

# Qualified Health Information Network Technical Framework Overview

August 4, 2021



ONC  
TEFCA  
RECOGNIZED  
COORDINATING  
ENTITY

*This project is supported by the Office of the National Coordinator for Health Information Technology (ONC) of the U.S. Department of Health and Human Services (HHS) under 90AX0026/01-00 Trusted Exchange Framework and Common Agreement (TEFCA) Recognized Coordinating Entity (RCE) Cooperative Agreement. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by ONC, HHS or the U.S. Government.*

# Agenda

- Welcome
- Timeline
- QTF Overview
- Public Input Opportunities
- Questions & Answers

# Meet the RCE Team



**Mariann Yeager**  
CEO  
The Sequoia Project



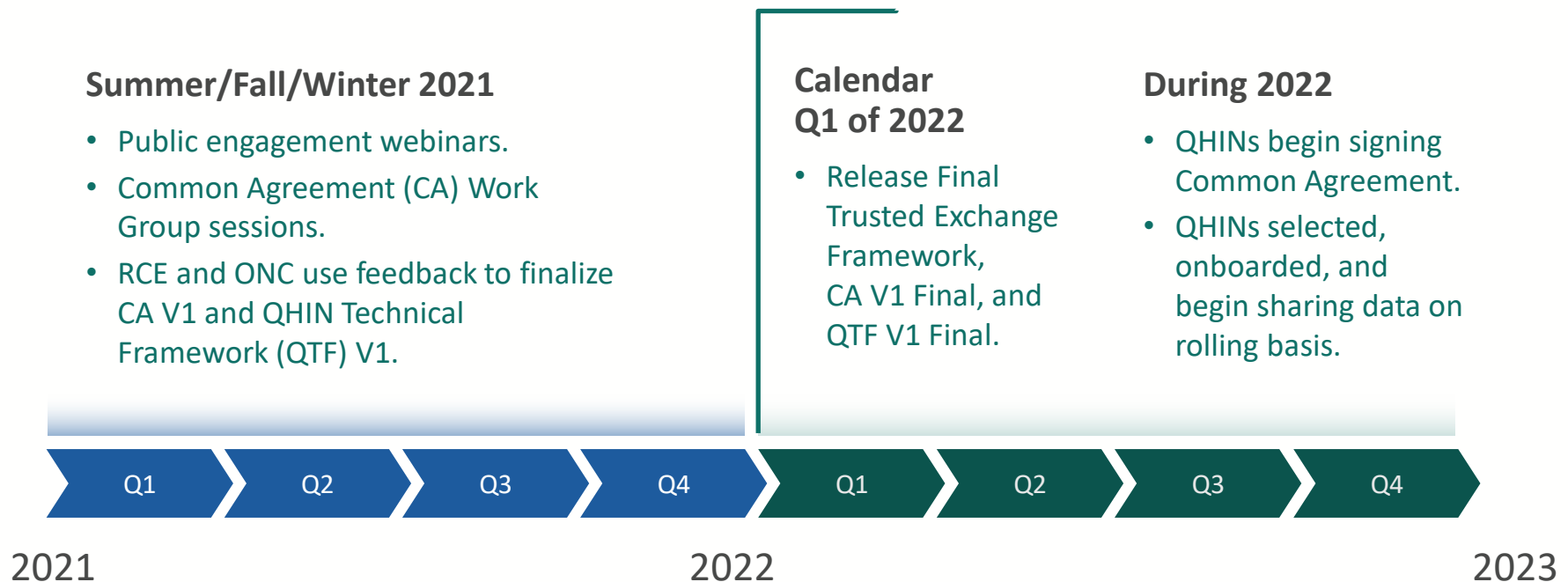
**Alan Swenson**  
Executive Director,  
Carequality



**David Pyke**  
Subject Matter Expert,  
Audacious Inquiry

# Timeline

# Timeline to Operationalize TEFCA



# TEFCA Elements



Common  
Agreement



Standard  
Operating  
Procedures



QHIN  
Technical  
Framework



QHIN  
Onboarding



Metrics



Governance

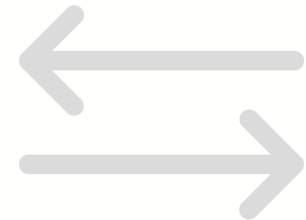


# QHIN Technical Framework (QTF) Overview



## QTF Background

- The QTF outlines the specifications and other technical requirements necessary for QHINs to accomplish exchange
- The QTF primarily addresses QHIN-to-QHIN transactions, and where possible we propose to be silent on how the necessary functional outcomes are achieved within a QHIN. Nonetheless, there are some requirements that must be enforced at the Participant and Subparticipant level.



