

The Optimisation Gap

Why having an EPR isn't the same as
using it well

Co-authored by the
Electronic Patient Record
(EPR) Network

Brought to you by



Electronic Patient
Record Network

Capgemini 

Contents

1. Introduction.....	3
2. Beyond organisational silos: sharing data to bridge the gap.....	5
3. Preserving the whole patient story: legacy data and the longitudinal record.....	7
4. Orchestrating patient flow across the whole system.....	9
5. Continuous improvement – from EPR implementation to ongoing innovation.....	12
6. Integration and data quality – foundation enablers of optimisation.....	15
7. Conclusion: closing the gap through connection and continuous care.....	19

1. Introduction

After years of investment, the vast majority of NHS Trusts now have an Electronic Patient Record (EPR) in place. Yet frontline experience shows that having an EPR is not the same as using it well. A significant optimisation gap has emerged: digital systems are deployed, but many promised benefits in efficiency, care quality and clinician workload have yet to fully materialise. Emergency departments remain congested, discharge delays persist, virtual care models struggle to scale, and clinicians still report frequent frustrations — from duplicated data entry to hunting for information across multiple systems. Digital maturity on paper has not automatically translated into better day-to-day operations.

This white paper, developed through the UK EPR Network (a collaboration of healthcare IT suppliers and NHS digital leaders), brings together insights from across the industry on how to close this optimisation gap. EPR Network contributors to the white paper, including [Alcidion](#), [Altera Digital Health](#), [BridgeHead](#), [First DataBank \(FDB\)](#), [Integrella](#), [Orion Health](#), [SI-Squared](#) and [System C](#), shed light on different facets of the challenge and propose practical strategies. Common to all is the recognition that true optimisation is a continuous, system-wide effort that extends beyond the walls of any single organisation.

In the sections that follow, we explore why many EPR deployments fall short

of their potential and how health systems can unlock greater value by sharing data, orchestrating care across boundaries, engaging clinicians and treating information as a strategic asset. Each perspective reinforces a simple truth: *having an EPR is just the starting point – it's how you use it across the care ecosystem that determines success.*

What does the optimisation gap look like in practice?

While the optimisation gap is often discussed in abstract terms, its impact is felt daily by NHS staff and patients. Across Trusts that have successfully deployed EPRs, frontline teams commonly report spending significant time re-entering or reconciling information that already exists elsewhere in the system — whether transcribing notes between modules, duplicating assessments, or chasing missing results. In many organisations, only a proportion of available EPR functionality is used routinely, with advanced features for decision support, workflow automation, or cross-organisational working remaining under-utilised.

The consequences are visible operationally. Length of stay can be extended by delays in information flow at admission, transfer or discharge points. Patient flow pressures persist despite digital investment, because systems optimise documentation rather than real-time coordination.

Workforce experience is also impacted: clinicians frequently cite digital inefficiency as a source of frustration, contributing to dissatisfaction and reduced confidence that systems are genuinely saving time.

Taken together, these symptoms clearly illustrate the optimisation gap. The technology is live, but the expected gains in productivity, safety, and experience are only partially realised. Closing this gap is less about replacing EPRs and more about using them differently – connecting data, workflows and decision-making across teams, organisations and care settings.

EPR optimisation delivers value when it improves:

- ▶ **Patient safety and experience** – through complete, trusted and timely information that follows the patient across care settings.
- ▶ **Workforce productivity and morale** – by reducing duplication, digital friction and administrative burden, allowing staff to focus on care.
- ▶ **System sustainability** – by improving patient flow, making better use of capacity and enabling proactive, data-driven decision-making.



Electronic Patient Record Network

Bringing the EPR Community Together

The EPR Network is a neutral, vendor-agnostic forum created by Healthcare Innovation Consortium (HIC).

Bringing together an active and growing community of Trusts, suppliers, clinicians and policymakers, the Network aims to share learning, align on national goals, and tackle shared barriers to digital maturity within UK healthcare organisations.

[Find out more about the EPR Network here](#)

2. Beyond organisational silos: sharing data to bridge the gap

One root cause of the optimisation gap is that EPR programmes still stop at organisational boundaries. While NHS Trusts have made significant strides optimising their EPRs locally – configuring workflows, training users, refining features – these improvements don't always carry over when a patient moves between care settings. As a result, clinicians frequently encounter incomplete information when treating patients who have received care elsewhere. Critical context, such as a recent medication change, an allergy noted by the GP, or a specialist's report, may not be visible in their own system. The consequence is wasted time chasing down details or re-entering data that already exists in another record. These inefficiencies aren't just inconvenient; they can create safety risks when clinical decisions are made without the full picture.

