electronic Long-Term Services & Supports (eLTSS) Community Update

March 26, 2020

The Office of the National Coordinator for Health Information Technology

Disclaimer

- eLTSS is a joint project of the Centers for Medicare & Medicaid Services (CMS), the Office of the National Coordinator (ONC), and eLTSS community participants.
- The eLTSS Initiative and this document were made possible by funding from CMS.
- The contents of this document are solely the responsibility of the author(s) and do not represent the official views of CMS, ONC or any of its affiliates.

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- Remember: If you are not speaking, **please keep your phone on mute**
- **Do not put your phone on hold.** If you need to take a call, hang up and dial in again when finished with your other call
  - Hold = Elevator Music = frustrated speakers and participants
- This meeting is being recorded
  - Another reason to keep your phone on mute when not speaking
- **Use the "Chat" feature** for questions, comments, and items you would like the moderator or other participants to know

Agenda

TOPIC	PRESENTER
Project Overview	Amber Patel @ Security Risk Solutions
eLTSS FHIR Implementation Guide Overview	Becky Angeles @ Carradora
eLTSS FHIR Implementation Overview	Chirag Bhatt @ FEI Systems, Jie Ma @ FEI Systems
eLTSS FHIR Implementation Guide and Reference Implementation	Jim Kamp @ Altarum, Edward Castagna @ Altarum
eLTSS Planning for 2020 FHIR Connectathons	Becky Angeles @ Carradora
eLTSS Community Engagement	Elizabeth Palena Hall @ ONC

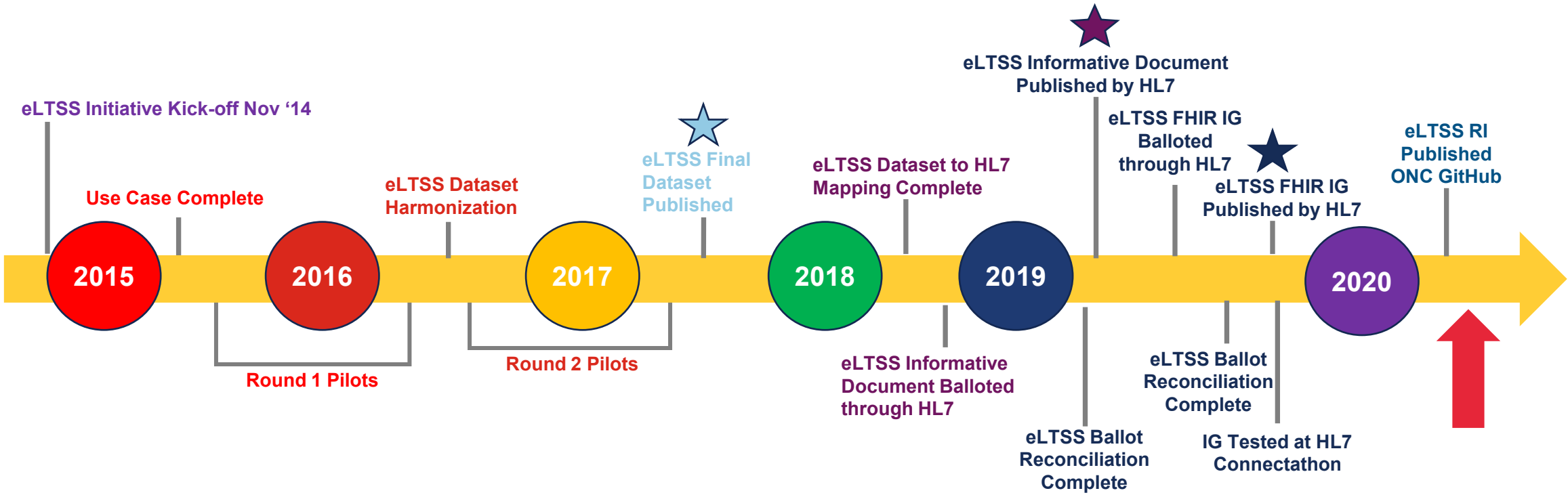
Project Overview

Review of the eLTSS Project

- Phase 1: Identified and harmonized a set of 56 data items (the eLTSS dataset) commonly found on LTSS Service Plans to facilitate the capture and exchange of person-centered LTSS service plan data
- Phase 2: Piloted, identified, and harmonized data items with TEFT grantee states and vendors to validate the eLTSS dataset
- Phase 3: Continuation of Phase 1 & Phase 2 broken into 2 Tracks
  - Track 1: Informative Document
    - The eLTSS Informative Document, officially named "HL7 Cross-Paradigm Information Sharing for Electronic Long-Term Services & Supports (eLTSS), Release 1 - US Realm" describes how the eLTSS dataset enables Home and Community Based Services (HCBS) person-centered service plans to be represented for exchange and sharing using FHIR and C-CDA. The Informative Document was balloted through HL7 and is now available as an HL7 publication.
  - Track 2: FHIR Implementation Guide (IG) and Testing
    - The eLTSS FHIR IG expands the FHIR to eLTSS mapping from the Informative Document into the HL7 FHIR IG structure (Profiles, Extensions, Capability Statements, etc.). The eLTSS FHIR IG has been published by HL7 and was tested at the HL7 September 2019 Connectathon.

