



**Gloucestershire Hospitals**  
NHS Foundation Trust

# Digital Strategy



## Foreword

On 28 November 2018 at a keynote event in London, Secretary of State for Health and Social Care Matt Hancock laid down the requirement that all NHS organisations should have Chief Information Officers on their boards.

Reinforced by the finding of the Topol Review, the requirement for technology and information experts to sit on boards is a necessary move to ensure the art of the digital possible is not only understood by boards but also prioritised. The NHS must close the gap between where it is now and making the most of the opportunities that technology provides us.

Marking the beginning of a new digital journey, in October 2018, I was appointed by the Trust as its first Executive Chief Digital Information Officer. With the Chief Executive and the Board fully identifying the need for GHNHSFT to improve its digital maturity, the decision to include a Digital Strategy in the new strategic plan for the Trust

shows clear commitment and dedication to the digital cause.

As a Trust that delivers care across a number of sites and aspires to collaborate seamlessly with partner organisations, we can no longer rely on pens and paper to manage our delivery of care. We must be able to access information about our patients quickly and easily to make accurate and informed decisions about the care we provide; we must pursue open source technologies that are interoperable and allow us to share information; we must invest in and deploy strong digital foundations that allow us to follow an accelerated path to digital excellence.

While the last year has seen a number of significant improvements in our IT provision, we simply cannot afford to stand still and not develop our digital offer. This strategy sets out how in the next five years we will become a recognised and exemplar digital hospital where people seek employment and where patients receive digitally enabled best care.

**Mark Hutchinson**  
**Executive Chief Digital**  
**Information Officer**

# Digitally Enabled Best Care for Everyone

As an exemplar Digital Hospital, signified by achieving HIMSS level 6, our Trust will deliver consistently safe, reliable, high quality care in an environment that is loved by staff and reassuring to patients.

Patients treated in hospitals that make use of digital technologies to provide care will consistently have better outcomes than those treated in hospitals with a low digital maturity.

Our Trust currently has one of the lowest digital maturity levels for a trust of its size and demographic and is heavily reliant on the movement of paper to facilitate the provision of care.

HIMSS (Healthcare Information and Management Systems Society) is a non-profit international organisation whose goal is to promote the best use of IT and management systems in the healthcare industry. HIMSS have created the EMRAM (Electronic Medical Record Adoption Model) digital maturity model to enable providers of care to measure IT adoption and maturity within their organisations. Hospitals that have achieved a high HIMSS level consistently report significant reductions in medical errors, have improved readmission rates, higher operating margins, lower staffing costs, greater staff satisfaction, reductions in duplicate orders and in general have improved patient safety and the overall quality of clinical care.

As of September 2019, the Trust has a score of 0.02 out of 7. The HIMSS road map provides us with a clear strategic direction that allows the focused prioritisation of investment to ensure the optimal delivery of solutions that will enable safe, consistent, high quality care.

By providing our staff digital solutions not only will we improve the safety and reliability of care that we provide but we also improve the experience of our colleagues. At a time when we have workforce challenges, evidence supports the idea that staff have a better experience and are more inclined to move to work in hospitals that have improved digital maturity. By working digitally, supporting our colleagues with the skills to confidently embrace technology and by harnessing the rich data outputs from our solutions, we will become a leading example of a trust that provides outstanding digital care in the NHS.

STAGE	<b>HIMSS Analytics</b> <b>EMRAM</b> EMR Adoption Model Cumulative Capabilities
7	Complete EMR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy and Security
6	Technology Enabled Medication, Blood Products, and Human Milk Administration; Risk Reporting; Full CDS
5	Physician documentation using structured templates; Intrusion/Device Protection
4	CPOE with CDS; Nursing and Allied Health Documentation; Basic Business Continuity
3	Nursing and Allied Health Documentation; eMAR; Role-Based Security
2	CDR; Internal Interoperability; Basic Security
1	Ancillaries - Laboratory, Pharmacy, and Radiology/Cardiology Information systems; PACS; Digital non-DICOM image management
0	All three ancillaries not installed

# What does HIMSS Level 6 look like for our organisation?

Currently our Trust does not meet the requirements to tick the level one box.

HIMSS methodology means that you must complete all of the of the previous level before you can achieve the next.

This strategy will see us achieving HIMSS Level 6 in the next five years.