## QTF Background

- The Common Agreement will require compliance with the QTF.
- The RCE is responsible for working with ONC to develop the QTF.
- ONC published an initial QTF draft in April 2019, along with [TEFCA Draft 2](#).
- We sought feedback in previous sessions on a variety of topics, including the use of FHIR, standards for Message Delivery, and a number of more detailed technical points.
- RCE analyzed stakeholder feedback and published a more comprehensive QTF Draft 2 in July 2021.



# Elements of the QHIN Technical Framework

## Supported Information Flows:

- Patient Discovery
- Document Query & Retrieve
- Message Delivery

## Functions and Technology to Support Exchange:

- Certificate Policy
- Secure Channel
- Mutual QHIN Server Authentication
- User Authentication
- Authorization and Exchange Purpose
- Patient Identity Resolution

## Approach:

- Build from current capabilities
  - Deploy known standards
  - Keep an eye toward future approaches
- 
- Individual Privacy Preferences
  - Directory Services
  - Auditing
  - Error Handling
  - Onboarding and Testing

# Exchange Modalities



## Query

- Patient Query
- Document Query
- Document Retrieve



## Message Delivery

- Message Delivery

# Query

# QHIN Query – Background



- The QTF requires QHINs to support an exchange paradigm called “QHIN Query”, in which information is requested from other QHINs in either a targeted or “all QHINs” fashion.
- QTF Draft 2 specifies QHIN Query to be accomplished by SOAP-based IHE profiles.
- QTF Draft 2 fleshed out the Draft 1 requirements with reliance on existing Carequality specifications.

