CAQH **Insights**℠

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**ISSUE BRIEF**

# Implementing FHIR Technology: A Provider Perspective

## Background

Healthcare providers struggle to access and exchange accurate and timely patient data. The advent of the HL7® FHIR® (Fast Healthcare Interoperability Resources) standard has revolutionized the way providers integrate this information into their clinical workflows. With the increasing demand for seamless information sharing between different healthcare systems and applications, FHIR adoption is alluring to many providers.

In 2020, the Centers for Medicare & Medicaid Services (CMS) proposed new rules to promote interoperability and patient access to health information, which has made FHIR adoption mandatory for some healthcare organizations.

In May 2023, CAQH held a focus group with provider representatives to better understand providers' challenges in achieving interoperability and adopting FHIR. The participants, all of whom play a significant role in their organization related to interoperability and information exchange, discussed their perspectives and experiences with FHIR.

## Focus Group Findings

**Provider & User Understanding of FHIR**

Overall, most providers do not fully understand the details and intricacies of FHIR. They do, however, appreciate many of its features. For example, backend FHIR implementation allows providers access to needed patient information in a quick and efficient manner. They no longer need to log into multiple programs to see patients' clinical notes and supplementary information. Additionally, FHIR-based applications are intuitive for many and thus reduce the need for extensive trainings and education on how to use new features. One focus group participant commented, "The technology is instinctual. Providers can teach themselves how to use it in a relatively short time."

Provider representatives also indicated that the majority of patients are not familiar with FHIR, but are grateful for the information FHIR allows patients to access. Through the Patient Access API, they are able to request their health information and view it on their phones or through apps.

**The Patient Access Application Programming Interface (API),** mandated in 2021, is a FHIR-based API that enables patients to access their electronic health information and share it with third-party apps. The API is required for CMS-regulated payers, including Medicaid and Medicare Advantage organizations. The API requires healthcare providers to implement a secure and standardized way of exchanging health information with patients, including their clinical notes, lab results and medication lists that is easily accessible and understandable to patients, regardless of their technical proficiency.

## Provider Benefits of Implementing FHIR

Focus group participants all agreed that FHIR is important to the future of healthcare interoperability. FHIR's ability to present data in a useful and actionable manner is transforming provider's work by enhancing clinical workflows, increasing productivity with real-time responses and improving holistic care.

*Enhanced Clinical Workflows*

FHIR and the Substitutable Medical Applications and Reusable Technologies (SMART) on FHIR technologies help standardize fragmented data and makes it more accessible and shareable among providers. FHIR apps and SMART on FHIR easily integrate into provider clinical workflows and allow providers access to up-to-date patient information. Focus group participants praised FHIR for the "one button concept" that allows providers to stay inside an electronic health record (EHR) application while accessing additional patient information. This gives providers immediate access to a patient's full history and avoid duplicative and improper care.

As more functionalities are developed, providers will not only be able to access more relevant patient information, they will also be able to implement clinical decision support initiatives. The Health Level Seven (HL7) International Clinical Decision Support Work Group develops standards to support knowledge sharing among providers.[1] Emerging information published by vendors, hospitals, institutions, medical societies and associations, and quality agencies will be shared among providers

via FHIR. This feature shortens the timeframe of knowing when new clinical information related to patients and population health is dispersed, which helps providers improve point of care delivery.

*Increased Productivity with Real-Time Responses*

FHIR integrations allow providers access to information in real-time, reducing the time needed to manually search and gather patient information from various sources. Focus group participants welcome the time and cost savings they have witnessed through FHIR adoption and interoperability techniques. One organization experienced productivity gains of over 200% after implementing prior authorization features via FHIR, while another organization improved patient matching rates – from

"The use of FHIR results in productivity gains for providers and the effect is that patients get better and faster care. Providers can navigate care more efficiently because they are getting immediate feedback on the patient's needs."

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1    https://build.fhir.org/clinicalreasoning-knowledge-artifact-distribution.html

80% to 98% – after implementing the Da Vinci Member Attribution List Standard Implementation Guide. Focus group participations indicated that these features not only increased staff productivity, but also created savings for the industry by providing more efficient and timelier care.

*Improved Holistic Care*

Provider representatives indicated that implementation of FHIR benefits patient care and the healthcare ecosystem. The goal of connecting systems through FHIR supports important system developments and builds a more resilient public health structure. FHIR helps organizations connect with public health entities, including community-based organizations, to better understand patients' social identity and environment. This understanding provides a holistic view of the patient allowing for targeted diagnoses and treatment. One focus group member indicated that, "The quality of care that results from this (community based) information is immeasurable."

**Challenges Implementing FHIR Technologies**

Implementing new technology can be challenging, especially in the early phases as users become acquainted with systems and features, work through issues, and identify best practices. While provider representatives highlighted benefits associated with FHIR and interoperability, they acknowledged that challenges exist.

*Lack of Industry Standards for Consistent Implementation*

Focus group participants note inconsistencies among system usage and implementation approaches as challenges associated with FHIR adoption. While Implementation Guides (IGs) contain rules and specifications, not all organizations use the same version of the guides, which creates disparities and connectivity

issues among workflows. Variations in workflows complicate effective use of the standards and the exchange of information – especially among multiple health plans. Systems need a universal way to speak to each other, as one participant noted, "Implementers must use the same language and alphabet."