We will choose how we navigate through these levels according to our need, priority and investment, which may mean that our progress is not linear, however, with the right direction and strategic funding we will reach level 6 by the end of the strategy.

## HIMSS 1

Trust wide, we will have:

Laboratory, Pharmacy, Radiology and Cardiology Information systems

Picture Archiving and Communication system (PACS) e.g. X-Rays, MRIs

The ability to store and manage non-Dicom images such as photographs electronically e.g. photographs of skin lesions in dermatology

## HIMSS 2

Trust wide, we will have:

A single place to access all clinical information (CDR) e.g. Sunrise EPR

Systems used that demonstrate internal operability to enable all clinical information go be accessed in one place e.g. accessing infoflex, chemocare through Sunrise EPR

## HIMSS 3

Trust wide, we will have:

50% of Nursing & AHP documentation captured and stored within Sunrise EPR e.g. risk assessments, progress notes, E-Observations

Medication Administration recorded electronically

Role- based access, i.e. Staff accessing Sunrise EPR will have different access rights depending on their role e.g. an HCA will not be able to prescribe medication on the system

## HIMSS 4

Trust wide, we will have:

The ability for clinicians to place orders and requests electronically e.g. ordering a blood test

The order system will have support built into it to making it safer e.g. prompt a specific test if specific symptoms are recognised or query a test if a recent one is on the system

90% of Nursing & AHP documents captured and stored within Sunrise EPR

Basic business Continuity Plans in place for an EPR, e.g. including back-up data provision

## HIMSS 5

Trust wide, we will have:

Doctors documentation captured electronically, using structure templates e.g. First Assessment, Ward round, Outpatients, Referral notes

Security Systems should be in place to prevent and detect intrusion or risks to the EPR

## HIMSS 6

Trust wide, we will have:

Medication and products ordered and verified electronically, using barcodes and scanners e.g. medication, blood products and human milk

Barcodes used for specimen collection

Clinical decision support functionality throughout the EPR e.g. on the entering of a diagnosis a treatment regime is prompted including tests, medication and referrals needed (order sets/ treatment bundles)

EPR Security Risk Assessments in place and regularly reviewed

# What does care in a HIMSS Level 6 hospital mean to patients?

Safer, More Reliable, High Quality Care

Patient  
perspective

The hospital staff have all of the information I need to plan my care so I don't have to tell them what has happened before.

The electronic record contains all the relevant information about me, helping the staff to look after me even if they haven't met me before or have forgotten my details.

The electronic system means I get the right treatment at the right time. I don't have to wait for things and because the information is shared with my GP and other people who care for me, this helps to keep me well.

The system has all the right information about me, which means the team can be proactive in my care and treatment. As a result, I am very happy with my care.

I am confident in the care the trust provides and hope that staff know they are doing a great job. I expect I'll be back again so I hope they liked looking after me!

# What does care in a HIMSS Level 6 hospital mean to patients?

Safer, More Reliable, High Quality Care



## Benefits

- ▷ All previous documentation can be seen by clinicians, including information from colleagues and clinical teams
- ▷ The Shared Care Record (JUYI) can be accessed and previously recorded medical and drug history can be seen
- ▷ Previous allergies and alerts are easy to see

- ▷ When observations are taken, NEWS 2 is automatically calculated and escalated if required
- ▷ Increased care is initiated if a risk assessment outcome dictates this
- ▷ Order sets can be used as treatment bundles to ensure consistent recording of a suspected diagnosis like sepsis
- ▷ The systems calculates the correct drug dosage and interactions or allergies are highlighted

