FHIR at Scale Taskforce *(FAST)*

SME Session Summary Report

A National Solution for FHIR Endpoint Discovery

Session 1: June 01, 2020
Session 2: June 15, 2020

Meeting Introduction

The FHIR at Scale Taskforce (*FAST*) obtained industry subject matter expert (SME) input to further refine the Taskforce's proposed solutions to FHIR scalability challenges.

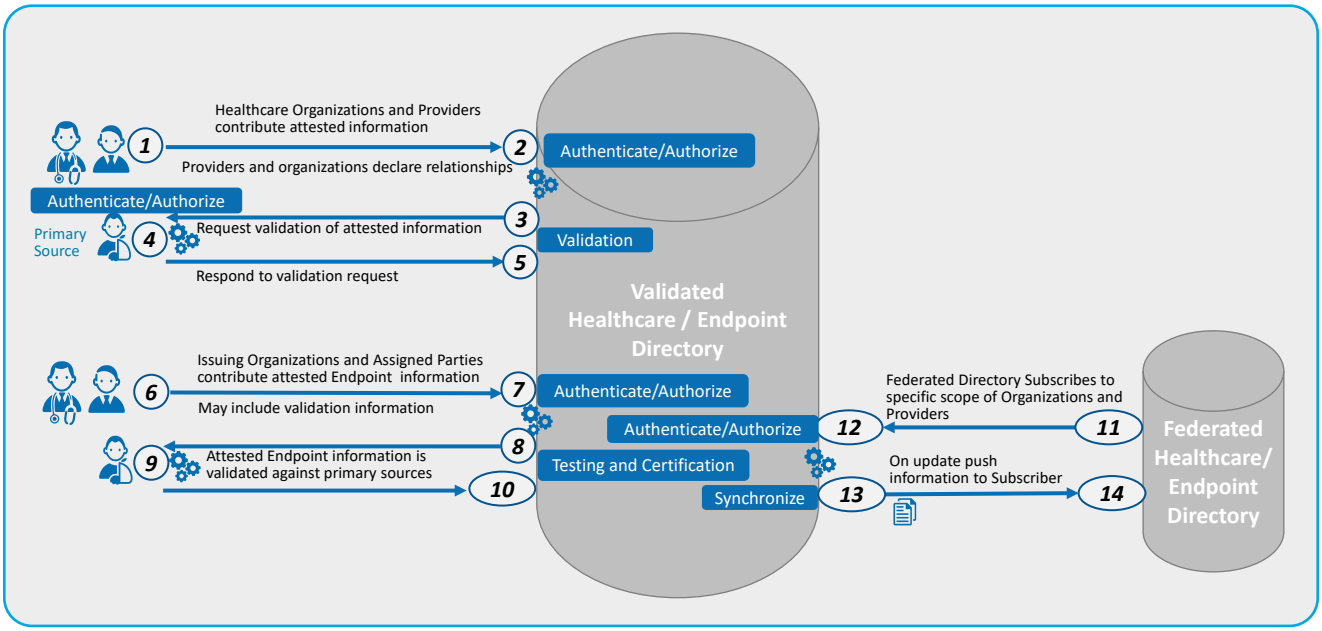
Fifteen SMEs from across the healthcare ecosystem participated in the *FAST* FHIR Endpoints[1] Directory Proposed Solution Expert Panel Discussion on June 1, 2020, providing feedback based on their individual expertise and domain knowledge. The scalability needs and challenges of a broad range of stakeholders were represented, including medical associations, interchange associations, existing directory groups & trusts, The Office of the National Coordinator for Health Information Technology (ONC), providers, payers, and electronic health record (EHR) vendors. The SMEs shared their expertise and input with ONC *FAST* facilitators regarding the need for a common endpoint directory, the proposed process for populating and using it, and next steps for building and maintaining the directory. Not only did the *FAST* team receive positive feedback on this session, but the participating SMEs decided it would be productive to meet a second time, on June 15, 2020, to continue the discussion.

Feedback received through the SME Sessions will advance the Taskforce proposed solutions into actionable recommendations and support the development of the *FAST* Action Plan. The *FAST* Action Plan is intended to define and communicate Taskforce proposed solutions and next steps to the industry.

