

Fall 2018 Baltimore

We are planning on holding the Friday event at the Fall Meetings in Baltimore. We will be using new functionality available through David Hay in his "Conman" tool.

The video provides more information regarding the tool. Please review it prior to attending the event. We will be running the tracks as listed below.



Clinician on FHIR Tracks

- create accounts on conman.FHIR.org

Link to tool for Friday Baltimore meeting

<http://conman.fhir.org/connectathon.html?event=baltimore2018>

<http://clinfhir.com/>

<https://fhirblog.com/>

Using [conMan.docx](#)

Track 1

Care Coordination

Lead: Emma Jones

Use case: Chronic Kidney Disease Use Case,

FHIR Resources: Care Plan and Care Team Workflow

Use Case workflow: Care Plan Create, Review, Update

Care Plan as a whole and individual care plan components need to be reviewed periodically (scheduled and adhoc) to ensure that health concerns, goals, interventions defined for managing patient's conditions are appropriate over time, and that the goals are met and identified health concerns are addressed/resolved adequately.

The current CarePlan resource lacks structure(s) required to support reviews as required.

It is proposed:

1. The FHIR [Workflow](#) Resources ([ActivityDefinition](#), [PlanDefinition](#)) are used as consideration for creating, updating care plan/care team from use of protocols, order sets, CPG, etc.
2. The FHIR [VerificationResult](#) Resource should be assessed/considered for its fitness-for-purpose/adequacy to support care plan reviews.

FHIR Resources involved: Required = [CarePlan](#), [CareTeam](#), [clinicalImpression](#); for consideration/evaluation = [VerificationResult](#) resource

Optional = [PlanDefinition](#), [ActivityDefinition](#)

Scenario description:

Betsy Johnson has Type 2 DM diagnosed 20 years ago and started to develop chronic kidney disease (CKD) about 10 years ago. Her CKD is managed by a multi-disciplinary nephrology care team which is led by Dr Vince Jones, the Chief Nephrologist. The care team instantiated a CKD care plan to manage Betsy's chronic renal condition.

Betsy's diabetes condition is managed by her Primary Care Physician. Her chronic renal condition is well managed and considered as relatively stable. She is seen by the nephrology care team every 2 monthly. Her CKD care plan is reviewed and intervention activities adjusted in accordance to her clinical assessment results ([clinicalImpression](#))

**Full Use Case - See [NDDK Development of an Electronic CKD Care Plan](#)

Scope:

- Determine the condition ([clinicalImpression](#))
- Create/update carePlan, CareTeam from orderset, protocol - See [Care Planning and Management Track](#) (FHIR Connectathon 19).
 - Please see the Care Planning/Care Coordination [Video](#)
 - Roles and Participants in Care Planning and care coordination- See [this diagram](#)
- Coordinate care team to drive collaboration and coordination of care
- SDOH as a sub track - second scenario
 - Address Barriers

Supplemental Care Plan Discussion: SDOH (Social Determinates of Health)

Scenario description addendum for SDOH

Assessing Betsy Johnson's potential barriers to treatment compliance and healthy outcome reveals Betsy's understanding of nutrition is oriented to diabetes management and not specifically accounting for CKD restrictions and recommendations. Betsy no longer drives and reports that she recently moved, her new location has less public transportation options than her previous location. She is concerned about making it to her medical appointments.

Scope

- Review Patient Care COF definition of SDOH.
- Determining and addressing barriers to care
- Relationship of FHIR resources of Condition, Observation, and Clinical Impression as they related to C-CDA Concern structure currently mandated by MU2015 and implemented by systems using certified EHR products.

Track 2

Emergency Care

Leads: Laura Heermann and Jim McClay

Use Case: Screenings done during ED visit

FHIR Resources: Questionnaire, Questionnaire Response.

Scope: Entering the data for the answers to the questions contained on the screening tools such as PHQ9, Seatbelt use, Tobacco use, Alcohol use,

[2017 San Antonio HL7 ECWG Clinon FHIR.docx](#)

Track 3

Medications

Lead: Melva Peters, John Hatem

Use Case: Medication order/prescribe, dispense, administer and record medication usage processes.

FHIR Resources: MedicationRequest, MedicationDispense, MedicationAdministration, MedicationStatement, Medication

Scope: The order, dispense, administer and record medication usage processes will be reviewed with attention to key data elements within each resource and secondarily a review of the Medication resource use will be examined in each of the named processes.