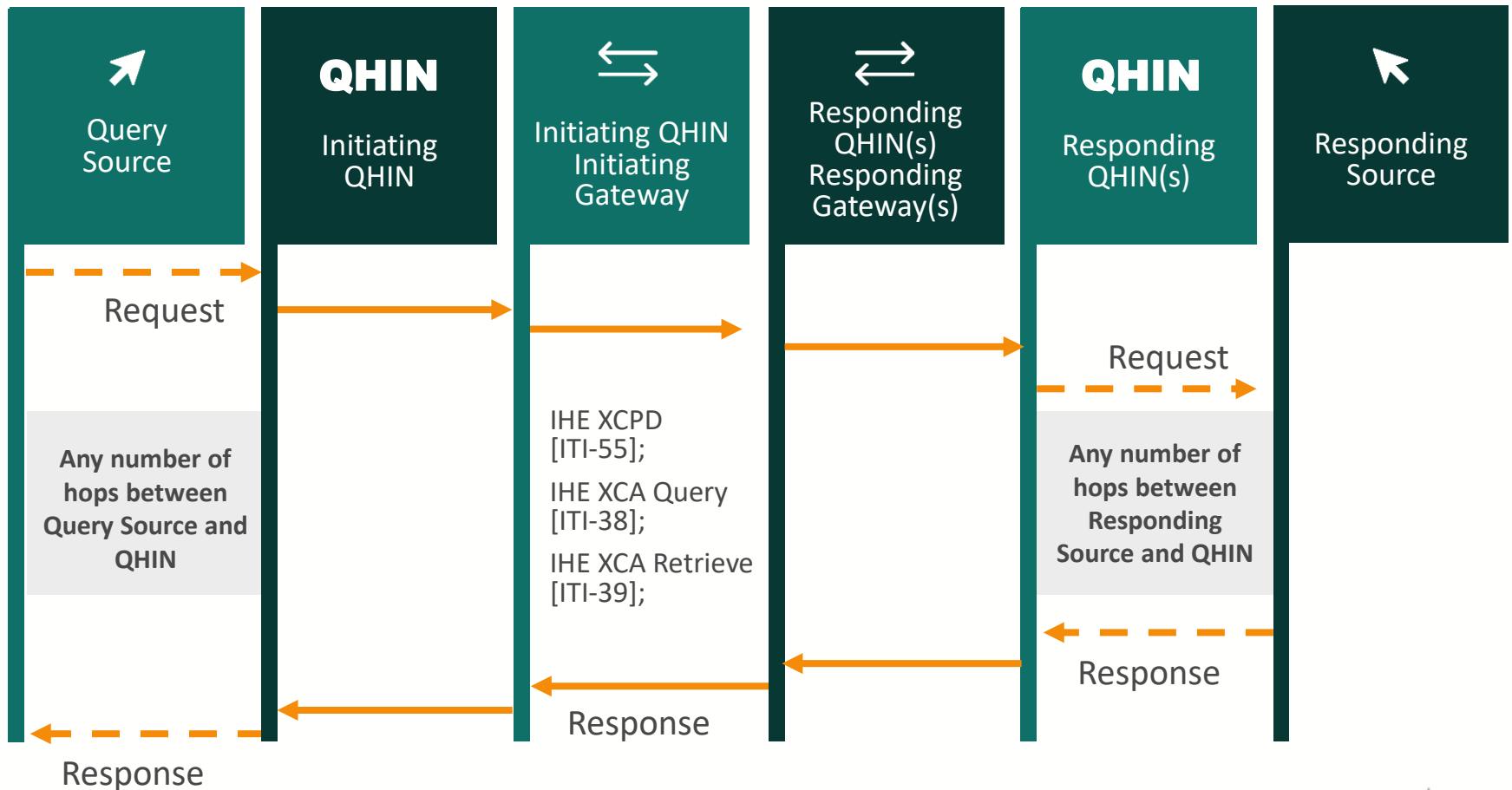
## QHIN Specified Standards - Query



Exchange Functions	Specified Standard(s) / Profile(s)
Secure Channel	<ul style="list-style-type: none"><li>• IETF TLS 1.2 w/ BCP-195 or IETF TLS 1.3</li></ul>
Mutual Server Authentication	<ul style="list-style-type: none"><li>• IETF TLS</li></ul>
User Authentication	<ul style="list-style-type: none"><li>• IHE XUA</li></ul>
Authorization & Exchange Purpose	<ul style="list-style-type: none"><li>• IHE XUA</li></ul>
<b>QHIN Query for Patients</b>	<ul style="list-style-type: none"><li>• IHE XCPD</li></ul>
<b>QHIN Query for Documents</b>	<ul style="list-style-type: none"><li>• IHE XCA</li></ul>
Auditing	<ul style="list-style-type: none"><li>• IHE ATNA</li></ul>



# Information Exchange Modalities



# Message Delivery

# QHIN Message Delivery – Background



- The QTF requires QHINs to support an exchange modality called “QHIN Message Delivery”, in which information is delivered (or “pushed”) by one QHIN to another, either for the receiving QHIN’s own use or for it to forward on to a designated recipient system or user among its Participants/Subparticipants.
- Potential use cases for QHIN Message Delivery include (but are not limited to):
  - Messaging between provider organizations.
  - Submission of public health reporting data.
  - Submission of information from provider organizations to payers.
  - Notifying relevant parties of events, care plan updates, or recommended clinical actions (e.g. alerts).
- Received lots of conflicting feedback on whether Message Delivery should be implemented now or whether we should wait for FHIR.

## Request for Feedback:

### Should QTF include QHIN Message Delivery?

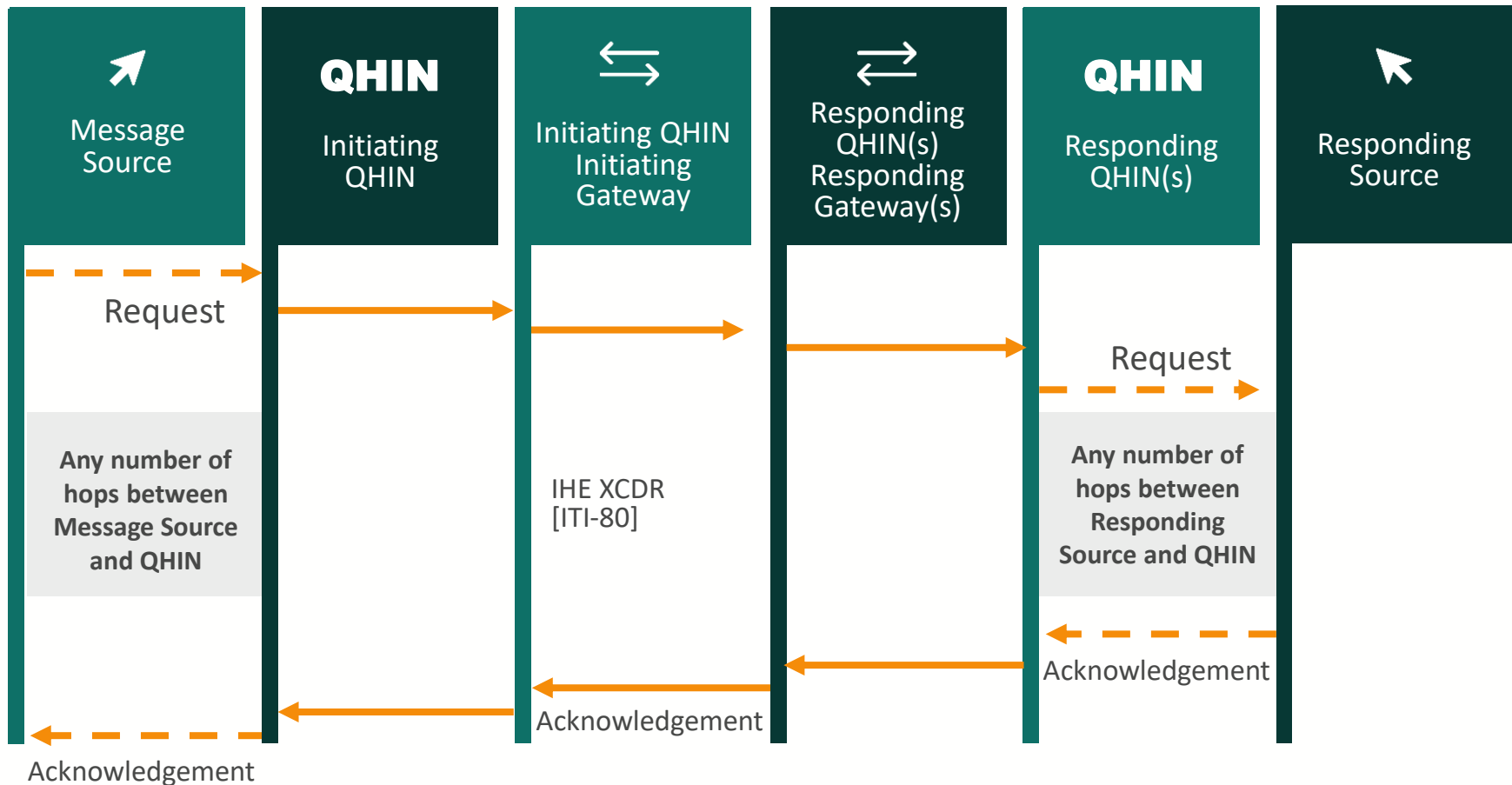
- Option 1: **Require** “QHIN Message Delivery” modality in QTF using the Integrating the Health Care Enterprise (IHE) Cross-Community Document Reliable Interchange (XCDR) profile with a future transition to FHIR; or
- Option 2: **Defer** “QHIN Message Delivery” from QTF until a FHIR based solution is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

