Health Information Technology Advisory Committee
Interoperability Priorities Standards Task Force
Meeting Notes - October 23, 2018, 10:00 a.m. - 11:30 a.m. ET
VIRTUAL

The October 23, 2018, meeting of the Interoperability Standards Priorities (ISP) Task Force of the Health IT Advisory Committee (HITAC) was called to order at 10:02 am ET by Seth Pazinski, Office of the National Coordinator for Health IT (ONC).

ROLL CALL

(Members in attendance, representing)
Kensaku Kawamoto, co-chair, University of Utah Health
Steven Lane, co-chair, Sutter Health
Andrew Truscott, Member, Accenture
Clement McDonald, Member, National Library of Medicine
Cynthia Fisher, Member, WaterRev, LLC
David McCallie, Jr., Member, Cerner
Edward Juhn, Member, Blue Shield of California
Sasha TerMaat, Member, Epic
Sheryl Turney, Member, Anthem
Ming Jack Po, Member, Google
Raj Ratwani, Member, MedStar Health
Ram Sriram, Member, National Institute of Standards and Technology
Ricky Bloomfield, Member, Apple
Terrence O'Malley, Member, Massachusetts General Hospital
Tamer Fakhouri, Member, One Medical
Valerie Grey, Member, New York eHealth Collaborative
Victor Lee, Member, Clinical Architecture

Members not in attendance:
Arien Malec, Member, Change Healthcare
Anil Jain, Member, IBM Watson Health
Tina Esposito, Member, Advocate Health Care
Leslie Lenert, Member, Medical University of South Carolina
Scott Weingarten, Member, Cedars-Sinai Health System

ONC Staff
Brett Andriesen, Health IT Analyst
Farrah Darbouze, Public Health Analyst, ONC ISP Task Force Lead
Lauren Richie, Designated Federal Officer

Guest Speakers
Holly Miller, MD, MBA, CMO, MedAllies
Vassil Peytchev, Lead Technical Advisor, Epic

Lauren Richie called the task force meeting to order, conducted roll call, and then turned the meeting over to the co-chairs.

Steven Lane welcomed the task force and reviewed the agenda. He stated that the ISPTF task force presented the results and recommendation from Order and Results to the HITAC. It was well received, and the meeting slides are available on the HITAC portal. The Task Force will be meeting with Don Rucker who will provide his feedback.

Overview of Standards Associated with Closed Loop Referrals & Care Coordination

Brett Andriesen reviewed the standards from the ISA regarding Closed Loop Referrals & Care Coordination.

- [ISA Section II: Admission, Discharge and Transfer](#)
- [ISA Section II: Care Plan](#)
- [ISA Section II: Images](#)
- [ISA Section II: Laboratory](#)
- [ISA Section II: Summary Care Record](#)
- [ISA Section V: Health Care Claims and Coordination of Benefits](#)
- [ISA Section V: Administrative Transactions to Support Clinical Care](#)

Brett Andriesen provided some background on the 360X Project which uses Direct for closed loop referrals. The 360X Project launched in 2012 as part of the ONC State HIE Cooperative agreement program with the goal of enabling cross vendor referral management and supporting information exchange, utilizing existing standards such as Direct and C-CDA. The IHE specification Cross Enterprise Basic eReferral Workflow Definition (XBERWD) is another standard to support closed loop referrals but has a low adoption rate. In addition, My Health Access in Tulsa, OK has been using HL7 V2 ORM messages successfully to support referral workflows

Brett Andriesen provided a brief background on Direct:
- Based on common internet standards (i.e, SMTP, X509 digital certificates)
- Secure push method of exchange
- Operates utilizing health information service providers (HISPs) which act as the backbone to package, encrypt, and decrypt data.
- Part of Meaningful Use Stage 2 Transitions of Care requirements
- Direct Trust is utilized to establish common trust agreements
- Used for care coordination, secure messaging, view/download/transmit (VDT) measures, Public Health reporting, and data exchange with payers

Ken Kawamoto: Is there any work in making a referral where the particular specialist (referred to provider) can include specific questions, e.g., about imaging or other data needed prior to the referral, to the referring provider.

Brett Andriesen: Outside of 360X I am not aware of any standards that support this functionality

Steven Lane: This is an area we may want to discuss. The AMA may be doing some work in this area. We may want to discuss this with them.

