Healthcare Innovation Consortium

ORION HEALTH

A National Blueprint for the Single Patient Record: From Shared Care Records to Federated, Writeable and Futureproof NHS Infrastructure

WHITE PAPER //

Co-authored by Orion Health and Healthcare Innovation Consortium

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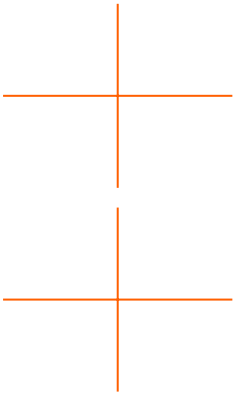

For over a decade, Shared Care Records (ShCRs) have provided a crucial step forward in enabling more joined-up care across England's complex health and care system. These systems have allowed clinicians and professionals to access a more complete picture of the individuals they serve - faster, more accurately and across settings. They have marked the NHS's transition from analogue to digital, from locally held records to cross-organisational information-sharing and from episodic care to the early stages of integrated, continuous care. The creation of ShCRs has shown that data can flow, that interoperability is achievable and that collaboration is no longer aspirational, it's happening on the ground. ShCRs connect GPs and acute providers, local authorities and mental health services, even third-sector organisations and out-of-hours providers - giving rise to what many now take for granted: the idea that no health and care professional should act in isolation.

However, ShCRs were never designed to be interactive, writable or canonical. They were built as read-only viewers, aggregating data through scheduled feeds, transforming siloed records into composite snapshots. They were, and remain, indispensable, but they are not the destination. As the NHS moves into a new phase of digital maturity, the question is not whether data can be shared, but whether it can be structured, authored and acted upon across the entire care ecosystem in real time. It is within this context that the Single Patient Record (SPR) emerges. Not as a reinvention, but as a strategic evolution. The SPR is not simply a more ambitious version of a shared care record; it is a federated, real-time, bi-directional infrastructure that allows data to be authored once, trusted everywhere and governed locally while accessed nationally. It transforms shared viewing into shared accountability, enabled and supported by the ShCR.

The SPR recognises that the NHS doesn't need another platform. It needs a new foundation. One that allows data to move as fast as care does. One that replaces nightly ETL feeds with live event streams. One that allows community nurses to update care plans, ambulance crews to document interventions, pharmacists to annotate medications and patients themselves to contribute directly to the narrative of their own care. Crucially, this is not only a matter of technical architecture, but also a matter of clinical safety, patient empowerment and system-wide sustainability.

This vision doesn't come with blueprints for perfection. Instead, it draws on real-world experience: of bridging technical silos, earning clinical trust and delivering meaningful data where it matters most: at the frontline of care. It recognises the value of iteration, of working with what already exists rather than rebuilding from scratch and of listening to both clinicians and citizens. What underpins it is a common belief: that the SPR is no longer optional. It is not a distant aspiration, but a logical, credible and necessary next chapter in the NHS's digital journey.

Orion Health is now poised to take the next step, presenting a vision shaped in close collaboration with our client community of digitally mature systems, clinical leaders and technology partners who, over many years, have laid the foundations for true integration.

And most importantly, it is deliverable now.

Why a Single Patient Record and Why Now?

Despite major advances in interoperability, data integration and standards adoption, many parts of the country still lack a complete, up-to-date and actionable view of the patient at the point of care. While ShCRs are enabling this in some Integrated Care Systems - with leading examples such as Devon and Cornwall and Derbyshire already digitising care planning within their ShCRs, this remains far from a universal reality.

Nationally, important observations made by community nurses, paramedics or care coordinators are still too often lost in silos, delayed by outdated integration mechanisms, or stored in read-only systems. Care plans exist, but in many areas, they remain fragmented, rarely structured and even more rarely visible in real-time to the full care team. Citizens increasingly expect to contribute to their records, yet consistent and accessible channels to do so are not the norm.

The implications are both clinical and systemic. Decisions are made with partial information, increasing risk and inefficiency. Transitions of care are hindered by duplication or gaps. Too often, the NHS bears the downstream cost of data not being available at the point of need. At the same time, demand for integrated, intelligent healthcare has never been greater: rising multimorbidity, ageing populations and pressure on urgent care require better coordination, earlier intervention and data that is fit for secondary uses - from population health management and research to real-time service optimisation.