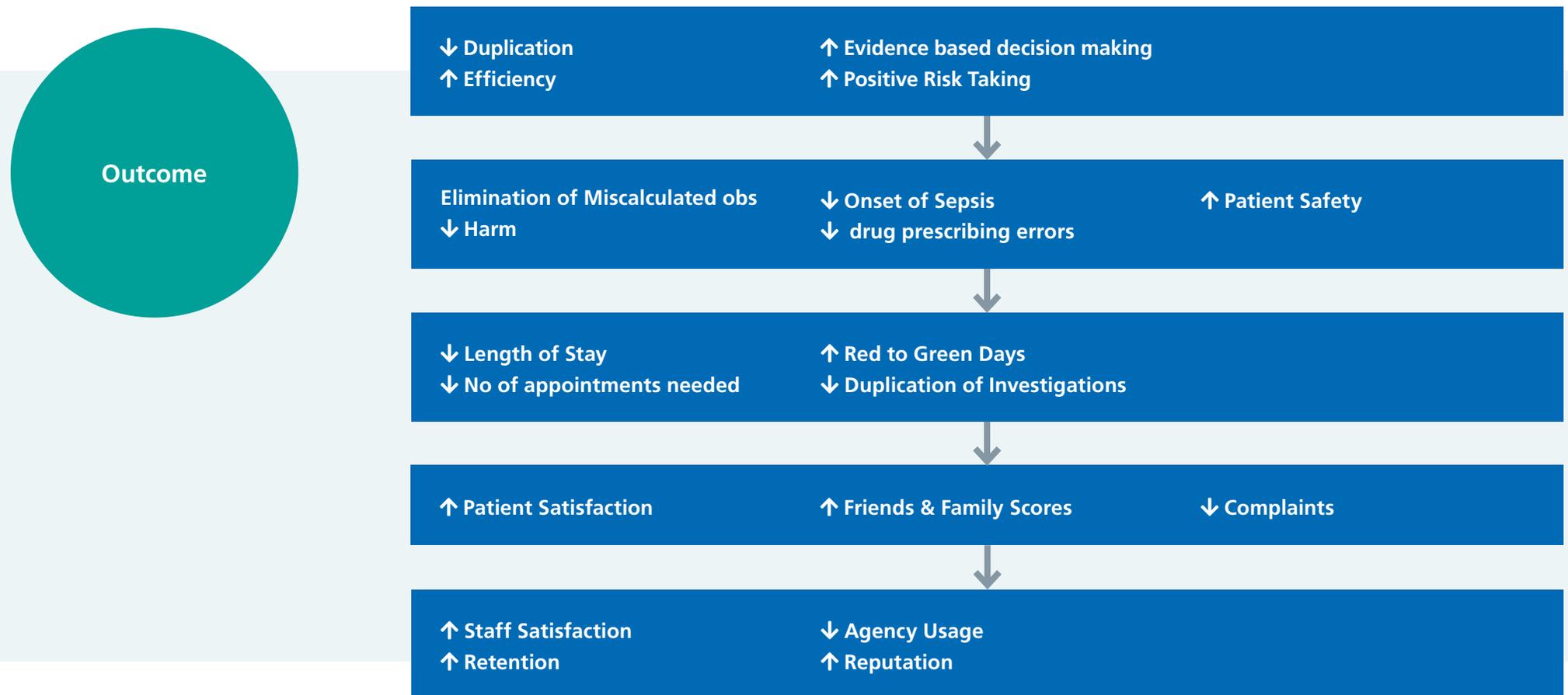
- ▷ Treatment is initiated promptly in a consistent manner
- ▷ Less time is wasted whilst decisions are made and treatment is progressed
- ▷ Treatment is proactive, preventing patients deteriorating and enabling us to step in before they become more acutely unwell

- ▷ Patients will recommend us a place for treatment
- ▷ Our reputation will be enhanced and there will be fewer complaints
- ▷ We can demonstrate how well we are caring for our patients
- ▷ Our partners and regulators have confidence in us

- ▷ Staff feel positive about their work as their experience is improved
- ▷ People want to come and work for us and retention will be improved
- ▷ We have a good reputation

# What does care in a HIMSS Level 6 hospital mean to patients?

Safer, More Reliable, High Quality Care



# Where we are



HIMSS Level 0.02 /  
Good CQC rating



We have a number of disparate clinical systems that contain pockets of information but are not joined up



We have an old estate and the IT infrastructure is still recovering from significant long-term under-investment



A large percentage of our colleagues have never worked digitally or outside this Trust



We have limited ability to share our data and work collaboratively across the ICS



Multiple versions of data are stored in different locations, then processed in varying ways, producing conflicting outputs



The software that we use is largely old requires updating or replacing at a cost



We now have a stable Patient Administration System

Limited audit/clinical data-based on pulling paper notes and interpreting them



We have a board willing to listen and embrace the benefits of digital technology



# Where we are: Experience



# Where we want to get to

One place for clinicians to log into to find all of the information that they need



Safe, Cyber secure Tools and Cyber Aware staff



HIMSS level 6/  
Outstanding  
CQC rating

Safe electronic prescribing and administration supported by technology



Staff supported to make the right decision by systems



Documentation captured electronically



Electronic ordering of tests and requests



Reliable data from digital tools and systems to inform evidence-based decision making



All images taken are available electronically



Paper light



Connected, joined up information across the ICS



Confident, Competent, Safe and Aware Digital staff



We will use digital solutions for our corporate functions as well as our clinical ones



Known process for digital innovation/ ideas



Use of data and information to proactively deliver better care



# Where we want to get to: Experience



# How we are going to get there



## Digital Landscape

By following the HIMSS road map, we can strategically invest in developing the solutions, tools and software to work in a connected, digital fashion.