Terrence O'Malley: I am wondering if we should look more at the process of making the handshake, finding what information needs to go, and make it a one-on-one, rather than specifying the content of what should be exchanged at each point. The 360X standard defines a nice process with a handshake and the transaction number: it forms the basis for this dialogue that you prep for the referral, to make the referral and make sure it happens etc.

Steven Lane Good point. The 4 key stakeholders that may need be involved in this process are the patient, the referring provider, the payer, and the referred to provider.

Andrew Truscott wants to clarify our use of the word"standard" as a something that has been through a rigorous process versus something that has been created which might not have been through this process but is viewed with the same level of validity and fidelity. Implementation guides are not the same as standards.

David McCallie states there is a difference between a standard and a profile. Standards are rigorous where profiles typically cross multiple standards and there is no single entity that controls them. We need to have a distinction between standards and implementation guides. It matters to ONC in terms of what can bind with regulatory power. Implementation guides (IGs) tend to be more dynamic and move at a faster pace than regulations. These are ongoing tensions. This TF needs to be clear and distinct about what it recommends to ONC for regulation.

Presentation on 360X Project (Dr. Holly Miller & Vassil Peytchev)

- 360X launched in 2012 under ONC. Several workgroups worked on the IG
    - Initiating provider and recipient provider can share patient information as seamlessly as possible
- Developed an implementation guide to work with standards and specifications commonly used within health IT systems:
    - C-CDA for clinical content
    - Direct protocols for transport
    - XDM for establishing context
    - HL7 V2 messages for referral workflow

Technical Approach: 3 main layers
1. Clinical Information
    a. C-CDA containing MU Common Data Set is well understood and available. It also includes templates for the consultation note and the referral note. Future work can further constrain and specify how the C-CDA will look in particular use cases.
2. Context and Workflow
    a. Workflow Information will utilize HL7 Version 2.x messages which are well understood

3. Transport
    a. The Direct push protocol and XDM were adopted for transport as they were in MU Stage 2 and had wide adoption

- Upon building on these standards, it was realized that Patient Identity management capabilities are necessary on both sides of the transfer
    o The Referral Initiator sends basic demographics information and a patient identifier known to them. The initiator may also have a common identifier with the recipient which can be sent to the recipient.
    o The Referral Recipient must send back the same patient identifier received from the initiator. (the same patient identifier will be used throughout the exchange and can be used in future enhancements)
    o The same patient identifier must be used by both sides in any exchanges related to the referral
- Referral Identifier
    o The Referral Initiator assigns a unique referral identifier with the referral request
    o The Referral Recipient must send back the same referral identifier
    o The same referral identifier must be used by both sides in any exchange related to the referral

- The Primary Goal of the 360X use case is to improve patient care and referral management across ambulatory care transitions by:
    o Standardized data exchanged and method of transport
    o Transparency of progress and/or gaps in care until the loop is closed
    o A process w/ a low bar of entry for implementation
    o Add enhanced capabilities that add value to patients, clinicians, office staff and overall clinical workflows

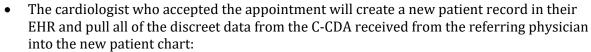## Current State Referral Management:

- Patient Story: Arnie Pectoris, 67, obese male with new complaints of chest pain and high risk for heart disease. He experiences pain during exercise that ceases when he stops.
    o The PCP and patient agree the next steps is a referral to cardiology
    o The physicians EHR ordering screen/front desk staff will share information with the patient about the cardiologist:
        ▪ Specialists culture
        ▪ Languages spoken
        ▪ CAPS rating
        ▪ Cost transparency
    o Patient is given the number of the specialty practice and is told to call
        ▪ Patient may be told there are no available appointments or that the specialist does not accept his insurance
    o Unable to schedule an appoint Arnie calls back his PCP and is told the PCP will reach out to the specialist or find an alternative
        ▪ As this was an urgent need, the patient's anxiety increases.
    o PCP office staff calls patient back with another cardiologist phone number (Elapsed time 4 hours)

- Patient call the second cardiologist and confirms an appointment for the next day.
- The patient then goes on a walk with his wife and he again experiences chest tightness and shortness of breath which is relieved with rest. His wife calls 911
  - The patient is tested, and labs are normal, rules out for MI (elapsed time 12 hours)
- Patient is a no show to the cardiology appointment due to having been admitted to the hospital.
- Almost 2 weeks later the staff tracking referrals in the PCP office working off the open orders in the EHR or an Excel spreadsheet, notices no documentation from the cardiologist and calls the patient. They then realize the patient was admitted to hospital.
  - Patient was given many tests and diagnosed with angina which is best treated with medication
  - This would have been the same conclusion as the office consult by the cardiologist

