Multiple Chronic Conditions (MCC) eCare Plan
HL7 Patient Care Work Group Meeting

March 9, 2022

Emma Jones
Dave Carlson
Karen Bertodatti
Savanah Mueller
Professional Associations, such as HL7, which bring together competing entities are subject to strict scrutiny under applicable antitrust laws. HL7 recognizes that the antitrust laws were enacted to promote fairness in competition and, as such, supports laws against monopoly and restraints of trade and their enforcement. Each individual participating in HL7 meetings and conferences, regardless of venue, is responsible for knowing the contents of and adhering to the HL7 Antitrust Policy as stated in §05.01 of the Governance and Operations Manual (GOM).
<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACIO x Care Planning Connectathon Track Discussion</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Care Planning Connectathon Track Participation</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Provider and Patient/Caregiver App Demo and Discussion</td>
<td>35 minutes</td>
</tr>
</tbody>
</table>
PACIO x Care Planning Connectathon Track Discussion

- PACIO track: https://confluence.hl7.org/display/FHIR/2022-05+PACIO+Integration+of+Post-Acute+Care+IGs
- Care Planning track: https://confluence.hl7.org/display/FHIR/2022-05+Care+Planning
## Agenda

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACIO x Care Planning Connectathon Track Discussion</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Care Planning Connectathon Track Participation</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Provider and Patient/Caregiver App Demo and Discussion</td>
<td>35 minutes</td>
</tr>
</tbody>
</table>
Care Planning Track for May 3-4, 2022 Connectathon 30:

- Track leads: Dave Carlson and Emma Jones
- Track topic: Continue goals discussion with focus on relationships with interventions and outcomes.

Looking to coordinate on:

- Opportunities to discuss and test goals and relationships with goals, including interventions and outcomes.
- Opportunities to co-host sessions with other tracks.

Care Planning Track Page (In progress): https://confluence.hl7.org/display/FHIR/2022-05+Care+Planning
Care Planning Track Participation

- Sign up for the Care Planning Track:
  https://confluence.hl7.org/display/PC/Connectathon+Track+Participation+Sign+Up
<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACIO x Care Planning Connectathon Track Discussion</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Care Planning Connectathon Track Participation</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Provider and Patient/Caregiver App Demo and Discussion</td>
<td>35 minutes</td>
</tr>
</tbody>
</table>
SMART on FHIR eCare Apps Update

- Work accomplished in Year 3 to date include:
  - Evaluating inherited interoperability infrastructure and app design,
  - Developing infrastructure architecture strawman,
  - Building prototype for patient/caregiver app v2.0,
  - Setting up the sandbox environment on Azure cloud for demonstration and testing, and
  - Forming an agile development team with RTI/OHSU.

**SMART on FHIR application deliverables:**
- Pilot-tested patient-, clinician-, and caregiver-facing e-care plan applications that integrate with the EHR to pull, share, and display key patient data.
Provider Application Update

Provider app revision and expansion.

- Undergoing usability testing from providers including primary care, nephrology, and skilled nursing (rehab).
- Incorporating initial feedback from OHSU providers in iterations including user experience improvements.
**Patient/Caregiver Application Update**

**Patient/Caregiver app v2.0 prototype**
- One common app with additional behavior depending on role.
- No dependency on any application server middleware.
- Communicates directly with any FHIR endpoint.
- Can be quickly configured to be pilot-tested with any patient or caregiver at any health system with a patient portal login, based on Cures Act access requirements, including Epic, Cerner, Allscripts, VA, and others.

**What’s next**
- Using value sets to filter/sort and present data.
- Authoring patient goals.
- MVP features for caregiver perspective e.g., patient face sheet.
• One common app with differentiating content and behavior depending on role and patient/caregiver preferences.
• No dependency on any application server middleware.
• Communicates directly with any FHIR endpoint
  • **Optional** (does not require) FHIR Façade with expanded capability
• Rapid dissemination of application to other providers with little or no setup effort or cost.
  □ Can be quickly configured to be pilot-tested with any patient or caregiver at any health system with a patient portal login, based on 21st Century Cures Act access requirements, including Epic, Cerner, Allscripts, VA, and others.
Use of CQL in Patient/Caregiver App

Using CQL for interoperable, standards-based logic
• Apply MCC data elements to classify, sort, and summarize data
• Derive non-explicit relationships between data elements
  – Condition -> Goal(s)
  – Goal -> most recent result observation
  – Goal -> conditions addressed -> supporting intervention(s)
• Derive patient/caregiver notifications
  – Goal is overdue
  – Lab result is outside of reference range, or does not satisfy Goal target
• MCC logic can be extended by other projects
  – CDS Hooks running on server to suggest MCC Provider app based on triggers
  – Expand to include clinical guideline recommendations, e.g. preventive care
Thank You!

National Institute of Diabetes and Digestive and Kidney Diseases
MCC eCare Project Deliverables*

1. Data elements, value sets, clinical information models, and FHIR mappings to enable standardized transfer of data across health and research settings for kidney disease, diabetes, cardiovascular disease, chronic pain, and long-term COVID.

2. Pilot tested patient-, clinician-, and caregiver-facing e-care plan applications that integrate with the EHR to pull, share, and display key patient data.

3. HL7® Fast Health Interoperability Resource (FHIR®) Implementation Guide based on defined use cases and standardized MCC data elements, balloted for trial use.

