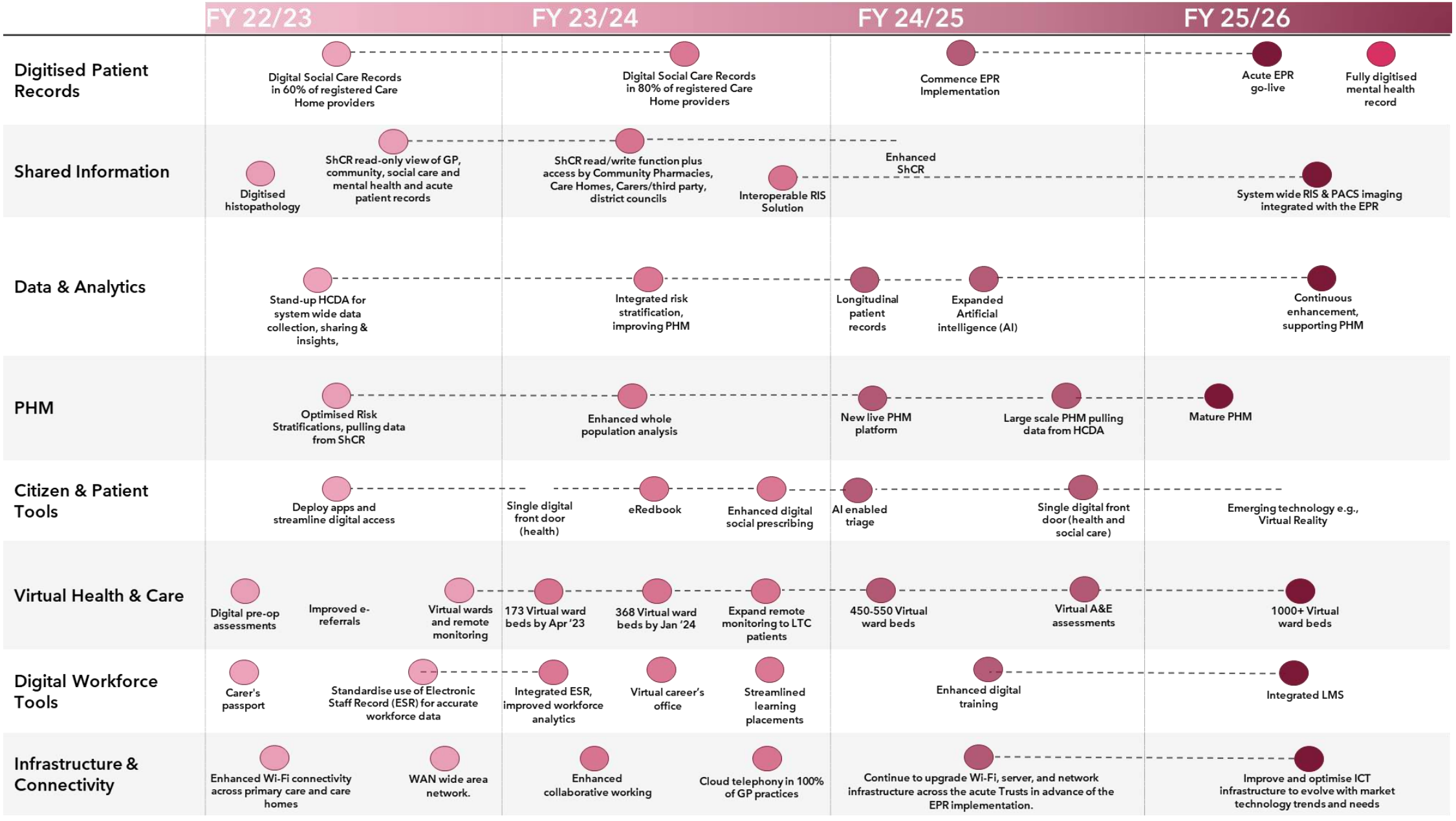
Fully integrated infrastructure and connectivity will improve ways of working and collaboration among staff and ensure robust data protection standards and cyber security through deployment of a new cloud solution, cyber security solutions and enhanced Wi-Fi network and connectivity.

