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WHITE PAPER

# Healthcare Interoperability for Consumer Engagement

The path to achieve  
value-based care

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# Healthcare interoperability: Myth or reality?

The healthcare system needs to make patients empowered, knowledgeable, and confident to manage their health and participate in shared decision-making. Since patients reside at the center of healthcare activity, health services need to focus on the outcomes that matter to members/patients. Under this scenario, interoperability plays an integral role in:

**Providing information  
when and where required**

**Accelerating accurate  
decision-making**

**Reducing waste by cutting  
out repeated work**

**Improving safety with  
fewer errors**

With the industry adopting digital transformation, meaningful interoperability is required. Meaningful interoperability involves communication and processes—communication between systems, how receiving systems process data, and how all that data is made available for human use. Meaningful interoperability paves the path for data interoperability in healthcare which has tremendous potential to fulfill patients' needs. It can define and maintain wellness for healthy individuals while also addressing the needs of patients with complex chronic conditions.

The growth is mainly driven by the increasing need to control:

**Rising healthcare  
costs**

**Lack of agility in the  
care delivery model**

**Deteriorating patient  
care and safety**

**Lack of funding for  
healthcare interoperability**

**According to *Markets and Markets* research, the global healthcare interoperability solutions market is projected to reach USD 4.2 billion by 2024 from USD 2.3 billion in 2019, at a CAGR of 12.6%.**

# Understanding the challenges in the healthcare interoperability

It is not uncommon to find stringent federal regulations across diverse industry segments. Healthcare business outcomes are the effect of heterogeneous technology transformation and disparate regulations. The problem with healthcare standards is the lack of incentivisation. An alternative view is that the standards available have been overly complex and expensive to implement and maintain. This view has led to the development of Fast Healthcare Interoperability Resources (FHIR).

As complete patient data becomes untraceable for the payers and providers, they cannot make informed healthcare decisions. The asymmetrical patient data impacts the customer experience, requiring payers to have a comprehensive solution that promotes claims and clinical data interoperability in a cost-effective and timely manner. When members and providers dispute the organization's determination, they need a solution that redresses the member request with transparency, detailed explanation, and compliance.



# Interoperability will continue to spark innovation

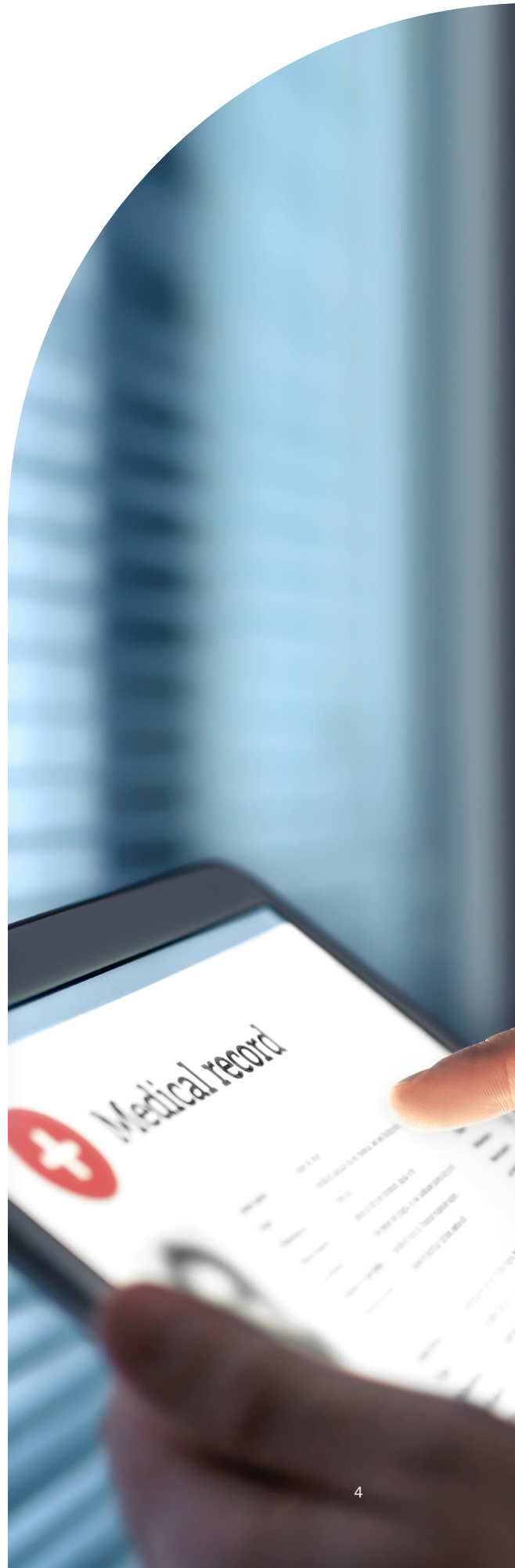
The global healthcare industry faces significant contradictions like rising costs. The shift to value-based care addresses this challenge by redefining success with healthcare outcomes. In this scenario, FHIR empowers organizations to collaborate and foster innovation and help co-create solutions to assist patients' access their longitudinal records. The record compiles payers and provider-generated health, wellness, financial, and social data.