This challenge is increasingly being addressed through Shared Care Records that connect data across organisations rather than attempting to replace local EPRs. One example comes from Orion Health's experience implementing Shared Care Records across NHS regions.

Rather than replacing each Trust's EPR, shared care record platforms standardise and exchange data across organisations.

In practice, this means aligning information to national standards (like SNOMED CT coding and FHIR data models) and agreeing on data quality rules so that one provider's data can be reliably understood by another's system. It also means enabling information to flow in real time between acute hospitals, GPs, community and mental health services, and even social care.

In the Cambridgeshire and Peterborough region, for instance, specialist data from Royal Papworth Hospital NHS Foundation Trust is contributed to the local Shared Care Record. Clinicians across the region, whether in a clinic or an emergency department, gain visibility of those specialist records without needing to log into Papworth's own EPR or rely on paper summaries.



Clinical engagement underpins this approach. Within the Integrated Care Systems (ICSs), supported by Orion Health, clinicians are directly involved in deciding which information is most useful to share. By focusing on the data that matters for patient care, sharing agreements avoid information overload and reduce duplicate documentation.

Over time, clinicians come to trust the shared record as a **single, up-to-date source** for key details like medications, care plans and test results, regardless of where the patient is seen. In turn, organisations can streamline local processes. For example, if a discharge summary or care plan is maintained in the shared record, it can be surfaced within each Trust's EPR workflow, eliminating redundant data entry.

This continuous, cross-organisational optimisation yields tangible benefits. Frontline staff report spending less time on bureaucratic tasks, such as re-keying notes or phoning other hospitals for results and more time on direct patient care. Operationally, duplication of tests and assessments is reduced, and delays caused by missing information are minimised. Just as importantly, data consistency improves, benefiting clinical decision-making while also reducing manual effort later in reporting, analytics and planning.

More broadly, Shared Care Records are not only closing gaps today but also laying the groundwork for the future.

By progressively structuring and connecting data across a region, NHS organisations move closer to the vision of a longitudinal Single Patient Record that follows the patient throughout their care journey.

The lesson here is that EPR optimisation delivers far greater value when it extends beyond the walls of a single organisation and is sustained as a **system-wide discipline**. In a connected ecosystem, having an EPR is merely the baseline; using it well means ensuring information travels with the patient and informs care at every step.



3. Preserving the whole patient story: legacy data and the longitudinal record

Another often overlooked aspect of optimisation is the wealth of patient information that sits outside the primary EPR. While the frontline digitisation drive has brought nearly all NHS Trusts onto an EPR, those systems typically contain only a fraction of the patient's history — some estimates suggest around 30%. The remainder may reside in legacy systems, specialty department databases, scanned paper records or regional repositories.

When clinicians lose access to this longitudinal history during an EPR transition, both care quality and organisational insight can suffer.

This challenge highlights why EPR optimisation cannot be approached in isolation from the wider data ecosystem. A clear example comes from the Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust (RJA), which recently deployed a modern EPR (System C's CareFlow) to replace an older system. As a specialist orthopaedic centre, RJA held decades of important patient data/records.

The Trust recognised that simply switching off the old EPR and moving forward with the new one would create a dangerous knowledge gap. Clinicians would be forced to switch between

systems, or work without historical context, undermining both care quality and user confidence in the new EPR.

Instead, RJA chose to decouple the data from the legacy system and preserve it in a unified repository. Prior to go-live, all historical clinical data was extracted and ingested into BridgeHead's vendor-neutral Clinical Data Repository, HealthStore®. This repository acts as a secure archive for the longitudinal patient record, independent of any single application.

What made this approach powerful is how the legacy data was linked into the new workflow: historical records were indexed to current patient IDs and made seamlessly accessible from within the new EPR's interface (through a context-aware launch).

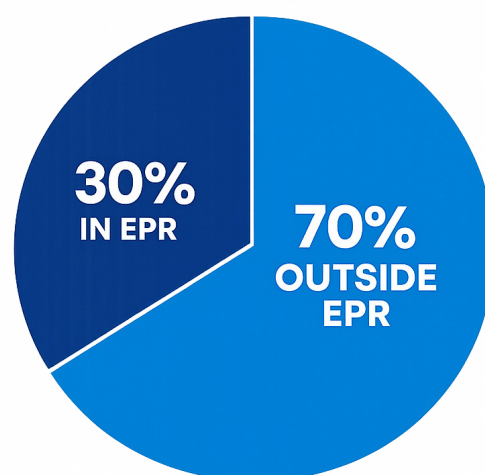


Figure 1: Patient data distribution

In practice, clinicians can retrieve patient documents, such as past clinic letters and operation notes, from the legacy system with a single click, without leaving the CareFlow EPR environment. The impact has been significant.