	Year 0 – FY 22/23	Year 1 – 23/24	Year 2 – 24/25	Year 3 – 25/26
Infrastructure, Network and Connectivity upgrades	• **Install WAN**: wide area network capable of delivering connectivity for all, single log on • **Update network – Project Gigabit (ultra-fast Wi-Fi)** for improved Wi-Fi connectivity across all sites • Commence working group around IT centralisation (common ICT functions) • Identify contracts for renewal/replacement of IT infrastructure across partners	• Implement shared domain • Install infrastructure to improve access to high speed connectivity and devices for care providers • **Deploy Community Diagnostic Hubs infrastructure and connectivity requirements** • Agree shared ICT function, incl. common standards • Network standardisation to ensure device connectivity regardless of site	• Complete infrastructure, network and connectivity improvements in advance of acute EPR deployment	• Continuous improvement of infrastructure, network and connectivity to evolve with market technology trends and business needs
Enhanced collaboration (AD/N365)	• Optimise use of N365	• **Enhance collaborative working** via N365 and information sharing agreements	• Agree and deploy solutions for further enhancements in collaborative working across the system	
Cyber Security	• Deploy new Firewall (cloud solution) and cyber security solution	• Mobilise system-wide cyber security approach and team	• Implement information security management system	
Cloud First Infrastructure (Azure, Shared Cloud, One Drive)	• Continue migration to cloud technology (including cloud telephony in 60% of GP practices)	• **Achieve cloud telephony** in 100% of GP practices	• Further advance transition to cloud infrastructure	• Fully on cloud infrastructure

High Level Milestone Summary

Improving lives **together**
Norfolk and Waveney Integrated Care System

We will build our capabilities by delivering key milestones by FY25/26.



Appendix D: Digital Transformation Investment Plan

Costed plan

Improving lives together
Norfolk and Waveney Integrated Care System

To deliver our digital transformation strategic roadmap, ~£236m of total investment is required, of which ~£105m requires additional funding*.

Digital Capabilities	FY22/23 – 25/26 (Years 0-3)					
	Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Digitised Patient Records, incl. Acute EPR	91,689	38,845	72,272	21,171	19,417	17,674
Shared Information, incl. ShCR	4,946	21,429	2,673	12,435	2,273	8,994
Data, Analytics, incl. HCDA	2	18,962	-	7,974	2	10,988
Population Health Management	-	9,606	-	1,631	-	7,975
Citizen & Patient Tools	1,582	1,371	-	-	1,582	1,371
Virtual Health & Care, incl. remote monitoring and virtual wards	3,703	14,015	2,115	7,085	1,588	6,930
Infrastructure & Connectivity, incl. cyber, cloud	1,362	11,769	863	2,043	499	9,726
Digital Workforce Tools, incl. End User Devices, improved workforce data	2,938	5,618	1,250	2	1,688	5,616
Enablers: Digital Inclusion and Unified Digital Team	413	8,104	-	-	413	8,104
Total ('£000)	**106,635**	**129,718**	**79,173**	**52,341**	**27,462**	**77,377**

- *Cost estimates have been established based on Business Cases, if available, high-level estimates from project teams, or using Rough Order of Magnitude (ROM) estimates from use cases adjusted to reflect context and size of Norfolk and Waverley.
- Due to the early stage at which some of the cost estimates and scope have been captured, a 10% contingency has been applied to all costs at programme level from FY22/23 to FY25/26. As scope for each programme is further defined, it is expected that specific levels of contingency and optimism bias will be applied. This will remove the need to apply a standard 10% contingency to all costs. A 5% contingency has been applied to EPR programme costings provided.
- An annual 8% inflation rate has been applied (from FY23/24). Though the published national tariff inflation rate is 5.2%, given the high proportion of non- pay costs, it was deemed appropriate to use a higher rate that was closer to 10% to reflect real costs/ current inflation rate.
- 'Funding identified' means that funding has been earmarked/ requested, but not necessarily confirmed/allocated. 'Funding secured' means that funding has been confirmed.

Estimated Investment Required – Digitised Patient Records

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required to fund the implementation of the Acute EPR, Mental Health EPR, and the Adult Digital Social Care Record, as well as further optimisation of our Primary Care EPR*.

		FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
Digitised Patient Records	**Source of Cost Estimates**	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Acute EPR	Project Team Confirmed costs	87,044	32,475	68,772	16,468	18,273	16,007
Mental Health EPR	Project Team Estimates	4,645	2,027	3,500	1,500	1,145	527
Digital Social Care Record	Project Team Estimates – Norfolk only	-	4,342	-	3,203	-	1,139
Total ('£000)		**91,689**	**38,845**	**72,272**	**21,171**	**19,417**	**17,674**

Note: 'Project Team Confirmed costs'- Costs which are based on a detailed Business Case, 'Project Team Estimates'- High level estimates based on high level assumptions, 'Rough Order of Magnitude (ROM) Estimate' - where no cost information has been available, use cases have been applied and adjusted to reflect context and size of Norfolk and Waverley.

