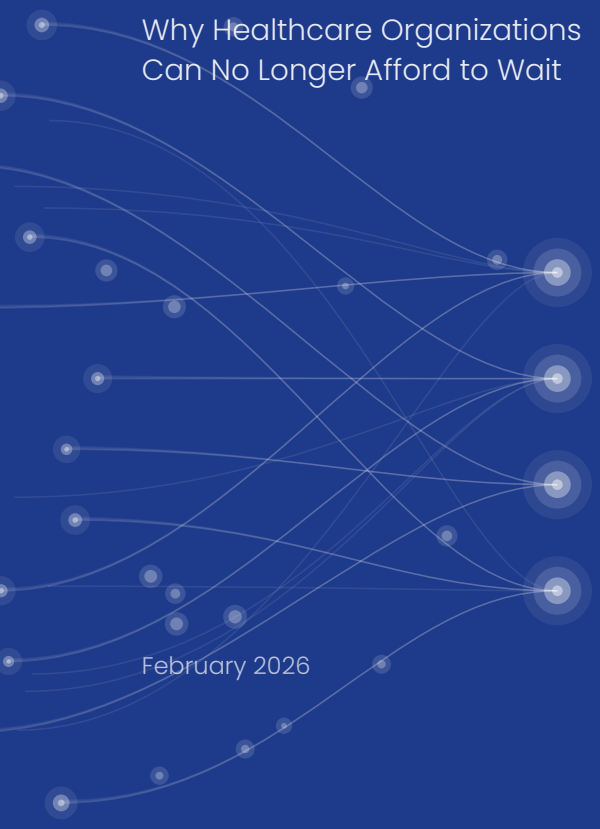
metriport

OPEN-SOURCE HEALTHCARE DATA EXCHANGE

THE INTEROPERABILITY IMPERATIVE

Why Healthcare Organizations Can No Longer Afford to Wait



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WHITE PAPER

Healthcare is at an inflection point. Organizations that educate themselves and invest in the modern interoperability infrastructure of today will become the leaders of tomorrow, across the spectrum in care delivery, as well as in value-based care.

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96%+
U.S. Coverage

750K+
Providers

1 Hour
Saved Per Patient

EXECUTIVE SUMMARY

96%+

U.S. Patient Coverage

1 Hour

Saved Per Patient

~20%

Risk Model Improvement

Days

To Full Integration

Healthcare interoperability has evolved from a compliance checkbox to a strategic imperative. Organizations that leverage modern data exchange infrastructure are seeing measurable improvements in clinical efficiency, patient outcomes, and operational costs.

Those that delay adoption risk falling behind in an increasingly data-driven healthcare landscape. This white paper examines the current state of healthcare interoperability, the regulatory and technological forces reshaping data exchange, and practical frameworks for organizations seeking to modernize their approach to patient data access.

Drawing on real-world case studies from leading healthcare innovators, we explore how modern interoperability solutions deliver measurable impact on patient care, provider performance, and the bottom line.

> **Key Insight**
>
> Organizations investing in interoperability infrastructure today are not just solving compliance requirements, they are building the data foundation required for AI-powered clinical decision support, value-based care success, and competitive differentiation in the decade ahead.

01 The Current Landscape

A Pivotal Moment for Healthcare Data

Healthcare systems are more connected than ever, yet data fragmentation remains a persistent challenge. Studies have shown that incomplete or inconsistent data transmission between systems can lead to errors, unnecessary tests, and delays in treatment.

The landscape is rapidly evolving. TEFCA went live in December 2023, and as of late 2025, eleven Qualified Health Information Networks (QHINs) have been designated, more than double the initial cohort. FHIR R4 has become the de facto standard for healthcare data exchange.

Regulatory Momentum

2025-2026 marks some of the most transformative policy shifts in a decade. Information Blocking enforcement is reshaping how data must flow. The CMS Hospital Readmissions Reduction Program continues to penalize facilities with excess readmission rates.

Value-based care arrangements are accelerating the need for complete patient data across settings. Organizations without modern interoperability infrastructure find themselves at a significant disadvantage in quality measurement, care coordination, and reimbursement optimization.

- **Information Blocking Rules:** Strict enforcement of the 21st Century Cures Act provisions with defined exceptions and significant penalties for non-compliance
- **TEFCA Expansion:** Six exchange purposes now supported including: treatment, payment, healthcare operations, public health, and government benefits determination

The Cost of Inaction

For organizations that have not prioritized interoperability infrastructure, the consequences are becoming increasingly tangible. Clinicians lack complete patient histories. Care coordination breaks down during transitions. Quality metrics suffer without comprehensive data.

The competitive gap is widening. Organizations with modern data infrastructure can offer same-day appointments with full patient context, while others still require days of preparation. This directly impacts patient satisfaction, provider efficiency, and market positioning.

> *Interoperability is literally at the center of everything. We need to make sure we feed correct and complete data to these AI algorithms so they can give good clinical decision-support outcomes.*
>
> – **Dr. John Dempsey** CMO, EDS Clinic

02 Efficiency at the Point of Care

Information Overload vs. Information Access

A paradox exists in modern healthcare: clinicians are simultaneously drowning in data while lacking the specific information they need at the moment of care. Studies show that 71% of U.S. physicians agreed that the volume of patient data available was overwhelming.