Since the go-live, RJAH clinicians access BridgeHead's HealthStore® longitudinal record over 1,000 times per day.

This level of usage demonstrates both the continued clinical value of historical data and the importance of making it frictionless to access. Because staff don't have to log into a separate legacy system or request archived records, they are far more likely to consult past information and use it to inform better care decisions.

From an optimisation standpoint, this approach delivers multiple benefits. It strengthens clinician adoption of the new EPR by making it a true one-stop shop for patient information. Historical results are readily available,

reducing duplicate tests and assessments, and workflows are streamlined by eliminating time-consuming searches through legacy systems or paper records.

The operational gains are equally compelling. RJAH was able to fully decommission its legacy EPR, saving on licensing, infrastructure and support costs and removing the need to maintain outdated technology. By consolidating data into a single repository, the Trust has also positioned itself for future innovations — whether in research, population health analysis or even AI-enabled tools, all of which thrive on rich longitudinal datasets. The broader lesson is that data should be treated as a long-term asset, not a by-product of software. In the rush to deploy new EPR systems, Trusts that proactively plan for legacy data migration or archival can avoid a significant optimisation roadblock.

Ultimately, EPR optimisation is maximised when clinicians have access to the full patient story, past and present. This not only improves immediate clinical decision-making, but also reduces cost, risks and effort in the long run.



4. Orchestrating patient flow across the whole system

If one theme of closing the optimisation gap is connecting information, another is coordinating care operations in real time across the health system.

Many of today's EPR deployments remain **hospital-centric**, even though patient journeys – and the pressures on care flow – span multiple settings.

Some of the most persistent operational challenges, such as ambulance handover delays, emergency department backups, bed shortages and delayed discharges, are symptoms of a larger system not moving in sync.

An acute Trust's EPR may be highly optimised for internal use, yet the hospital can still struggle if it cannot see or influence what happens before patients arrive or after they leave. When information and decision-making are confined within organisational boundaries, bottlenecks are simply pushed downstream rather than resolved. Addressing this optimisation gap requires moving beyond hospital-centric records toward ecosystem-wide visibility and coordination.

Consider a typical cascade: an ambulance crew waits to hand over

a patient because the ED is full; the ED is full because inpatients can't be moved to wards; wards are backed up because discharges are slow; and discharges are delayed because community services or social care are not ready to receive the patient. This chain crosses multiple organisations and departments, yet too often each part is managed with siloed tools and data. Traditional EPRs, while essential for documenting care, do not inherently provide the predictive and collaborative tools needed to manage patient flow across the whole system.

One way this gap is being addressed is through real-time flow orchestration platforms that sit above and alongside EPRs. Alcidion's experience in this area reflects a broader shift toward system-level operational intelligence. Rather than acting as retrospective reporting tools, the Miya Precision platform aggregates live data on patients, resources, and care activity from multiple sources to present a unified, operational picture that supports proactive management. This approach is already in use at sites including University Hospitals Sussex NHS Foundation Trust and Hywel Dda University Health Board.

At several NHS sites, what began as a bed-management solution within a single hospital has evolved into a system-wide command centre.

Ambulance services share live feeds of expected arrivals straight into the hospital dashboard, allowing ED teams to prepare in advance. Inpatient teams at a glance, can see which patients are likely to be discharge-ready soon and what is needed to expedite that process. This information is simultaneously visible to community nursing and social care teams, enabling follow-up or home support to be arranged without delay.

In practice, systems using this type of neighbourhood-wide discharge coordination have reported reductions in delayed discharges of 10–20% for targeted pathways, improving bed availability without increasing readmissions.

Virtual ward and “hospital at home” teams are integrated as well, monitoring patients’ vital trends and risk scores remotely and triggering escalation or hospital admission if a patient’s condition deteriorates. Operational managers and executives across the local ICS can also view common metrics and alerts, including overall bed occupancy, staffing pressures, or any service nearing capacity and coordinate responses together.

In New South Wales, including within the Sydney Virtual Hospital model, this shared operational awareness allows pressure to be actively balanced across acute, virtual and community services rather than absorbed locally and escalated reactively. As a result, pressure is balanced dynamically across the system, rather than each organisation operating in isolation and passing bottlenecks along.

