

Can Health Plans catch FHIR?

Interpreting FHIR

FHIR – Fast Health Interoperable Resources is a new standard framework created by HL7 for exchanging healthcare information. It combines the best features of HL7 V2, V3 and CDA (Clinical Document Architecture) which includes latest web standards and focuses on implementation over modeling. The current official release version of FHIR is Release 3 (STU). Briefly FHIR can be understood over its important components which are explained in the following figure.

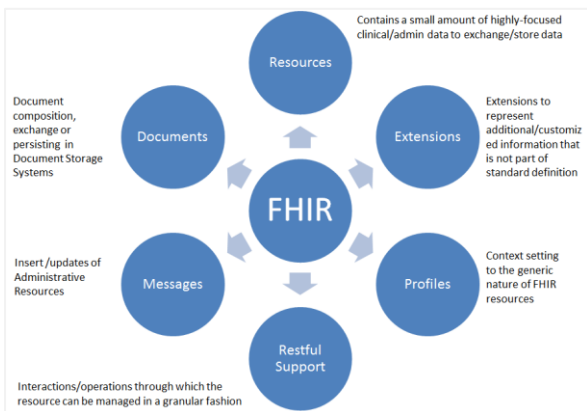


Fig 1: Components of FHIR

What is Making Payor Change Their Standards – the Leap from HL7 to FHIR?

FHIR is not the first standard set that the healthcare industry is using for data exchange. The obvious question that arises – why is the industry so upbeat about this standard?

For one, FHIR is empowering payors towards safer, more secure and easier data exchange. FHIR standards are based on the latest tech stack – JSON, RESTful, XML, HTTP etc. and it uses pull data mechanism instead of push – i.e. required information is pulled from, say HIE, using FHIR resources reducing data redundancy.

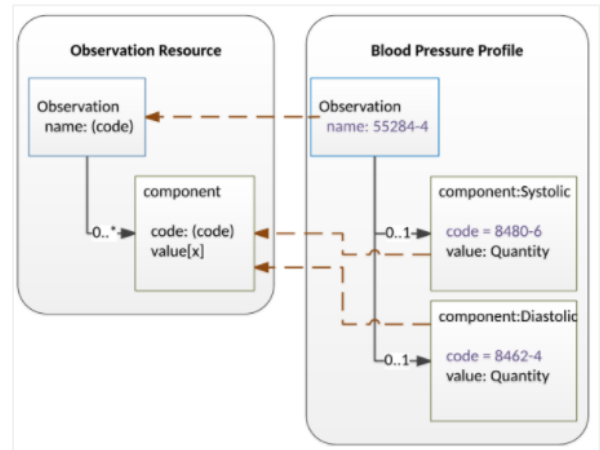


Fig 2: Visual Representation of FHIR Components

Following is the explanation for the keywords used in the above figure.

Resource: Defines the "component" element containing a nested code and value for observation that may have multiple values.

Profile: Splits the component list into two sub-lists of one element each.

Extensions will be used to bring in additional must haves or optional values.

Payors today collate their member’s clinical records across all clinical settings and diverse standards which are EMRs, HIEs, or third-party vendor and the data exchange of document like CCDAs, HL7 messages etc. respectively in addition to claims and utilization (EDI X12) data. FHIR provides a one-stop web service mechanism to retrieve targeted / specific pieces of clinical information on a need basis without manual intervention or complex onboarding / setup requirements. Some applications of FHIR for Payors include:

A typical care set-up requires real-time exchange of documents and care plans – an activity that is typically done quite often, and is critical / timebound. The FHIR resource of CarePlan works in request mode and



ensures that it is actionable and can be leveraged downstream.

The SMART platform when applied on FHIR framework, handles authentication, partner on boarding, testing and other operational aspects. Health plans can then integrate with devices and build a plethora of apps that further integrate with EHRs or other systems to provide enhanced functionalities. The SMART Health IT sandbox provided by HL7 provides a sandbox EHR environment to test, develop and test application and workflow support of FHIR.

The FHIR resource MedicationStatement can transfer the consolidated medication details of a member as opposed to transferring member's entire details through multiple HL7 messages or custom claim extracts for reconciliation e.g., a member is admitted in an ER and the caregivers require the medication list of the member from the payor or PCP.

