Collaboration of the Health IT Policy and Standards Committees

Interoperability Experience Task Force
Report of the May 6, 2016 Virtual Public Hearing

Name of ONC Staff Liaison Present: Anastasia Perchem

Purpose of Hearing: To obtain reports on the experiences of invited stakeholders

Opening Remarks

Task Force Co-chairperson Jitin Asnaani announced that the hearing was convened to obtain information on experiences with interoperability in order to make recommendations to ONC. Task Force Co-chairperson Anjum Khurshid added that the goal is to identify solutions. Each invited presenter was allocated 5 minutes.

Panel 1: Health Care Stakeholders

Christina Caraballo, Get Real Health, showed a few slides and said that it is vital to empower patients and their families as active participants in the care continuum and go beyond simply providing access to data and actually providing tools and resources for patients and their families to actively engage in their health. A focus on interoperability as it relates to the way traditional EHR vendors are interoperable and how CAHs, EHs, and EPs use CEHRT is not enough. For technology to benefit consumers, a framework where clinical data are available to stakeholders outside of the meaningful use program must be established. Caraballo described several challenges in accessing and aggregating clinical data:

- The Transmit in View, Download, Transmit (VDT) does not work for patients in most cases.
- Organizations are simply turning off Transmit and/or hiding it.
- Direct and APIs require trusted connections between systems for information to flow
- Lack of widely adopted trust frameworks between the provider organizations and the consumer-facing applications
- Directories to find providers that use Direct and are connected to patient trust bundles do not exist, making it challenging to encourage patients to aggregate data via this mechanism.

Caraballo reported that her organization has joined consumer-facing trust bundles such as Blue Button + and NBB4C and provided guiding text that directs patients to the Blue Button Connector, NATE's BB4C and GetMyHealthData. It also enables users to generate CDA documents that can be viewed, downloaded, or transmitted in both human- and machine-readable formats. EMR technologies should be able to accept Direct communications from patients. Receive must be required in addition to VDT. Health care organizations and EMR vendors need to support patient trust bundles such as NATE's BB4C. Patient trust bundles used in such scenarios should include options for automated, online identity verification instead of requiring patients to use cumbersome in-person visits. Caraballo called for an ecosystem or marketplace where a consumer can easily find all of his/her health information using the tools of his/her choice and establish connections to automate the flow of data from the clinical system to those applications.

Steven Lane, Sutter Health, showed slides that described the environment in which successes in California have occurred. He emphasized that HIE is a team sport in which collaboration is at the front in order to remove authorization requirements; automate patient queries; and share configurations,

performance data, and best practices. Collaboration among Epic, Cerner, athenahealth, and the VA was important for patient matching, dealing with duplicated data, and novel use of CCDs) to transmit encounter-specific data to payers. On the other hand, success in exchange of data results in drowning in data. Everyone appreciates information on transitions of care and events, but discrete data from CCDs must be reviewed and reconciled with curated records. Duplicate, outdated information from a different organization or the same one limits clinicians' ability to identify important data at the point of care. External data should be kept separated until they are reconciled or copied into the local chart. Important information to reconcile includes problems, medications, allergies, and immunizations. However, Lane acknowledged that data compiled by his organization indicate that reconciliation is not the norm. Organizations need discrete data access, standards, and technology to support more data types. Data preparation requires collecting, cleaning, and consolidating data for analysis. Care coordination requires multidirectional ad hoc communication beyond the current capability of integrated systems utilizing a common EHR. New, secure texting apps are not integrated into EHR systems. The continued use of paper and fax processes is due to inconsistent adoption of Direct. Many stakeholders, such as pharmacists, therapists, home care, and care managers, are not engaged.

Anna McCollister-Slipp, Galileo Analytics, showed slides and talked about her personal experiences in managing type 1diabetes. She emphasized that barriers are not technical. Without interoperability, patients disengage, physicians make mistakes, quality of care is compromised, research is difficult, devices fail, poor care goes unnoticed, and people die unnecessarily. McCollister-Slipp declared that it is a moral imperative to fix the problem. Access to APIs and data streams must be mandated.

Edwin Miller, Aledade, showed slides that described his organization. He described challenges with poor ambulatory EHR data portability compliance. Regarding workflow and quality measure capture, the following are problems:

- Inconsistent CCDA data availability
- Imaging/surg procedure orders
- LOINC coded lab results
- Health maintenance
- Preventative screenings
- Counseling
- Referrals

Moving to challenges with HIE coverage and cost, he mentioned issues with business viability and data blocking by hospitals, reduced matching accuracy when patient panels are not used (63% compared to 87%), and missing code set standards or compliance (e.g., TIN directories, disposition codes). He offered steps to address innovation velocity and data blocking and to improve inspection and enforcement.