To track and review eLTSS Artifacts please see the eLTSS wiki:
https://oncprojectracking.healthit.gov/wiki/display/TechLabSC/eLTSS+Home

eLTSS Initiative At-A-Glance



eLTSS FHIR Implementation Guide Overview

eLTSS FHIR IG Overview

- Builds on the Informative Document balloted in January 2019 by using existing FHIR Resources to provide mappings between the eLTSS dataset and existing FHIR R4 elements
- Provides implementers with guidance regarding the conformance requirements for leveraging FHIR to exchange LTSS data among beneficiaries (patients), providers, care team members, and between both non-clinical and clinical systems
- Utilizes US Core and applies other constraints (mostly through the “Must Support” flag)
- Profiles 13 Resources and provides 3 extensions
- Published by HL7 as a standard for trial use (STU) and available at: http://hl7.org/fhir/us/eltss/index.html
- Referenced in the 2020 *ONC Interoperability Standards Advisory* (ISA)
- Applied within the eLTSS FHIR IG Reference Implementation available on ONC GitHub https://github.com/onc-healthit/eLTSS-Reference-Implementation

Utilizing eLTSS Presentations

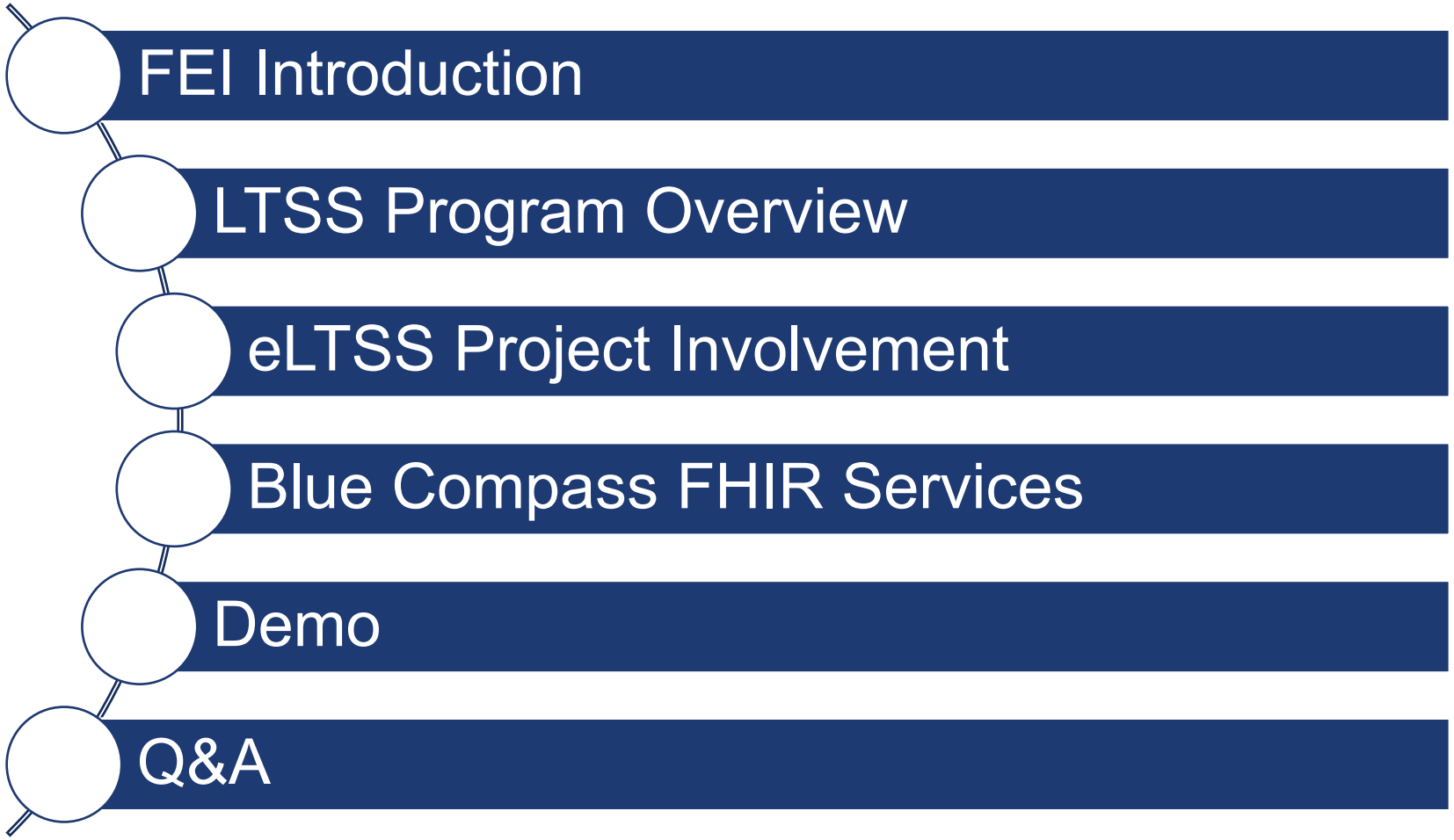
electronic Long-Term Services & Supports (eLTSS) – FHIR Implementation Overview