Traditional approaches to medical record retrieval are fundamentally broken. Organizations report receiving 100-200 page faxes from other providers, raw documents requiring extensive manual searching to find relevant information. This wastes clinical time and increases risk.

The problem isn't just volume; it's relevance and timing. Clinicians need the right information at the right moment, presented in a format they can quickly consume and act upon.

> *Before using modern interoperability tools, getting historical medical records was extremely difficult. On average, our team spent one hour per patient trying to chase down records, often with incomplete results.*
>
> – **Mike Gleichman** CPO, knownwell

Intelligent Data Aggregation

Modern interoperability platforms don't just aggregate data; they transform it. The difference lies in processing capabilities: standardization, normalization, deduplication, enrichment, and medical code crosswalking.

- **Consolidated Summaries:** AI-powered analysis transforms hundreds of pages into actionable summaries clinicians can review in seconds, highlighting relevant history and potential concerns
- **Structured + Unstructured:** Advanced processing handles coded data, clinical notes, discharge summaries, imaging reports, and pathology results in unified format
- **Standards-Based Output:** Data delivered in FHIR R4 with ICD-10, SNOMED CT, LOINC, and RXNORM coding for seamless integration with clinical workflows
- **Real-Time Access:** Patient records available within minutes of query, enabling same-day appointments and informed clinical decision-making

> *Our clinicians get the full, highly optimized summary at their fingertips, so that within 20 seconds, they're able to skim through it and see the full picture of patient history.*
>
> – **Brian Shi** Director of Product, WeightWatchers

03 Measurable Impact on Care & Operations

Quantifying the Value

The business case for modern interoperability extends far beyond compliance. Organizations implementing comprehensive data exchange solutions report measurable improvements across operational efficiency, clinical quality, and revenue cycle performance.

1 Hour	$16K	21%
Saved Per Patient	Avg Readmission	Reduction

Operational Efficiency

One organization serving patients with complex conditions previously required days to prepare for visits. After implementing modern interoperability, they can see patients who booked last-minute appointments. Records populate within minutes, not days.

Staff previously dedicated to manual record retrieval can be redeployed to higher-value patient care activities. The administrative burden of phone calls, faxes, and portal navigation is dramatically reduced.

- **Reduced Administrative Burden:** Elimination of manual record requests, portal navigation, fax processing, and phone-based coordination with other providers
- **Improved Scheduling:** Ability to accommodate same-day appointments with complete patient context, improving access and patient satisfaction
- **Scalable Operations:** Infrastructure that supports growth without proportional staff increases, critical for organizations in expansion mode

Clinical Quality Impact

Complete medical histories enable more accurate diagnoses, appropriate treatment selection, and safer medication reconciliation. Organizations report finding critical data points that patients themselves don't have on hand: previous allergies, surgical history, imaging results.

> *Metriport has addressed two critical challenges: comprehensive record coverage and operational efficiency. By saving us an hour per new patient, we've dramatically improved our operations and patient experience.*
>
> – **Mike Gleichman** CPO, knownwell

04 Patient Monitoring & Transitional Care

The Readmission Challenge

Hospital readmissions represent one of healthcare's most persistent challenges. In 2023, the average cost of a 30-day readmission reached $16,037 per patient. Medicare spends an estimated $26 billion annually on readmissions, with a significant portion considered preventable.

The root causes are well understood: insufficient post-discharge follow-up, medication mismanagement, inadequate communication between providers, and lack of timely access to patient information during care transitions.

ADT Monitoring: Real-Time Awareness

Admission, Discharge, and Transfer notifications represent a transformative capability. Real-time patient notifications actively monitor patients across health systems, triggering care coordination workflows automatically when patients are admitted or discharged.

This enables proactive outreach rather than reactive discovery. Care managers learn about patient encounters within hours, not days or weeks, when intervention is most effective.

- **Proactive TCM:** Automated alerts enable Transitional Care Management through timely post-discharge information and contextualized patient contact within 48 hours
- **Care Gap Closure:** Real-time awareness of patient encounters across the care continuum enables immediate follow-up and coordination
- **Population Health:** Aggregate monitoring for risk stratification and proactive resource allocation to patients most likely to benefit from intervention

Medication Reconciliation

Modern interoperability solutions provide direct pharmaceutical data from PBMs and pharmacies - including cash pay prescriptions that don't appear in traditional claims data. This comprehensive medication intelligence enables accurate reconciliation and identifies potential drug interactions.

Integration with premium pharmaceutical data integrations provides real-time prescription fill data, giving providers visibility into medication adherence and enabling informed clinical conversations.

05 Modern Technology Architecture

Beyond Data Aggregation

Not all interoperability solutions are created equal. Legacy approaches often function as wrappers around existing infrastructure, adding latency and limiting control over data quality. Modern architecture requires direct integrations with Health Information Exchanges.