The SPR addresses this national challenge directly. It is not a new application or product, but a federated record architecture that enables authoritative, writeable, real-time data to be available wherever care happens - and under the governance of the systems best placed to own it. Crucially, it builds on what is already working. Across England, ShCRs - particularly those delivered through mature ICS programmes - are already proving the value of connected, multi-setting information sharing. In many areas, they are doing more than providing read-only access; they are enabling structured, writeable records such as digitised care plans, with tangible benefits for patients and professionals. However, these successes remain largely bounded by ICS footprints.

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Nationally, the picture is inconsistent: the ability for data to follow the patient seamlessly across regional and organisational boundaries is still the exception, not the rule. The SPR offers a way to scale the benefits already realised within ICSs to a truly national level, ensuring that the secure, real-time data flows powering improved care in leading regions become standard practice everywhere in the NHS.

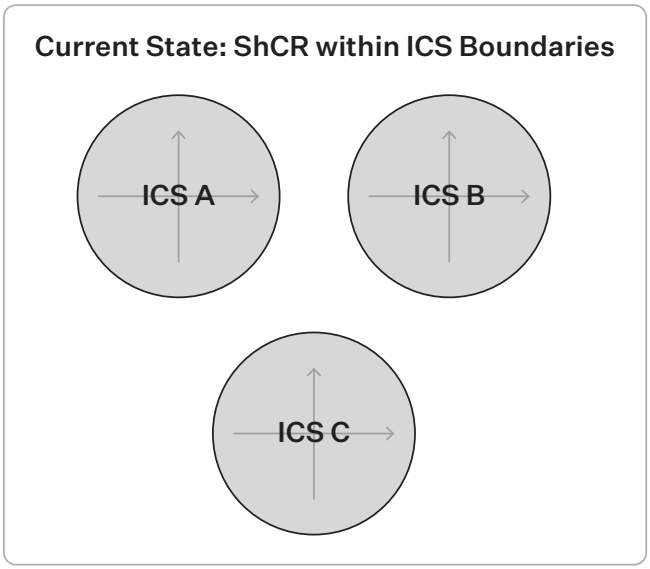
The challenge is not whether connected care is possible - ShCRs prove it is - but whether we can extend that capability across the entire NHS so every patient’s record can move with them, wherever they are.

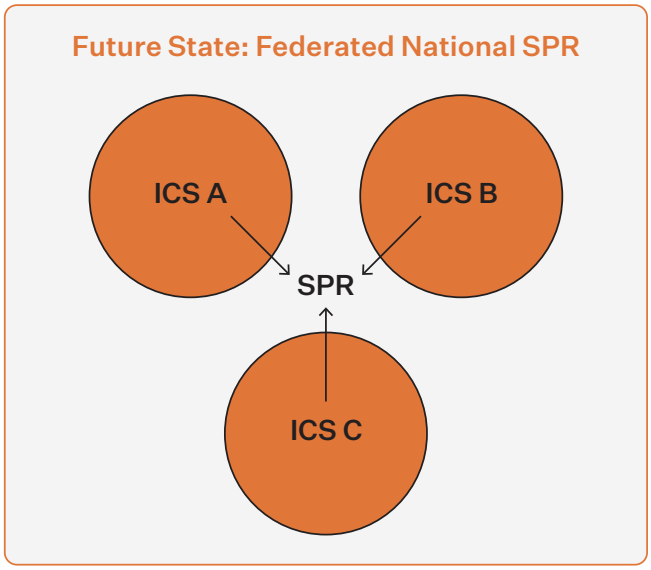
A Federated Approach: Building on What Already Works

The vision of the SPR is grounded in a clear principle: we do not need to start again. Across England, Shared Care Records are already in operation, delivering real value to clinicians, professionals and patients. Many of these records - particularly those powered by Orion Health - already support real-time, multi-setting access, integration with the NHS App and National Record Locator and scalable interoperability with local and national platforms.

The SPR proposes that these existing ShCRs become SPR-compliant nodes - evolving incrementally from read-only viewers into writeable, standards-based components of a larger federated ecosystem. This ecosystem would respect local data governance, allow data to remain at source and connect nodes through a consistent API infrastructure underpinned by national standards (e.g. openEHR, FHIR and SNOMED CT). This model avoids the cost and risk of system replacement. Instead, it supports progressive convergence, enabling each ICS, Trust or GP Federation to extend their digital estate into the SPR model at a pace that suits their readiness, capacity and priorities.