In the long term, FHIR also presents an opportunity to become the single standard not just for clinical data, but also for financial & operational data (replacing EDI X12 through its claims, authorization, claim status and similar resources).

Making FHIR Attractive for Payors

Business Impact

Improves member experience by seamlessly integrating and enhancing member profile over varied point of services, including wearables, health and wellness apps.

Provides repository for access by the entire care team as well as share and collaborate through micro services and tailored data feeds.

Transparent, swift and reliable data transfer which ensures close payor-provider collaboration to manage chronic conditions and improving outcomes-based risk sharing agreements which is a step towards implementing value-based models.

Interoperability Focus

Enables swift clinical data transfer for missing and added information on medication, orders, device data (FitBit, Apple watches, Bluetooth scales, blood glucose monitors etc.), encounters etc.

Provides real-time pull access to the most recent data, and comprehensive EHR & device support for last mile connectivity through SMART on FHIR.

Creates EHR-agnostic "marketplace" that allows free flow data across disparate systems.

Early mover advantage

Standardized Application Programming Interface (API) standards allows creating apps beyond the document-based environment.

Payors cannot only derive missing clinical pieces but also leverage FHIR for eligibility verification, claim concepts for pended claims and coverage details.

Early adopters have the first mover advantage in API development, adoption and readiness.

Standard readiness

Supports approximately 80% of the required functionality and use cases. Payors can easily customize and extend current capability by extensions.

Standard, open format of FHIR standard safeguards payor integration access points, reduces long term costs, and eases implementation burden while being easily human readable.

Allows broad-based as well as granular access to information. Also enables creation of new and innovative, extensible public API's for data exchange.

Important FHIR use cases for Payors

Traditionally payors have leveraged data coming from claims to generate clinical intelligence for members. However, by the time claims data reaches payors and is available for analytics, it is fairly outdated. Payors, therefore, see the need to access real-time clinical information of members.

However, getting clinical data into the payor enterprise has always been a challenge. Apart from gaining the trust of the provider fraternity to share clinical data (access to provider systems like EHRs), payors have to build compatibility for various clinical data formats. With the advent for FHIR, payors are likely to overcome this challenge. The open source format of FHIR, coupled with its ability to extend to other functionalities makes it easier for payors to address their interoperability needs.

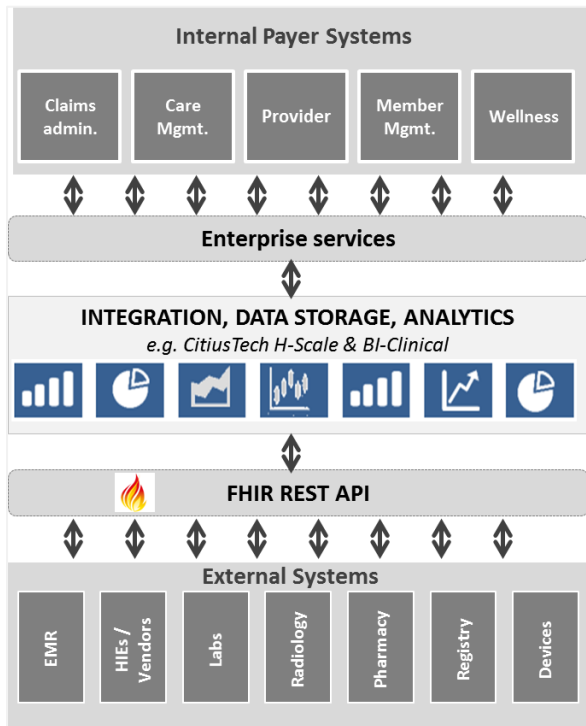


Fig 3: Interoperability between internal and external payer systems

Once clinical data is in the payor’s enterprise, it opens up a gamut of use cases for payors ranging from simple clinical data integration into the member profile for risk scoring, to advanced analytics, alerts and utilization for population and care management programs. Through the examples below we have tried to consolidate use cases that we believe are of utmost relevance and of immediate need to payors:

Payor Function: Clinical Quality Measure Insights

Typical opportunities: Detailed HEDIS and CMS Star measure data capture, for clinical, supplemental data or medical record reviews.