To learn more about the *FAST* solutions development process as well as the objectives and meeting materials for each SME Session, please visit the ***FAST* Proposed Solutions – Subject Matter Expert Panel Sessions** Confluence pages.

Solution Overview

The *FAST* team reviewed the current state of the industry as it relates specifically to endpoint directory, noting variability in access and available endpoint characteristics. Building upon work from related industry initiatives, such as the **ONC Healthcare Directory Task Force** and the **HL7 Validated Healthcare Directory Implementation Guide (VHDir)**, the team proposed the concept of one national source of truth for validated directory information that would be available to any national or local directory workflow environment (i.e., federated access).



[1]Endpoints are locations that can be connected to for the delivery or retrieval of information (eg, URL of a server or service).

The intent of the proposed solution is to have a national validated directory where entities contribute and verify information. This 'source of truth' will be made available to federated healthcare directories, which would then be queried for ongoing discovery and connection to endpoints.

To learn more about the proposed solution, please review the pre-reading and presentation materials available on the ***FAST* FHIR Endpoints Directory Proposed Solution – Expert Panel Discussion** Confluence page.

After presenting details of the proposed directory architecture, content, and intermediate solution goals, the group discussed whether this type of authoritative directory is needed to scale FHIR across the industry, with the majority of SMEs (roughly three-quarters) agreeing that it is needed. SMEs who only somewhat agreed (one-quarter), primarily cited concerns related to honing in on the scope of the effort.

The group also discussed whether the industry would use an authoritative directory with federated access. SMEs identified a need for incentives and education to obtain 'buy-in,' and concerns around perceived completeness, accuracy, and reliability. (Over half of SMEs agreed that the directory would be used and more than one-third of SMEs indicated they are somewhat supportive due to the concerns noted.)

To wrap up the solution overview portion of the agenda, the SMEs discussed the need for incremental steps and an incremental approach to the final solution. Almost three-quarters of SMEs were supportive, with a little over one-quarter who somewhat believed that an incremental approach is necessary; however, SMEs noted that the next level of detail is needed to outline what those steps should be.

Discussion Topics

The group spent two sessions for a total of 5 hours discussing various requirements for a directory framework and endpoint information. Deliberations were organized around six discussion topics, which are summarized as follows.

1. Scope of Directory Framework and Endpoint Information

A considerable amount of time was spent on figuring out what a directory should look like and what it should contain. The discussion focused on the scope of the underlying directory framework to determine where the boundaries should be drawn. For example, should the directory contain endpoints only? How much provider information should be included?

SMEs generally agreed that the approach should be to define the minimum viable amount of information needed to meet the majority of use cases, with the ability to expand over time based on learnings and directory usage. SMEs also preferred that the information model across different entity types (i.e., providers, payers, etc) should remain as consistent as possible. Based on current experience, SMEs agreed that it's difficult to maintain highly dynamic data (eg, provider schedule availability) and it should be excluded from scope. They also agreed that local information (eg, items required only within a delivery organization or regional services) and business transactions (i.e., directory does not provide operations, but points to where to initiate transactions) should be excluded. Persistent, validated data was determined to be in scope for the directory, but SMEs suggested the following proposed requirements may need to be further refined:

- Individual providers with persistent relevant attributes (eg, degrees, licenses, languages)
- Provider organizations with persistent relevant attributes (eg, locations, certifications, services)
- Location relevant attributes (eg, address, contact information, availability)
- Relationships between providers and organizations and respective locations
- Support for non-traditional providers and organizations (eg, Meals on Wheels)
- FHIR/REST[2] endpoints with associated attributes (eg, version, trust framework, testing/validation)
- Endpoints for other exchange standards (eg, Direct)

[2]**REST** (Representational State Transfer) is a software architectural style that defines a set of constraints to be used for creating Web services and promotes interoperability among computers and third-party applications.