## QHIN Specified Standards – Message Delivery



Exchange Functions	Specified Standard(s) / Profile(s)
Secure Channel	<ul style="list-style-type: none"><li>• IETF TLS 1.2 w/ BCP-195 or IETF TLS 1.3</li></ul>
Mutual Server Authentication	<ul style="list-style-type: none"><li>• IETF TLS</li></ul>
User Authentication	<ul style="list-style-type: none"><li>• IHE XUA</li></ul>
Authorization & Exchange Purpose	<ul style="list-style-type: none"><li>• IHE XUA</li></ul>
<b>QHIN Message Delivery</b>	<ul style="list-style-type: none"><li>• IHE XCDR</li></ul>
Auditing	<ul style="list-style-type: none"><li>• IHE ATNA</li></ul>

# Information Exchange Modalities



# Participants and Subparticipants



# Participant / Subparticipant Requirements

- Most requirements apply to QHINs
- See “Constraints for Participants and Subparticipants” for flow down technical requirements, including:
  - C-CDA 2.1
  - Include all available demographics
  - USCDI V1 data classes/elements
  - MUST handle parsing of (Instance) Access Consent Policy
  - Audit logging
  - TLS 1.2+ between Participant and QHIN
- Other requirements will be set by QHINs on their own Participants, including:
  - Patient lookup – RLS, QHIN-level eMPI, federated
  - Specific connectivity between QHIN and Participant

## When Will TEFCA Have FHIR?

- FHIR roadmap planned for release with the final QTF Version 1.
- Value of FHIR based exchange when using certified health IT
- Need to address concerns based on QHIN-to-QHIN exchange model:
  - Security model with multi-hop.
  - OAuth not designed for multi-hop.
    - Originating user unknown to responder.
  - Routing RESTful transactions over multi-hop
- We are asking for feedback on how to support FHIR-based exchange in the future.



# Discussion

# Public Input Opportunities

# Multiple Opportunities for Stakeholder Engagement

## QHIN Technical Framework

- **Essential Elements of QTF:  
A Technical Overview webinar**  
August 18 from 3:00 – 5:00pm ET
  - <https://register.gotowebinar.com/register/3460287754040093966>
- **QTF feedback form  
on the RCE website**
  - <https://rce.sequoiaproject.org/ghin-technical-framework-feedback/>

## HIMSS21 In-Person Sessions

- Preconference Interoperability and Health Information Exchange Symposium – August 9
- ONC TEFCA Update From the RCE – August 12

## Presentation to the Health IT Advisory Committee (HITAC)

- October 13



**Sign up for webinars at:**

<https://rce.sequoiaproject.org/>



**Questions?**

Email us at [rce@sequoiaproject.org](mailto:rce@sequoiaproject.org)



# Questions & Answers