Proposed 360X Referral Management:

- The PCP and the patient agree an urgent specialty appointment is necessary
  - The patient can change the appointment and 360X will keep the PCP in the loop
- This referral request is sent to cardiologist
  - 360X generates a unique referral order number for each referral which persists across systems until the referral is closed
  - This helps the office staff to manage all referrals and to know the status of each referral. Statuses include:
    - Declined – (will close the loop and terminate that unique referral order)
    - Scheduled with appt date and time
    - No show
    - Canceled – (will close the loop and terminate that unique referral order)
    - Rescheduled
    - Interim consultation note
    - Final consultation note – (will close the loop and terminate that unique referral order)
- If the PCP makes an urgent request to a cardiologist's EHR and the specialist is unavailable, the PCP's staff can see the referral request declined request in real-time. Receiving the decline in the PCP's EHR will close this referral request
- Once the PCP's staff receive the decline they can send an immediate request to another cardiologist with a new unique referral ID.
  - The new cardiologist receives the urgent request and schedules the patient for a same day visit.
  - The cardiologist's EHR will send and accept notification to the PCP's EHR with the date and time of the appointment
  - This new unique referral ID will exist until the referral is closed.
  - This entire referral process takes just a few minutes (no phone calls necessary)

- The cardiologist who accepted the appointment will create a new patient record in their EHR and pull all of the discreet data from the C-CDA received from the referring physician into the new patient chart:
  - Demographics
  - Problem lists
  - Allergies
  - Medications
  - Immunization
  - In some cases, procedure or CPT codes (EHR dependent)
  - All info will be verified by the patient at the time of the appointment
- Cardiologist performs the consultation encounter and determines the patient only needs medication management optimization, makes a new diagnosis of Stable Angina, and orders new medication (all documented in the EHR)
- Specialists staff will send an updated C-CDA to the PCP's EHR, indicating this is the final encounter note, which will close the loop

360X Summary
- Enhance patient care across ambulatory transitions of care through standardization of referral communication, tracking, and ability to automatically close the referral loop
- Discrete referral order ID that persists across systems until the referral loop is closed
- Administrative tracking messages that allow staff to follow up:
  - Appointment scheduled (date/time); Appointment rescheduled
  - Patient "no show", cancel
  - Interim consult notes (if multiple encounters included) prior to closing the loop

360X Next Steps
- Reporting for eCQM CMS Measure ID CMS50v5 Closing the Referral Loop: Receipt of Specialist Report
- Include patient's payer information when initial referral request is sent.
- Expanded use cases from the simple closed loop referral to:
  - E.g. Acute to LTPAC
  - Care coordination and care team workflows
  - 360X in combination with additional technologies (FHIR search)
- EMDI Pilot

HITAC Role/ASK

- Support that EHR vendors develop functionality consistent with the 360X implementation guide standards and require this functionality for future certification
- Support for the 360X standards for Patient Identity management capabilities be developed and used for all order tracking to completion

Vassil Peytchev added that 360X is a project implementation guide and also an IHE profile in the Patient Care Coordination Committee.

360X Discussion

Steven Lane: Where is this being implemented and piloted in the real world?

Holly Miller: We are looking to implement this initially through EMDI, we have one interested EDI vendor and are awaiting a second.

Vassil Peytchev: We've had some prototype implementations at the IHE Connectathon last year and plan to do so again next year.

Ricky Bloomfield: What standards for EHR messaging integration are being used? Is there any thought to having an open standard for both the provider and patient centric communication that integrates into the work flow on both sides?

Vassil Peytchev: Integration with messaging within a system is left for implementation by different EHR vendors. 360X using Direct and XDM to communicate about the referral. Each side decides who, how, and what they see as a result of this communication. The key to making this work is we require the patient identity and referral identity management. Building upon those you can provide enhanced communications between providers. The scheduling portion is described as an additional capability that can be used. An example is the Argonaut Project Scheduling IG that can implement FHIR. This details how if the proper identifiers are available, two different specifications can work together to enhance the 360X specification.

Ricky Bloomfield: Using Direct is one method but given that many EHRs have implemented Argonaut SMART Authorization (via FHIR) guide for the identity and authorization piece. Is there a path forward to have a standards-based way to handle messaging for the hospitals who have already implemented Argonaut and SMART, leveraging the same authorization?