“

At system level, neighbourhood flow and virtual hospital models have delivered reductions in average length of stay of 0.5–1.0 days for targeted patient cohorts, driven by earlier discharge readiness and coordinated action across acute and community services

Herefordshire and Worcestershire Health and Care NHS Trust

”

This approach has proven essential for the NHS's broader goal of "left shifting" care, moving healthcare delivery from acute hospitals into community and preventative settings. Initiatives such as Virtual Wards, Same Day Emergency Care (SDEC) units and neighbourhood multidisciplinary teams are designed to intervene early or deliver care at home, thereby reducing avoidable hospital admissions and improving patient conveyance.

However, these models can falter if they rely on disconnected digital tools. Monitoring a patient at home is only helpful if the data is integrated and clinicians have a clear pathway to act on issues in real time. Platforms that span both virtual and physical care ensure patients on a virtual ward receive the same attention (and swift escalation if needed) as those in hospital.

Alcidion's Miya Precision illustrates this approach by providing shared dashboards, automated alerts and risk-based prioritisation for clinicians overseeing virtual care. Routine tasks, such as reminding patients to take a reading, can be automated, while warning signs trigger appropriate responses — from video consultations and community nurse visits — to rapid hospital transfer.

Digital tools function as the nervous system of a distributed care model, enabling a "hospital without walls" to operate safely at scale. Beyond

technology, system-wide digital flow management requires a cultural shift.

When multiple organisations view the same real-time data and jointly manage patient flow, they begin to act as one team caring for the system as a whole.

Shared operational language and transparency build trust. For instance, understanding that if one hospital is in escalation, others will assist by optimising discharges or temporarily holding certain referrals.

Leaders move from thinking about "our hospital's performance" to collective stewardship of patient journeys. This mindset change is critical: the optimisation gap persists when institutions focus solely on internal improvement. The most forward-thinking systems recognise, as Alcidion puts it, that "*patient flow does not stop at the hospital door and neither should our digital thinking*". Closing the gap means deploying digital intelligence that connects people, pathways and decisions across the care continuum. Having an EPR is now the baseline; the next frontier is using integrated data and real-time insight to orchestrate care beyond the four walls of the hospital, improving both efficiency and patient outcomes across the board.

5. Continuous improvement – from EPR implementation to ongoing innovation

Many NHS Trusts have learned that go-live is just the beginning of the EPR journey. Once core digital capabilities are in place, organisations face the challenge of moving beyond basic functionality to unlock the full value of their systems. Without ongoing optimisation, workflows can remain inefficient, staff may revert to workarounds and patient care opportunities can be missed.

Optimisation is not a one-off project, but a continuous journey of refinement and extension. It involves regularly reviewing workflows, identifying friction points and improving processes to make them faster, more intuitive and more effective for clinicians and patients.

Examples from practice illustrate the impact of targeted optimisation initiatives:

- ▶ **Maidstone and Tunbridge Wells NHS Trust** extended the use of its EPR (Altera's Sunrise) by integrating automated vital signs monitoring into the digital workflow, saving nursing time on wards and enabling early warning scores to be calculated in real time.
- ▶ **Bolton NHS Foundation Trust** streamlined its referral process between hospital teams and community district nurses by configuring their use of

Sunrise EPR to support electronic referrals, reducing delays and paperwork.

- ▶ **Worcestershire Acute Hospitals NHS Trust** established a new, quality-assured EPR optimisation model, continually reviewing how clinicians use the system and rolling out improvements in a controlled, measured way.

These successes share a common theme: by refining existing EPR capabilities or adding modular new ones, the Trusts achieved tangible improvements – faster processes, better patient outcomes and notably happier clinicians, whose daily experience was improved rather than hindered by digital tools.



Several lessons emerge for sustainable optimisation. First, a modular, flexible EPR architecture is critical. When an EPR system is designed to be adaptable, allowing new modules, integrations, or user-interface tweaks without major upheaval, it can evolve with the organisation's needs.

Trusts can pilot new features or bolt-on solutions for things like electronic observations, patient self-service, or clinical decision support and scale up what works. Second, clinician engagement is paramount.

The most successful optimisations are often user-led: frontline staff help identify pain points and test new workflows, ensuring that changes truly solve the right problems.

This not only yields better designs but also fosters buy-in. Clinicians who have a voice in improvement become champions of the EPR rather than critics. Third, effective change management is necessary to translate new digital capabilities into routine practice.

Altera emphasises strategies including training "super-user" clinicians, clearly communicating the purpose and benefits of each change and providing on-the-ground support as new features go live. These methods drive higher adoption rates and lasting

impact, rather than temporary usage that fades after a project ends.

