INTEROPERABILITY SHOWCASE™

HIMSS 23

Use Case Title: Connecting with Patients at Home

Short Description:
Medicare Advantage and CMS MSSP patients of a leading community health system in Massachusetts can enroll in an innovative program to receive over-the-counter wearables and devices such as health trackers and pulse oximeters to better connect with their health system. A 67-year-old COPD enrollee, Mrs. Davis, signs up to receive these devices and agrees to share her passively collected wearable data. While going about her daily routine she periodically responds to highly personalized short assessments enabling her care team to monitor her COPD status by combining her responses with the wearable data via the team's digital app. About a month after starting the program Mrs. Davis starts feeling under the weather. The app allows her to report these new symptoms and request at home COVID and Flu tests which she receives the next day. The app guides her through taking the tests and sharing the results with her care team. In addition to her COVID results being shared with the care team, the system also shares her results with the Association of Public Health Laboratories AIMS platform so that her tests also inform the public health system. Using this surveillance system, the care team decides to dispatch EMTs from an available community pool who are already strategically positioned for a wellness check and helps obtain a Paxlovid prescription before she suffers a COPD exacerbation and must call 911 for a visit to the emergency department. Overall, this demo shows how leveraging @home diagnostics, remote monitoring using over the counter devices, and use of proactive EMT dispatch to deliver home based care improves management of the health and total cost of care of a capitated population.

Value Statement: At-home monitoring informed by clinical, claims and wearable data enables earlier interventions, enhances patient engagement, better informs care teams and public health, plus lowers the burden and cost of acute care.

Participating Organizations: CareEvolution, i2i, UMASS Chan Medical School

Demographics:

Header	Field	Value	Data Date
Demographics			
	First Name	Elizabeth	
	Last Name	Davis	
	Date of Birth	3/28/56	
	Sex	Female	
	Race	Caucasian	
	Address	800 East Main St	
		Tatnuck, MA 01602	
	Telephone	508-555-1212	
Allergies	Allergies	Penicillin	1/8/2019
Social History	Smoker	Former	

Scenario	Vendor	Product	Standards
Medicare Advantage and CMS MSSP patients of a leading community health system in Massachusetts (UMass) can enroll in an innovative program to receive over the counter wearables and devices such as health trackers and pulse oximeters to better connect with their health system.	UMass/Epic	Caboodle	Ingest CCLF Claims from CMS into EPIC
By looking for appropriate patients in the combined dataset which have COPD but are stable enough to be reliably managed at home, UMass requests invites be sent out to potential program participants.	UMass	MyDataHelps	UMass Submits a list of Patients to CareEvolution via API
Based on invite requests provided, MyDataHelps sends invites via Email and SMS to members	CareEvolution	Amazon SES	CareEvolution uses Amazon SES to send out invites by Email and SMS
Mrs. Davis, a 67-year-old enrollee, signs up to participate in the at home COPD program (Healthy@home) to help her feel better day to day through early proactive interventions based on information she chooses to share with the program via eConsent. By signing up to the program Mrs. Davis qualifies for a Fitbit charge and a spirometer to help her monitor her health.	Amazon	Amazon Multichannel Fulfillment	Amazon multi-channel fulfillment services invoked as an API from MyDatahelps deliver a wearable and pulse oximeter to Mrs. Davis.
A few days later Mrs. Davis receives her devices and schedules her virtual welcome visit with the UMass Team	UMass	Scheduling	MyDatahelps Launch of UMass Scheduling system