*All deliverables will be open-source and freely available.
Project Year 3 Roadmap: Fall 2021 - Fall 2022

- **Award date:** 09/30/2021
- **Project Kick-off:**
- **TEP Kick-off:**
- **TEP Meeting:**
- **Contract Monitoring Board:**
- **Federal Partner Meeting:**
- **End of base year:** 09/29/2022

**Deliverable:**
- **Where we are**
- **Value sets/Profiles**
- **Apps/IG**
- **Agile iterations**

**Legend:**
- **Project Kick-off**
- **TEP Kick-off**
- **TEP Meeting**
- **Contract Monitoring Board**
- **Agile iterations**

**Key Dates:**
- **Project Kick-off**
- **TEP Kick-off**
- **End of base year:**

**Key Activities:**
- **Review existing value sets (CKD, CVD, T2D, chronic pain)**
- **Identify 100 PASC and Caregiver data elements**
- **Submit value sets for TEP review (PASC, Caregiver)**
- **Build new value sets in VSAC**
- **TEP approval (PASC, Caregiver value sets)**
- **Build/Iterate MVP patient/caregiver app**
- **Map domain (CKD, CVD, T2D, chronic pain, PASC) and Caregiver data elements to FHIR profiles**
- **Submit value sets for TEP review (PASC, Caregiver)**
- **Build new value sets in VSAC**
- **Value sets in VSAC**
- **Federal Partner Meeting**
- **Contract Monitoring Board**
- **Round 1 expansion (clinician and patient apps)**
- **Pilot-ready app**
- **FHIR IG**
- **Ensure alignment of IG and apps**
- **Out of scope design path: write back capabilities for all apps into EHRs**
- **Evaluate current state of apps and IG**
- **Gather caregiver app requirements**
- **Validate design approach**
- **Expand and revise clinician app in iterations**
- **Build/Iterate MVP patient/caregiver app**
- **Expand and incorporate new profiles and value sets into FHIR IG - MCC eCare Planning**
- **Gather caregiver app requirements**
- **Validate design approach**
- **Expand and revise clinician app in iterations**
- **Build/Iterate MVP patient/caregiver app**
- **Expand and incorporate new profiles and value sets into FHIR IG - MCC eCare Planning**
- **Ensure alignment of IG and apps**
- **Out of scope design path: write back capabilities for all apps into EHRs**
<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Contact Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evelyn Gallego</td>
<td>EMI Advisors, Program Director</td>
<td><a href="mailto:evelyn.gallego@emiadvisors.net">evelyn.gallego@emiadvisors.net</a></td>
</tr>
<tr>
<td>Karen Bertodatti</td>
<td>EMI Advisors, Project Manager</td>
<td><a href="mailto:karen.bertodatti@emiadvisors.net">karen.bertodatti@emiadvisors.net</a></td>
</tr>
<tr>
<td>Savannah Mueller</td>
<td>EMI Advisors, Project Analyst</td>
<td><a href="mailto:savanah.mueller@emiadvisors.net">savanah.mueller@emiadvisors.net</a></td>
</tr>
<tr>
<td>Emma Jones</td>
<td>EMI Advisors, SME</td>
<td><a href="mailto:emma.jones@emiadvisors.net">emma.jones@emiadvisors.net</a></td>
</tr>
<tr>
<td>Himali Saitwal</td>
<td>EMI Advisors, SME</td>
<td><a href="mailto:himali.saitwal@emiadvisors.net">himali.saitwal@emiadvisors.net</a></td>
</tr>
<tr>
<td>Gay Dolin</td>
<td>Namaste Informatics, SME</td>
<td><a href="mailto:gdolin@namasteinformatics.com">gdolin@namasteinformatics.com</a></td>
</tr>
<tr>
<td>Dave Carlson</td>
<td>Clinical Cloud Solutions, Solutions Architect</td>
<td><a href="mailto:dcarlson@clinicalcloud.solutions">dcarlson@clinicalcloud.solutions</a></td>
</tr>
<tr>
<td>Sean Muir</td>
<td>JKM Software, App Developer</td>
<td><a href="mailto:sean.muir@emiadvisors.net">sean.muir@emiadvisors.net</a></td>
</tr>
<tr>
<td>Kevin Abbott</td>
<td>NIDDK, COR</td>
<td><a href="mailto:kevin.abbott@nih.gov">kevin.abbott@nih.gov</a></td>
</tr>
<tr>
<td>Jenna Norton</td>
<td>NIDDK, Program Lead</td>
<td><a href="mailto:jenna.norton@nih.gov">jenna.norton@nih.gov</a></td>
</tr>
<tr>
<td>Neha Shah</td>
<td>NIDDK, Scientific Program Analyst</td>
<td><a href="mailto:neha.shah2@nih.gov">neha.shah2@nih.gov</a></td>
</tr>
<tr>
<td>Arlene Bierman</td>
<td>AHRQ, eCare Plan Lead</td>
<td><a href="mailto:arlene.bierman@ahrq.hhs.gov">arlene.bierman@ahrq.hhs.gov</a></td>
</tr>
<tr>
<td>Djibril Camara</td>
<td>AHRQ Fellow, SME</td>
<td><a href="mailto:djibril.camara@ahrq.hhs.gov">djibril.camara@ahrq.hhs.gov</a></td>
</tr>
<tr>
<td>Janey Hsiao</td>
<td>AHRQ, Digital Healthcare Research and Quality, COR for RTI</td>
<td><a href="mailto:janey.hsiao@ahrq.hhs.gov">janey.hsiao@ahrq.hhs.gov</a></td>
</tr>
</tbody>
</table>
Additional MCC eCare Plan Project Links

- AHRQ and NIDDK Confluence Page for MCC eCare: https://ecareplan.ahrq.gov/collaborate/display/EC/eCare+Plan+Home

- HL7 Patient Care Work Group – MCC eCare Project Page: https://confluence.hl7.org/display/PC/Multiple+Chronic+Conditions+%28MCC%29+eCare+Plan