750K+	128K	45K
Providers	Facilities	Hospitals

Integration Flexibility

Effective solutions must adapt to existing workflows rather than forcing organizations to change how they operate. This means supporting multiple access modalities: native EHR applications, standalone dashboards, API access, and data warehouse connectivity.

Organizations should be able to consume data through their preferred platform, whether that's Snowflake, BigQuery, Redshift, or direct API integration into custom applications.

Key Technical Differentiators

- **Direct HIE Integrations:** Native connections to national networks (Carequality, CommonWell, eHealth Exchange) without intermediary dependencies or added latency
- **Data Processing Pipeline:** Standardization, normalization, deduplication, enrichment, not just aggregation. Medical code crosswalking across coding systems
- **FHIR-Native Architecture:** Built on modern standards rather than retrofitted to support them. Full FHIR R4 compliance with CDA/C-CDA conversion capabilities
- **AI/ML Capabilities:** Analysis of structured and unstructured data for clinical intelligence, automated summarization, and care gap identification
- **Open-Source Foundation:** Transparency, auditability, and community-driven innovation. No vendor lock-in or proprietary data formats

Compliance & Security

Direct integrations afford greater control over system reliability and data quality. Organizations should expect SOC 2 Type II certification, HIPAA compliance, and enterprise-grade security with encryption at rest and in transit.

06 Evaluating Interoperability Partners

Critical Questions to Ask

Organizations evaluating interoperability solutions should move beyond feature comparisons to understand architectural decisions and their implications for long-term success.

- **Network Connectivity:** Are integrations direct to HIE networks, or routed through intermediaries that add latency and potential points of failure?
- **Data Processing:** Does the solution provide true normalization and deduplication, or simply pass through raw data requiring additional processing?
- **Technology Stack:** Is there an open-source component enabling transparency and avoiding vendor lock-in?
- **Integration Options:** Can it adapt through multiple modalities (API, EHR apps, dashboard) to fit existing clinical workflows?
- **Support Model:** Is there direct access to engineering teams for integration support and technical troubleshooting?

What Leaders Prioritize

When WeightWatchers evaluated vendors, they tested multiple solutions and identified four critical factors: comprehensiveness of data coverage, usability of technology, pricing structure, and direct access to engineering teams.

> *The mindset of 'let's figure out how to use all this data the way we need it, rather than having pre-defined workflows' was very powerful. You can make an easy argument for choosing the best solution among all options available.*
>
> – **Brian Shi** Director of Product, WeightWatchers

Implementation Considerations

Time-to-value matters. Organizations should expect rapid onboarding, days to weeks, not months. The complexity of joining national HIE networks shouldn't fall on the healthcare organization; that burden should be handled by the vendor.

Look for partners who can demonstrate production deployments with similar organizations and provide reference customers willing to share their implementation experience.

07 Conclusion: The Time Is Now

Healthcare is entering a decade where standards, intelligence, and automation will determine who leads and who lags. TEFCA, FHIR, and cloud-native architectures are becoming non-negotiable foundations. The organizations that build robust interoperability infrastructure today are positioning themselves for competitive advantage in the long term.

The real advantage will come from governed, interoperable data, not model choice. Organizations cannot leverage advanced analytics, clinical decision support, or population health capabilities without first solving the data access problem. At this point, interoperability is the prerequisite.

For healthcare leaders evaluating their interoperability strategy, the question is no longer whether to invest, but how quickly and with which partners. The cost of delay, measured in clinical inefficiency, quality penalties, missed revenue opportunities, and competitive disadvantage - continues to compound.

The Bottom Line

Organizations that invest in modern interoperability infrastructure are not just solving today's compliance requirements. They are building the data foundation required for AI-powered care, value-based success, and sustainable competitive advantage. The decisions made in the next twelve months will define positioning and success in the decade ahead.

metriport

OPEN-SOURCE PLATFORM FOR
HEALTHCARE DATA EXCHANGE

96%+
U.S. Patient Coverage

750K+
Providers Connected

Open Source
Transparent Architecture

ABOUT METRIPORT

Metriport provides real-time access to comprehensive patient medical data. Healthcare organizations of all sizes leverage Metriport to automate their outside record retrieval process, gaining insights into prior patient medical conditions, physician notes, labs, medication histories, discharge summaries, and more.

KEY CAPABILITIES

- Single API integration to Carequality, CommonWell, eHealth Exchange for comprehensive coverage
- Native apps in popular EHRs: athena, Epic, Canvas, Healthie, Elation, Avon Health
- AI-powered medical record summaries and clinical intelligence
- Advanced data processing: normalization, deduplication, enrichment, medical code cross-walking
- Real-time ADT monitoring, patient notifications, and Transitions of Care
- Comprehensive State HIE and National ADT integrations (e.g. Bamboo Health, PointClickCare)
- Supplemental Integrations: Surescripts & Quest Diagnostics
- Consolidation for all the disparate clinical data that exists for a given patient
- Data warehouse support: Snowflake, BigQuery, Redshift, and more
- SOC 2 Type II and HIPAA compliant

TRUSTED BY

- One Medical
- knownwell
- OASIS Health
- WeightWatchers
- Circle Medical
- CareAbout
- Strive Health
- Galileo
- Beluga Health