March 26, 2020

FEI Systems

The Office of the National Coordinator for Health Information Technology

Agenda


FEI Introduction
LTSS Program Overview
eLTSS Project Involvement
Blue Compass FHIR Services
Demo
Q&A

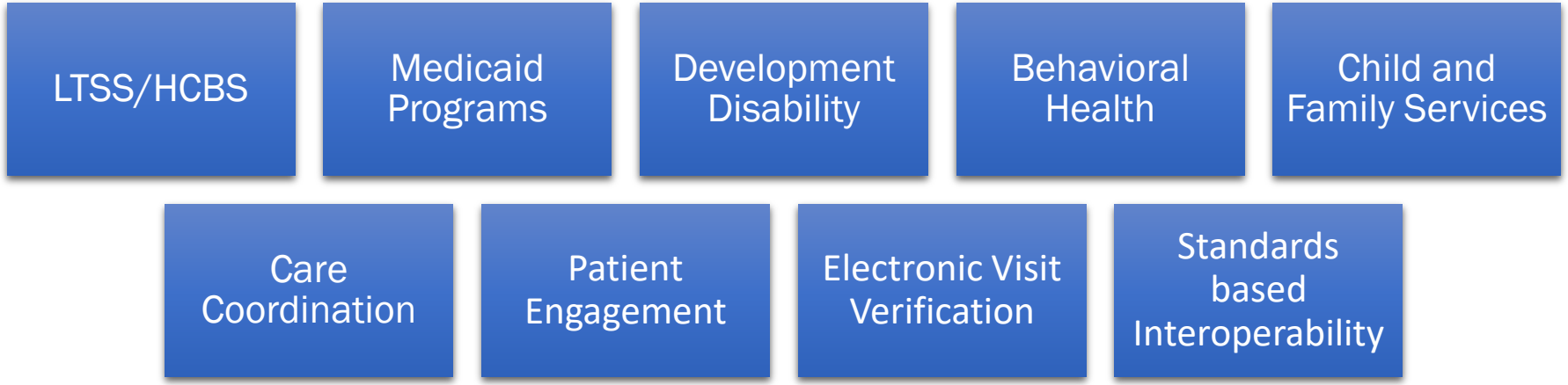
Introduction: Presenters

Name	Title	FEi eLTSS Role	Email
Chirag Bhatt	Chief Innovation Officer	eLTSS and FHIR Technical Expert	Chirag.Bhatt@FEiSystems.com
Jie Ma	Application Developer/Analyst	Project Coordinator	Jie.Ma@FEiSystems.com

Note: Several other technical team members were/are involved in the implementation

Introduction: Organization

- FEI LTSS solutions implemented for Maryland, Mississippi, Virginia, Washington DC, and Pennsylvania are the most relevant to this eLTSS effort.
- FEI has developed and implemented an eLTSS solution to support end-to-end workflow and capabilities needed to support LTSS/CB-LTSS/HCBS programs and activities:



FEI LTSS Care Management Program

LTSS Programs

- 1915 Medicaid Waivers
- State Plan Amendments
- Balancing Incentive Payments Program (BIP)
- Community First Choice (CFC)
- Money Follows Person (MFP)
- Testing Evaluation and Framework Tools (TEFT)

LTSS Functions

- Information and Referral
- Case Management
- No-Wrong Door
- Provider Portal
- Client/Patient Portal

Waiver Process

- Application
- Screening
- Core Standardized Assessment
- Technical/medical/financial eligibility
- Level of care determination
- Plan of care
- Individualized Service Plan
- Nurse Monitoring

Service Delivery and Billing

- Service Scheduling
- Service Delivery Tracking
- Medicaid Eligibility Verification
- Electronic Visit Verification (EVV)
- Automated HIPAA X12 Billing
- Claims Processing and Reconciliation

Quality Management

- Quality Monitoring
- Reportable Events
- Incidence Reporting
- Client Satisfaction Surveys
- Continuous Quality Improvement

