

Replacing Data Silos with an Integrated Healthcare Ecosystem

Whitepaper

Health

KIN + CARTA



Index

Executive Summary →	3
From silo to ecosystem →	5
Stakeholder challenges →	7
Kin + Carta is your healthcare ecosystem partner →	12
Let's talk →	15

Executive Summary

Toppling data silos in favor of a healthcare ecosystem, where information is integrated, creates breakthroughs in quality of care and operational processes. The technology and methodologies are here, but there is still a long way to go before fully integrated healthcare ecosystems are operating. The most effective strategy to break down silos and establish information integration within and beyond an organization is a holistic approach to digital transformation.



“An integrated healthcare ecosystem puts the consumer—the patient or client— at the center. Payors, care providers, and digital health technology providers are interconnected and work together for the consumer’s benefit.”

Introduction

Healthcare leaders and patients have long recognized that information and data are key to improving health outcomes. However, primary providers, emergency departments, health insurance payors, and other members of the complex healthcare system are challenged to connect with each other to coordinate a patient's care. Data silos create this lack of connection, leading to a lack of information sharing and communication.

Costs to health and life are rooted in data silos. Knowledge gaps about the patient's history, course of treatment, and other key elements of care can waste time and resources.

The lack of accessibility to health records and the challenge of coordinating care costs the nation upwards of \$210 billion annually on excessive, duplicated, and unnecessary treatments.⁽¹⁾ And U.S. healthcare administrative costs are the highest of all advanced economies.⁽²⁾ Worse, data silos hinder access to healthcare critically needed by patients.

(1) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2995707/>

(2) <https://www.healthaffairs.org/doi/10.1377/hpb20220909.830296/>

[← Return to Index](#)

From Silo to Ecosystem



Despite technological advances, silos exist between healthcare organizations to the detriment of consumers + profits. As result, data critical to providing optimal prevention & treatment is not leveraged – to improve health outcomes.

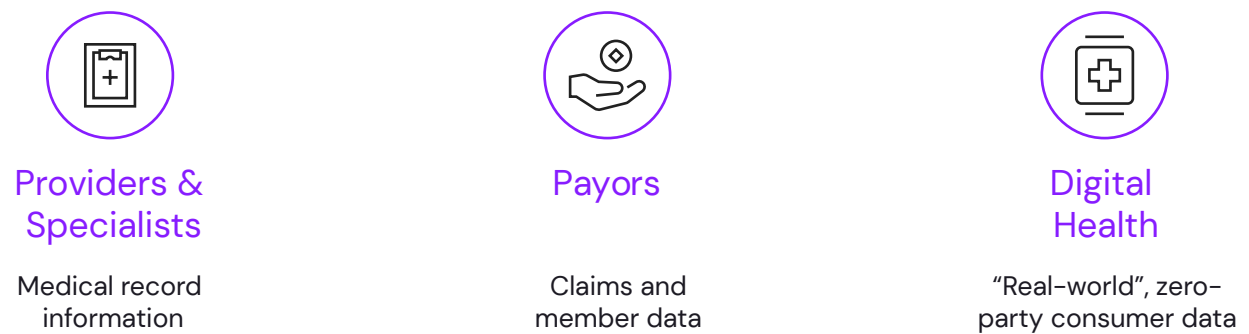
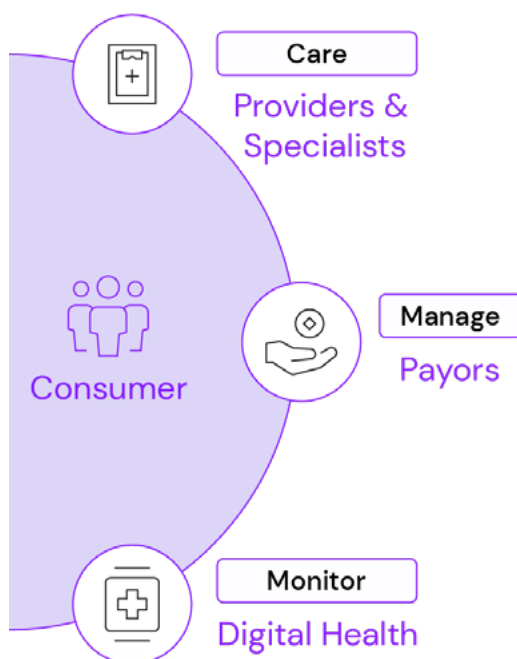


Figure 1. Stakeholders unique data sets

Toppling information silos in favor of a healthcare ecosystem, where information is integrated, creates breakthroughs in the quality of care and operational processes. An integrated healthcare ecosystem puts the consumer—the patient or client—at the center. Payors, care providers, and digital health technology providers are interconnected and work together for the consumer’s benefit.