Use Case: Peter Test is a 50 yo male office encounter re HTN, CHOL, DM2 for refills metoprolol succ 25mg qd, lisinopril hct 10/12.5 mg qd, metformin 500 mg bid, asa 81 mg qd. 1M/2
Office encounter w PCP. Ideally need insurance formulary interaction at point of care integrated (CDSHooks). Ultimately will also need PDMP for narcotics/sedatives/stimulants eg <https://apprisshealth.com/solutions/narxcare/>

- PROBLEMS - Medication request dosage intervals error
- SUGGESTIONS - would be helpful to be able to have blow up of graph on full screen for those of us with small screens and older eyes ...
- FUTURE - will continue to work on as time permits, some relationships still not correct. / P Muir MD

Track 4

Clinical Impressions

Lead: Stephen Chu, Rob Hausam

Use Case: (Stephen working on the use case/storyboard)

[Betsy Johnson Storyboard](#)

Scenario 1

History: Betsy Johnson, a 60 yo female patients with medical history of Type 2 diabetes, hypertension, hyperlipidema

On September 28, 2018 she attended a routine follow-up medical appointment at her Primary Care Provider's (Dr John Carlson) clinic

Betsy complained that recently she felt a bit more tired than usual, otherwise, things seemed to be nothing remarkable

Dr Carlson reviewed Betsy's last blood work, which indicated that her eGFR was elevated beyond the normal reference range. A spot urine dipstick test revealed urine protein = 1+. Dr Carlson requested a repeat of eGFR and spot urine albumin-to-creatinine (ACR) ratio test, and told Betsy to return next week for a detailed clinical assessment on Betsy and documented the process and outcome

Scenario 2:

Betsy recently experiences some mood swings, insomnia, feels anxious that her CKD is getting worse, and becomes lethargic, lacks motivation, starts to gain weight.

Her PCP performs a clinical assessment and determines that she has another episode of mild clinical depression. Dr Carlson discussed the management options with Betsy. Given that she has Type 2 DM, pharmacological management will risk aggravating her DM. Betsy agrees that psychotherapy should be tried first. Dr Carlson refers Betsy to see Ms Jane Mind, a clinical psychologist within the primary health network

Clinical assessment/impression:

- Code/description: renal/CKD assessment (no SNOMED code available)
- Subject: Betsy Johnson; female, age 60
- Context: PCP encounter
- EffectiveDateTime (of clinical assessment): October 5, 2018
- Date (documentation date): October 5, 2018
- Investigation:
 - Reference - Observation: weight = 167 pound (75kg); height = 64 inches (162.5cm); BMI = 28.2 (overweight); BP = 148 /90
 - Diagnostic report: eGFR = 62 ml/min/1.73 sq.metre (showing worse than the previous result); ACR = 68mg/g (7,68mg /mmol)
- Protocol: e.g. National Kidney Foundation's Kidney Disease Outcomes Quality Initiative Guideline
- Summary
- Finding
 - Reference - Condition: moderate chronic kidney disease
- PrognosisCodeableConcept
- prognosisReference
 - Reference - RiskAssessment (CKD risk progression - see diagram below)
- Supporting information
- Note

CKD is classified based on: <ul style="list-style-type: none"> • Cause (C) • GFR (G) • Albuminuria (A) 				Albuminuria categories		
				Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30-299 mg/g 3-29 mg/mmol	≥300 mg/g ≥30 mg/mmol
GFR categories (ml/min/1.73m ²) Description and range	G1	Normal or high	≥90	1 if CKD	Treat 1	Refer* 2
	G2	Mildly decreased	60-89	1 if CKD	Treat 1	Refer* 2
	G3a	Mildly to moderately decreased	45-59	Treat 1	Treat 2	Refer 3
	G3b	Moderately to severely decreased	30-44	Treat 2	Treat 3	Refer 3
	G4	Severely decreased	15-29	Refer* 3	Refer* 3	Refer 4+
	G5	Kidney failure	<15	Refer 4+	Refer 4+	Refer 4+

CKD Risk Progression assessment (Source: Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney Int Suppl. 2013;3:1-150)

FHIR Resources: Clinical Impression, [Condition](#), [Observation](#), diagnostic request, [diagnostic reports](#), [RiskAssessment](#); other related resources: [Patient](#), [Practitioner](#), [Encounter](#)

Scope:

To test clinical fitness-for-purpose of the ClinicalImpression resource. The usecase and scenario are defined so that the instance /contents can be reused in the CarePlan usecase of the Card Coordination track

Report out

Several attendees expressed satisfaction with the new tool, ConMan. New attendees were able to begin using the tool (once it was explained that it is not a poorly designed EHR).

There was discussion of the role clinicians play in this exercise, with varying levels of enthusiasm and skepticism. John suggested the tool might make a good "veneer" on FHIR.

Pharmacy noted that the tool helped them identify a terminology issue: SNOMED CT changed the medication model, and the medication form value set broke.

Care Coordination leveraged work done at the connectathon as a baseline and used use cases about security, behavioral health, clinical impression, and social determinants of health to identify gaps.

Emergency care examined modifiable emergency intake questionnaires, to support the case where a health department might need to distribute a new question to hospitals in its geography.