Q&A

Jorge Ferrer inquired about reconciliation of data at the point of service. Lane said that in order to eliminate unwashed and duplicative data, a clinical review is needed before entering the data into the record. Some type of machine intelligence can prepare the data, but clinician review is needed before reconciliation. Although it is difficult to write rules to reconcile, rules can lump and identify those data that should be reviewed.

Larry Wolf asked about simple things to be done as well as for more information on the initial cleanup of data for reconciliation. McCollister-Slipp repeated that one of the biggest issues is accessing the data stream. Raw materials are not accessible. But it is doable. Open APIs should be required. Miller agreed that less is more. Knowing where the patients are is fundamental. Lane repeated that filtering

information is difficult. It is humans who respond to structured data. It is within the federal role to develop tools for filtering.

Ferrer was concerned about losing the patient's story told in the notes. According to Lane, notes do not really help the next provider. Evidence indicates that notes are not used as much as structured data. Caraballo referred to problems with CCDAs, saying that many EHRs are constructed to send them to portals rather than to other providers. CCDAs of patients with complex issues are more difficult to handle. Stakeholders must agree on the level of assurance in order to send data.

Asnaani observed that many stakeholders are not asking for data because they assume the data are not available. He wondered whether that assumption is changing. Miller anticipates a sea change within a few years. In his experience, many are asking how to get data, and they must use an app. McCollister-Slipp said that she cannot see her device data all in one place. Frustration leads to disengagement. Lane sees a shift to an assumption of access to data, which is not always correct. Patients now assume that their doctors have access to their complete data. Some data do flow, but some do not. Providers are concerned about being responsible for all available data.

Responding to a question about how to shift organizational perspective, Lane pointed to making patients aware of the positive benefits of having access to complete information and building trust with competitors.

In response to a question from Larry Garber about home devices and authentication, McCollister-Slipp said that Facebook and Twitter have mechanisms to validate identity. Some companies do offer this service for the health sector. Existing platforms and tools can be used. OAuth would work with open APIs. Open APIs are the solution. Caraballo noted that providing access does not mean that everything has to be incorporated into the EHRs.

Khurshid asked about the cost. Miller said that providers are not able to assume the cost. Even for collaboratives the upfront costs are considerable. Lane said that cost is not prohibitive when APIs are in place.

Panel 2: Health IT Stakeholders

Scott Stuewe, Cerner, showed slides and stated that query-based exchange is becoming the norm for discovery. The Cross-Community Access profile supported by CommonWell Health Alliance, Carequality, and other suppliers makes exchange available with lower costs and less effort. The consent-to-disclose question is getting easier to answer. An increasing number of clients want to participate in national exchange through CommonWell. Many other endpoints are available by query-based exchange. Direct is beginning to create real value in pockets. Use cases that lower costs and improve outcomes have been identified. Directories that can have a major impact are emerging. Stuewe summarized the current challenges. Documents "in the wild" sometimes do not conform with currently accepted standards and rarely contain narratives. The effect of the variability of state-to-state HIE requirements is costly. The architecture of some models assumes the HIE is the gateway to all outside data, but not all systems are query capable. The future state of document exchange will be challenging, because there will be too many data in too many documents from too many sources. Stuewe described several successful strategies. CommonWell facilitates collaboration among the supplier community to share tactical improvements with members. Workflows can be designed that harmonize experience for users while promoting support for modern, standards-based document exchange. Although better document workflow can be created, there are limits. The industry should work to allow for API-level exchange for specific use cases, as well as for general use replacing Cross-Enterprise Document Sharing at some point.

Lara Sinicropi-Yao, PatientPing, showed slides describing three main challenges to interoperability. Legacy IT infrastructure and clinical workflows do not assume interoperability. The financial incentives to engage providers and advance interoperability are incomplete. There is limited access to real-time, actionable information about when and where patients receive care. Sinicropi-Yao proposed several solutions. Provider engagement in interoperability efforts can be expanded. Technology solutions that are focused on addressing real business needs can be implemented. Policy solutions that use consistent outcome-based metrics in order to fully align incentives should be promoted.

David Yakimischak, Surescripts, presented slides and talked about factors that contributed to his organization's success with interoperability, saying that among the many factors, leadership, relationships, and value propositions were essential. He said that there is no silver bullet to ensure success, but there are many things that can be catastrophic. He said that a consistent group of people within one organization waking up every day for many years, worried about making e-prescribing successful worked for Surescripts. He acknowledged that in a centralized, highly managed environment, it took 10 years to achieve the current level of success.