Crucially, this federated model provides the missing link between today's ICS-level successes and a truly national system. By connecting SPR-compliant ShCR nodes across boundaries, we can ensure that the same real-time, structured data already benefiting patients and clinicians locally can move securely and seamlessly wherever care is delivered.

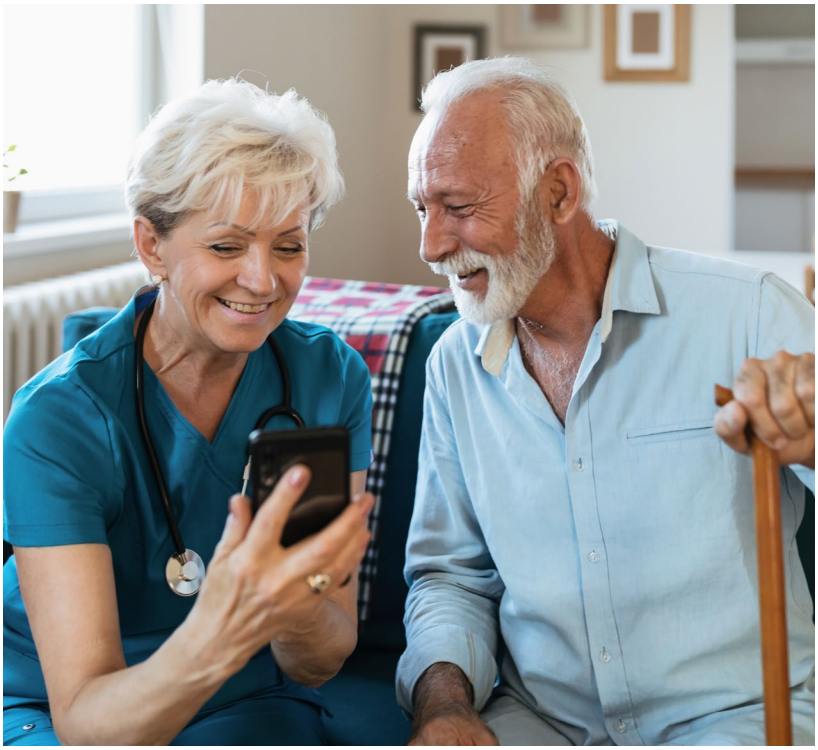




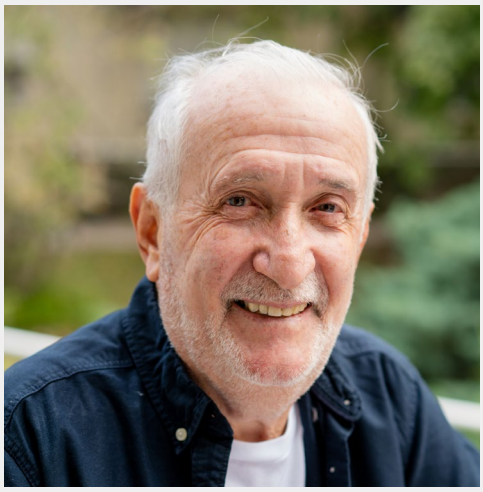
From Use Cases to Impact: Why the SPR Makes a Difference

The case for the SPR is not theoretical. It emerges from repeated, real-world scenarios where today's systems fall short. Across our community of Orion Health clients, we have documented numerous examples where a federated, writeable record could have prevented duplication, enabled faster decisions, or improved patient outcomes. Each of these use cases is more than a story about individual care. They are signals of a system ready for transformation. The fragmentation they reveal is not due to a lack of intent or capability, but a misalignment between the ways care is delivered and the way information is designed to move.

These scenarios do not just demonstrate clinical inefficiency, but lost opportunities for prevention, personalisation and partnership with the patient. What unites them is the need for a record that can follow the patient - not just across settings, but across time, teams and touchpoints. The SPR offers precisely this: a unified data layer that supports continuity without centralisation, authority without bureaucracy and agility without compromise. It allows us to move from viewing the record as a source of information to understanding it as a living asset, authored collaboratively, governed locally and made meaningful through use. The impact is cumulative: each use case that benefits from the SPR strengthens the case for broader adoption, moving us steadily toward a system that is not only connected, but continuously learning and improving.