These tools will be supported by reliable and fit for purpose hardware and an infrastructure that is resilient and professionally managed.

By strategically investing in our journey to HIMSS level 6, we will provide consistently safer and more reliable care.

## Digital Workforce

From HCAs to our CEO, we will invest in all of our staff to ensure that they have the digital knowledge and skills to embrace the technology deployed within the Trust.

Digital working will become the expected normal and not an exception. By going on our journey to HIMSS level 6, we will invest and support our own staff to ensure we have a technical and specialist workforce who are skilled and able to deliver a professional support service.

## Digital Intelligence

By utilising digital tools, solutions and technologies, the organisation will be in receipt of rich and vital intelligence that will allow us to proactively plan and provide our care.

This strategic period will see the Trust being able to access intelligence in a way that it hasn't before - this will allow us to evidence our patient outcomes, our activity and facilitate quality improvement and research. It will also provide assurance to regulators and external bodies in our quest for an "Outstanding" CQC rating.

## Enabling Pillar: Digital Landscape

### Key Initiatives

- ▶ IT Improvement
- ▶ Sunrise EPR Deployment
- ▶ Digital Transformation
- ▶ Subject to continued investment and prioritisation

## Enabling Pillar: Digital Landscape

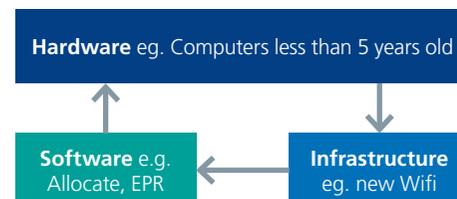
By achieving HIMSS level 6 we will provide the working environment that enables our staff to contribute towards delivering digitally enabled better care that is consistently high quality, safe and reliable.

In order to achieve HIMSS level 6, we must strategically invest in solutions that allow us to deliver foundations of digital functionality from which we can develop.

As a Trust, we have procured an EPR that we will evolve to become the one place clinicians access all of the useful information they need about patients to make timely and evidence-based decisions.

Alongside this, the optimisation of our patient administration system and commitment to improve our IT infrastructure and hardware will ensure that our colleagues can use digital tools that are resilient and reliable, allowing us to deliver timely and effective care.

We must ensure that key IT systems are professionally managed and up-to-date and that new tools procured have a future-focused approach that includes maintenance and upgrades where necessary.



### Key metrics

- ▷ HIMSS Level 6: 5 years
- ▷ Deployment and development of our EPR for clinical information to support decision-making, care provision and clinical outcomes
- ▷ Optimisation of our PAS (TrakCare, InterSystems) to provide accurate and timely data
- ▷ Consistently reliable infrastructure including WiFi for patients and staff
- ▷ Up-to-date and reliable hardware for all staff to use, regardless of location in clinical areas, office spaces and the education centres
- ▷ Services and teams will be supported to explore and implement digital ways of working
- ▷ Consistently well-performing IT service desk

