Clinical Data Repository Patient Matching Update

August 17, 2017
Agenda

• Background on Patient Matching
  – Standards
  – What we know about CDR match data
  – What we did to match

• What we heard

• New match flows
  – Submitting the ProviderOne (P1) identifier with demographics
  – Submitting the SSN with demographic
  – CCDs with multiple names
Standards

• PIX – query to get an identifier – submit a known identifier and receive back the identifier the queried system/repository is looking for.
  – OHP HIE does not accept external PIX queries currently since it normally implies you are registering the external identifier and that is not currently supported – only Sponsors can register lives in the system

• PDQ – query to find an identifier using demographics
  – Returns the Sponsor ID, the Global ID and MPI-stored demographics
What We Heard about Standards

- Vendors are not ready to use PDQ to get identifiers from CDR
- Many practices don’t store Sponsor’s Patient ID (P1)
- Don’t want to manually look up identifiers
- Don’t want to store and program OIDs assigned by the HIE – have OIDs from vendors or large enterprise
CDR Hosted “Assist” Workflows

• Patient Identifier help – can accept:
  – Patient demographics
  – Sponsor identifiers
  – CDR Global Patient identifier
  – PDQ to supply CDR Global Patient Identifier

• Facility Identifier help – can accept:
  – Direct address of a facility
  – OID issued by OHP HIE
  – OID issued by vendor
  – OID registered to entity organization

• Direct address or OIDs not known to OneHealthPort must be reported prior to testing.
What We Know

• HCA Medicaid eligibility data changes at a higher rate than commercial insurance eligibility
• High frequency of changes to address information make it less reliable as a match criteria
• HCA collects SSN and reports it to the CDR for use in supporting matching records
• The CDR is NOT a community MPI – it is a sponsor repository and the matching is intended to support the CDR based on what HCA provides
• While the CDR software can do weighting and probabilistic and deterministic logic matching for new lives added by a sponsor, it does not offer that same logic for lives being queried using a PIX or PDQ or included in a C-CDA document submission demographic section.
Known Global ID

- CCD received with CDR OID – indicates system should look for Global ID
- Patient Match found – global ID verified
- Global ID used in ITI-41 and CCD submitted to CDR
Sponsor ID Match

1. CCD Received: Get Patient ID recordTarget.PatientRole OR intendedRecipient

2. Sponsor OID
   - Yes: Use ID as Sponsor Patient ID
   - No: Use Vendor ID and OID (will error in ITI41)

3. Patient Found?
   - Yes: SEND ITI-41
   - No: Return to Sponsor OID
PDQ Based on Demographics

1. **PDQ – Demographics**
   - First Name
   - Last Name
   - DOB

2. **Patient Found?**
   - Yes: Use ID as Global ID
   - No: Use Vendor ID and OID (will error in ITI41)

3. **SEND ITI-41**
Old Match Options

• If the Sponsor OID is used and the Sponsor Patient identifier is included, it currently does a match based on the Sponsor Patient ID alone similar to the Global ID match.

• If no identifiers are provided the match is made on a PDQ using first name, last name, date of birth.

• If no match is found the CCD is rejected by the CDR for no patient match.
What We Heard

• Had not been accepting the SSN as a possible match field – some vendors support this field.
• Concerns that the Sponsor Patient Identifier or the SSN could have keying errors and should not be trusted as a single match.
• Observed more CCDs coming with multiple patient names in the demographic section.
• *What we did...*
  – Looked at ways to alter our proxy PDQ workflow to incorporate multiple checks before failing a match.
New Patient Matching

• If Sponsor ID matches submitted ID
  – check DOB (in CCD with system record) to verify 2\textsuperscript{nd} attribute match
  – if no match then move to PDQ using FN/LN/DOB

• Added SSN match, if there is a match
  – check DOB (in CCD with system record) to verify 2\textsuperscript{nd} attribute match
  – if no match then move to PDQ using FN/LN/DOB
  – Can accept SSN with or without dashes

• Added logic to handle multiple names in CCD
  – Look for “L” = legal name qualifier and use that in PDQ
  – If no “L” qualifier found – take first name on the list for PDQ

• The order of the Patient Identifier entry in the C-CDA document no longer matters, we now review all fields regardless of order.
Questions/Discussion

