



Use Case Title: Consumer-Centered Care Planning

Amy creates an evidence-based care plan with her providers. The plan and clinical record are shared with care team members via a standards-based integration server platform. Care is coordinated between the PCP and specialist providers, keeping Amy included at home. ‘Sharing with protection’ demonstrates effective balance of Amy’s privacy preferences and safety concerns.

Scheduled times: This demonstration occurs 15 minutes past the hour.

Participants: Allscripts, Elsevier, Infinitt NA, PatientLink, Perspecta, VA

Scenario	Vendor	Products	Standards
<p>Amy Jackson is a 52-year-old African-American woman and a U.S. Army Veteran. She has previously diagnosed conditions of Hypertension, Type 2 Diabetes, and Peripheral Neuropathy in her feet. Two healthcare encounters are featured in this use case: a primary care visit where she is diagnosed with Chronic Kidney Disease, and an appointment with her podiatrist for increasing foot pain. Amy is an integral member of her care team throughout this process and is actively engaged with self-care at home.</p>			
<p>Primary Care Provider (PCP) encounter and diagnosis</p> <p>The physician reviews Amy’s clinical records from both her PCP’s organizational EHR system and a Digital Health Platform hub. Pre-existing conditions include Hypertension and Type 2 Diabetes. A new diagnosis is created for Chronic Kidney Disease (CKD), which prompts the physician to retrieve appropriate clinical practice guidelines, using FHIR(R) data standards, within an application that guides him through the creation of a new care plan customized</p>	Allscripts	EHR	Smart on FHIR App

<p>for this patient. The new CKD care plan includes orders for additional labs, patient education about CKD, and a referral to a nephrology specialist. This care plan is shared with all members of the care team via the Digital Health Platform hub.</p>			
<p>Evidence Based Care Protocol Service</p> <p>As her PCP creates the CKD diagnosis for Amy; at the point of care, the provider is served with the latest Evidence Based Clinical Practice Guideline for CKD, from Elsevier’s knowledge base. The guideline is provided from a FHIR server as plan definitions and activity definitions, which will be a part of Amy’s care plan. Her PCP also has access to see the evidence associated with the plan and activity definitions.</p>	Elsevier Inc	Elsevier Order Sets & Care Plans	FHIR Server serving evidence based plan definitions and activity definitions
<p>Patient Engagement at Home</p> <p>Amy is actively engaged in self-care activities at home to manage her chronic health conditions. She uses a personal health record to aggregate her records from multiple providers and share them with others. She receives notifications of changes to her health records including the creation of a new care plan for CKD and modifications to that plan by the nephrologist. She imports the new information into her PHR and performs assigned activities at home, including exercise and collecting blood pressure measurements. The resulting patient-collected data are shared via the Digital Health Platform hub with other members of her care team.</p>	PatientLink	MyLinks Consumer App	FHIR
<p>Referral to Specialists</p> <p>Patient visit with Nephrologist</p> <p>The nephrologist reviews Amy’s lab results and kidney ultrasound her PCP ordered, evaluates the status of CKD, and educates Amy about self-care activities that may help to slow progression of this chronic disease. Additional self-care activities are added to Amy’s care plan to be performed by her at home. These care plan modifications are shared with her PCP and other members of the care team, including Amy.</p>	VA	HSPC FHIR Sandbox	SMART on FHIR App CDS Hooks

<p>Behavioral Health Specialist (pre-existing care plan)</p> <p>Amy has a pre-existing behavioral health care plan for PTSD, which includes regular counseling sessions with her therapist and a Clonazepam prescription for anxiety. These records are also shared with the Digital Health Platform hub but are protected by security labeling. Security labeling of clinical records enables label-based filtering and redaction at an organization/role/purpose level.</p> <p>Patient visit with Podiatrist</p> <p>Amy schedules a specialist visit to seek relief for increasing foot pain and her podiatrist decides to prescribe an opioid pain medication, Tramadol, for short-term relief. However, while entering this prescription, the podiatrist's Clinical Decision Support system (CDS) notifies the podiatrist that Tramadol is contraindicated with another medication, which is not being displayed. This happens because the podiatrist's CDS is able to detect drug-drug interactions based on its clearance claims as a "super user" authorized to retrieve all of Amy's information, even those labeled as restricted.</p> <p>The podiatrist's CDS is authorized with a "super user" clearance claim to receive the full set of Amy's medications available through the shared Care Team Hub. The CDS detects that the podiatrist's proposed opioid medication prescription is contraindicated given Amy's current mental health prescription for Clonazepam and provides an option to "break the glass" (BTG) along with the accountability requirements that may follow. The podiatrist opts to BTG for patient safety to gain full access to these restricted records, but only for use during this visit. The podiatrist now sees that Clonazepam has been prescribed for Amy's PTSD condition.</p> <p>The CDS presents non-opioid medication options for the podiatrist's consideration and provides guidance for both non-opioid and opioid medications about negative side effects based on CKD status, source of pain, and drug-drug interactions with Amy's Clonazepam mental health medication. The podiatrist, in consultation with Amy, decides on a trial use of an alternative pain medication. While the Care Team will receive notifications about her new pain medication</p>			
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<p>prescription, her mental health medication will remain masked to unauthorized Care Team members.</p>			
<p>Referral to Radiologist</p> <p>A kidney ultrasound procedure is ordered by the nephrologist to guide evaluation of kidney disease progression and the future treatment plan. Both the nephrologist and her PCP are notified with results of this procedure.</p>	<p>INFINITT</p>	<p>PACS (VNA) & Universal Viewer (ZFP) - INFINITT Healthcare Platform (IHP) 5.0.1.2 - ULite 5.0.1.2</p>	<p>DICOM HL7v2 HL7 FHIR</p>
<p>Digital Health Platform hub</p> <p>The Digital Health Platform hub illustrates use of a standards-based platform to support interactions between all members of the patient’s care team. The official source of record for patient data remains with each care provider organization, but the hub enables a comprehensive shared data record and shared services to support seamless care across the continuum of specialists. Shared services include subscription and notification for changes to data, consent management for restricting access to data related to behavioral health, and much more.</p>	<p>Perspecta</p>	<p>HealthConcourse</p>	<p>FHIR, CDS Hooks, Terminology standards (SNOMED, LOINC, RxNORM, etc.)</p>

