MCC e-Care Plan Project Update

HL7 Work Group Meeting
May 12, 2022
Build capacity for pragmatic, patient-centered outcomes research (PCOR) by developing an **interoperable electronic care plan** to facilitate aggregation and **sharing of critical patient-centered data** across **home-**, **community-**, **clinic-**, and **research-based** settings for people with **multiple chronic conditions** (MCC).

https://ecareplan.ahrq.gov/collaborate/
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. **HL7® Fast Health Interoperability Resource (FHIR®) Implementation Guide** based on defined use cases and standardized MCC data elements, balloted for trial use.

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

*All deliverables will be open-source and freely available.*
Three Year Roadmap

<table>
<thead>
<tr>
<th>Year</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- ▲ Contractor Deliverables
- 🍀 Connectathon
- ⭕ Data/Value Sets
- Cloud
- App dev.
- Apps testing
- MCC IG
- Apps testing
Reusing and Constraining – FHIR Care Plan

Care Plan Resource provides the framework for the IG

Care Plan Resource
MCC Care Plan Profile
FHIR R4 + Standard

Constrains the FHIR Care Plan Resource to meet the needs of an MCC Care Plan.

Improve care coordination without increasing clinician burden.
Reusing and Constraining - Two Approaches

#1 Original Approach - Specialized Profiles Created for each MCC Clinical Concept

- **Process**
  - Constrained Profile
  - FHIR Profile
  - FHIR Resource
  - FHIR Standard

- **Example**
  - CKD Profile
  - US Core Condition Profile
  - Condition Resource
  - FHIR R4 Standard

Added constraints for CKD:
- CKD value set
- Time stamps
- Cause/Etiology
- ESRD indicators

Added constraints for USA

Basic Structure – All Realms
#2 New Approach: Create Library of Value Sets

- Constrained Profile
  - FHIR Profile
    - FHIR Resource
      - FHIR Standard
  - Value Set Library
    - Process
      - FHIR Standard
      - FHIR Resource
      - FHIR Profile
      - Constrained Profile
- MCC Condition Profile
  - Condition Resource
    - Condition Resource
      - Condition Resource
      - MCC Condition Profile
      - US Core Condition Profile
      - Added constraints for USA
      - Basic Structure – All Realms
      - Added constraints for MCC eCare Plan:
        - Goal.extension:resource-pertainsToGoal (Must Support)
        - Condition.onset (Must Support)
        - Condition.recordedDate (Must Support)
Approach to Update MCC eCare Plan Draft IG

- To avoid profile proliferation, we recommend the following tactics:
  - Create MCC “Foundation” profiles and value set “library”.
  - Revisit US Core annually after January ballots and examine corresponding USCDI updates.
  - Determine if MCC-specific FHIR operations are needed.
  - Provide guidance on MCC, including:
    - FHIR Plan Definition,
    - FHIR Clinical Guidelines, and
    - Clinical Quality Language.
Foundation MCC eCare Plan Profiles

Design style #2:

MCC Condition Profile
- Must Support:
  - Goal.extension:resource-pertainsToGoal
  - Condition.onset
  - Condition.recorded date

MCC Procedure Profile
- Must Support:
  - Procedure.extension:resource-pertainsToGoal
  - Procedure.code
  - Procedure.reasonReference

MCC Goal Profile
- Must Support:
  - Goal.measure
  - Goal.expressedBy
  - Goal.addresses
  - Goal.outcomeReference
  - Goal.extension:goal-acceptance
  - Goal.extension:reasonRejected
  - Goal.extension:goal-relationship
  - Goal.extension:barrier [NEW]
  - Goal.extension:protective-factor [NEW]

MCC Lab Profile
- Must Support:
  - Observation.extension:resource-pertainsToGoal
  - Observation.code
  - Observation.basedOn

The IG will contain a page with lists of VSAC-housed value sets organized by profile type.
• In progress: https://build.fhir.org/ig/HL7/fhir-us-mcc/
Points to Consider