Steven Lane: You are identifying various methodologies that could be used to support the steps in this process.

Ricky Bloomfield: Correct, we need to find a way to scale this to many EHRs with less friction which will make this more successful.

Vassil Peytchev: When this project began in 2012, FHIR was bare bones. We will provide links regarding various ways to manage work flow with FHIR. I agree that it would be great to specify various capabilities in a way that can switch from Direct to FHIR. We would like to explore more interoperability in this area. The current 360X specification is based on a standard that we believe will have the least resistance in terms of implementation.

David McCallie: I support the notion that 360X is a good way to get started and in large measure to leverage the ubiquity of Direct. But this may conceivably be a halfway solution to a more robust solution that would involve FHIR and SMART apps where the reconciliation process is more dynamically interactive. The challenge is to decide how far to go down one technology path when there may be a more robust path emerging. FHIR has taken a long time to reach maturity and I like this Direct approach until FHIR becomes a more viable option to potentially replace it.

Steven Lane: Is there a sense that 360X is a static weigh station on the way to something more robust or will 360X evolve to incorporate other transport mechanisms as they develop? I ask because you were requesting HITAC to make this a "standard"

Vassil Peytchev: We believe 360X will evolve to include other modules like payer information. We believe developers will be able to implement FHIR and other capabilities, so we do not lock anyone into one path to the exclusion of others.

Holly Miller: 360X is easy because so much of the functionality already exists in the EHR; as a provider I can indicate the time frame, number of visits, and urgency of the referral. This can move forward quickly. This works, and we want to get it into the market.

Terrence O'Malley: This is a fundamental piece of healthcare. It underlies almost any order a physician needs to do. What is missing? What gaps do you see? How can this TF help?

Holly Miller: I would like to see getting the specialty societies engaged to determine the common diagnoses for which we send patients for consultations, and what information should routinely be included with those requests.

David McCallie: I was never intending to imply that 360X will remain static. I think it will clearly evolve. However, there may come a point that the evolution is not incremental but categorical and an alternate approach may be more powerful. We may be years away from this taking place. I think that 360X is a good starting point.

Public Comment

There was no public comment.

The following public comments were received in the chat feature of the webinar during the meeting:

Gay Dolin: FHIR IGs are also often and increasingly balloted in HL7

Vassil Peytchev (Epic): As far as I am aware, SMART on FHIR is about to become an ANSI sanctioned standard through HL7

Gay Dolin: FHIR IGs containing profiles are often balloted in HL7 and could become ANSI standards as Vassil mentions. Everyone may do it differently and therefor decrease/prevent interoperability

David McCallie: IGs can be balloted, but don't have to be. They can be more flexible, as SMART was for several years before it was taken to ballot.

Gay Dolin: True - but they often are and can then become regulated as a requirement. C-CDA 1.1 and 2.1 (and HITSP C32 are all IGs). IGs make FHIR implementable from a trading partner perspective

David McCallie: I believe regulations only require "an open and consensus-based process" - unless that has changed.

Gay Dolin: ONC has been very specific with what they mention, down to the specific version, at least with HL7 standards.

Gay Dolin: Vassil - Do you represent in the C-CDAs, the related document that fulfills the request -- do you use related document or in fulfillment of?

Vassil Peytchev (Epic): We use an HL7 V2 Order Status Update message in addition to the C-CDA document as the required method to indicate that the document is the outcome of the referral. It is recommended to use "in fulfillment of" in the C-CDA as well to indicate that the document is related to the referral.

Gay Dolin: FYI in examples task force, we are working on an example for this measure - because the measure asks for SNOMED document codes - while (as you know) LOINC is used for document codes in CDA.

Sasha TerMaat: One area of opportunity for quality reporting is a specialist-focused quality measure. CMS 50 is only reported by the referral initiator and specialists could be asked to report a measure on their role in closing the loop.

Gay Dolin: So the SNOMED codes will have to be present in translation code only.

James Fisher (MedAllies): DirectTrust HISPs natively support the exchanges described by Dr. Miller and Vassil.

Vassil Peytchev (Epic): http://www.fhir.org/guides/argonaut/scheduling/

Vassil Peytchev (Epic): http://build.fhir.org/workflow-communications.html#12.6.2.2

Next Steps

Members of the task force will review the outline by Steven Lane of 360X. The TF should review the alternate approaches discussed.

The next meeting of the ISP TF is scheduled for November 13, 2018, at 10:00 am ET.

The meeting was adjourned at 11:29 a.m. ET.