System C echoes many of these themes, stressing that optimisation should be **baked in** from the start of an EPR programme and relentlessly focused on benefits. In Trusts using System C's CareFlow EPR, every feature or process is tied to a real-world need or efficiency gain. Rather than rolling out technology for its own sake, the aim is to solve problems that clinicians and managers recognise.

This approach begins during initial implementation — a golden opportunity to redesign workflows. Too often, Trusts rush to meet go-live dates, merely digitising existing paper processes or accepting suboptimal configurations to get the system up and running. Using the momentum of go-live to standardise and simplify workflows, eliminate low-value steps, and replace chaotic paper forms with structured electronic documentation sets the stage for better adoption and easier optimisation later.



To support this, System C deploys a Clinical Transformation team alongside the technical implementation team. These clinicians and workflow specialists work with the Trust's own staff to map out actual patient journeys and identify friction points (for example, repetitive data entry across forms or delays in handing off tasks between departments). They then help configure the EPR in ways that address these issues, perhaps by enabling a single entry of data to populate multiple documents, or by activating modules like electronic prescribing or task management that remove reliance on paper. This clinically led, reality-grounded approach ensures that when the EPR goes live, it aligns with how staff deliver care and that new processes clearly address real pain points.

Even after go-live, ongoing optimisation is guided by robust benefits frameworks, which define and track concrete metrics and goals (e.g. reducing average clerking time by 30%, cutting transcription errors, or achieving 100% use of electronic orders in targeted areas).

By monitoring EPR usage and identifying where expected benefits are — or are not — being realised, the Trust can pinpoint where to focus next. Perhaps pathology orders are still being printed and need attention, or certain wards are underutilising electronic observations, signalling a training gap. Linking optimisation to measurable benefits also helps sustain

executive and clinical support, making the purpose of each improvement visible. When a new feature is introduced, staff understand its value: *"We're doing this because it will save 10 minutes per patient" or "this will reduce drug chart errors by half."*

The combined insights from these examples lead to a core lesson: optimisation is an ongoing, incremental process that thrives on user involvement and a focus on value. It succeeds when EPRs are treated not as static systems to install, but as platforms for continuous improvement. By regularly adjusting the system to better fit clinical workflows (and vice versa, tweaking workflows to leverage new digital tools), organisations maximise returns on their initial investment. In the end, the EPR works for the staff using it, delivering safer, faster and more integrated care, rather than requiring staff to work around it.



6. Integration and data quality – foundation enablers of optimisation

A persistent barrier to using EPRs effectively is the state of data and integration “under the hood”. Many hospitals reach a stage where the EPR is widely deployed and stable, yet the data remains fragmented or of inconsistent quality, limiting its usefulness beyond basic point-of-care documentation. In other words, the EPR may capture information during a clinical encounter, if that information is not structured, standardised, and shareable, it cannot easily support advanced decision support, population health analytics, or seamless exchange with other systems.

True optimisation, therefore, requires treating data quality and interoperability as strategic priorities, not just technical afterthoughts.

One key step is shifting from simply **capturing** information to creating data that is usable and reusable. Many experts, including SI-Squared, highlight the importance of aligning clinical data entry to national and international standards, such as SNOMED CT for clinical terminology and FHIR for data formats. In practice, this might mean using standard problem lists and coding diagnoses rather than allowing clinicians to free-text their own variations or recording observations like blood pressure in codified fields

instead of narrative notes. SI-Squared cautions, however, that imposing structured templates without clinician input can backfire: screens become cumbersome, and staff may develop workarounds that defeat the purpose. A better approach is to co-design electronic forms and workflows with clinicians, making structured data capture feel natural and efficient. When done correctly, this produces high-quality data **without burdening users**, allowing the EPR to deliver accurate allergy lists, problem histories and other critical data wherever it's needed (for example, in summary views, discharge documents, or analytics dashboards).

The other side of the coin is integration maturity. Even today, many Trusts rely on a patchwork of point-to-point interfaces between systems (for example, separate feeds from the EPR to radiology, pathology, PACS imaging and more). These interfaces are often brittle: they may not all use modern APIs or standards, and they require careful monitoring to ensure data actually flows. When an interface fails or a downstream system is updated, data can go missing silently. Such fragility constrains optimisation, as clinicians cannot trust a supposedly integrated system if results or orders frequently fail to transmit, forcing them to make phone calls or duplicate work.

Trusts should treat integration as a core competency and ongoing service, rather than a one-time IT project. This means investing in integration engines or middleware that can handle transformations and monitoring, simplifying the interface landscape where possible, and establishing clear ownership and responsibility for data flow. Integration efforts should be aligned with clinical priorities: identify the data exchanges most critical for patient care and ensure they are robust and real-time. Regular audits and performance tracking of interfaces: monitoring message volume, errors, or delays should become routine, much like monitoring vital signs for the digital infrastructure.

