QHIN Technical Framework – Executive Summary

July 28, 2021

The 21st Century Cures Act, signed by President Obama in 2016, calls on ONC to "develop or support a trusted exchange framework, including a common agreement among health information networks nationally." To that end, the Trusted Exchange Framework and Common Agreement (TEFCA) includes the trust policies and practices and a "Common Agreement"[1] that will establish a governing approach for exchange among Qualified Health Information Networks (QHINs). ONC awarded a cooperative agreement to the Sequoia Project to serve as the Recognized Coordinating Entity (RCE) to provide the legal and technical framework to support nationwide exchange based on the Common Agreement. The goal of TEFCA is to establish a floor of universal interoperability across the country. TEFCA will define the baseline legal and technical requirements for information sharing on a nationwide scale.

The network based on the Common Agreement will create simplified connectivity for individuals, health care providers, health plans, and public health agencies as well as other stakeholders.

The QHIN Technical Framework (QTF) supports the core QHIN-to-QHIN exchange by specifying the functional and technical requirements that each QHIN must fulfill under the Common Agreement and to meet the requirements of the Standard Operating Procedures (SOPs), which will be created by the RCE and implement the Common Agreement. These requirements include, among others, privacy and security steps, approaches for identifying and authenticating exchange participants, how to conduct patient discovery and identity resolution, as well as support for required exchange protocols. QHINs will be responsible for routing queries, responses, and messages to and from their participants. They will be the foundational network nodes supporting exchange among networks. Health information networks must satisfy rigorous eligibility requirements in order to be designated as a QHIN by the Recognized Coordinating Entity (RCE).

The QTF focuses primarily on QHIN-to-QHIN exchange and, as such, must support at least two forms of information exchange among authorized parties (consistent with applicable law and the Common Agreement):

- QHIN Query to request standardized electronic documents from other connected participants (such as providers or health plans); and
- QHIN Message Delivery to send information to a specific recipient (such as a primary care provider or public health agency).

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[1] The Common Agreement will provide the governing approach necessary to scale a functioning system of interconnected QHINs. The Common Agreement will be a legal agreement that the Recognized Coordinating Entity (RCE) and QHINs will sign. Some provisions of the Common Agreement will flow down to other entities, such as QHIN Participants and Subparticipants, via contracts.

In addition, the RCE will maintain a directory of exchange participants connected to each QHIN so that other QHINs and participants can direct their queries or message deliveries appropriately. QHINs will be required to support QTF Directory requirements for maintaining their directory entries.

Consistent with the philosophy of building on what works, the technical and functional requirements described in the QTF reflect many of the technologies and standards used for network-based health information exchange today, including those used by many community, state, and nationwide exchange networks. In general, the information shared within the QHIN-to-QHIN exchange builds on the Health Level Seven (HL7®) Implementation Guide for CDA® Release 2: Consolidated CDA Templates for Clinical Notes (US Realm) Draft Standard for Trial Use Release 2.1 (C-CDA 2.1) document format. This includes data defined as part of the United States Core Data for Interoperability Version 1 (USCDI v1) with allowance for flexibility to further expand the content of messages to support a multitude of use cases.

The QTF also specifies high-level functional requirements that QHINs will need to support within their health information networks. So long as QHINs are able to achieve the required functional outcomes within their networks and satisfy the privacy, security, and other requirements of the Common Agreement, they generally have the operational flexibility to select appropriate standards, architectures, and approaches consistent with the needs of their business environments.

Newer standards, such as HL7's Fast Healthcare Interoperability Resources (FHIR®), will be specified in future versions of the QTF. QHINs will be required to follow such standards only after the approval of QTF updates through the governance process required by the Common Agreement. The RCE seeks stakeholder input into developing a TEFCA FHIR Roadmap. The TEFCA FHIR Roadmap is intended to layout the scope, timing, and transition requirements for QHIN-to-QHIN exchange via FHIR. The TEFCA FHIR Roadmap will be released with the final versions of the QTF and the Common Agreement after careful deliberation and industry engagement regarding the complexities of deploying FHIR in a network environment.

Detailed Specifications:

The QTF document lays out the detailed expectations and requirements for:

- **QHIN Exchange Scenarios,** including the Document Query and Message Delivery use cases;

- **Functions and Technology to Support Exchange,** including: Connectivity and Remediation, Certificate Policy, Secure Channel, Mutual Server Authentication, User Authentication, Authorization and Exchange Purpose, Patient Discovery Query, Document Query and Retrieval, Message Delivery, Patient Identity Resolution, Record Location, Directory Services, Auditing, Error Handling, Constraints for Participants and Subparticipants, Testing Procedures Supporting Requirements, and Performance Measures; and

- **Onboarding and Testing,** including for connectivity and authentication, RCE directory lookup and update, patient discovery, document query and retrieve, and message delivery.

Request for Feedback

The RCE is looking for feedback on the entirety of the QTF. The coming stakeholder engagement process will include webinars and a website that will enable interested parties to learn more about and share their input. Sign up for announcements about the TEFCA and the work of the RCE at RCE.SequoiaProject.org.

In addition to comments on the content included in the QTF, the RCE seeks input on the following specific questions:

1. Should the QTF include QHIN Message Delivery? If you believe QHIN Message Delivery should be included, how should it be technically specified? Note: if QHIN Message Delivery is excluded from the first version of the QTF that would mean QHINs would not be required to support QHIN-to-QHIN message delivery during the initial go-live under the Common Agreement. To facilitate better understanding of the public feedback, the RCE requests that responses consider the following three options. The preferred option, as included in this Draft 2 of the QTF is Option 1:

   o Option 1: **Require** "QHIN Message Delivery" modality in QTF using the Integrating the Health Care Enterprise (IHE) Cross-Community Document Reliable Interchange (XCDR) profile with a future transition to FHIR; or
   o Option 2: **Defer** "QHIN Message Delivery" from QTF until a FHIR based solution is readily available; or
   o Option 3: **Include** "QHIN Message Delivery" using XCDR as *optional* in QTF until a FHIR based solution is readily available.

2. What elements should be included in a TEFCA FHIR Roadmap to provide predictability and a clear direction for QHIN-to-QHIN exchange regarding the implementation of FHIR for QHIN Query, QHIN Message Delivery, and for enabling FHIR data to be used by Health IT systems?