Goal Resource
- Goal relationship with interventions - direction of reference
- Goal progression - use of Clinical Impression resource
- Goal target measure limitation

Stewardship/Ownership/Reconciliation
- Responsibility for resolving references in FHIR Bundles when exchanging data between organizations. For example, who could/should/would resolve bundle content to limit duplications?
- Facilitated thoughtful discussions around shared care plans, comprehensive care plans, and specific care plans, especially regarding workflow considerations and technical approaches for data integrity and references between resources.
## Treatment Plan vs Plan of Care vs Care Plan

<table>
<thead>
<tr>
<th>Treatment plan</th>
<th>Plan of care (POC)</th>
<th>Care plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ex. Physical therapy treatment plan</em></td>
<td><em>Ex. Acute care POC, Home care POC</em></td>
<td><strong>Overarching, longitudinal blueprint of prioritized concerns, goals, and interventions.</strong></td>
</tr>
<tr>
<td>Focuses on a specific health concern.</td>
<td>Discipline-specific set of related problems or health concerns. Different plans of care require reconciliation into a single care plan.</td>
<td>Includes all sites and all team members (patients &amp; unpaid caregivers).</td>
</tr>
<tr>
<td>Typically managed by one clinician.</td>
<td>Typically managed by discipline specific caregivers.</td>
<td></td>
</tr>
</tbody>
</table>

Use of CQL in the SMART-on-FHIR App

- Developing CQL logic that uses IG value sets to classify data elements and provide decision support for patient-centered goal management.
Background Information

National Institute of Diabetes and Digestive and Kidney Diseases
# MCC eCare Team Project Contacts

<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>Savanah 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>Himali Saitwal</td>
<td>EMI Advisors, Terminology SME</td>
<td><a href="mailto:himali.saitwal@emiadvisors.net">himali.saitwal@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>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>
MCC eCare Project Governance Model

MANAGEMENT TEAM

DEVELOPMENT

REAL-WORLD TESTING

Federal Partner Committee

Contract Monitoring Board

Technical Expert Panels (TEP)

HL7 Patient Care Work Group (PCWG)

NIDDK

EMI Advisors

AHRQ

RTI International

Oregon Health & Science University (OHSU)
History of Federal Investment in Care Planning/Coordination

Over a decade of federal investment in advancing the development and use of standards for care planning and related care coordination activities

- **ONC**: [2015 Edition Care Planning Criterion](#)
- **ONC/CMS**: [electronic Long-Term Services and Supports (eLTSS)](#)
- **SAMSHA**: [Omnibus Care Plan](#)
- **CMS**: [PACIO Project](#)
- **NIDDK/AHRQ**: [MCC eCare Plan](#)
- **SIREN/HL7**: [Gravity Project](#)
- **ACL**: [Social Referral Challenge Program](#)
- **ONC**: [LEAP Grant Program](#)
- **ACF**: [Human Services Interoperability Innovations Grant](#)
- **(NEW) CDC**: [SDOH Use Case for Chronic Disease Prevention](#)
Comprehensive Shared Care Plan Definition

1. Gives the person **direct access to health data**.

2. Puts the **person’s goals at the center** of decision-making.

3. Is holistic, including **clinical and nonclinical data** (e.g., home- and community-based and social determinants needs and services).

4. **Follows the person** through both high-need episodes (i.e., acute illness) and periods of health improvement and maintenance.

5. Allows **care team coordination**. Clinicians able to 1) view information relevant to their role, 2) identify which clinician is doing what, and 3) update other members of an interdisciplinary team.

Comprehensive Standards Based eCare Plan

Status Quo

Investigator → Clinician 1
Clinician 1 → Clinician 2
Clinician 2 → Clinician 3
Clinician 3 → Patient

Patient Data

Patient → Clinician 2
Clinician 2 → Clinician 3
Clinician 3 → Clinician 2

eCare Plan

National Institute of Diabetes and Digestive and Kidney Diseases