Other ideas we should explore
Thank You for Your Feedback
Appendix

- Slides included for reference use
- Updated to reflect new proxy PDQ workflow
# C-CDA Submission Options

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
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</table>
| **Connectivity Pathways** | OneHealthPort CDR accepts C-CDA data submissions using:  
  • AS2 connectivity - XDS.b or C-CDA  
  • Web Services - ITI-41 XDS.b protocol  
  • Direct Messaging - XDR and XDM |
| **Message Format**     | OneHealthPort CDR accepts:  
  • XDS.b - Simple soap, and MTOM  
  • Direct - Single C-CDA per message |
| **Organization Identifiers** | OneHealthPort CDR will accept:  
  • OneHealthPort HIE assigned OID  
  • Organization’s OID already in use in C-CDA messages  
  • OID assigned by organization’s vendor or obtained by organization  
  • Direct address if using Direct delivery |
| **Patient Identifiers** | OneHealthPort CDR runs patient demographic query (PDQ) on C-CDA messages using patient demographic information after checking:  
  • Sponsor Identifier if supplied  
  • Social Security Number (SSN) if supplied  
  • Cross checks match with demographics from the C-CDA |
Patient Identification

CDR accepts C-CDA submissions for known sponsored patients. CDR supports four approaches for patient matching.

<table>
<thead>
<tr>
<th>Matching By:</th>
<th>Operational Considerations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDR Global Patient Identifier</td>
<td>Best option for patient matching result for C-CDA data submissions. PDQ is run before submission to obtain patient identifier or list of “possible matches” to select from for insertion of identifiers into the C-CDA Patient Role section of the message header.</td>
</tr>
<tr>
<td>Sponsor Patient Identifier</td>
<td>Next best option for patient matching result for C-CDA data submissions. No PDQ required if the organization knows and has the patient identifier for use in the C-CDA.</td>
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<tr>
<td>Social Security Number (SSN)</td>
<td>HCA has provided the SSN to the CDR as an alternate match option if the provider organization stores this information on the patient. This is now a supported match (with or without dashes in the SSN). Social Security OID: 2.16.840.1.113883.4.1</td>
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<tr>
<td>Patient Demographics Submitted in C-CDA</td>
<td>CDR will programmatically run a PDQ using patient demographics for C-CDAs submitted without a known patient identifier. If no exact match found from demographics, CDR will return “no match” error and error handling processes will need to be managed by the organization.</td>
</tr>
</tbody>
</table>
Using Known Patient Identifiers

- If the provider organization knows the Sponsor’s patient identifier, then this identifier and the Sponsor’s CDR object identifier (OID) can be inserted into the C-CDA before submission to the CDR.

- Sponsor patient identifier is inserted in the patient role id extension attribute section of the C-CDA.

- The Sponsor CDR OID is inserted in the patient role id root attribute section of the C-CDA.

- The second id extension attribute pictured is the source (sending) organization’s unique patient identifier (typically a medical record number MRN), and the id root attribute must be the source organization’s OneHealthPort HIE assigned OID or the organization’s OID reported to OneHealthPort for use with the C-CDA submissions. This is a required id element as it will be validated at the CDR and error if it is not a recognized OID.
Using PDQ Before C-CDA Submissions

If the provider organization does not know the patient identifier, then this identifier and the CDR object identifier (OID) can be obtained using a PDQ.

- **CDR Global patient identifier** is returned in the PDQ response and inserted in the patient role id extension attribute section of the C-CDA.
- The **CDR OID** is returned in the PDQ response and inserted in the patient role id root attribute section of the C-CDA.
- The second id extension attribute pictured is the source (sending) organization’s unique patient identifier (typically a medical record number MRN), and the id root attribute must be the source organization’s OneHealthPort HIE assigned OID or the organization’s OID reported to OneHealthPort for use with the C-CDA submissions. This is a required id element as it will be validated at the CDR and error if it is not a recognized OID.

**Querying For Identifiers**

- **CDR Sponsor and sponsor’s patient identifier is unknown:**
  - `<patientRole>`
  - `<id extension="1234567" root="1.3.6.1.4.1.38630.3"/>
  - `<id extension="135792468" root="1.3.6.1.4.1.38630.2.1.1.10"/>"