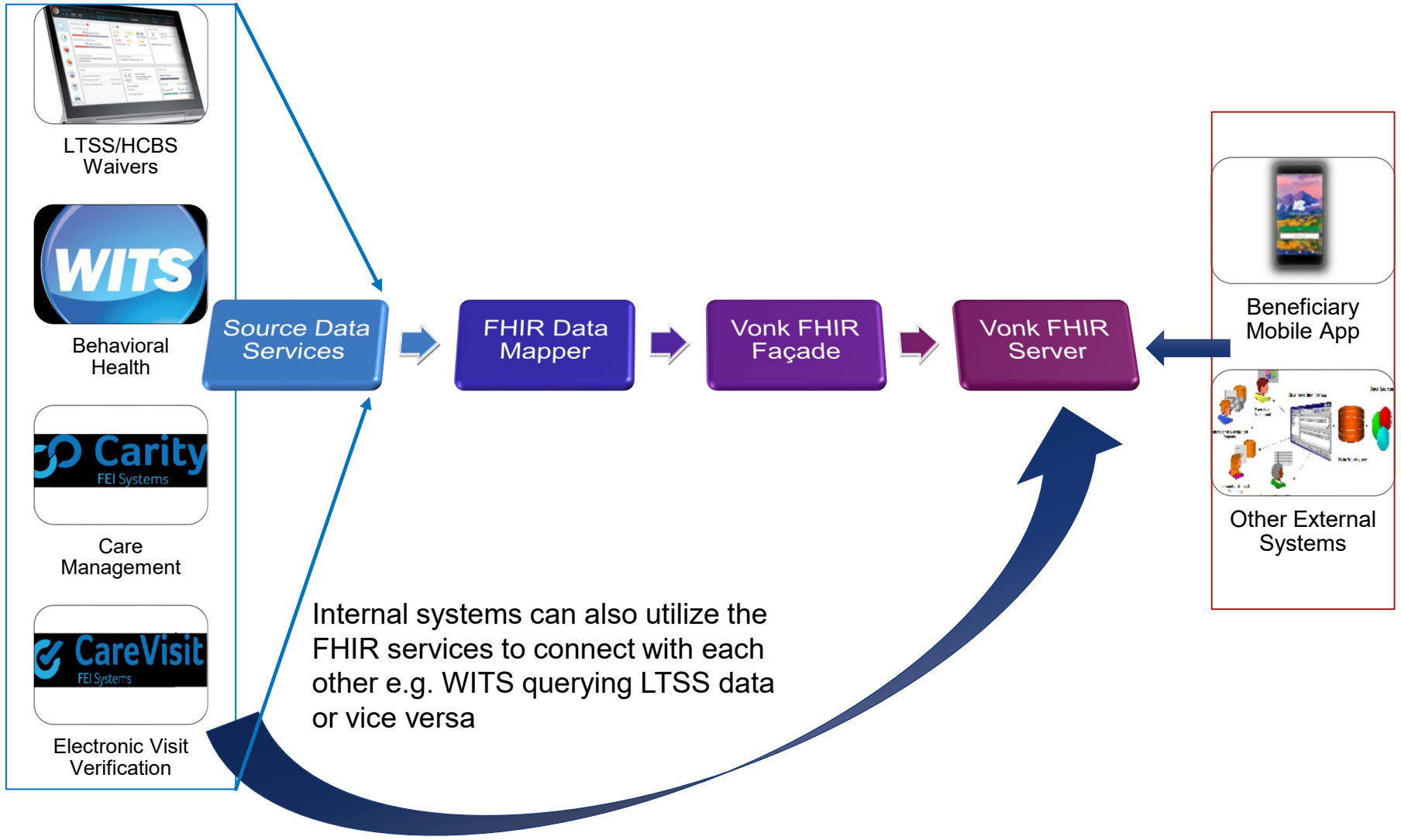
FEI Involvement with eLTSS Project

Started in Fall 2014 when eLTSS project was established
Worked with several TEFT states for various implementations
Contributed to use case development and reviews
Submitted sample LTSS plans based on specific implementations
Participated in Pilot round 1 and round 2
Reviewed eLTSS Plan C-CDA IG and FHIR IG through HL7 ballot process
Developed and tested FHIR services to query eLTSS Plan from LTSS system
Provided detailed feedback to FHIR IG from implementation perspective
Supported eLTSS FHIR Connectathon in September 2019
Implemented additional FHIR services for USCDI domains

FEI Blue Compass Platform Overview

- Platform of services/mobile apps to enable innovative features
- Provides Blockchain platform to connect 3Ps: people, payers and providers
- Electronic visit verification with QR code, GPS, NFC, Bluetooth, voice, Alexa
- Built-in language translation for the beneficiaries and providers
- Personnel health devices integration over Bluetooth and IEEE 11073
- Integrated Lyft ride scheduling/tracking for LTSS/BH beneficiaries
- Nursing Facility Risk Score analytics services
- Beneficiaries appointment calendar integrated with Outlook and Google
- FHIR services to enable exchange with multiple FEI and external systems

FEI Blue Compass FHIR Solution



Key Features and Benefits of Solution Approach

Very practical approach for supporting FHIR for existing systems to enable interoperability

Most systems will not be persisting data directly on FHIR so façade is best way to get data out from native structure

Solution uses actively maintained Vonk FHIR Server (can be replaced with other FHIR server e.g. HAPI FHIR)

Mapping between FHIR and source system using configurable Data Mapper (can be replaced with Mirth)

eLTSS FHIR Implementation Guide is used to drive the mapping from native LTSS Plan data to FHIR

Mapping done and tested for one LTSS source system but it can be leveraged to map other source systems

Generated FHIR resource was validated against eLTSS Care Plan Profile and other dependent profiles

Mobile app is designed like a SMART-on-FHIR app and can point to any external authorized FHIR server

Designed to support multi-tenancy to enable multiple system interfaces on the same instance

eLTSS Plan Elements Supported

FEI LTSS environment used for this testing has a service plan with majority of data elements supported from eLTSS Plan specification. Therefore majority of eLTSS FHIR IG is supported by this FHIR solution as shown in the matrix below (except for data elements shown in grey)

Beneficiary Demographics

- Person Name
- Person Identifier
- Person Identifier Type
- Person Date of Birth
- Person Phone Number
- Person Address
- Emergency Contact Name
- Emergency Contact Relationship
- Emergency Contact Phone Number
- Emergency Backup Plan *

