2019-09 Care Planning and Management Track

Attendance Page

Submitting WG/Project/Implementer Group

- Patient Care WG
- Healthcare Services Platform Consortium (HSPC)

Track Orientation

A webinar will be hosted on TBD date to share further participation information about this track.

This track will use R4 version of FHIR.

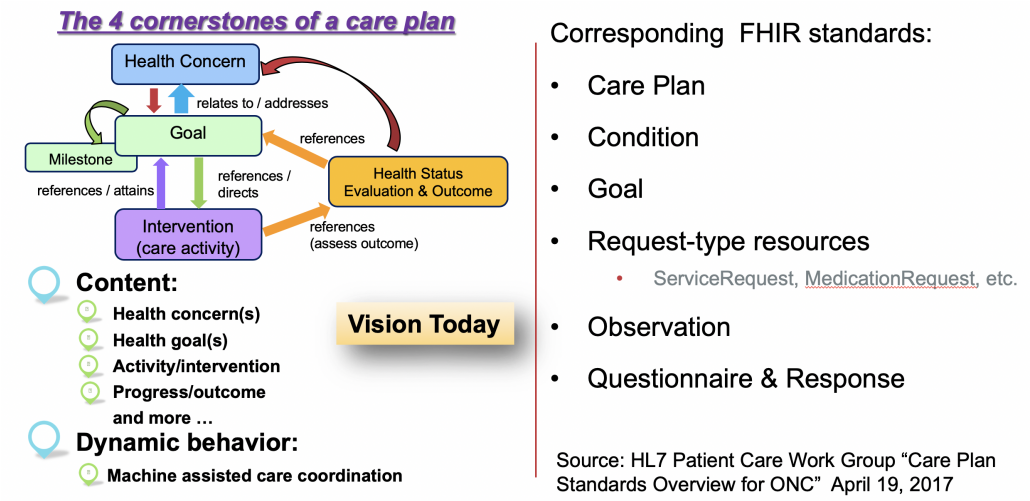
Justification and Objectives

This track continues a successful series of connectathons since January 2017 with steady growth of interest in applying evidence-based clinical practice guidelines at the point of care to create and share individualized patient care plans and to manage the ongoing care for patients with chronic disease. Care Planning is a *clinical process*, not a single artifact, and Care Management requires integration of FHIR resources for patient care (CarePlan, CareTeam, Goal, Condition, and others) with the definition of computable clinical guidelines and protocols (PlanDefinition, ActivityDefinition) guided by clinical decision support using CQL. This track will be coordinated with the Dynamic Care Planning & Care Coordination track at Clinicians on FHIR where they focus on *clinical interoperability* and harmonizing differences between the technical and clinical perspectives of FHIR resources.

In addition to advancing the maturity of FHIR resources for evidence-based care planning and care management, this track invites participation by clinicians and implementers who are interested in *using* these FHIR standards to realize the benefits of comprehensive shared care management coordinated across provider organizations. Two technical scenarios are included that engage the practitioner community to evaluate and demonstrate use of FHIR care management resources for the active management of a patient's healthcare.

This track includes several interrelated use cases:

- Testing the *Clinical Practice Guidelines on FHIR* (CPG-on-FHIR) implementation guide with focus on its support for evidence-based care planning and care management. This new HL7 implementation guide will be balloted in September 2019 and is based on collaborative work initiated by CDC, Adapting Clinical Guidelines for the Digital Age.
- Testing the electronic Long-Term Services and Supports (eLTSS) implementation guide. Long-term services are comprised of a diverse set of assistances designed to help with general care, activities of daily living (ADLs), and instrumental activities of daily living (IADLs) like eating, toileting, dressing, cooking, driving, managing money, etc.
- Identify Gaps in Care for a patient. Although there is not yet a FHIR implementation guide for this use case, it has been identified as a priority by the DaVinci project.



Related tracks

- 2019-09 Clinical Reasoning Track –
  - Testing the CPG-on-FHIR implementation guide, specifically the Chronic Kidney Disease example with clinical reasoning artifacts included in that IG.

Recent Care Planning Connectathons

- 2019-05 Care Planning, May 2019, Montreal, Canada
- 2019-01 Care Planning, January 2019, San Antonio, TX
- 2018-09 Care Plan, September 2018, Baltimore, MD
- 2018-05 Care Plan, May 2018, Cologne, Germany

Track Lead

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Expected participants

- Academy of Nutrition and Dietetics
- Allscripts
- Clinical Cloud Solutions
- Elsevier
- IBM
- InterSystems
- CMS/ONC eLTSS Initiative
  - Altarum
  - LTC Innovation (LTCI) and VorroHealth
- Perspecta
- Veterans Health Administration (VHA)
- *Your organization here!*

Clinical Scenarios

This track emphasizes a realistically complex care situation where our track participants are progressively creating and organizing a comprehensive suite of test materials that are based on clinical requirements. This scenario illustrates the flow of care plan creation and management with supporting clinical practice guidelines between a patient, his or her primary care provider, consulted specialists, home health care, telehealth care, and family caregivers involved in management of care for one or more health conditions.