FHIR, an organized concept of "resources," defines the many types of resources that describe the healthcare space. It is an open license and a formal maturity process linked to implementation outcomes. Consisting of two main parts - content model (resources) and exchange specification—it contains both normative and standard for trial use (STU) resources.

FHIR makes it easy for implementers by using already familiar tools and an understandable format with an API style. From the interoperability perspective, it is a fixed set of resources offering several advantages such as standardization of APIs, content, and communication protocols like XML, JSON, REST and OAuth.

Payers, providers, and HealthTechs pioneers in Open APIs can provide patient records, support electronic data exchange for care transitions, and enable the integration of patients' claims, clinical, pharmacy, financial, and social data. Open APIs powered by API marketplace offer payers and providers a powerful mechanism by which they can:

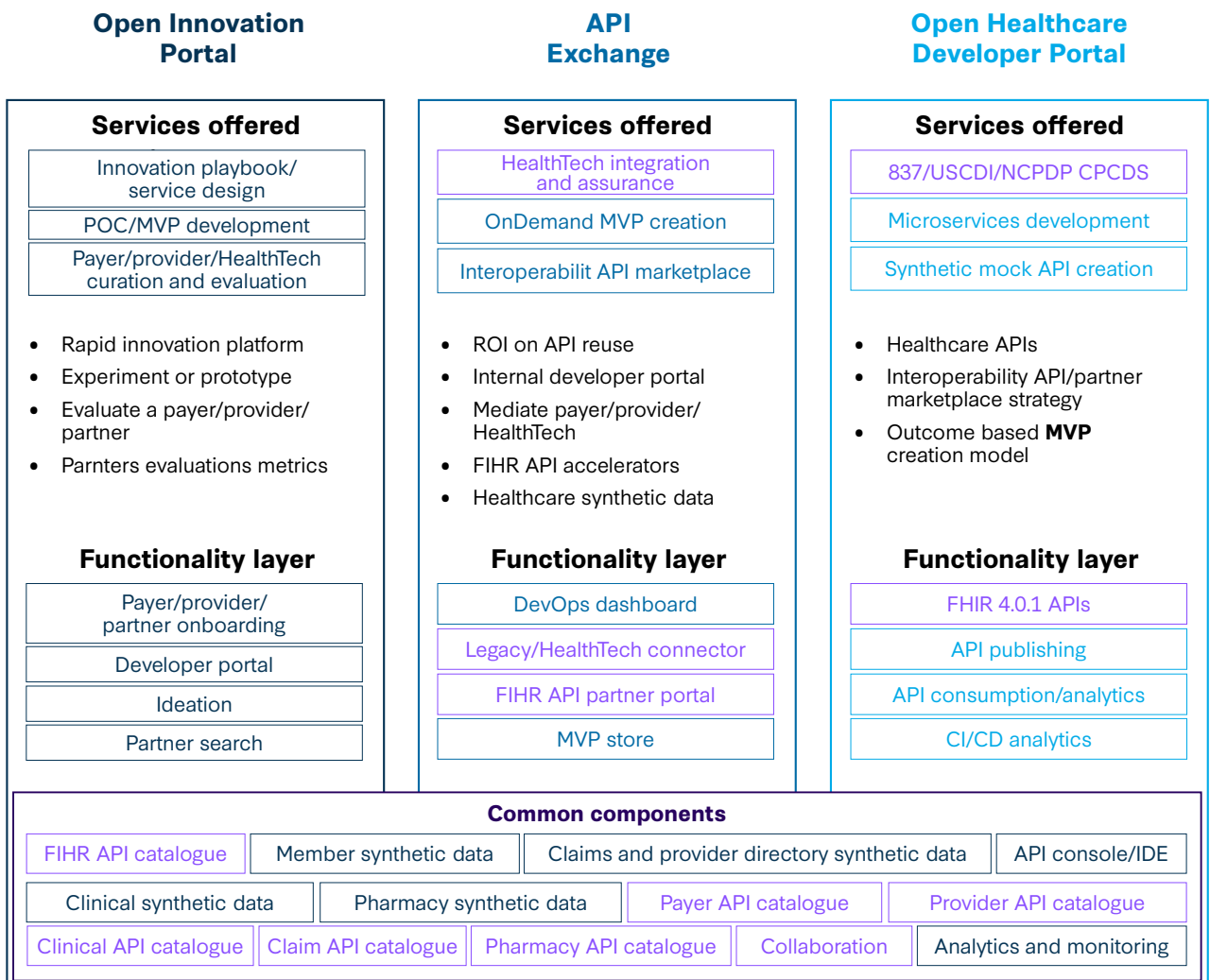
- Add new revenue streams
- Offer value-added services
- Form partnerships with the HealthTechs, pharmaceutical, and medical device companies



