The Hidden Costs of Poor Interoperability and How to Avoid Them

HEALTH GORILLA

Major Themes

Interoperability is about the possibilities created by the connection

The real cost of fragmentation is operational, clinical, and human

The next phase: turning exchange into measurable value

Introduction

Interoperability in healthcare has come a long way. It is no longer judged by whether systems connect, but by what those connections make possible.

Connectivity and compliance are expected. There is nothing special about shared data between and among systems. It's the understood and expected starting point.

The bigger question is more than what happens next. If interoperability stagnates at compliance and connection, the cost compounds across healthcare systems and the humans who must make decisions with incomplete or fragmented data. A 2025 analysis found that poor interoperability and inefficient data exchange can cost healthcare organizations millions annually, with some systems losing up to $20 million per year due to fragmented information flows, redundant testing and operational inefficiencies.

This eBook explores the hidden costs of poor interoperability and outlines how to avoid them by turning connected data into meaningful, actionable intelligence.

$20 Million

Lost per year by some healthcare systems due to poor interoperability and inefficient data exchange.

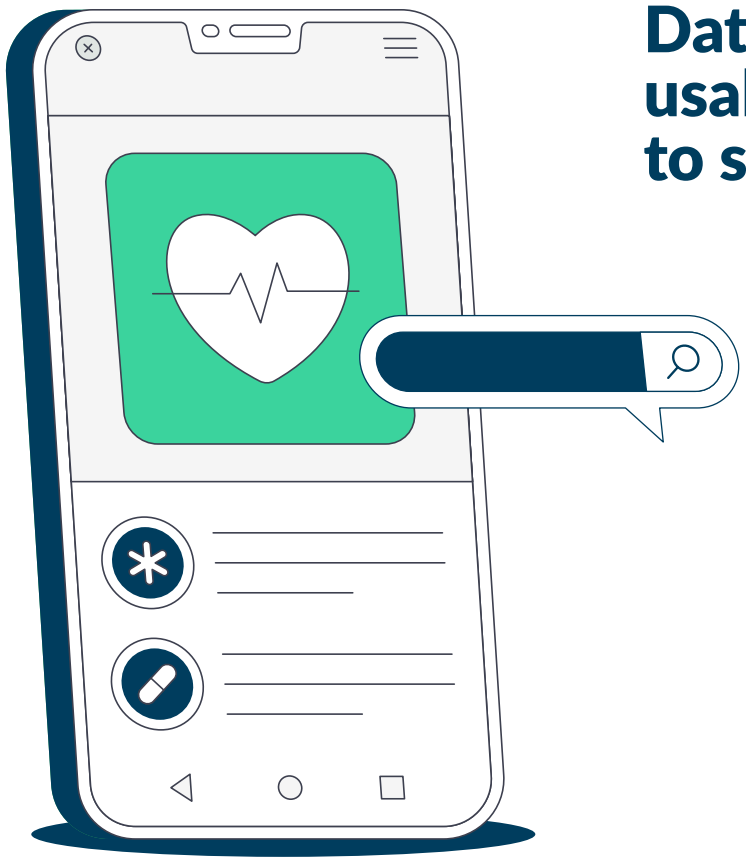
Chapter One

What Is Interoperability?

First, let's agree on the meaning of Interoperability. It's become both one of the most widely used and frequently misunderstood terms in healthcare. Years of regulatory mandates, technology investments, and national frameworks have moved the industry forward. Yet despite measurable progress, many organizations still struggle to realize meaningful clinical or operational value from their interoperability efforts.

The reason is not a lack of connectivity. It is a misunderstanding of what interoperability actually requires.

In short, interoperability ensures data arrives in a usable form, one that supports clinical judgment, efficient operations, and downstream analysis.



Data arrives usable and ready to support:

Clinical judgment

Operational efficiency

Downstream analysis

A Quick Word about what Compliance Has to Do with Interoperability

In a meaningful sense, compliance defines a minimum acceptable level of behavior. That's not to say it hasn't played an important role in interoperability's growth.

Regulatory alignment has played a critical role in advancing health data exchange. Federal initiatives from the Assistant Secretary for Technology Policy (formerly ONC) and the Centers for Medicare & Medicaid Services (CMS) have established standards, incentives, and enforcement mechanisms that moved the industry out of isolation and toward shared infrastructure. They have been especially focused on prohibiting information blocking.

But organizations can be fully compliant with interoperability regulations while still exchanging data that is incomplete, delayed, poorly structured, or disconnected from clinical workflows. In these cases, interoperability exists on paper but fails to improve care delivery or decision-making.

A compliance-only approach to interoperability delivers access, not outcomes.

Compliance asks,
"Are you allowed to participate?"

But it does not answer,
"Is the data making care better, safer, or more efficient?"

Common Misperception: Data Exchange Equates Interoperability

Data exchange is often equated with interoperability. A query made with a returned response is considered successful. That's the essence of data exchange.

But interoperability has a much richer meaning. It must be:

1.

Timely enough to inform care decisions

2.

Structured in a way that systems can interpret Contextualized within the patient's clinical history

3.

Actionable within existing workflows

Without normalization, reconciliation, and clinical context, exchanged data can increase noise rather than clarity. Clinicians may receive large volumes of information without knowing what is relevant, current, or reliable.

The Billion Dollar Question: Where are the Money Leaks?

Weak interoperability financially manifests in three measurable ways: operational costs, clinical costs and human costs.

The Operational Cost of Weak Interoperability

When healthcare systems don't "talk to each other," it's more than annoying. It eats up real time and money every single day. Staff in small practices can spend 15–30 minutes per patient just trying to pull down outside records, and office teams may waste half an hour or more each day chasing down faxed results or re-entering data by hand instead of helping patients or billing.