2. Building the Directory

A fundamental issue is who should build the directory. The federal government is one option that was suggested and the Centers for Medicare and Medicaid Services (CMS) was discussed by the group as an obvious choice. In fact, it was mentioned that the agency already has infrastructure that might be leveraged. For example, it created the National Provider Plan and Provider Enumeration System (NPPES). While a possibly useful starting point, NPPES only includes entities contracting with Medicare, so there are holes that would need to be plugged (eg, including state Medicaid agencies and providers and pediatricians that don't accept Medicaid). The SMEs wanted to ensure that a national directory would include a broader range of entities beyond those contracting with Medicare. Other NPPES concerns SMEs raised are that the type of data included would need to be expanded, and a validation process may need to be added to ensure data quality. There may be potential regulatory or policy barriers that could impinge on leveraging existing government infrastructure, and these would need to be identified and addressed. An example would be whether CMS has the authority to repurpose NPPES for use outside of the Medicare program.

A public/private partnership is a different potential route. Options should be explored for a public/private partnership model established by the federal government to build the directory. To prevent duplication and overlap, however, there would need to be differentiation in scope and content from similar directories created by other industry stakeholders.

Multi-stakeholder governance also needs to be considered, regardless of who builds the directory. An advisory board could potentially be considered to ensure that all stakeholder needs are met.

Funding needs were briefly discussed, but were tabled for future discussion as the group felt more solution details were needed first.

3. Directory Population and Information Validation

The SMEs agreed that a national directory must contain persistent validated data regarding individuals, organizations, relationships, and endpoints. The data elements must be consistent and validated by an authoritative source. In compiling and updating the directory, there needs to be clarity regarding the sources and quality of the information. Agreement must be reached on how to validate data and best deal with attestation.

The group debated whether providing the data should be mandatory or voluntary. Some SMEs believed that some stakeholders would not participate unless they were mandated to do so, which has implications for legal requirements and burden. The "carrot and stick" approach could be considered, as it has been used in federal policymaking in the past.

4. Policy Implications and Barriers

The SMEs discussed whether current regulations present a barrier to the creation, population, and operation of the directory. They also discussed that regulations could be necessary to support the legal authority to create and operate the directory.

The discussion highlighted that much depends on whether CMS is the designated home for the directory and whether it has the authority to do so. If so, options for the federal government to be the long-term "owner" should be explored, recognizing that some type of policy or incentive will be needed to encourage industry adoption. In addition, more legal and regulatory actions may need to be considered by the appropriate regulatory entities to expand participation beyond CMS, such as by state Medicaid agencies and other.

The SMEs agreed that a different set of legal and regulatory issues would come into play if a public/private partnership is formed for the creation and maintenance of the directory. These will need to be evaluated and detailed by the appropriate regulatory paths, if this option is selected.

5. Ongoing Maintenance and Operation

The tasks of ongoing maintenance and operation of the directory presumably will belong to the "builder and owner" of the directory, although stakeholders will be responsible for providing and validating data. Data latency always is an issue due to constant changes at the endpoints.

Vendors will need to be incentivized to use the directory. CMS' authorities may be brought to bear, as well as ONC's EHR certification program as appropriate.

The SMEs also agreed that a standardized tool is needed to build and manage directory information. A simple, intuitive interface is needed to 1) accept information to populate the directory and 2) maintain information that has already been populated. The role of various payer and provider applications to provide information needs further exploration. Whatever tool that is adopted must be easy to use and be able to make changes in near real-time.

6. "Pushing" Updates to Federated Directories

As proposed, federated directories would subscribe to the national validated directory for their covered scope (eg, payer relationships, provider types, etc). Any update to the validated directory would then be pushed to those subscribed directories.

SMEs had some concerns regarding data reconciliation between the national validated directory and the local federated directories. They suggested that the *FAST* team might consider that another set of transactions may be needed in the future for local directories to challenge what has been considered validated data.

Moving Forward

After two productive SME sessions, the *FAST* team is analyzing the feedback they received and working to incorporate what they learned into the next iteration of their proposed solution documentation. As the team further develops their action plan, they will take the following SME recommendations into account:

Immediate Next Steps

- Define the minimum viable product (MVP) and outline the incremental steps/roadmap to build a directory of endpoints
    - Explore options for building the endpoint directory on top of existing infrastructure (eg, NPPES, etc)
- Explore trust/security implications related to multi-contributor, multi-dimensional data updates with the *FAST* Security Tiger Team

Path Forward

- Pursue potential options for a public/private partnership model established by the federal government to build the directory
- Explore the appropriate paths, entities and options for the federal government to be the long-term 'owner' of the directory, given that some type of mandate or incentive will be needed to encourage industry adoption