Chronic Kidney Disease Care Management

Our track's clinical use case is based on the NIH Chronic Kidney Disease (CKD) Care Plan project. Because frequent transitions of care are common among patients with CKD, an electronic CKD care plan could potentially improve patient outcomes by helping to ensure that critical patient data are consistently available to both the patient and his/her providers. It is also very common for patients with CKD to require care planning for comorbidities; our example patient is also diagnosed with hypertension, diabetes and congestive heart failure.

- Persona descriptions for patients with CKD and their provider care team members are available from the NIH site:
  - Patient personas; this track's sample data are based on Betsy Johnson's persona
  - Provider personas for six members of a CKD patient's care team
- A draft set of data elements and terminology codes are also available for CKD care management, created by the NIH CKD Care Plan Working Group

        - CKD Data Elements
- Example FHIR resource data were created for testing, based on these CKD patient and provider personas and data elements
    - JSON sample FHIR resource files for patient persona Betsy Johnson (contributions welcome!). See https://github.com/chronic-care/sample-data
        - The previous FHIR STU3 resources have been updated to R4 for use in this connectathon.
    - These sample data are also loaded into this track's HSPC sandbox FHIR server for R4, https://api-v8-r4.hspconsortium.org/CarePlanningR4/open

electronic Long-Term Services and Supports (eLTSS)

The primary objectives of the eLTSS Initiative are: 1) to identify components or data elements needed for the electronic creation and interoperable exchange of person-centered service plans by health care and HCBS providers, payers and the individuals they serve; and 2) to field test these data elements within participating organizations' electronic systems. The eLTSS data is currently and primarily used by LTSS service providers and care managers and resides in case management systems and LTSS provider systems. This IG is designed to streamline the ability to exchange and make this data available to all members participating in the care of the beneficiary (patient) including clinical and non-clinical care providers as well as the beneficiary and their representative(s).

eLTSS participation at the connectathon will be to test the eLTSS FHIR IG. We will tie into the CKD project as time allows and will leverage the relevant pieces of the CKD patient personas.

- Use case
- Servers and sample data can be found at: http://198.109.136.30:8080/hapi-fhir-jpaserver/

Test FHIR Servers

- HSPC sandbox FHIR server for R4 contains both clinical data for Betsy Johnson and sample Plan/Activity Definition resources for CKD guideline
    - https://api-v8-r4.hspconsortium.org/CarePlanningR4/open
    - Search for PlanDefinition for CKD PlanDefinition, using SNOMED CT code
        - https://api-v8-r4.hspconsortium.org/CarePlanningR4/open/PlanDefinition?context=709044004
- Elsevier FHIR endpoint for clinical practice guidelines as FHIR Plan/Activity Definitions
    - http://himss19.elsevierfhir.com/fhir/r4
    - Search for PlanDefinition for CKD PlanDefinition, using SNOMED CT code
        - http://himss19.elsevierfhir.com/fhir/r4/PlanDefinition?context-type=709044004
            - (Note: search parameter context-type should be changed to context)
            - This has been fixed on Elsevier DEV endpoint: http://fhir.dev.elsevierfhir.com/fhir/r4/PlanDefinition?context=709044004

Technical Scenarios

Create a new care plan from guideline definitions

- Generate a CarePlan from a PlanDefinition protocol or order-set, customized using the current Patient's context
    - Use PlanDefinition $apply operation
    - Save the resulting CarePlan resource on a FHIR server, making it available to participants of the other track roles and scenarios

Retrieve a patient's care plan(s) and clinical data

Search for a patient's care plans(s) and associated resources (Conditions, Goals, activity references, CareTeam)

- A client application enables patients and/or care team members to search for and view care plans and their referenced resources.
- Or, an integration server searches a patient's records for care plans and other clinical data resources
    - e.g. a population health or analytics product vendor retrieves a patient's care plans and related resources for aggregation, analysis, and sharing with other care team members

System Roles

Clinical Practice Guideline Provider

Share standards-based, computable care protocol definitions, including:

- Clinical practice guidelines, e.g. for new diabetes diagnosis, or managing the progression of chronic kidney disease
- Order set definitions that recommend modification of activities in existing care plans, e.g. modify medications based on vital sign or lab observation feedback using CDS integration

A FHIR server (version R4) should support the following resources for care plan creation and care management

- PlanDefinition and ActivityDefinition
    - Bonus points for using CQL in conditional logic expressions for plan activities

Care Plan Creator

- Provide a SMART on FHIR app or other service that:
    - Supports clinician to select and apply recommended care guidelines, as FHIR PlanDefinition, to a specific patient's new diagnosis.

- Creates new CarePlan resource or modifies an existing CarePlan resource based on selected PlanDefinition and patient's current clinical data.

Care Plan Consumer

- Provide SMART on FHIR app that:
  - Supports clinicians and/or patients to review the selected patient's current care plan(s) and associated clinical data.

Clinical Data Provider

A FHIR server (version R4) should support the following resources for care planning:

- CarePlan, Condition, Goal, and other resources referenced by CarePlan.activity.reference
- Patient data needed for management and decision support, including: Observation (labs and vitals), MedicationRequest, etc.

A FHIR server is available for testing with sample data that represent one or more care plan scenarios.

- HSPC sandbox server (FHIR R4) at https://api-v8-r4.hspconsortium.org/CarePlanningR4/open
- Test data JSON files with several patient care plans are available in a GitHub repository that may be loaded into other FHIR R4 servers.