

1 BACKGROUND

The eHealth Exchange transitioned from a federated architecture to a centralized architecture with the implementation of a central gateway known as the eHealth Exchange Hub.

In the federated architecture, most Participants executed directed queries – querying for a specific patient at a specific location. Some Participants initiated a directed query for a single patient that is sent to all of the Participant’s connected nodes to determine if there is information for that patient. Typically, this is sent to Participants within a certain geographic radius using zip code, or manually specified. This is often automatically triggered based on an event such as a scheduled appointment and is often referred to as an ‘auto-query’ or a ‘pre-fetch’. As an example, the Veteran’s Health Administration (VHA) initiates a type of directed query similar to the query described above; however, it involves sending thousands of directed queries to almost **all** Participants, for the same patient to discover where the patient may exist. As an example, the VHA will send 200+ directed Patient Discovery messages for a given patient that will then go to 200+ Participants. The VHA’s directed queries are different due to the volume and the extensive number of organizations that are queried.

The VHA and Department of Defense (DoD) plan to begin initiating directed queries for a single patient to the Hub, where the Hub would fan-out the Patient Discovery message as a Broadcast query to all Participants.

2 PURPOSE

The use of directed queries (including auto-query and the VHA-type of query) and broadcast queries by all Participants may be desirable and would be more easily facilitated by the Hub. The Coordinating Committee has determined that official guidance is needed (in lieu of formal policy). This document provides additional guidance for the use of directed and hub-brokered broadcast queries. The eHealth Exchange has adopted the draft Trusted Exchange Framework (TEF) definitions for directed and broadcast queries as listed in Section V.

3 DESCRIPTION

During the eHealth Exchange Hub initial rollout and until this Guidance is updated, the VHA and the DoD are the only Participants allowed to initiating directed queries for a single patient to the Hub, where the Hub fans-out the Patient Discovery message as a Broadcast query to most Participants. All other Participants may continue to initiate the directed queries (including ‘auto-queries’ and ‘pre-fetch’ queries) they initiate via point to point connections, but the Hub should not be configured to fan-out non-VHA/DoD directed queries as Broadcast queries to most Participants unless and until this Guidance is updated to permit that expanded behavior.

During the first six months VHA and DoD initiated directed queries are fanned-out by the Hub as Broadcast queries to most Participants, eHealth Exchange staff will monitor and analyze the following concerns and provide a summary of the analysis to the Coordinating Committee to inform further policy decisions:

- The volume of messages from the VHA and DoD utilizing this capability and how that would scale if more Participants had this capability.
- Performance issues experienced by Participants due to the responding gateways receiving a significantly higher number of queries.
- Performance and cost issues experienced by the Hub in facilitating this behavior by more or all Participants.

The goals of this effort are:

- To allow Participants to continue to initiate broad searches for a given patient with many or all connections.
- To prepare for potential Trusted Exchange Framework (TEF) Qualified Health Information Network (HIN) requirements.
- To assess the need for Record Locator Service (RLS) capabilities instead of Hub-brokered Broadcast queries.
- Even though the Hub won’t consolidate documents from multiple gateways for a given patient, begin to think about if/how the Hub might facilitate provenance (PHI source), especially if required by the TEF.

4 OPT-OUT

Participants concerned about receiving more queries than their gateways can accommodate should be able to opt-out of responding to Broadcast queries but may fulfill the DURSA Duty to

Respond by responding to any directed queries initiated by the VHA and DoD. Participants may opt-out of broadcast queries by notifying administrator@ehealthexchange.org.

5 BEST PRACTICE RECOMMENDATIONS

This document will be updated with best practices at the conclusion of a six-month observation period as more monitoring information becomes available.

6 ADDITIONAL CONSIDERATIONS

Results and analysis will be presented to the Coordinating Committee after the six-month observation period. At that time, the Coordinating Committee might consider expanding the use of Hub-brokered broadcast queries to other Participants, and/or implementing brokered broadcast query services via the Hub utilizing an RLS. The Coordinating Committee might also determine whether additional guidance is needed or if a more formal OPP is needed.

7 DEFINITIONS

Broadcast Query: An electronic method of requesting Electronic Health Information (EHI) (sometimes referred to as a “pull”) that asks all Qualified HINs and their Participants and End Users if they have EHI of an individual or set of individuals rather than asking specific Qualified HINs and their Participants and End Users if they have EHI of an individual or a set of individuals.

Brokered Broadcast Query: A Broadcast Query that:

- uses a Record Locator Service to identify all locations in the Qualified HIN’s network (including its Participants and their End Users) that hold an individual’s EHI,
- queries all such locations simultaneously,
- retrieves all of the individual’s EHI from such locations, and
- transmits it back or makes it available to the person or entity that initiated the query.

For example, and without limitation of the foregoing, a Broadcast Query that asks for only limited EHI about an individual (such as individual EHI only in certain zip codes) is not a

Brokered Broadcast Query unless the limitation was imposed by the person or entity that initiated the Broadcast Query.

Directed Query: An electronic method of requesting EHI (sometimes referred to as a pull) that asks only specific Participants and/or End Users if they have EHI on an individual or set of individuals.

Connectivity Broker: A service provided by a Qualified HIN that provides all of the following functions, as further described in the draft TEF, with respect to all Permitted Purposes:

- Master patient index (federated or centralized);
- Record Locator Service; all types of Queries/Pulls; and
- EHI return to an authorized requesting Qualified HIN.

The Qualified HIN's Broker service must return EHI from across all of the Qualified HIN's Participants and their End Users in a single transaction or, upon request of the initiating Qualified HIN, provide a list of all EHI locations back to the initiating Qualified HIN's Broker and, if further requested by the initiating Qualified HIN, subsequently return the requested EHI to the initiating Qualified HIN.

Query/Pull: includes both Directed Query and any type of Broadcast Query.