All those little delays add up fast: across the U.S., fragmented data flows contribute to an estimated $30 billion a year in avoidable costs from extra admin work, duplicate tests, and slow follow-ups. In bigger hospitals, messy data exchange shows up in more than just wasted time, inefficient workflows and poor connectivity between systems are linked to millions in lost operational productivity and revenue because clinicians wait on information that should have been automatic.

Basically, when providers can't reliably share or integrate patient data, the day becomes a series of workarounds and this affects patient care. It manifests as longer patient visits, repeat labs, clogged billing processes, and teams spending hours on tasks that interoperability should have handled for them.

Extra admin work | **Duplicate tests** | **Slow follow-ups**

The Clinical Costs of Interoperability

Gaps in interoperability have real clinical consequences that go well beyond slow workflows. When patient records don't travel with the person, tests already done at another facility may be repeated unnecessarily.

One study, for example, found that incomplete electronic record transfer between systems was associated with duplicate tests in about one-third of cases, many of which were not clinically indicated.

A report published by the West Health Institute estimated that widespread medical device interoperability could eliminate at least $36 billion of waste in inpatient settings alone.

Beyond duplications, fragmented or siloed data means clinicians often don't have a complete view of a patient's history at the point of care. This is risky as it can lead to incomplete assessments and increase the risk of misdiagnoses or inappropriate treatment plans.

Those same gaps contribute to delays and suboptimal clinical decisions because critical lab results, imaging, and notes aren't accessible in time, undermining care continuity and clinician confidence.

1 in 3 cases with incomplete record transfers led to duplicate tests —many not clinically necessary.

More time in systems

↓

Higher cognitive load

↓

Exhaustion and workflow disruption

↓

The erosion of trust

The Human Factor Fallout

The human toll is immediate and measurable.

Clinicians frequently report that poor EHR usability and fragmented records contribute to stress, frustration, and burnout as they spend excessive time navigating multiple systems and toggling between screens rather than focusing on patients. In short, it's tiresome.

A lot's been said about the cognitive load but what does that really mean? Poorly integrated data forces providers to hunt for relevant information amid incomplete or scattered records, causing exhaustion and workflow disruption.

Tangentially, this ongoing mismatch between clinical needs and technology use erodes trust in health IT systems, undermining confidence that the data clinicians rely on will be complete, accurate, and available when needed.

How to Avoid the Hidden Costs

So the money is leaking and patient care is suffering. How do we avoid the hidden costs of poor interoperability? The short answer: adoption of modern, standards-based exchange and strong operational governance.

Adopting widely accepted standards such as Fast Healthcare Interoperability Resources (FHIR) helps ensure that clinical data is structured in a consistent way that can be shared and interpreted across disparate systems.

But it will take more than that. Participation in broader frameworks such as the Trusted Exchange Framework and Common Agreement helps create a common set of technical and legal requirements and a unified approach to health information exchange that can reduce the need for multiple, one-off connections and enable secure data sharing across disparate networks nationwide.

TEFCA and its support for FHIR API exchange is explicitly designed to improve accessibility of clinical data across systems and use cases, including treatment and individual access services.

But there's more. Technical standards, operationalizing governance and trust is essential. Clear policies, common procedures, and shared expectations help sustain long-term data exchange and ensure that data remains reliable, secure, and actionable at the point of care. Stronger exchange is associated with fewer duplicated procedures, reduced imaging, lower costs, and improved patient safety, all of which directly address hidden costs tied to fragmented data

Hidden costs are draining healthcare.

The fix?

- **Modern standards-based exchange**
- **Strong operational governance**

The Interoperability Dividend

Good interoperability creates measurable return. Evidence shows that organizations implementing FHIR-based interoperability can realize roughly $3.20 in value for every $1 invested, driven by reduced administrative burden, fewer manual workflows, and more efficient care coordination.

When providers participate in mature, standards-based health information exchange, they see measurable gains across cost, quality, and care coordination.

The 4 Pillars of Effective Data Exchange

Standardized	Timely	Bidirectional	Clinically Meaningful
No custom workarounds. No extra cost.	Right information. Right moment.	Data moves seamlessly across care settings.	Data that drives better outcomes.

Research on health information exchange (HIE) shows that when clinical data follows patients across care settings, unnecessary repetition of tests falls significantly and clinicians get faster access to outside results at the point of care. This is great news considering the significant impact redundant testing costs to a budget.

For example, a retrospective study of emergency department use found that participation in a broad HIE was associated with reductions of 44–67 percent in repeat imaging tests such as CT scans, ultrasound, and chest x-rays, demonstrating how shared data helps avoid redundant procedures.

What are the benefits of HIE? Fewer duplicate procedures, reduced imaging and lower overall costs. This shows that improved access to outside clinical information enhances provider knowledge about patients, which supports more informed decisions and smoother transitions across care settings.

Conclusion

The Future Favors the Efficiently Connected

Interoperability gaps contribute to redundant testing, inefficient workflows, and preventable delays. Research links these inefficiencies to higher utilization and costs across the system. A comprehensive review of studies on health information exchange found that strong interoperability is associated with reduced healthcare use and lower costs, demonstrating progress toward goals of better quality care and improved population health when data flows more freely across settings.

Conversely, when interoperability is done right, the returns compound. Interoperable exchange enables clinicians to see more complete patient histories, reduces waste from duplicative procedures, and supports smoother transitions between providers. Studies also suggest that participation in health information exchange can improve operational efficiency and productivity in hospitals, and that, of course, saves money.

The future belongs to organizations that treat connection as the foundation of intelligence. As value-based care models continue to spread, real-time, standardized, and bidirectional interoperability will be essential for measuring quality, managing risk, and enabling coordinated care that is both more effective and more affordable.

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