# Key initiatives and milestones

Key initiatives	Year 1–2 milestones	Years 3–4 milestones	Year 5
<b>IT Improvement</b>	<p>We will ensure our users have access to resilient and reliable fit for purpose equipment and services, to include the replacement of all fax machines, Windows 10 upgrade, Wifi upgrade</p> <p>We will enable cross site communication by rolling out MDT videoconferencing equipment for use across sites</p> <p>We will gain Cyber Essentials Accreditation</p>	<p>We will be able to access and store medical images and photographs electronically</p> <p>We will have fully deployed next generation telecoms across the Trust</p> <p>We will have rolled out Intrusion Prevention and Detection solutions to keep our systems safe</p>	<p>We will have deployed Radio Frequency Identification to aid with the management of stock and equipment</p> <p>We will be an exemplary Digital Hospital</p>
<b>Sunrise EPR Deployment</b>	<p>We will roll out Sunrise EPR, Nursing Documentation and Risk Assessments across the Trust</p> <p>We will deploy the electronic recording of e-observations and the escalation of care requirements</p> <p>We will enable electronic ordering for radiology and pathology tests</p>	<p>We will deliver Electronic Prescribing across the Trust (commencing Yr 2)</p> <p>We will have paper lite outpatients across all specialties</p> <p>ED and Maternity will be utilising clinical functionality within Sunrise EPR</p> <p>We will have interfaced all key clinical systems through Sunrise EPR</p>	<p>Sunrise EPR is the one place that clinicians go to surface information about patients</p> <p>Full closed-loop prescribing that allows the process of prescribing to administration to be facilitated digitally.</p>
<b>Digital Transformation</b>	<p>There will be a digital element across all Trust wide transformation projects.</p> <p>Defined process for staff and patients to raise ideas and opportunities</p> <p>We will agree principles for the development of our estate to ensure refurbished areas and new build projects are digitally fit for purpose.</p>	<p>Digital Transformation will be consistently represented across the QI Academy and projects</p>	<p>Staff and patients recognise GHNHSFT as a Digital Hospital</p> <p>Digital solutions are routinely considered at the beginning of all transformation programmes</p>



## Enabling Pillar: Digital Workforce

### Key Initiatives

- ▶ Confident and competent staff
- ▶ Skilled and Professional Specialists
- ▶ Digital Leaders
- ▶ Subject to continued investment and prioritisation



## Enabling Pillar: Digital Workforce

As a Trust we will support and empower our staff to understand the opportunity of digital ways of working.

We will encourage and support them to explore digital ways of working and support them to confidently and competently use the solutions and technologies we deploy.

By utilising Sunrise EPR and digital tools, staff will improve the efficiency and quality of their work, utilising technology to add value within their day-to-day roles.

We will develop our Digital and Information workforce so that they have the skill and ability to provide a professional service to our colleagues and patients across the trust.

We will ensure our leaders understand the art of the digitally possible and understand why it is pivotal to delivering safe, reliable, high quality care.

We will embed digital skill requirements in all roles so that potential staff and existing staff understand our commitment and aspirations to excel digitally.

We will ensure that line managers are as committed to supporting digital development as they are other aspects

of day-to-day work. We will embed digital self assessment into our annual staff reviews so that staff can have conversations about their needs and line managers can support development. We will ask staff how they feel about GHFTs digital journey by incorporating specific questions into the Staff Survey, providing us with rich and essential feedback that will enable us to address the needs of our colleagues. We will support our digital, IT and informatics teams to develop and make the most of opportunities provided by the ICS, local education facilities and the partners keen to support our digital journey.

In addition to this, we will continue to educate the leaders within the Trust about why investing and prioritising our digital journey is an important and fundamental requirement to being able to deliver safer, reliable and reactive, high-quality care.

### Key metrics

- ▷ Positive response from staff survey
- ▷ Annual capture of staffs' digital skill development needs or opportunities with % compliance
- ▷ Development of digital super user coaching network
- ▷ Satisfactory IG and cyber aware training
- ▷ Improved staff retention within Digital and IM&T areas
- ▷ Delivery of digital leadership training (Board, Exec and TLT level)

# Key initiatives and milestones

Key initiatives	Year 1–2 milestones	Years 3–4 milestones	Year 5
<b>Confident and Competent Staff</b>	<p>We will embed a review of digital ability within the annual ‘my development conversation’</p> <p>We will assess staff confidence via the NHS Staff survey for the first time and establish a baseline</p> <p>We will develop a digital super user programme</p> <p>We will work alongside ICS colleagues to deliver a joined-up approach to improving digital literacy</p>	<p>We will develop or adopt a digital self-assessment tool for all staff to use to enhance their annual ‘my development conversation’</p> <p>We will continue the development of the super user programme to align coaching, mentoring and onward educational opportunities where possible</p> <p>We will have a network of super users and experts that are regularly involved in Sunrise EPR development</p>	<p>All new job descriptions will have a digital expectation embedded to support the Trust’s desire to be a digitally enabled hospital</p> <p>We will have staff that are keen to embrace new digital ways of working and innovation</p>
<b>Skilled and Professional Specialists</b>	<p>We will participate in the ICS Countywide Clinical Informatics development programme</p> <p>We will ensure all Individual Digital/IM&amp;T teams’ journeys to outstanding are refreshed to ensure teams support the delivery of a reliable and professional corporate service</p>	<p>We will develop divisional CCIOS and CNIOs to support strategic development of digital tools and solutions to deliver better care and improve care outcomes</p> <p>We will achieve Three-Star IT Service Desk accreditation to demonstrate professional standards achieved</p>	<p>We will be a Trust that people actively seek employment to work with our digital tools to deliver digitally enabled care</p>
<b>Digital Leaders</b>	<p>We will deliver Executive and Board level Digital Leadership sessions</p> <p>We will be part of the delivery and collaborative work delivered by the Countywide ICS Digital Strategy</p>	<p>We will have a leadership team that have an understanding of the importance of becoming a HIMSS level 6 Trust and the benefit that it will bring our patients and staff</p>	<p>We will have a board and Trust Leadership Team who are fully committed to the continued importance of digital technology</p>