When organisations adopt the mindset of “data as a strategic asset” and “integration as an enabler,” the payoff extends far beyond the EPR itself.



Clinicians begin to trust the information in the system, because it is consistent and complete, whether it originated locally or from a partner organisation. They spend less time double-checking or re-entering data, which improves efficiency and reduces frustration. Operational teams can produce reliable reports and insights without manually collating data from multiple sources, because the data is already connected and standardised at the source. This also positions the organisation to plug into larger-scale initiatives, such as ICS-wide analytics or national registries, with far less effort. Instead of cleaning up data for each new project, they can “*build once, use often*”.

As interest in clinical and operational AI accelerates, it is becoming clear that the effectiveness and safety of AI in healthcare are fundamentally constrained by the quality of EPR optimisation. AI systems depend on timely, structured, standardised and trusted data, flowing reliably across pathways and care settings. Where EPRs are poorly optimised — characterised by inconsistent data quality, fragmented integration and heavy reliance on free-text or manual workarounds — AI tools struggle to perform safely or at scale.

In such environments, AI risks amplifying existing inefficiencies or introducing new safety concerns, rather than delivering meaningful benefit.

Conversely, organisations that have invested in optimising how their EPRs are used, improving data quality, interoperability and workflow alignment, create the conditions in which AI can be responsibly deployed.

Optimisation is not an alternative to AI adoption but a prerequisite for it.

Treating EPR optimisation as foundational digital infrastructure positions Trusts and Integrated Care Systems to adopt AI in a way that genuinely supports clinicians, enhances patient safety, and delivers system-level value, rather than adding complexity to an already pressured environment.

Medicines interoperability and intelligence present significant opportunities for EPR optimisation. Standardising transfers of care through FHIR messaging will enable more consistent use of structured dm+d medicines data and standardised dose concepts, improving medication safety as patients move between care settings. The Single National Formulary (SNF), a core NHS ten-year transformation initiative, will further support consistency of access to medicines and the uptake of new pharmacological and digital innovations. Organisations such as FDB play a critical role in enabling structured medicines concepts to be safely reused across workflows and systems.

Despite this progress, medicines data remains inherently complex and is still frequently captured in unstructured ways, limiting its value for clinical decision support, analytics and emerging intelligent systems. As interest in AI and ambient technologies grows, it is increasingly evident that these approaches are constrained by the quality and structure of the underlying medicines data. Continued focus on improving medicines data quality, standardisation and reuse will be essential if EPRs are to support intelligent, low-burden decision-making that enhances care without increasing clinician workload.



A striking example of integration enabling optimisation on a grand scale comes from Integrella's work in Northern Ireland's digital transformation. Northern Ireland's Health and Social Care (HSCNI) system undertook the ambitious *Encompass* programme to deploy a single regional EPR across all hospitals and community services, making it the first UK region to run a unified EPR for every citizen's health and care. For such a massive rollout to succeed, integration was critical: more than 30 different clinical and administrative systems (from labs to imaging to oncology systems) had to interface smoothly with the EPR. HSCNI could not afford disruptions, data loss, or accuracy issues during the phased go-lives from 2023 to 2025. Integrella designed and implemented the integration architecture to meet these needs.

Using a combination of an integration engine and EPR interface tools, they built a robust interoperability backbone that transforms and routes data between the EPR and all the legacy systems in real time. For instance, HL7 messages from lab systems are translated into the EPRs format and vice versa, ensuring test orders and results flow without manual entry. Rigorous testing and cut-over plans were applied at each stage, effectively treating each interface as its own project while keeping aligned with the broader programme timeline.

The outcomes in Northern Ireland underscore how seamless integration

can unlock the full value of an EPR. As each site has gone live, clinical staff have gained instant access to comprehensive patient information that was previously siloed. A&E doctors can view a patient's complete lab history and medications from across the region, while community nurses can see the hospital's notes and upcoming appointments within the same record. This real-time, unified view improves decision-making and patient safety; care is better coordinated when everyone is literally on the same page.

Administrative burdens have fallen as well. Data that once had to be printed, scanned, or retyped now flows automatically, freeing staff to focus on patients rather than paperwork. Once the rollout is complete, all of Northern Ireland's health records will be fully digital and interconnected, marking a major milestone in closing the optimisation gap at a regional level. It shows that when integration receives the attention it deserves, the result is not just one hospital using its EPR effectively, but an entire health system leveraging digital tools to work smarter together.