*Lack of Mapping*

In order to successfully exchange electronic information, provider organizations need to properly map APIs. High integrity mapping between proprietary data models and FHIR resources is crucial to enabling meaningful connections with external organizations. Focus group participants indicated that these mappings are not consistent, which leads to problems with accuracy; many organizations are not prioritizing mapping efforts due to budget constraints. They noted a gap between what is available via the United States Core Data for Interoperability (USCDI) and what vendors are using to create API mappings. This gap results in difficulty connecting entities and exchanging information. The lack of uniformity and consistency among implementations leads to proprietary approaches that are not conducive to interoperability.

The United States Core Data for Interoperability (USCDI) sets a foundation for sharing electronic health information to support patient care by providing a standardized set of health data classes and data elements. The first version is required as part of The Office of the National Coordinator for Health Information Technology's (ONC) new API certification criterion. Multiple versions exist.

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2   https://www.cms.gov/regulations-and-guidance/guidance/interoperability/index

*Varied FHIR Adoption*

Although CMS requires adoption of several FHIR standards,[2] adoption continues to be inconsistent and not widespread. Focus group participants indicated that payers are not eager to directly connect with provider practices through FHIR APIs. This has resulted in a largely "one-sided" integration approach.

Findings from CAQH's FHIR focus group with health plans in November 2022[3] indicated that many health plans do not have well defined interoperability strategies and are reluctant to develop interoperability workflows apart from those required by CMS or for required certification. The lack of strategy and development has made it difficult for provider organizations to create meaningful FHIR connections with their health plan counterparts.

*Differing Provider Priorities and Resources*

When considering FHIR implementation, provider representatives agreed that funding and priorities play a critical role. Managed care systems and large group practices have in-house technical competencies and funding to embed FHIR into their systems while smaller, independent practices lack knowledge and resources. Embracing a new infrastructure and building a team capable of implementing FHIR is costly and time-consuming and not feasible for many providers. One participant indicated that smaller practices are "more focused on running their practices and keeping their lights on" than investing in APIs.

*Incomplete Privacy and Data Control Protections*

Keeping patients' health data safe and secure is a primary concern in the healthcare industry. Organizations must learn how to best control access to data and maintain privacy. This is especially critical when dealing with marginalized and vulnerable populations. Data exchanged with non-healthcare entities within a community, such as those in transportation or housing needs to be protected; people need to feel "safe" exchanging data. Participants indicated that the industry needs to further specify and support the Trusted Exchange Framework and Common Agreement (TEFCA) to enable an environment that is safe to exchange data and adoption occurs.

> The Trusted Exchange Framework and Common Agreement (TEFCA) establishes an infrastructure model and governing approach for organizations to securely share clinical information.[1]

**Industry Needs for Successful FHIR Implementation & Interoperability**

Regardless of the provider organization's approach to implementing FHIR technologies, focus group participants note consistent challenges and offer suggestions to encourage meaningful application and adoption of FHIR.

*1. FHIR ROI*

FHIR implementation and interoperability strategies are helping to improve the quality of care patients receive through faster, more integrated data exchanges. Providers are better able to determine a patient's medical history in real-time allowing for quicker diagnoses and treatment. And while there is some information to support these benefits, overall, there is a lack of data and measurement on the return on investment (ROI) associated with FHIR use.

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3    https://www.caqh.org/sites/default/files/2023-03/FINAL%20Insights%20-%20FHIR%20PLAN%20Focus%20Group%20Brief_v5.pdf

Without a clear understanding of the return on investment of FHIR, organizations have difficulty justifying and prioritizing resources for system updates. The healthcare industry needs to work together to measure ROI associated with interoperability to foster greater adoption. FHIR ROI should evaluate overall accrued benefits across the entire healthcare system, patient benefits, and improved health equality.

*2. FHIR Accessibility*

Providers see value when FHIR is integrated into their practice workflows. Given the associated benefits, the healthcare industry should determine how to make FHIR more accessible to providers regardless of their practice size or available resources. Understanding the barriers can help target and address pain points. By creating and sharing best practices, stakeholders can work together to identify consistent, successful approaches to integrating FHIR.

*3. Endpoint Directory*

The healthcare industry needs an encompassing FHIR endpoint directory to aid organizations in finding and establishing trusted FHIR server connections with external partners. Identifying "trusted" connections is crucial in fostering "handshakes" between stakeholders to exchange data. Focus group participants urged large payers to maintain discoverable, secure and accessible public endpoints for provider-facing APIs to request and submit information.

*4. Patient Identity Detection*

In addition to establishing trusted FHIR endpoints, the healthcare industry needs to establish methods to detect patient identity and share vetted identities among independent organizations. The current landscape does not encourage providers and payers to share established patient identities with each other, which not only creates redundant work but also may result in organizations mismatching patients and establishing incorrect identities.

*5. Consistent Digitized Rules*

Vendors often implement FHIR and other interoperability strategies within providers' and payers' workflows. With the variety of vendors in this space, there are often different approaches to interpretation and implementations. This results in entities negotiating and using various approaches for a standard transaction, which causes confusion and added burden.

Participants indicated that the healthcare industry would benefit from a federated rule set that allows the implementation of FHIR to be consistent across the industry. Additionally, focus group participants encourage the development of digitized rule requirements for common data exchange encounters between providers and health plans. For example, providers want to know what standard information is required to obtain prior authorizations for various services. Each health plan has a unique set of requirements and to have them digitized assists vendors in building automated and interoperable solutions.

**About CAQH Insights**

Through research and partnerships across the industry, CAQH Insights identifies opportunities to streamline business practices and measure the impact of a more automated healthcare workflow. For more information about research conducted by Insights, please visit caqh.org/insights