During her welcome visit, the UMass onboarding team answers any questions Mrs. Davis has about the program and helps her connect her new devices and connect to additional data sources	Apple/Google	Apple Health/Fitbit	Healthkit, Google Health, and Fitbit standards for wearable data
Mrs. Davis also connects to her Pulmonologist who is not a member of UMass but is connected to an HIE so that the team can see updates based on her visits	I2iPopulation Health	I2iTracks	SMART on FHIR connection to i2iPopHealth HIE
Mrs. Davis also decides to take advantage of a special virtual COPD management solution through a partnership UMass has with Wellinks. Mrs. Davis schedules an introductory call with Wellinks and launches Wellinks app to provide access to a provisioned account	UMass (Wellinks)	Wellinks For Patients	Launch of Wellinks Product
While going about her daily routine she periodically responds to highly personalized short assessments enabling her care team to monitor her COPD status by combining her responses with the wearable data – industry standard Fitbit + FHIR questionnaire-based data	CareEvolution	MyDataHelps	UMass access patient information both from MDH application and through APIs/access to wearable data
During this period, she also has a scheduled follow up with her pulmonologist who changes one of her inhalers. Both the Wellinks and UMass teams see the medication change	I2iPopulationHealt	I2iTracks	I2i receives medication update through IHE mediated exchange and provides the data to CareEvolution (and Umass) via existing SMART on FHIR connection
Up to this point, Mrs. Davis has been doing well and managing her COPD at home. However now she starts feeling worse and provides feedback via her Healthy@Home surveys. Based on her responses she is recommended to order an at home Covid/Flu test and reaches out to the Mobile Integrated Healthcare (MIH) Team at UMass https://www.mass.gov/mobile-integrated-health-care-and-community-ems	Amazon	Amazon Multichannel Fulfillment	Amazon Multi-channel fulfillment services invoked as an API from MyDatahelps delivers COVID/Flu test to Mrs. Davis.
Mrs. Davis calls the MIH Team which leverages a dashboard of all enrolled patients to monitor the health of the patients across the community. This surveillance system aggregates data from participant mediated FHIR EMRs, wearable data, patient reported survey, and at home diagnostic results to pinpoint those patients at highest risk of decompensation. The MIH Team reviews Mrs. Davis's recent survey response as well as the trend of her SPO2 and peak flows from her home devices and decides at this point she is doing well enough that only surveillance is required	Apple/Google	Apple Health/Fitbit	Apple Healthkit integration/FitBit Integration
The next day Mrs. Davis receives her COVID/Flu test, and the app guides her through taking the test and sharing her positive COVID test results. The results are not only shared with the MIH Team but are also sent to the APHL AIMS system for public health reporting	CareEvolution (Association of Public Health Laboratories APHL)	MyDataHelps/AIMS	RADX MARS-->APHL for positive COVID test results
The MIH team now sees her positive results as well as a drop in her oxygen saturation from baseline and dispatches EMTs from an available community pool who are already strategically positioned for a wellness check and helps	Apple/Google	Apple Health/Fitbit	Apple Healthkit integration/FitBit Integration

obtain a Paxlovid prescription and therefore avoids a COPD exacerbation and a visit to the emergency department.			

Data Exchange Standards:

Vendor	Product	Category	Protocol	Interop Body	Interop Profile	Interop Actor	Send or Receive	Transaction Description
I2iPopulation Health	i2iTracks	HIE	REST	HL7 FHIR	SMART on FHIR	Server	Send	Support Patient Mediated FHIR Exchange via API
CareEvolution	MyDataHelps	Patient Portal	REST	HL7 FHIR	Blue Button 2.0	Client	Receive	FHIR queries from the App to CMS Blue Button 2.0 API to retrieve history based on Claims
			REST	HL7 FHIR	SMART on FHIR	Client	Receive	FHIR queries from App to the FHIR API endpoint of the Provider clinic
			Fitbit	Fitbit	API	Client	Receive	CareEvolution Receives SPO2 from Fitbit
			FHIR	HL7 FHIR	BulkFHIR	Server	Send	CareEvolution Sends all participant Data outbound via BulkFHIR Export
			HL7 v2	HL7 v2	RADx MARS	Client	Send	CareEvolution sends results via HL7
			REST	Amazon	API	Client	Send	CareEvolution sends request to send Email/Text
			REST	Amazon	API	Client	Send	CareEvolution sends request to order devices
Assoc. of Public Health Laboratories (APHL)	AIMS	Public Health Reporting	HL7 v2	HL7 v2	RADx MARS	Server	Receive	APHL AIMS receives covid results via HL7

UMass	Caboodle	Analytics DB	CCLF	CMS		Client	Receive	UMass Receives CCLF File from CMS
	Tableau	Analytics Platform	FHIR	HL7 FHIR	BulkFHIR	Client	Receive	UMass Receives BulkFHIR Export from CareEvolution
Amazon	Simple Email Service (SES)	Email/SMS Service	REST	Amazon	API	Server	Receive	Amazon Receives request to send Email/Text
	Multi-Channel Fulfillment	Ordering Service	REST	Amazon	API	Server	Receive	Amazon Receives request to order devices

White Papers:

Title	**Link**