An ecosystem must have an infrastructure that supports data interoperability inside and outside an organization. This means that its creation must be accomplished collaboratively by internal stakeholders and other organizations.



In some cases, steps have been made away from silos and toward ecosystems through legislation and methodologies such as creating the Standards and Interoperability (S&I) ⁽³⁾ Framework, the MyHealthEData Initiative ⁽⁴⁾, and the FHIR ⁽⁵⁾ (Fast Healthcare Interoperability Resources) standard.

The technology and methodologies are here. However, there is still a long way to go before fully integrated healthcare ecosystems are operational. Some of the obstacles to progress are challenges and concerns unique to various stakeholders.

(3) <https://www.healthit.gov/topic/interoperability/standards-interoperability-si-framework>
 (4) <https://www.cms.gov/newsroom/press-releases/trump-administration-announces-myhealthedata-initiative-put-patients-center-us-healthcare-system>
 (5) <https://www.hl7.org/fhir/overview.html>

[← Return to Index](#)

Stakeholder Challenges



The complexity of reasons for the lag reflects the complexity of the industry itself. Simply put, in addition to process and technology, people are a critical success factor. Stakeholder concerns can challenge attempts at information integration from the beginning of a digital transformation initiative. Some of these include:

Privacy concerns

Similar to companies in the financial industry, healthcare enterprises must diligently protect the information privacy of patients. Healthcare leaders and legal teams worry that healthcare information may get inappropriately accessed if data-sharing methodologies and technology are not implemented correctly.



Individuals affected by ransomware/cyber attacks has grown from

14M to 45M
in 2020 ⁽⁶⁾

Liability concerns

Related to privacy concerns, leadership may take a risk-averse stance and decide against information sharing.



Healthcare data breaches cost

\$10.1M per incident ⁽⁷⁾

Economic issues

Financial leaders may fear technical debt. They may also balk at the costs of updating or expanding technological systems.



73%

of healthcare organizations still operate legacy systems ⁽⁸⁾

Cultural issues

Modernization of systems affects an entire enterprise. IT leadership may not know where to start or are unsure about the best system configuration. Leaders and system users in clinical and business units may feel overwhelmed trying to master new platforms on top of full workloads.



Only 9%

of healthcare organizations have prioritized the removal of legacy systems ⁽⁹⁾

To successfully move to an integrated healthcare ecosystem, organizational transformation is needed as well as digital transformation.

(6) <https://www.fiercehealthcare.com/health-tech/healthcare-data-breaches-hit-all-time-high-2021-impacting-45m-people>

(7) <https://www.scmagazine.com/analysis/breach/healthcare-data-breaches-cost-an-average-of-10-1m-more-than-any-other-industry>

(8) https://www.himss.org/sites/hde/files/media/file/2022/01/28/2021_himss_cybersecurity_survey.pdf

(9) <https://healthtechmagazine.net/article/2023/01/tips-health-systems-managing-legacy-systems-strengthen-security>

Getting it all right

The most effective strategy to break down silos and establish information integration within and beyond an organization is a holistic approach to digital transformation – strategy that supports the transparent exchange of information between and amongst the various stakeholders in the healthcare ecosystem.

Each stakeholder in the ecosystem has access to two unique things that, when all brought together, can become exceedingly powerful. To collectively reap the industry changing benefits of an integrated ecosystem, stakeholders must be willing to contribute to and give access to their unique data and circumstances (Figure 2.1).