FHIR interoperability drives a seamless care journey for members who choose the right plan. It gives them the abilities such as being able to view digital ID cards and find the nearest in-network care provider for a specialized disease. Therefore, to enable seamless data sharing and service through an online marketplace via APIs, healthcare organizations need to make significant changes to their information infrastructures. While the online API and solution marketplace will be paramount for healthcare innovation, information security will be at the platform's heart. Payers, providers, life sciences, and medical device companies should ensure significant risk and quality-control mechanisms to enable secure transmission consumption of data. Consent management will be an essential consideration, along with data privacy frameworks, such as the General Data Protection Regulation (GDPR), to ensure that individuals have given consent for third party providers and HealthTechs to access and use their data.

Once data interoperability becomes the new normal, the next big step should be to take an AI-first approach and leverage Machine Learning (ML) and Natural Language Processing (NLP) to build actionable insights to guide business priorities and ensure the quality of care. Predictive data analytics will lead to more robust patient risk identification, and clinical pathway development.

## Concept of an Open Innovation Platform in Healthcare



Microservices framework driven



# Cultivating a partner ecosystem

By creating an online solution marketplace, healthcare organizations can bring multiple vendors together on a shared platform. Organizations that partner with HealthTechs, medtechs, and payers, can build compelling, holistic service offerings that foster customer loyalty for the long term.



By harnessing partner offerings to complement their existing services, healthcare payers can significantly reduce care delivery costs with dramatic results. Marketplace models have rapidly become some of the world's largest revenue engines. Tech companies, such as Amazon, Google and Uber have established dominance by creating marketplaces that bring consumers and service providers together to enable multi-billion-dollar growth.

The partner ecosystem model better enables healthcare payers to support the customer journey. They can assist in buying Medicaid/ Medicare plans, build a digital channels engagement platform, and support the entire care journey and coordination process in partnerships with providers, primary care, and medical device companies.



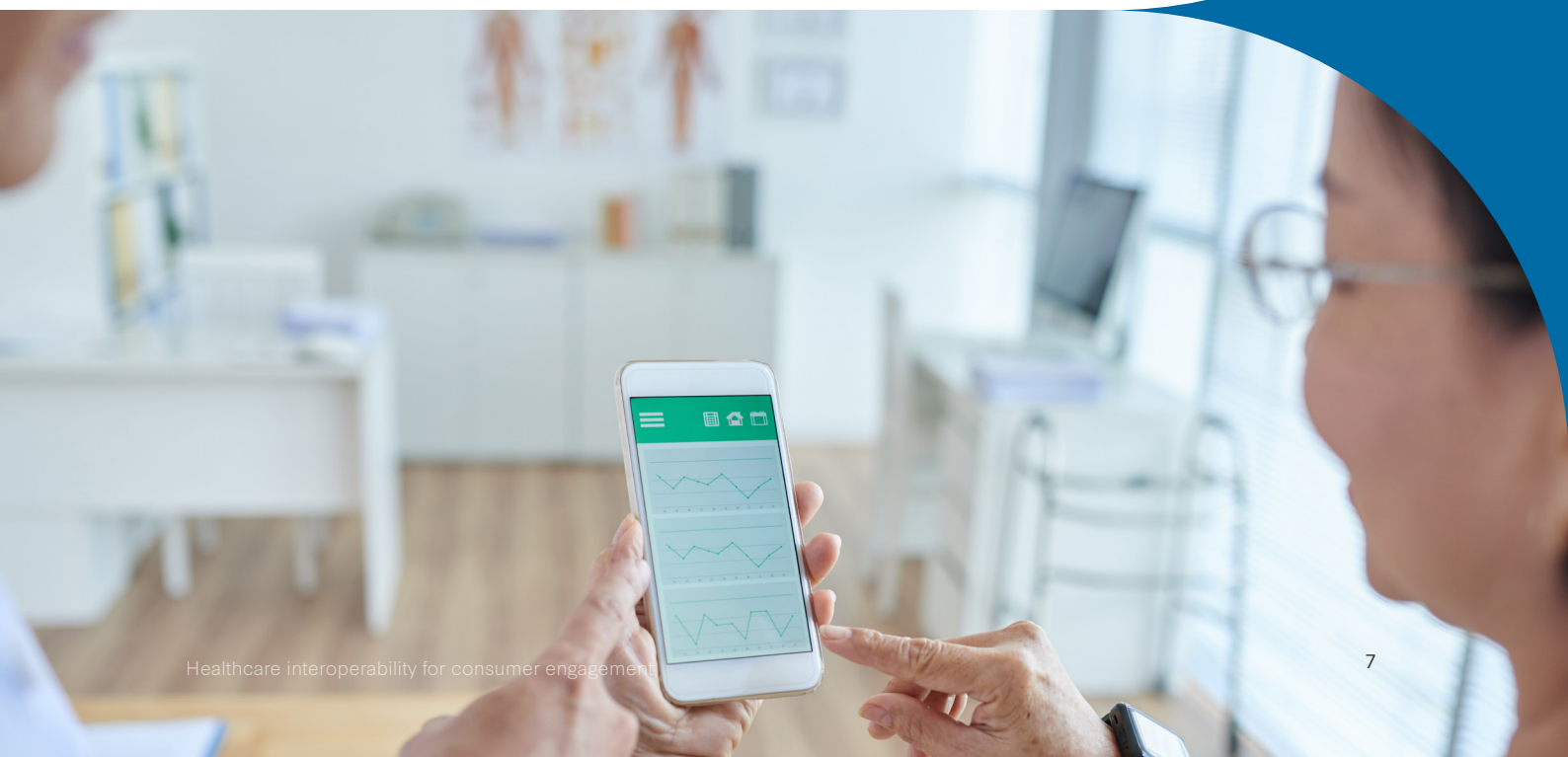
# Better quality-care and patient engagement