7. Conclusion: closing the gap through connection and continuous care

The experiences and strategies shared by EPR Network members deliver a unifying message: achieving the full potential of digital health requires looking beyond just installing an EPR. Success comes from connecting systems, people and data in an ongoing journey of improvement. While widespread EPR adoption has laid a strong foundation; the challenge now is using these systems well, turning digital investment into safer, smarter, and more integrated care.

Key lessons for closing the optimisation gap:

- ▶ **Optimisation must span the entire care continuum.** Sharing records across Trusts and care settings, whether via shared care record platforms or region-wide EPR deployments, ensures information follows the patient. This reduces duplication and delays, enabling truly coordinated care.
- ▶ **Good decisions depend on good data.** Investing in data quality (structured, coded and standardised information) and interoperability (robust, real-time integration between systems) is foundational. When data flows seamlessly and accurately, clinicians gain trust in digital systems and can leverage them for advanced analytics, decision support, and population health, all of which extend the EPR's value.
- ▶ **Preserve the full patient history.** Migrating or archiving legacy data and making it accessible through the current EPR keeps the patient's full story intact. Clinicians need this context for safe, effective care, and organisations gain richer datasets for research, planning, and future innovation.
- ▶ **Patient flow and service pressures span multiple services, and so must the digital tools used to manage them.** Implementing command-centre capabilities and shared dashboards that cut across ambulance, hospital, community, and virtual care enables the whole system to respond to surges and needs in unison. Proactive, predictive management of care pathways leads to better outcomes and use of resources.

- ▶ **Optimisation does not end at go-live.** Establish governance and continuous improvement teams, with strong clinical involvement to regularly identify and prioritise optimisations. Small, iterative changes, guided by user feedback and benefit metrics, compound over time, delivering meaningful gains in efficiency and user satisfaction. When staff see the system evolve to meet their needs, engagement soars.
- ▶ **Healthcare never stands still and digital systems must keep pace.** Select EPR platforms and complementary tools that can evolve over time, whether by adding new modules, integrating emerging solutions, or scaling up successful pilots. Pair this with robust change management: encourage safe experimentation, train users on new capabilities, and embed proven innovations into everyday practice.
- ▶ **Define what “using the EPR well” means in concrete terms.** For example, faster clerking, fewer medication errors, or reduced length of stay. Track these metrics consistently to guide optimisation priorities and to demonstrate the value of each digital improvement to clinical, operational, and executive stakeholders. Clear evidence of benefits builds momentum and strengthens the case for sustained investment in optimisation.

Closing the EPR optimisation gap is a collective endeavour. The NHS has laid a strong digital foundation through widespread EPR adoption; the next step is to build on that foundation through integration, collaboration and relentless improvement. The contributors to this paper, representing leading solution providers and NHS partners, demonstrate that the gap is not theoretical, but solvable. In Cambridge and Peterborough, shared records are giving clinicians across organisations a unified view of their patients. In Northern Ireland, a bold, system-wide integration effort is creating one of the world's first truly regional electronic records.

Across Trusts in England, from Bolton to Worcestershire to RJA, teams are innovating within and around their EPRs to make them work better for staff and patients. These are not isolated success stories; they are practical blueprints that others can adapt and scale.

Ultimately, “having an EPR” only becomes genuine digital transformation when every part of the system is connected and every user is empowered. Information flows with the patient. Clinicians spend more time caring and less time clicking or chasing information. Operational decisions are proactive and data driven. Patients tell their story once and know it will be heard by all who care for them. That is what using an EPR well looks like.

By learning from those at the forefront and committing to the principles outlined above, the NHS can ensure its investment in digital technology truly delivers — closing the optimisation gap and opening the door to safer, smarter, and more efficient care for all.

The drive to digitise healthcare through EPRs was never about technology for its own sake, it was about laying a foundation for safer, smarter, more integrated care. With that foundation now largely in place across the NHS, the critical task ahead is to build on it. The “optimisation gap” between having an EPR and using it well is real, but it is bridgeable. As we have explored, closing this gap is a systemic endeavour: it means not just connecting systems but aligning people, processes, and priorities around the opportunities digital tools provide.

There is cause for optimism. Where organisations have committed to optimisation, through shared records, modular innovation, intelligent data use, and strong governance, the benefits are clear. Patients experience more coordinated care. Clinicians recover valuable time, and reduce errors. Healthcare systems realise financial and operational gains that can be reinvested in frontline services. These successes, however, are not happening in every place uniformly. The challenge and the opportunity are to make these outcomes the norm rather than the exception.