Stakeholder Contributions & Benefits

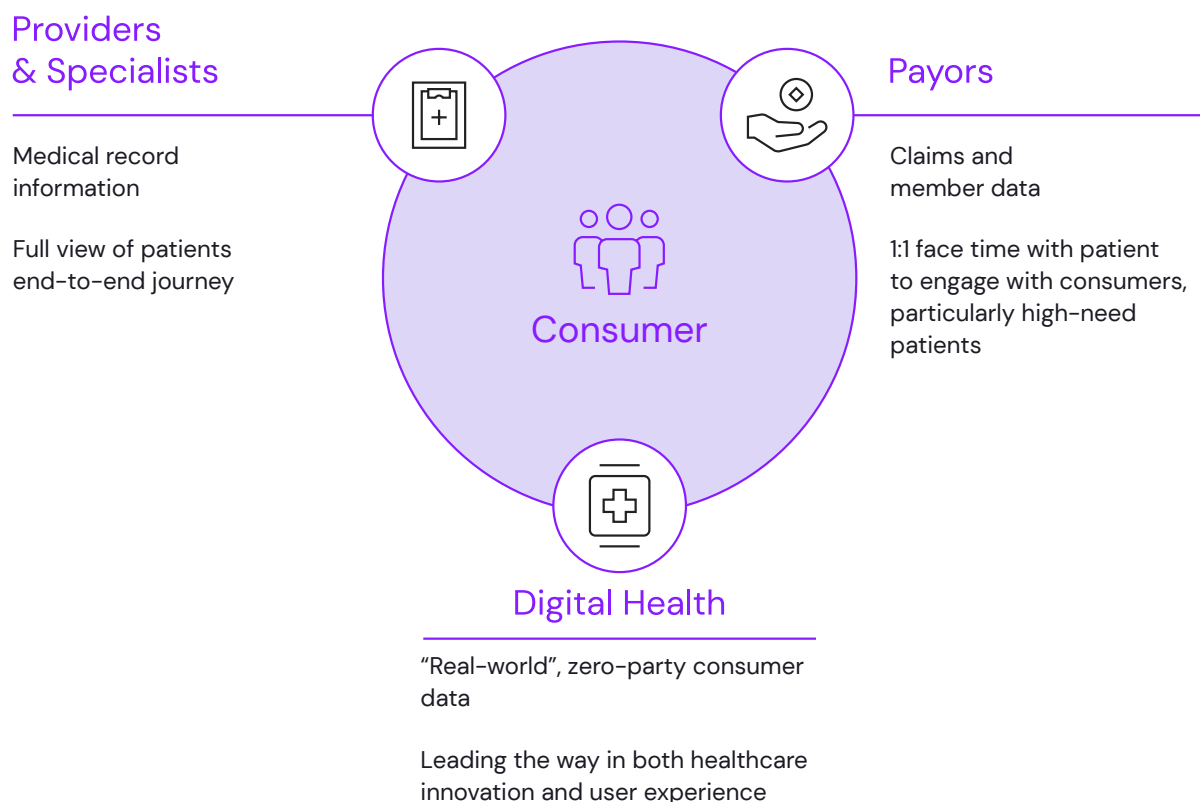


Figure 2.1 Stakeholder contributions & benefits in a healthcare ecosystem

Ecosystem Benefits Received

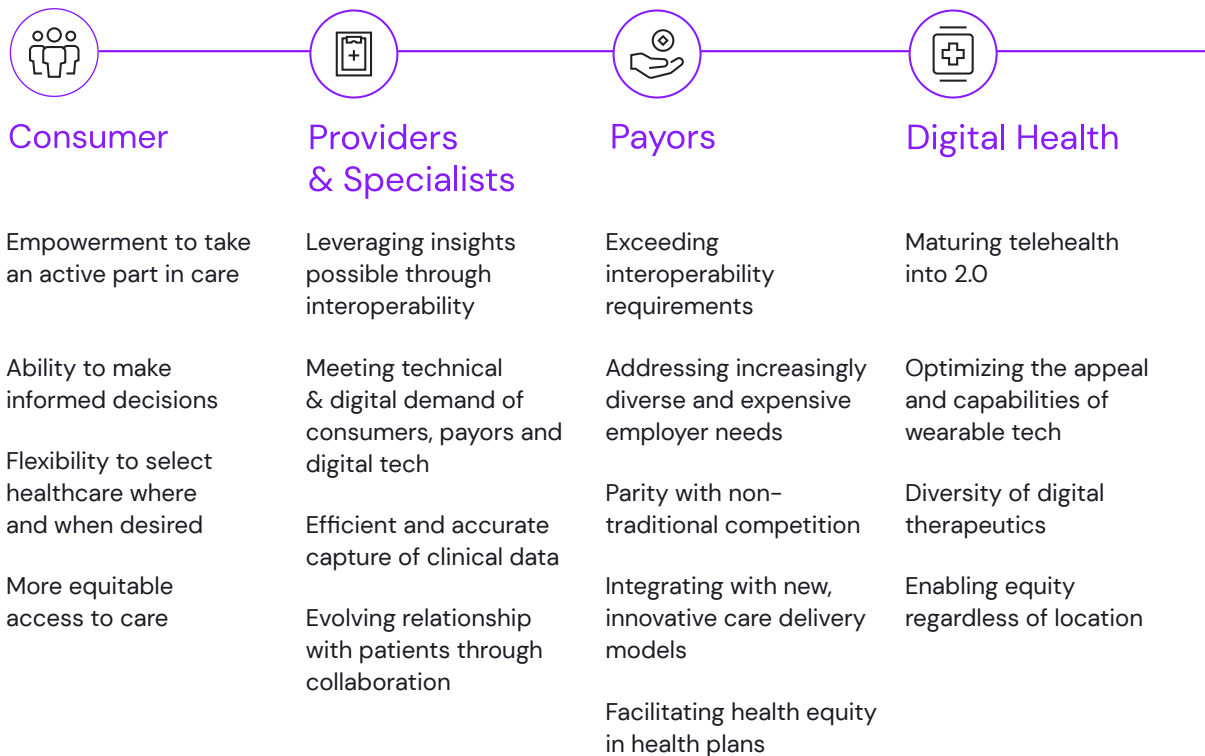


Figure 2.2 Consumer benefits due to a healthcare ecosystem

When access to this data and information is optimized, each stakeholder in the healthcare ecosystem benefits. However, no one can benefit if stakeholders do not contribute their unique datasets and differentiators. Healthcare will be much more powerful when everyone involved is working towards the goal of the consumer in the middle, improving experiences and outcomes.

A holistic perspective of digital transformation to support an integrated ecosystem will help maintain focus on the consumer-centered nature of the ecosystem and thinking in terms of the healthcare outcomes to be enabled.

[← Return to Index](#)

Kin + Carta is Your Healthcare Ecosystem Partner



At Kin + Carta we approach digital transformation in healthcare based on current market realities and needs. These include:

- **Strategy + Innovation are the components that every healthcare company should include.**

Internal alignment and targeted innovation can enable payors & providers to drive more effective and affordable healthcare utilization. The digital transformation strategy also depends on bridging connections between tools and services to lead more personalized experiences, and leverage the information for the acknowledgment of their members and meeting their needs.

- **Data + AI are transforming the healthcare industry.**

Health plans must invest in data to know more about their members and support quality improvement. AI is a key enabler for providers to deliver consistent, high-quality, and efficient outcomes. Healthcare organizations across the value chain are making significant strides in embedding these solutions into their processes.

- **Modernization of healthcare through Cloud + Platforms is imperative.**

Payors and providers need technology that's agile, flexible, and coordinated to meet the mandates defined by legislation, being able to bill patients and provide digital health information (21st Century Cures Act ⁽⁶⁾ and No Surprises Act)⁽⁷⁾.

Cloud technology and modernized platforms bring trusted capabilities to customers and partners for health team collaboration. They also improve clinical and operational data insights to revamp decision-making and operational efficiencies.