Providers can engage with patients by allowing them to access updated, accurate, and personalized health information and secure access to health data and care plans. They must deliver value-added patient services like remote monitoring and alerts based on predictive healthcare analytics for long-term personal engagement. With the power of data, they can build a 360 degree view of patients across departments and caregivers to improve treatment. Gaining insights from complex data will allow pharmaceutical companies to develop precision medicine and treatments, thereby increasing trust and reliability with secure portals and mobile apps.

With advanced applications for information sharing and coordination, health organizations can be more productive. Care teams can spend less time on travel, logistics, and administrative tasks and spend more time on high-value work. They can

- Share knowledge securely across health teams with advanced messaging features, including priority notifications, smart onboarding, and care delegation.
- Boost productivity and coordinate with colleagues, both inside organization and across geographical and organizational boundaries, effectively.
- Increase delivery efficiency via quick and consistent data sharing while creating proactive treatment and wellness plans.
- Leverage automated tools to streamline operations, reduce costs, and deliver better health outcomes.
- Identify trends and patterns to determine best practices to increase throughput, reduce waste, and optimize resource allocation in the process of providing care and develop new offerings.

As data sharing becomes seamless, applying advanced analytics to massive amounts of data can help organizations gain deeper insights. For example, providers can recommend real-time medications through digital channels based on past health data shared between health plans and later between payers and providers.



## In conclusion

With the CMS mandate for healthcare organizations, FHIR interoperability is no longer an option but a necessity. To stay agile in the face of rapid technological advancements, organizations must:

- Evaluate business intents
- Assess deployed technologies

The process will fulfill the CMS mandate requirements and pave a path for scalable, interoperable platforms that seamlessly exchange claims, clinical, and electronic health records (EMRs) with consumers across digital channels. FHIR will result in faster implementations of cost-effective solutions for external vendors and internal development capability. The standards-based interfaces will further reduce vendor lock-in risk, making it easier to replace a non-performing vendor with an alternative. Careful considerations of the right platform and tools, coupled with a correct mindset, will reduce cost, alleviate penalties, and improve compliance and productivity, thereby, boosting organizations' star ratings in the marketplace. A fully digital data interoperability solution will help turn every customer journey into a revenue generating opportunity that goes a long way to increase the customer lifetime value.

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## About the author



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Sanjoy is a Digital Practice Head for Virtusa Healthcare & Lifesciences, Banking & Financial Services Business, North America with established strengths across Strategy Consulting, Customer Experience and Digital Transformation. He has 15+ years of experience in leading client portfolios across industry verticals like Healthcare, and Life Sciences, BFS, Telco, Travel and Leisure, Automotive, Manufacturing. Over the last 10+ years he has played pivotal leadership roles for multiple large-scale Digital Transformation Programs for Fortune 1000 clients.

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Virtusa helps clients grow their business with innovative products and services that create operational efficiency using digital labor, future proof operational and IT platforms, and rationalize and modernize IT applications infrastructure. This is achieved through a unique approach blending deep contextual expertise, empowered agile teams, and measurably better engineering to create holistic solutions that drive business forward at unparalleled velocity enabled by a culture of cooperative disruption.