**Additional resource has been added to the Unified Digital Team to support further optimisation of SystmOne (Primary Care EPR)*

Estimated Investment Required – Shared Information

Investment is required to fund the enhancement and continuation of the Shared Care Record, Imaging (RIS) Interoperability and Digital Histopathology programmes.

Shared Information	Source of Cost Estimates	FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
		Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Shared Care Record	Project Team Confirmed Costs	2,554	12,040	2,273	7,513	282	4,527
Imaging (RIS) interoperability	Project Team Confirmed Costs	1,673	1,376	-	-	1,673	1,376
Digital Histopathology	Project Team Estimates	458	7,714	400	4,922	58	2,792
Single Infection Prevention Control System	Project Team Confirmed Costs	261	300	-	-	261	300
Total ('£000)		**4,946**	**21,429**	**2,673**	**12,435**	**2,273**	**8,994**

Pending validation of assumptions with key stakeholders

Estimated Investment Required – Data and Analytics

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required to fund the implementation of the Health and Care Data Architecture (HCDA) and Analytics, Machine Learning, Artificial Intelligence, and Robotic Process Automation programmes.

		FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
Data, Analytics	**Source of Cost Estimates**	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Health and Care Data Architecture (HCDA), incl. integrated data sets	Project Team Estimates	-	6,982	-	474	-	6,508
Artificial Intelligence, Machine Learning, Robotic Process Automation	Project Team Estimates + ROM costs*	2	1,948	-	1,160	2	787
Analytics	Project Team Estimates	-	10,032	-	6,340	-	3,692
Total ('£000)		**2**	**18,962**	**-**	**7,974**	**2**	**10,988**

**Rough Order of Magnitude (ROM) costs used from external examples, with pro rating to Norfolk and Waveney for licenses/usage.*

Estimated Investment Required – PHM

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required to fund the continued development of the Population Health Management (PHM) programme, including procurement of the risk stratification tool.

PHM	Source of Cost Estimates	FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
		Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Population Health Management	Project Team Estimates	-	9,606	-	1,631	-	7,975
Total ('£000)		**-**	**9,606**	**-**	**1,631**	**-**	**7,975**

Estimated Investment Required – Citizen and Patient Tools

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required to fund the implementation of the Single Digital Front Door app, Patient Triage, Digital Social Prescribing, eRedbook, and other emerging tools.

		FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
Citizen & Patient Tools	**Source of Cost Estimates**	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Single Digital Front Door (Portal, apps, Digital Triage, and Directory of Services)	Project Team + ROM Estimates	1,568	729	-	-	1,568	729
Digital Social Prescribing	Project Team Estimates	13	433	-	-	13	433
eRedbook	ROM Estimate*	-	209	-	-	-	209
Total ('£000)		**1,582**	**1,371**	**-**	**-**	**1,582**	**1,371**

**Rough Order of Magnitude (ROM) costs used from external examples, with pro rating to Norfolk and Waveney for licenses/usage.*

Estimated Investment Required – Virtual Health and Care

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required to fund the implementation and advancements of Remote Monitoring and Virtual Wards, E-referrals, and Digital Pre-op Assessments solution.

		FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
Virtual Health & Care	**Source of Cost Estimates**	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Remote monitoring & virtual wards	Project Team Estimates	3,703	11,463	2,115	6,737	1,588	4,726
Improved e-referrals	Project Team Estimates	-	823	-	-	-	823
Digital pre-op assessments	Project Team Confirmed Costs + ROM Estimate	-	1,729	-	348	-	1,381
Total ('£000)		**3,703**	**14,015**	**2,115**	**7,085**	**1,588**	**6,930**

Estimated Investment Required – Infrastructure and Connectivity

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required to fund continued enhancements and upgrades in Infrastructure, Network and Connectivity, Cyber Security, and Cloud First Infrastructure.

		FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
Infrastructure & Connectivity	**Source of Cost Estimates**	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Infrastructure, Network, and Connectivity upgrades	Project Team Estimates	1,026	802	863	643	162	160
Enhanced Collaboration: AD / M365	Project Team Estimates	-	475	-	400	-	75
Cyber Security	Project Team Estimates	-	6,272	-	-	-	6,272
Compliant standards, e.g. ISO27001	Project Team Estimates	-	374	-	-	-	374
Cloud First Infrastructure (Azure, Shared Cloud, One Drive)	Project Team Estimates	337	3,846	-	1,000	337	2,846
Total ('£000)		**1,362**	**11,769**	**863**	**2,043**	**499**	**9,726**

- Note: Infrastructure and connectivity costs for Community Diagnostic Hub is fully funded, but not included within these numbers.

Estimated Investment Required – Digital Workforce Tools

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required to fund implementation and procurement of End User Devices, improved workforce data, a Virtual Careers Office, an integrated LMS and to streamline the learning placement process.