## Enabling Pillar: Digital Intelligence

### Key Initiatives

- ▶ Reliable Reporting
- ▶ Culture of Data Quality
- ▶ Turning Data into Intelligence
- ▶ Subject to continued investment and prioritisation

## Enabling Pillar: Digital Intelligence

By using open source, appropriate digital tools, we will be able to surface and utilise rich data that will help us analyse our performance, our activity and share information with our partners.

GHFT will be a trust that can proactively plan services based on real time, accurate data. In addition to this we will be able to evidence and demonstrate the reliable, consistent, high quality nature of our care.

By adopting digital technology and tools we will be producing rich, high quality intelligence that can be used to proactively feed our service delivery. We will have an accurate picture of our performance, our outcomes and our activity. This data can be made readily available to colleagues both within our Trust and across the ICS/ wider organisations that may benefit from having access.

The ability to harness intelligence provides research and audit opportunities that allow us to continually evaluate and improve our care. By utilising data and intelligence, we will be able gain further momentum on our successful quality improvement journey and further contribute to the Trust's increasing research agenda. This will provide rich intelligence across the Trust, the ICS and the national agenda, improving our population health management ability.



- ▷ Clinical Audit performance
- ▷ Increased number of digitally enabled QI projects
- ▷ Real time ADT and data feeds to ICS tools
- ▷ Accurate and reliable analysis and data modelling to inform operational, activity and financial measurements
- ▷ Reduction in data quality issues
- ▷ Quality assurance to regulators and inspectors about our delivery of care
- ▷ Compliance of statutory and mandatory reporting
- ▷ Data sharing across the ICS

# Key initiatives and milestones

Key initiatives	Year 1–2 milestones	Years 3–4 milestones	Year 5
<b>Reliable Reporting</b>	<p>We will implement standardised reporting solution across the organisation</p> <p>We will utilise new Sunrise EPR functionality to gather reliable clinical information to measure our performance, quality and outcomes</p>	<p>We will have ‘One version of the Truth’ from a data perspective across the organisation, capturing data once and using for multiple reporting purposes</p> <p>We will deliver full patient pathway reporting across multiple service areas</p>	<p>Sunrise EPR data is utilised to proactively review and continuously improve service delivery</p> <p>We are respected and acknowledged for our ability to evaluate clinical information from an audit, research and assurance perspective</p>
<b>Culture of Data Quality</b>	<p>Development of business as usual data quality team</p> <p>We will deliver a new and refreshed Data Quality Strategy</p> <p>We will continue the optimisation of TrakCare</p>	<p>We will embed data quality adherence into divisional reviews to ensure leaders are aware of the impact of data quality issues and potential variation</p> <p>We support research staff by providing them with access to a multitude of rich intelligence</p>	<p>All staff will be proud of the data quality culture that they are a part of and understand their role in this</p>
<b>Turning Data into Intelligence</b>	<p>All Business Intelligence analysts will be trained to make full use of the data using statistical approaches and modelling techniques</p> <p>We will ensure digital tools (statistical packages, mapping and simulation software) are up-to-date and available.</p> <p>Movement to a population health approach to analytics, ensuring intelligence can be moved into actions</p>	<p>We will become affiliated with academic facilities to ensure best practice approaches to analysis can be maintained</p>	<p>We will proactively use our intelligence to plan, mould and evaluate our services, allowing us to continually improve, feeding into Trust and ICS plans</p> <p>We will provide intelligence to inform our countywide population health programme to best deliver services for the citizens of Gloucestershire</p>



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