Use Case – Long-term condition management



"John" - a 67-year-old man with multiple long-term conditions. After a deterioration at home, he is visited by a paramedic who lacks access to his most recent care plan. The ambulance team transports him to A&E, where clinicians must rely on disparate, sometimes outdated systems to reconstruct his history. The pharmacist must phone his GP to confirm insulin dosing. Discharge information is delayed in reaching community teams. Each step involves unnecessary repetition, clinical uncertainty, or delay.

Under the SPR model, John's care would be documented once - in structured, canonical form - and immediately accessible across settings, regardless of geography. While today's ShCRs can already provide this visibility within an ICS, gaps emerge when care crosses regional boundaries. For example, while visiting family outside his local area, John is taken ill and attended by a paramedic who cannot access his home ICS record. Under the SPR, the community nurse's recent observations from John's home area would be visible to that paramedic in real time. The paramedic's scene report would follow him to the local A&E, where clinicians could view his complete, up-to-date care plan. His discharge summary would be published directly to the SPR and instantly shared with his GP, pharmacist and social worker back home. Importantly, John himself could contribute - correcting outdated information, sharing preferences and viewing updates through citizen-facing platforms like the NHS App. This is just one use case. Others include:

- Mental health crisis response, where real-time visibility of risk factors, care plans and safety alerts is vital.
- Transitions from hospital to community, where shared discharge summaries and medication records are essential for continuity.
- Multi-agency safeguarding, where professionals across education, health and social care must collaborate around the same individual.

Together, these use cases represent a powerful argument for action - and thanks to the foundational work of ShCR programmes, the enabling infrastructure is already in place within ICS boundaries. The next step is to extend this proven capability beyond regional limits, using ShCRs as the building blocks for a nationwide infrastructure that creates a record able to follow the patient wherever they receive care.

Technical and Governance Principles

The SPR is not merely a digital upgrade or another technology procurement exercise. It represents a fundamental rethinking of how health and care data is structured, governed and mobilised across the NHS. At its heart, the SPR is a platform for trust - trust between professionals, between systems and between citizens and the state. To realise this vision, the SPR must be underpinned by a robust, future-facing framework of technical and governance principles. These principles are not abstract ideals. They are practical design commitments that will ensure the SPR is safe, scalable, interoperable - and worthy of the confidence placed in it by patients, professionals and the public.

The SPR cannot rely on goodwill or incremental fixes; it must be underpinned by deliberate, tested principles that ensure both technical coherence and public trust. It is this foundational thinking - about how data is authored, governed, shared and safeguarded - that will determine whether the SPR delivers on its transformative promise.

The SPR will require more than ambition. It demands a foundation of carefully considered future-proof principles. These are not optional design preferences, but essential building blocks that define what makes the SPR safe, scalable and trusted. Each principle reflects the lessons learned from existing shared care record infrastructure, while setting a higher bar for what comes next.

1. Authoritative, Writeable, Standards-Based Data

At its core, the SPR must enable clinical and operational data to be authored once, structured correctly and trusted everywhere it is used. Unlike many of today's read-only shared views or nightly data extracts, the SPR must operate in real time, supporting live write-access across care settings nationally. This means moving from document storage to data-level interoperability, using open standards such as FHIR, open EHR and SNOMED CT to ensure that data is machine-readable, semantically consistent and clinically useful. Structured care plans, vitals, medications and risk scores must flow freely, without compromising safety or meaning.

2. Federated Architecture with Local Data Ownership

Data governance in the SPR must reflect the federated nature of the NHS. The record is "single" not because it is centralised, but because it is unified at the point of use. Each participating organisation, whether a GP practice, acute Trust, community service or social care provider, must retain control over the data it authors, with clear provenance and legal accountability. Rather than mirroring or duplicating data, the SPR architecture should allow data to be held at source and exposed securely via open APIs. This ensures alignment with national guidance on data minimisation and privacy, while enabling seamless access when and where it is needed.

3. Semantic Consistency and Version Control

In a federated model, consistency is everything. The SPR must enforce semantic alignment across systems, so that terms, codes and values have the same clinical meaning wherever they appear. Without this, data loses its integrity and becomes a liability rather than an asset. Equally, the SPR must support version control and auditability. Data must be traceable to its source, with a clear record of who authored it, when it was updated and whether it has been superseded. These capabilities are essential not only for clinical safety but for medico-legal defensibility and trust.

