What issues are we trying to solve?
What is our proposal?
Where did the data come from?

Source of Information / Data Provenance

- What organization or organizations contributed content to the CDA instance?
- Through what software was that content created?
- Under what patient identifiers (both global and local) was the content reported?
- Did a patient, payer, or provider contribute the content?
Two Key Scenarios

Multi-Source CDA
- CDA is generated by a single organization
- Content within comes from a mixture of organizations
- Examples:
  - A community shares a CDA-based summary with its home state
  - A state shares a statewide summary with another state

Single-Source CDA
- CDA is generated by a single organization
- All content within was created by this same organization
- Examples:
  - A hospital sends a CDA-based discharge summary to a RHIO
  - A PCP sends a CDA-based referral to a specialist
  - A lab sends a CDA-based lab report to a PCP
### Contrast these Two Scenarios

<table>
<thead>
<tr>
<th>Multiple-Source CDA</th>
<th>Single-Source CDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The concepts of “primary” and “secondary” information sources are present.</td>
<td>1. Only a “primary” information source exists.</td>
</tr>
<tr>
<td>2. There are multiple clinical software sources represented in the CDA.</td>
<td>2. There may be multiple clinical software solutions represented in the CDA, but often not.</td>
</tr>
<tr>
<td>3. There are “global” and “local” patient identifiers present in the resulting CDA.</td>
<td>3. There may be “global” and “local” patient identifiers present in the resulting CDA, but often only a single identifier is reported.</td>
</tr>
<tr>
<td>4. Some content might have come from a provider, while other content came from a patient, payer, or other “profile” of person.</td>
<td>4. More than likely, all content comes from a single “profile” of person.</td>
</tr>
</tbody>
</table>
What issues are we trying to solve?

What is our proposal?
- Define or re-define key concepts
- Represent these concepts in CDA
Define or Re-Define Important Concepts

**Author**
- The humans and/or machines that created the document
- Primary author appears in CDA header
- Secondary authors appear in CDA entries

**Informant**
- The people or organizations that contributed content
- Primary informant appears in CDA header
- Secondary informant appear in CDA entries
Define or Re-Define Important Concepts

Qualified Organization
- A data-providing organization that reported content, acting as an informant
- Example: NYC Health and Hospitals Corporation

Qualified Sub-Organization
- A data-providing facility, a member of a parent organization, that reported content, acting as an informant
- Example: Coney Island Hospital or Bellevue Hospital
Define or Re-Define Important Concepts

**Affinity Domain**
- An organization or group of cooperative organizations that – among many things – make use of a single shared Master Patient Index (MPI)
- All data source systems within the domain agree to link their local patient identifiers under a common global patient identifier assigned by a common MPI

**Primary Patient Identifier**
- The single, global patient identifier that uniquely identifies a patient within an affinity domain

**Secondary Patient Identifier**
- A medical record number or other local identifier issued by a member organization of the affinity domain
- This identifier is linked together with other local identifiers underneath the primary patient identifier
Define or Re-Define Important Concepts

**Provider**
- A clinician that used an EMR or other clinical system to contribute content
- Generally considered highest-quality data

**Patient**
- A patient that used a PHR or other personal system to contribute content
- Generally considered lower-quality data than provider data

**Payer**
- A health plan that used a Claims Management system to contribute content
- Generally considered to be less clinically accurate than provider data
Agenda

- What issues are we trying to solve?
- What is our proposal?
  - Define or re-define key concepts
  - Represent these concepts in CDA
<ClinicalDocument xmlns="urn:hl7-org:v3">
  ...
  <author typeCode="AUT">
    <assignedAuthor classCode="ASSIGNED">
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        <addr use="WP">
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  </author>
  ...
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  <assignedAuthor classCode="ASSIGNED">
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    <representedOrganization>
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      <telecom use="WP" value="tel:(212) 562-0100"/>
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        <country>USA</country>
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      <telecom nullFlavor="NI"/>
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      <representedOrganization>
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          <country>USA</country>
        </addr>
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  ...
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Secondary Informant (Qualified Organization)

<entry typeCode="DRIV">
  <act classCode="ACT" moodCode="EVN">
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    <informant>
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          <name>Bellevue Hospital</name>
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            <state>NY</state>
            <postalCode>10028</postalCode>
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    ...
  </act>
</entry>
Secondary Informant (Qualified Sub-Organization)

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        <addr nullFlavor="NI"/>
        <telecom nullFlavor="NI"/>
      </assignedEntity>
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        <representedOrganization>
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          <name>Bellevue Hospital</name>
          <telecom nullFlavor="NI"/>
          <addr use="WP">
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        <wholeOrganization>
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          <telecom use="WP" value="tel:(212) 562-0100"/>
          <addr use="WP">
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    </informant>
  </act>
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Primary Patient Identifier

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      <addr nullFlavor="NI"/>
      <telecom nullFlavor="NI"/>
      <assignedPerson><name nullFlavor="NI"/></assignedPerson>
      <representedOrganization>
        <id root="2.16.840.1.113883.3.176" extension="HHC"/>
        <name>NYC Health and Hospitals Corporation</name>
        <telecom nullFlavor="NI"/>
        <addr use="WP">
          <streetAddressLine>160 Water Street</streetAddressLine>
          <city>New York</city>
          <state>NY</state>
          <postalCode>10038</postalCode>
          <country>USA</country>
        </addr>
      </representedOrganization>
      <sdtc:patient>
        <sdtc:id root="2.16.840.1.113883.3.176" extension="MRN-12345" assigningAuthorityName="NYC Health and Hospitals"/>
      </sdtc:patient>
    </assignedEntity>
  </informant>
  ...
  <entry typeCode="DRIV">

Secondary Patient Identifier
Functional Role of Human Source

Provider Source

<author typeCode="AUT">
  <functionCode code="PROV" codeSystem="2.16.840.1.113883.5.110" displayName="Healthcare Provider"/>
  ...
</author>

Patient Source

<author typeCode="AUT">
  <functionCode code="PAT" codeSystem="2.16.840.1.113883.5.110" displayName="Patient"/>
  ...
</author>

Payor Source

<author typeCode="AUT">
  <functionCode code="PAYOR" codeSystem="2.16.840.1.113883.5.110" displayName="Payor"/>
  ...
</author>
CDA Provenance Proposal

Michael LaRocca