HIMSS18 Interoperability Showcase Use Case

Data exchange standards:

Vendor	Product	Category	Protocol	Interop Body	Interop Profile	Interop Actor	Interop Message	Send or Receive	Transaction Description
GE (Example)	Media Manager	Mobile Health Data	HL7	IHE ITI	PDQ	Patient Demographics Consumer	ITI-21	Send	Patient Demographics Query
			ebXML	IHE ITI	XDS	Document Source	ITI-41	Send	Provide and Register Document Set-b
			ebXML	IHE ITI	XDS	Document Consumer	ITI-18	Send	Registry Stored Query
			CDA	HL7	N/A	Content Creator	N/A	N/A	Unstructured CDA
Perspecta	HealthConcourse	Interoperability Hub	FHIR	HL7	FHIR	Interoperability Hub	N/A	Both	Send and receive FHIR resources through FHIR APIs to all other systems.
PatientLink	MyLinks	Consumer Application	FHIR	HL7	FHIR	Clinical Data Consumer	N/A	Receive	Patient receives Common Clinical Data Set and Care Plan thru FHIR
			FHIR	HL7	FHIR	Observation Creator		Send	Patient send home monitoring data (blood pressure) to Care Plan
			FHIR	HL7	FHIR	Subscription		Receive	Patient subscribes to changes about Care Plan

			SMTP	N/A	N/A	Publication Consumer		Receive	Patient receives notification of updates to Care Plan
Elsevier	Order Sets, Care Planning	CDS Tools & Services	FHIR	HL7	FHIR	Service Provider for Evidence Based Care Protocols	N/A	Send	Elsevier uses a standards-based FHIR server to enhance delivery of evidence-based order sets and practice guidelines
	Patient Engagement		SMART on FHIR	HL7	FHIR	N/A	N/A	Send	Elsevier uses HL7 standards via Infobutton and SMART on FHIR within our patient engagement solutions to support clinicians and patients within their workflows with patient-context searches and administrator analytics
	Clinical Key		InfoButton, SMART on FHIR	HL7	FHIR	N/A	N/A	Send & Receive	Elsevier's Clinical Key offers a SMART on FHIR application with SSO and HL7 standards to offer contextual evidence-based content via an info button within the EHR.
INFINITT	INFINITT Healthcare Platform	VNA	DICOM	DICOM	SWF	Image Manager		Receive	INFINITT Healthcare Platform (IHP) is a vendor neutral archive that stores and manage healthcare contents like DICOM, Non-DICOM objects.
			HL7v2	HL7	SWF	Image Manager		Send	INFINITT Healthcare Platform (IHP) is a vendor neutral archive that interface patient

									information and its related result like reports.
	INFINITT Business Platform	Interop Engine	HL7 FHIR	HL7	FHIR	N/A	N/A	Send Receive	INFINITT Business Platform (IBP) is a layered proxy that integrates protocols between several standards. Basically it helps to provide resources thru FHIR from non-FHIR based products.
	ULite	Enterprise Imaging Viewer (Universal Viewer)	DICOM	DICOM	SWF and more	Image Display	N/A	Receive	ULite is a viewer that display any kind of contents inside IHP including XDS Repositories. ULite retrieve DICOM from VNA and support radiologic and clinical workflow on demands.
Allscripts	Allscripts Care Integrator	Touch Works EHR	HL7 FHIR	HL7 IHE PCC	FHIR	Care Plan Contributor	N/A	Send/Receive	Allscripts Care Integrator uses HL7 FHIR REST protocols to request and receive care guidelines, order sets, etc used to generate HL7 FHIR CarePlan resources that are customized to meet specific patient needs.
				HL7	FHIR	Apply Activity and Plan Definitions	N/A	Send	Allscripts Care Integrator provides patient specific care plans to be used by partner applications and servers to support collaborative and coordinated care.