4. National Integration by Design

The SPR cannot exist in isolation. It must be natively integrated with national platforms such as the NHS App, the Federated Data Platform, the National Record Locator and relevant clinical knowledge services. This is essential to prevent duplication, ensure consistency and create a seamless experience for both professionals and patients. Moreover, alignment with national data strategy ensures that SPR investments contribute to wider NHS transformation goals, including research, analytics, AI enablement and operational improvement, without compromising front-line performance.

5. Citizen Control, Consent and Participation

Finally and critically, the SPR must be a tool for citizen empowerment - not just clinical efficiency. Patients must have the ability to view, contribute to and consent to the use of their data in ways that are meaningful and transparent. This includes access via familiar tools like the NHS App, the ability to correct outdated information and a clear understanding of how their data is used and shared. Privacy by design must be embedded from the outset, not retrofitted later. A Single Patient Record that fails to earn public trust is not a single patient record at all, it is a risk. The SPR must therefore be built with people, not just systems, in mind.

To deliver on these principles, national leadership must play an active and enabling role. Not by prescribing every detail, but by providing the architectural guardrails, investment frameworks and policy clarity needed to support local implementation. Success will depend on meaningful collaboration between NHS England, DHSC, ICSs, providers, technology suppliers and patients themselves. The SPR cannot be mandated into existence. It must be co-designed, iteratively tested and jointly governed. This is a moment for bold, thoughtful stewardship. One that recognises that governance and infrastructure are not constraints, but enablers of a safer, smarter, more joined-up NHS.

From Vision to Action

The opportunity now is to extend the proven benefits of Shared Care Records beyond ICS boundaries, creating a single, federated patient record that follows the citizen wherever care is delivered. The case for the Single Patient Record is not one of technology alone. It is a case for modernisation, for clinical safety, for citizen empowerment and for system sustainability. It is a case for finishing what Shared Care Records started: the transition from fragmented, episodic care to true continuity, delivered through federated, structured, real-time data.

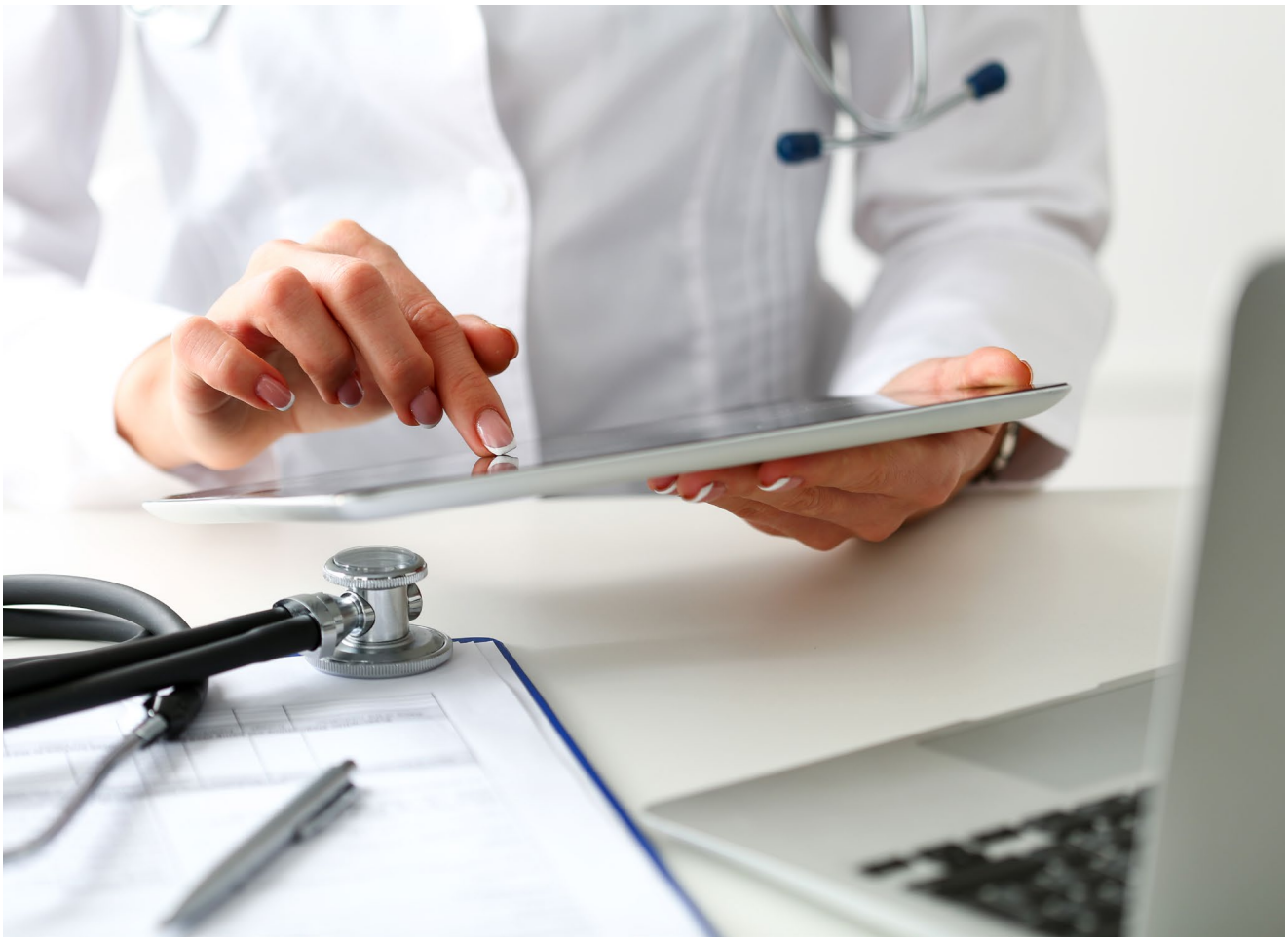
> *“ It is a platform for care, for insight, for improvement, and for innovation.*