Person Centered Planning

- Assessed Need
- Person Setting Choice Indicator
- Person Setting Choice Options
- Plan Monitor Name
- Plan Monitor Phone Number
- Preference
- Service Options Given Indicator
- Service Selection Indicator
- Service Plan Agreement Indicator
- Service Provider Options Given Indicator
- Service Provider Selection Agreement Indicator

Plan Signatures

- Person Signature
- Person Printed Name
- Person Signature Date
- Guardian / Legal Representative Signature
- Guardian / Legal Representative Printed Name
- Guardian / Legal Representative Signature Date
- Support Planner Signature
- Support Planner Printed Name
- Support Planner Signature Date
- Service Provider Signature
- Service Provider Printed Name
- Service Provider Signature Date

Service Information

- Service Name
- Self-Directed Service Indicator
- Service Start Date
- Service End Date
- Service Delivery Address
- Service Comment
- Service Funding Source
- Service Unit Quantity
- Unit of Service Type
- Service Unit Quantity Interval
- Service Rate per Unit
- Total Cost of Service

Goals & Strengths

- Goal
- Step or Action
- Strength

Plan Information

- Plan Effective Date

Risks

- Identified Risk
- Risk Management Plan

Service Provider Information

- Support Planner Name
- Support Planner Phone Number
- Service Provider Name
- Service Provider Phone Number
- Non-Paid Service Provider Relationship

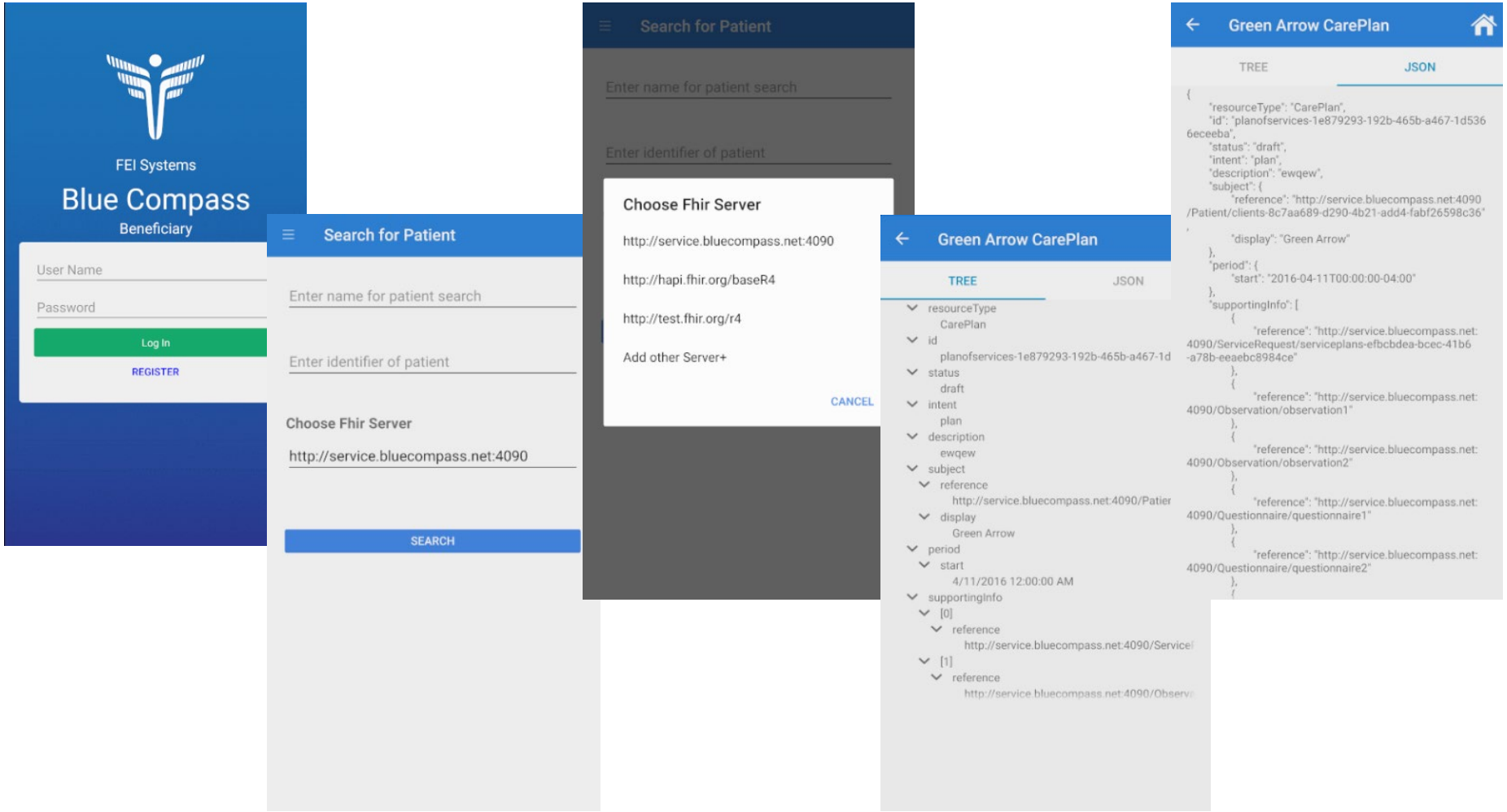
FHIR Resources/USCDI Classes Supported

The following table provides list of USCDI Classes supported in FHIR services for LTSS source and corresponding resources in parenthesis:

Patient Demographics (Patient)
Care Team Members (Related Person)
Care Team Members (Practitioner)
Clinical Notes (Communication)
Clinical Notes (Document Reference)
Social History (Observation)
Goals (Goal)
Plan of Treatment (CarePlan)
Health Concerns (Condition)
Problems (Condition)
Vital Signs (Observation)
Medications (Medication)

Blue Compass Mobile Application Demo

NOTE: Screenshots will be updated once app development is completed with additional UI enhancements



References/Resources

- FEI eLTSS Overview:
  - https://www.feisystems.com/solutions/long-term-services-and-supports/
- FEI Blue Compass FHIR Service (Care Plan Example):
  - http://service.bluecompass.net:4090/CarePlan?patient=Betsy
- Vonk FHIR Server:
  - https://fire.ly/products/vonk/vonk-fhir-server/
- FHIR eLTSS Implementation Guide (IG):
  - http://hl7.org/fhir/us/eltss/index.html
- eLTSS FHIR Data Mapping:
  - http://hl7.org/fhir/us/eltss/eLTSS_to_FHIR_R4_element.html
- eLTSS FHIR Profiles:
  - http://hl7.org/fhir/us/eltss/profiles.html

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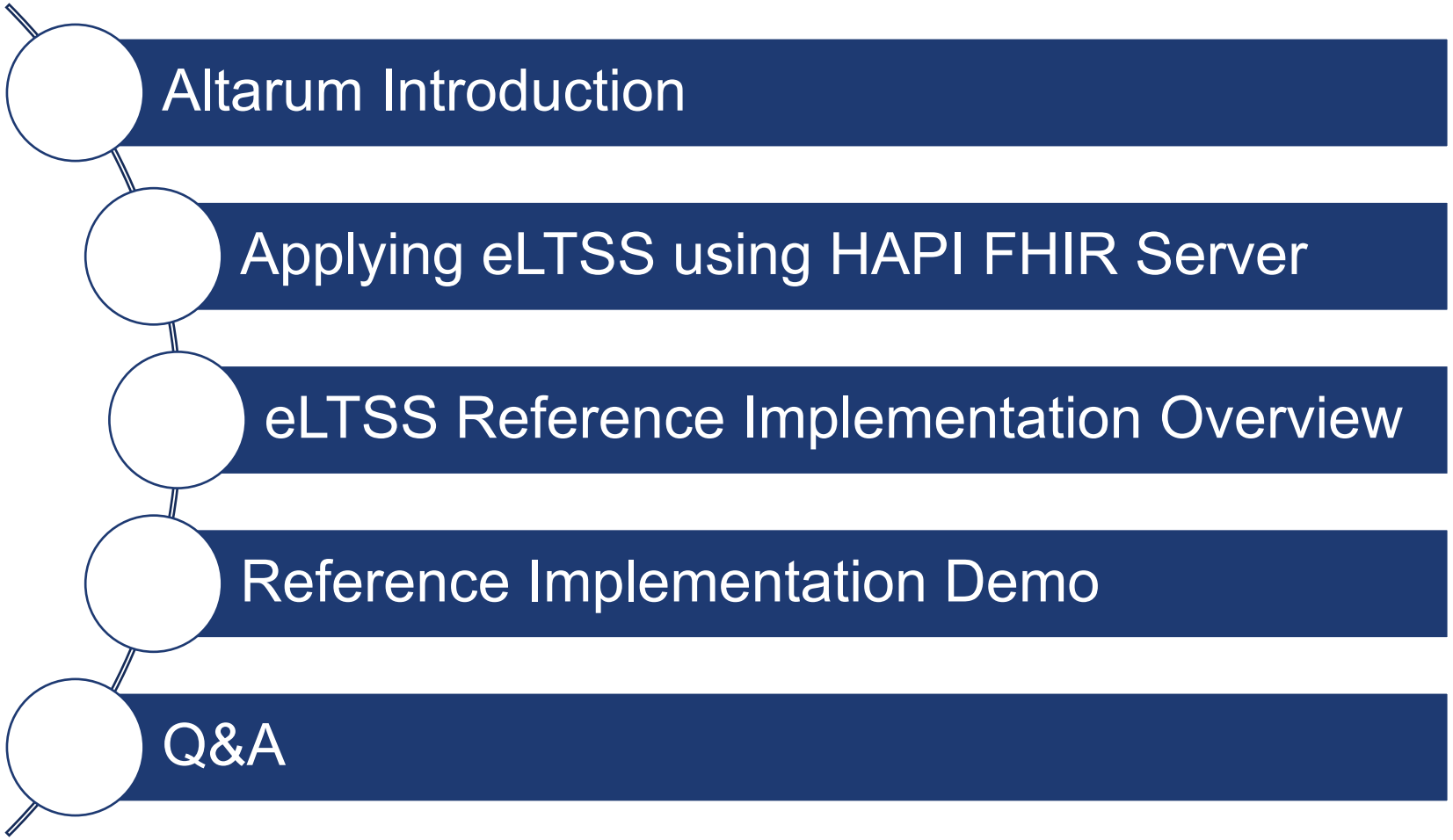
electronic Long-Term Services & Supports (eLTSS) – FHIR Implementation Guide and Reference Implementation

March 26, 2020

Altarum Institute

The Office of the National Coordinator for Health Information Technology

Agenda


Altarum Introduction
Applying eLTSS using HAPI FHIR Server
eLTSS Reference Implementation Overview
Reference Implementation Demo
Q&A

Who is Altarum?