Sample Use Cases:

Improves gaps in care compliance tracking and closure at member and population level through quick access to data e.g., height/weight or BMI capture through observation resource, as many providers do not bill for these in claims.

Payor Function: Interoperability

Typical opportunities: Access to provider, lab or device clinical data using standard FHIR APIs. Document management and Cross enterprise document sharing (XDS) using FHIR.

Sample Use Cases:

- Improvement in near real-time member clinical profiles, risk scores and identification of missed HCCs.
- Search and read interactions on key FHIR resources such as “patient” to answer specific questions e.g., AllergyIntolerance and Diagnostic Observations resources.
- Document Registry to ‘index’ made available, to hold documents, register, store & retrieve documents using DocumentReference and a SecurityEvent resource recording accesses of this entire transaction.

Payor Function: Care planning / Care management

Typical opportunities: Improving quality of care across the continuum through efficient information sharing.

Sample Use Cases: Leverage CarePlan resource to share comprehensive care plans across providers and payors e.g., post discharge to verify completeness and ensure continuity. Outward integration into EHRs with alerts and notifications to trigger provider workflows e.g., AllergyIntolerance, AdverseEvent, Appointment, MedicationStatement resources.

Payor Function: Value based models

Typical opportunities: Identify, create and manage/improve outcomes based risk sharing agreements and value based models.

Sample Use Cases: Accurately measure provider’s clinical performance and effectiveness across peers. Comparative effectiveness and insight to create value based models e.g., services to be bundled, ACO targets and benchmark decision support etc.

Payor Function: Operational and Administrative

Typical opportunities: A streamline payor-provider business process data exchange e.g., claims processing.

Sample Use Cases: Leverage FHIR Financial resources such as EligibilityRequest, EnrollmentRequest, Claim, ExplanationOfBenefit etc. Automate pending claims processing or medical record reviews “chart chases” using reason codes to retrieve desired information



using FHIR in real-time, reducing costs and turnaround time.

Payors guide to FHIR adoption – Demystified!

HL7 introduced FHIR with the aim of eliminating many of the difficulties with previous standards, e.g. such as too much of technicality, poor readability, poor accessibility etc.

FHIR is positioned to be the most popular standard in healthcare industry. However, knowing the nascent stages in which FHIR is right now, it makes practical sense to safely tread the FHIR bandwagon – Payors can choose from drastic approaches (such as not leveraging CCDAs or HL7 and investing directly in FHIR adoption) to safer approaches (such as waiting and watching or experimenting with small POCs).

Having a plan to adopt FHIR in a systematic manner eases the initial hurdles. The key is to make sure that this plan is exhaustive enough to cover all aspects of the transition and does not miss out on the key nuances. We believe that below three can be regarded as the pillars of safely leveraging FHIR:

Interoperability Insights

Expertise and experience in bi-directional messaging between payors and providers – **hands-on capability in existing interoperability standards** (HL7 v2/v3, CCDAs, X12) ensures that FHIR is best understood and there is smooth transition between standards.

Skillsets

Groom and facilitate dedicated teams that understand FHIR and keep themselves informed about the regular updates – on the versions and usability / use cases.

Such teams are also involved in gathering necessary **experience on core technologies of SMART, HL7, CCDAs, interface engines** etc.

Partner Platforms / Accelerators

Preferred partners who join hands in FHIR roadmap should possess strong clinical data integration expertise e.g. merging incoming clinical data into logical longitudinal record.

Big Data will be an essential platform for aggregating and parsing clinical data and exposing FHIR resources.

Required expertise should span over successful implementation of big data capabilities to handle huge data volumes, frequencies, structured & unstructured data as well as performing data normalization and standardization activities.

Development of **Mobile Platforms** successfully backed by SMART on FHIR to accelerate the desired “last mile” connectivity for payors to influence provider behaviour and workflows.

These three pillars pose a strong proposition to leverage FHIR, making its adoption smooth and productive in true sense while withstanding the complexity, endurance and time investment that a developing standard calls for in the healthcare industry.



References

[1] <http://hl7.org/fhir/versions.html>

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