We are no longer at the stage of asking whether such a model is needed. The answer is resoundingly clear: the NHS cannot afford to delay. Even where care plans and patient information have been digitised within Shared Care Records, they are too often confined within ICS boundaries. This means that when care crosses regions - whether for urgent treatment, specialist referral, or simply because a patient moves or travels - critical information can remain locked in local systems. The result is that frontline professionals still work with partial information, patients must repeat their stories and continuity of care is disrupted. The NHS of today demands systems that connect seamlessly across boundaries, matching the realities of how care is delivered and making the most of the data we already hold.

The SPR is the logical culmination of more than a decade of digital investment. It is the next natural step - not a replacement, but an evolution. It builds on the credibility, connectivity and capability of the Shared Care Record infrastructure that already exists in many parts of the country. It invites us not to discard what works, but to enhance it - to build on foundations laid by countless ICS teams, digital leads, clinicians and suppliers who have worked tirelessly to get us this far. But it also demands something more: a shift in mindset. The SPR is not just a technical architecture - it is a new model of trust. Trust in clinicians to contribute structured, meaningful data. Trust in systems to federate information safely, without compromising control. Trust in citizens to engage, consent and contribute. And trust in national stewardship to provide the frameworks, investment and alignment necessary for real progress to take hold.

What we propose is not a product, but a platform - a way of thinking and working that connects the whole NHS, from front door to back office, from the GP to the pharmacist to the social worker and from local authorities to national regulators. It is a platform for care, but also for insight, for improvement and for innovation. By enabling data to flow responsibly and in real time, the SPR becomes the enabler for population health, AI adoption and service transformation – and, crucially, a platform that empowers patients to actively shape and contribute to their own care.

This is a rare moment. The SPR is no longer a distant ambition or a policy aspiration. It is technically viable, clinically necessary and operationally urgent. The foundations are in place - in the infrastructure, in the standards and in the mindset of those ready to lead.



Guided by long-standing collaboration with NHS ICSs, Orion Health's vision channels a collective appetite for action and system-wide progress. We are not starting from scratch. We are starting from strength. We bring not blueprints, but experience - of interoperability done well, of clinician trust earned over time and of change delivered with pragmatism and purpose. We understand what it means to evolve carefully, to iterate fast and to scale what works. With national partners - NHS England, the Department of Health and Social Care and other delivery organisations – we have the opportunity to show what's possible: a Single Patient Record that is federated, writeable, trusted and truly transformative.

It's time to move from vision to action - not in years, but in the months ahead. Because the SPR is not just about solving today's interoperability challenges. It is about reimagining what a connected, citizen-centred NHS can become. By building on the success of Shared Care Records and connecting them across ICS boundaries, we can make truly joined-up care the norm across the NHS - not just where geography allows, but wherever the patient is.

And the time to begin is now.

Orion Health supplies the world's #1 health data platform, protecting over 120 million precious patient records worldwide.

Healthcare Innovation Consortium is a leading independent digital health consultancy that helps organisations design, implement, and scale health tech solutions that improve patient outcomes and system efficiency.

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