Altarum is a Michigan nonprofit organization that creates and implements solutions to advance health among vulnerable and publicly insured populations.

Altarum's Interoperability Services

- Altarum has nearly 20 years of experience helping public health systems achieve reporting mandates through our tools and interoperability services
- We have hands-on experience with most EHR products, integration engines, and standards organizations to further interoperability
- **Example:** Altarum provides end-to-end support for the Michigan Cancer Surveillance Program by working directly with healthcare providers, laboratories, and EHR vendors to exchange and process cancer case and pathology data. In 2018 we analyzed over 200,000 HL7 messages and case reports.
- Agencies experiencing challenges or delays sharing healthcare data are great candidates for conversations with Altarum to see if we can help improve quality and timely transport of data

Applying the eLTSS Implementation Guide Using a HAPI FHIR Server

- Altarum provided a programmatic solution to apply the eLTSS Implementation Guide to build a HAPI FHIR server 3.8.0 with FHIR 4.0.0 by downloading it from the internet and using desktop build tools of JDK, Maven, and curl. This process has been put into the installation instructions to be loaded onto a desktop or server.

- 1. hapifhirserver 3.8.0
  - Download and build the hapi-fhir server; additionally for those comfortable with working with Tomcat: Build a war file

- 2. us-core-fhirr4 profiles and scripts
  - Run Included Windows Batch scripts to add Core R4 json profile components

- 3. eLTSS profiles and scripts
  - Run included Windows Batch scripts to add eLTSS IG json profile components

- 4. eLTSS test transactions and scripts
  - Run included Windows Batch scripts to add a couple of patients using the Transaction Load function within the server

- 5. installation instructions
  - Following the instructions will: download the HAPI Server 3.8.0 using FHIR R4; load Core R4 Profiles; load eLTSS Profiles; load eLTSS Patients using transaction bundles showing an example xml file which includes a few patient's FHIR eLTSS related Resources

eLTSS Reference Implementation Overview

- Developed by Altarum Institute with subject matter expertise from David Pyke and testing input from partners at the Care Planning and Management Track of the HL7 Connectathon in Atlanta in September 2019
- RI Location: https://github.com/onc-healthit/eLTSS-reference-implementation
- Includes five sample bundles for testing variations of patient and service plan data
- Required
  - Windows Server 2012 or newer on dedicated server
  - Java JDK 8
  - Apache Maven 3.6.1
  - Local instance of HAPI FHIR Server 3.8.0 built following instructions provided with RI
    - Note: Server can run within Maven or within a Tomcat Server if .war file is deployed to the Tomcat Server

eLTSS Reference Implementation Overview

The HAPI FHIR User Interface includes for each resource with data:

- History
- CRUD (Create, Read, Update, Delete)
- Validate

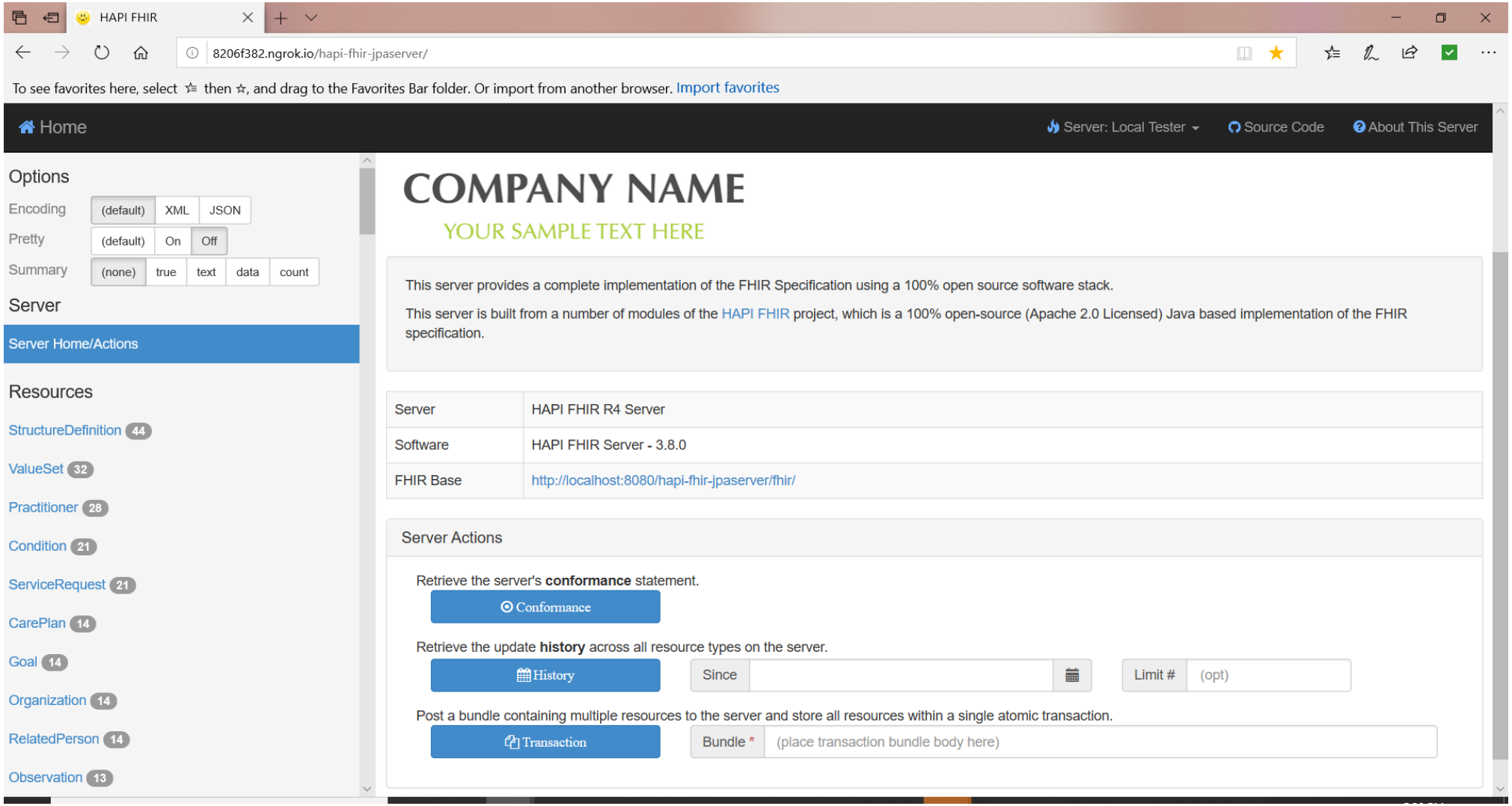
The HAPI API supports Queries and Updates to information stored in FHIR server:

- GET will read information found in the server's database
- POST will write new information to the server's database
- PUT will write new or updated information in the server's database
- DELETE will delete information in the server's database

eLTSS IG and RI Testing at September 2019 HL7 Connectathon

- The eLTSS IG and RI were both tested at Connectathon
- eLTSS IG functionality tested by several partners related to processing data and metadata stored within the server found that:
  - The Conformance Statements are applicable to the eLTSS expected Conformance Statements
  - The Conformance Statements are useful for building appropriate Queries and Posts to the FHIR Server
  - Resources are defined as expected within the eLTSS Server
  - Partners can use the server to get and store information found in the eLTSS FHIR Server

eLTSS Reference Implementation Live Demo



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eLTSS Planning for 2020 FHIR Connectathons

eLTSS Planning for 2020 FHIR Connectathons

- The upcoming HL7 Working Group Meeting scheduled for May 16 – 22, 2020 in San Antonio, TX as been canceled
  - The FHIR Management Group is currently exploring the possibility of conducting a virtual connectathon. The project team and their partners are considering conducting their own connectathon as a second contingency option.
  - eLTSS is partnering with the Post-Acute Care Interoperability (PACIO) project to test the incorporation of eLTSS data elements with PACIO data
  - Other connectathon testing partners include the Functional Assessment Standardized Items (FASI) project, the eLTSS Missouri Pilot project, Altarum, and Patient Centric Solutions

- The following HL7 Working Group meeting and Connectathon will be held September 18 – 25, 2020 in Baltimore, MD
  - In conjunction with PACIO, we plan to test how externally sourced eLTSS data (from an FEI Systems eLTSS server) can be acquired by and aggregated with PACIO data

eLTSS Community Engagement

It Takes a Village! Thank You eLTSS Partners

- Administration for Community Living
- Altarum
- FASI Initiative
- FEI Systems
- Georgia Tech Research Institute
- LTCI
- Lantana Health
- Medical Micrographics
- PACIO Project
- Patient Centric Solutions
- SMC Partners
- State of Colorado
- State of Connecticut
- State of Georgia
- State of Kentucky
- State of Maryland
- State of Minnesota
- State of Missouri
- VorroHealth

How to Engage

- Get the eLTSS FHIR IG
  - http://hl7.org/fhir/us/eltss/
- Download the eLTSS Informative Document
  - http://www.hl7.org/implement/standards/product_brief.cfm?product_id=495
- Utilize the eLTSS Reference Implementation
  - https://github.com/onc-healthit/eLTSS-Reference-Implementation
- Join the HL7 CBCP WG weekly calls to learn more about eLTSS
  - Tuesdays 12:00 – 1:00pm ET
  - http://join.freeconferencecall.com/cbhs
  - Conference Audio: (515) 604-9861 / Access Code: 429554
- Pilot the eLTSS FHIR IG
  - If you or your organization is interested in testing or piloting the eLTSS FHIR IG, please contact Johnathan Coleman at: jc@securityrs.com and Becky Angeles at: becky.angeles@carradora.com
- Visit the eLTSS Confluence Page for meeting information and relevant artifacts:
  - https://oncprojectracking.healthit.gov/wiki/display/TechLabSC/eLTSS+Home

Team eLTSS

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- Project Managers
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  - Greg White (gw@securityrs.com)
- Harmonization Lead
  - Becky Angeles (becky.angeles@carradora.com)

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