All stakeholders have a role to play. NHS boards and executives must resist complacency once systems go live and continue to champion improvement. Clinical leaders and staff must continue to push for improvements and be willing to adapt workflows. EPR vendors and digital suppliers must continue breaking down walls between systems and co-create solutions, recognising that interoperability and usability are collective responsibilities. National bodies can accelerate progress through standards, funding incentives, and shared learning.

Success will be reached when “digital transformation” is no longer an abstract ambition but an everyday reality on wards and in clinics. When clinicians can say, with confidence, that digital systems make their job easier and patient care better nearly all the time. This is a journey the NHS has already begun and momentum is building. HIC's EPR Network and its members are committed to supporting this journey by sharing insight, challenging assumptions, and helping scale what works.

Improving EPR use is not just an IT project; it is a shared mission to ensure digital investments truly serve those who deliver and receive care. The tools are already in our hands. What matters now is how we use them. Let's make “having an EPR” genuinely synonymous with improving care — because the health of our patients and the sustainability of our health system, depend on it.

Moving from insight to action requires clear ownership and a focused, time-bound agenda. Over the next 6–12 months, Trusts and Integrated Care Systems should move beyond ad hoc improvement initiatives and establish a deliberate optimisation programme, aligned to system priorities. This involves answering three leadership questions.

1. Who owns EPR optimisation?

Not as a one-off project, but as a continuous discipline spanning clinical workflows, user experience, and benefits realisation.

2. Who is accountable for data quality and usability?

Ensuring information is structured, standardised, and trusted to support safe care, operational decision-making, and future innovation, including AI.

3. Who owns cross-boundary flow?

Coordinating of patients, capacity, and information end-to-end across acute, community, virtual, and social care settings.

Without named ownership at both organisational and system level, optimisation efforts risk remaining fragmented and reactive. Where these responsibilities are clearly defined, supported by governance, clinical engagement and measurable outcomes, organisations are far better placed to translate their EPR investment into sustained improvements in care quality, workforce experience and system performance.

Achieving this is not the work of any single organisation, Trust, or supplier. It requires sustained collaboration, shared learning, and honest dialogue across the NHS and its technology partners. Healthcare Innovation Consortium (HIC), through its EPR Network, exists to support this collective endeavour by providing a neutral, trusted forum for sharing challenges and successes. By bringing together NHS leaders and digital suppliers, HIC helps lessons learned at Trust and system level to be exchanged, compared and scaled, avoiding repeated mistakes and accelerating progress.

It also bridges frontline experience with national strategy, ensuring the realities of EPR improvement inform policy, standards and future investment. As the NHS shifts from deployment to optimisation, such collaborative platforms will be essential in turning isolated successes into common practice.



Join the conversation

As a next step, we invite you to share your experiences and perspectives. The themes explored in this paper, from integrated care records to AI in workflows, are regularly discussed at national and regional EPR events delivered by the Healthcare Innovation Consortium (HIC) in collaboration with [Convenzis Group](#). These events bring together NHS leaders, clinicians and industry experts to explore best practice and lessons learned in EPRs. We encourage you to attend, contribute your insights and help shape the next chapter of digital health transformation ([see EPR event details](#)).

Members of the EPR Network

Founding sponsor





About Healthcare Innovation Consortium (HIC)

HIC is a leading independent digital health consultancy that helps organisations design, implement, and scale healthtech solutions that improve patient outcomes and system efficiency. With a mission to put people at the heart of digital transformation, HIC works across the public and private sector to drive meaningful innovation.

To learn more about HIC's EPR consultancy services, visit:
www.hicdigital.co.uk/nhs-epr-transformation/



About Capgemini

Capgemini is a global consulting and digital transformation leader, serving as the Strategic Technology Partner and Founding Sponsor of HIC's EPR Network. Together, they will provide strategic expertise and help drive EPR adoption, interoperability, and digital maturity across NHS Trusts through collaboration and Specialist Interest Groups.



About the Electronic Patient Record Network

This whitepaper is brought to you by the Electronic Patient Record (EPR) Network, an industry-funded community founded by Hadleigh Stollar, Chief Executive at Healthcare Innovation Consortium (HIC). Recognising the need for a unified platform, Hadleigh launched the EPR Network to bring together EPR vendors, suppliers, and health innovators

— building stronger partnerships with each other and with the NHS to accelerate progress in digital healthcare. The network's mission is to shape and influence policy around EPRs, while fostering meaningful collaboration that improves patient care through better use and integration of digital systems across the health ecosystem.

If you're interested in learning more or joining the network, visit:
www.hicdigital.co.uk/epr-network/