Digital Workforce Tools	Source of Cost Estimates	FY22/23 – 25/26 (Years 0-3) Estimated Investment Required Capital ('£000)	Estimated Investment Required Revenue ('£000)	Funding Identified or Secured Capital ('£000)	Funding Identified or Secured Revenue ('£000)	Estimated Funding Gap Capital ('£000)	Estimated Funding Gap Revenue ('£000)
End User Devices	Project Team Estimates	2,498	-	1,250	-	1,248	-
Integrated ESR (Electronic Staff Record)	Project Team Estimates	-	3,757	-	-	-	3,757
Virtual Careers Office	ROM Estimate*	143	85	-	-	143	85
Integrated system-wide Learning Management System (LMS)	ROM Estimate*	-	1,039	-	-	-	1,039
Digital solution to streamline the learning placement process	ROM Estimate*	297	-	-	-	297	-
Improved Remote support/Hybrid IT support	Project Team Estimates	-	44	-	2	-	42
Digital Staffing Bank	Project Team Estimates	-	693	-	-	-	693
Total ('£000)		**2,938**	**5,618**	**1,250**	**2**	**1,688**	**5,616**

Note: Project Team Estimate – High level cost estimates developed by project team, based on assumptions, Project Team Confirmed Costs- Developed cost estimates through business case process, ROM Estimates- Where no cost information was available

**Rough Order of Magnitude (ROM) costs used from external examples, with pro rating to Norfolk and Waveney for licenses/usage.*

Estimated Investment Required – Enablers

Improving lives together
Norfolk and Waveney Integrated Care System

Investment is required into Digital Inclusion and the Unified Digital Team to enable the capabilities previously listed.

		FY22/23 – 25/26 (Years 0-3)					
		Estimated Investment Required		Funding Identified or Secured		Estimated Funding Gap	
Infrastructure & Connectivity	**Source of Cost Estimates**	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)	Capital ('£000)	Revenue ('£000)
Digital Inclusion	Project Team Estimates	413	1,494	-	-	413	1,494
Unified Digital team	Project Team Estimates	-	6,610	-	-	-	6,610
Total ('£000)		**413**	**8,104**	**-**	**-**	**413**	**8,104**

Appendix E: Strategic Alignment

Strategic documents reviewed

The digital strategic roadmap is aligned to organisational digital strategies, system strategic thinking, and existing business cases.

Document
Norfolk and Waveney ICS Clinical strategy
Norfolk and Waveney ICS Education Plan
Norfolk and Waveney STP Digital Strategy
Norfolk and Waveney Population Health Management Roadmap
Norfolk County Council Digital Strategy and Roadmap
Norfolk and Waveney ICS People Plan
James Paget University Hospitals FT Clinical Strategy
Queen Elizabeth Hospital Digital Data Strategy
East Suffolk Digital Strategy
Norfolk and Suffolk Trust Strategy
East of England Ambulance Service Strategy
Norfolk and Waveney ICS System Development Plan
HCDA Business Case
Shared Care Record Business Case
Electronic Patient Record Business Case
Digital Histopathology Business Case
Norfolk and Waveney Outpatient Programme
Norfolk and Norwich University Hospital Digital Roadmap

ICS Digital Transformation Guidance

Improving lives together
Norfolk and Waveney Integrated Care System

Our Digital Transformation capabilities and enablers align with the 7 success measures of the NHSX 'What Good Looks Like' framework, as mapped below.

NHSX 'What Good Looks Like' Framework

Well led	Ensure smart foundations	Safe practice	Support people	Empower citizens	Improve care	Healthy populations
Leadership and Decision Making	Data and Analytics	Shared Information	Data and Analytics	Citizen and Patient Tools	Data and Analytics	Population Health Management
Unified Digital Team	Digitised Patient Record	Digitised Patient Record	Digitised Patient Record	Shared Information	Shared Information	Data and Analytics
Governance	Digital Workforce Tools	Governance	Virtual Health and Care	Virtual Health and Care	Virtual Health and Care	Shared Information
	Shared Information		Digital Workforce Tools	Data and Analytics	Population Health Management	Digital Workforce Tools
	Infrastructure and Connectivity		Shared Information	Digital and Data Skills and Inclusion	Citizen and Patient Tools	Digitised Patient Record
	Unified Digital Team		Infrastructure and Connectivity		Digital Workforce Tools	Innovation and Partnerships
	Digital & Data Skills and Inclusion		Transformation and Culture Change		Digitised Patient Record	Transformation and Culture Change
	Governance		Digital and Data Skills and Inclusion		Transformation and Culture Change	

Key: Capabilities Enablers