- **Product + Experience are key for the healthcare industry.**

Payors and insurers must make the consumer experience a top priority to remain competitive. Building intuitive digital products/ experiences for the different participants of the healthcare industry could translate into important benefits.

Kin + Carta combines expertise in developing personalized, connected experiences with data, AI, and platform solutions that improve healthcare services and operations. We are committed to helping the industry transform into a robust ecosystem that makes healthcare work better for everyone.

(6) <https://www.congress.gov/bill/114th-congress/house-bill/34>

(7) <https://www.cms.gov/nosurprises>

We collaborate with healthcare clients to:

- Transform organizations to improve existing connections – We transform how your organization delivers **connected experiences to consumers and patients** by aligning around a critical strategy, tapping into underutilized data, building modern cloud-native foundations, and leveraging the latest in modern software delivery.
- Create new connected experiences – We partner with our healthcare clients to design and build category-defining digital experiences using the **latest in emerging technologies** and deep customer insights.
- Re-imagine legacy and under-performing digital experiences – We help you upgrade existing digital strategy with **cutting-edge engineering** to reimagine and promote new patient experiences that improve lives and set the industry standard.

Let's talk

Are you ready to learn more about how we can help healthcare clients like you at Kin + Carta? Please reach out to katie.veeninga@kinandcarta.com or provide your information below to discover more.



Katie Veeninga

Principal Data Strategist

[Contact](#)



KIN + CARTA

About Kin + Carta

Kin + Carta is a global digital transformation consultancy committed to working alongside our clients to build a world that works better for everyone.

Our 2,000 strategists, engineers and creatives around the world bring the connective power of technology, data and experience to the world's most influential companies, helping them to accelerate their digital roadmap, rapidly innovate, modernise their systems, enable their teams and optimise for continued growth.

As a Certified B Corp, our triple bottom line focus on people, the planet, and profit is at the core of everything we do.

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