Greg Carey, athenahealth, showed his organization's slides. He emphasized that the key barriers to interoperability are not technical. One barrier is the regulatory fear around patient consent. There is need to clarify that HIPAA allows for data exchange for the purpose of treatment and which states have patient consent laws that supersede HIPAA. Another barrier is compliance-driven innovation. EHR product roadmaps are dominated by regulation instead of the market. The lack of proper market forces also constitutes a barrier. Fee-for-service medicine does not demand clinical interoperability. In fact, hospitals that his company has tried to interoperate with often purposely keep data out of the official legal record. The health IT industry is currently aiming to solve interoperability problems in spite of these barriers via CommonWell and Carequality.

Q&A

Ferrer asked whether standard development organizations' efforts have helped or hindered interoperability. Stuewe responded that standards helped bring value in stage 2. However, if the standards are a stretch, then organizations will seek alternatives. According to Yakimischak, standards have stimulated interoperability. They are necessary but not sufficient. Standards do not automatically lead to interoperability. Carey agreed but pointed out that standards requirements often adversely affect interoperability.

Wolf referred to the example of e-prescribing, saying that although it is a success, it is a narrow use case. What use cases can be expanded, such as immunization or dispensing of medication orders? A panelist replied that use cases should represent highly prevalent needs. Consistent and long-range visions are necessary. McCollister-Slipp said that vendors should work together to integrate use cases. Stuewe said that use cases are unique to the workflow to which they belong, making generalization difficult. He wants to generalize the infrastructure as much as possible. His organization is looking to SMART on FHIR approaches. Wolf commented that the industry has been looking for the next step for many years. Yakimischak repeated that interoperability is not a technical or infrastructure issue. Needs and incentives drive change. More focus on achieving outcome is needed.

A member observed that no panelist referred to usability, which, in his opinion, is a recurring need. Stuewe said that in his testimony, he mentioned usability. Usability will be critical to reconciliation in stage 3. Yakimischak agreed on the importance of usability, which requires vendors to work together. He said that workflow integration and usability are considered together. If a provider needs to know that she is interoperating, then it is not working. Carey observed that compliance requirements have

affected usability; a market-driven approach would have better results. Physicians do not care how interoperability works; they want usable information at the right time. Vendors will eventually be forced to respond to their consumers.

Staff pointed to time constraints and asked that members and panelists be concise.

Garber asked the panelists how they propose to interoperate. Stuewe said that as part of a collective, such as CommonWell today, not everyone will participate. Therefore, a national infrastructure must be formed. Yakimischak said that his organization formed a national network, although he does not expect everyone to participate.

Khurshid observed that the panelists agree that interoperability will not be solved by technology. Instead policy interventions are needed. What would be the right policy environment? Carey responded that states that allow patients to opt into CommonWell achieve better interoperations. Opt-in should be the default. According to Stuewe, states that are less prescriptive have better results. He called out Texas as an example of a good environment.

Panel 3: Federal and State Stakeholders

Art Davidson, Denver Public Health Department, showed slides. Getting to a healthy state requires more than just visits to a care provider. Patients need easy referral and access to community-based resources. Clinicians are challenged to adequately address these factors within the context of clinical care. Interoperability is essential for public health officials to understand the demographic and social characteristics of their communities. National surveys do not allow for small area analyses. A PCP wants to communicate with community-based resources to ensure a smooth transition between the provider and the resources needed by the patient. A public health official wants to use available EHR data to make informed community assessments. As an example, Davidson reported that the North American Quitline Consortium has proposed HL7 standards for use by virtually all quitline providers using CCDA document to make referrals and receive feedback. Quitlines typically have robust informatics infrastructure to support such referrals. But what happens with the local YMCA class or other resources (e.g., food banks) without capacity to support HL7- and HIPAA-compliant messages? If a provider and patient need to conduct an automated query for culturally appropriate, community-based resources, real-time results should allow the provider to present options to the patient. A HIPAA compliant e-referral would then be sent to a secure referral hub supporting communication with many community resources. Like the quitline, the goal is to have feedback return directly to the chart through a HISP using Direct-mediated messaging. Key problems are poorly developed taxonomies for communicating about social determinants (what is the SNOMED or ICD-10 code for food scarcity?) or community-based services and the absence of a shared referral hub for non–EHR-enabled service providers. These represent both semantic and structural barriers to interoperability. On the public health side, the challenge is finding a common data model to which EHR data may be converted. In Colorado, a distributed data access framework developed by the FDA (Mini-Sentinel) and the PCORI (PCORnet) to aggregate data is followed.

Bob Calco, Apex Data Solutions, described his company and showed slides describing work for the VA on medication and allergy reconciliations, which he observed are a microcosm of the bigger interoperability problem and illustrate the need for an architecture that supports interoperability. He believes that it is important to tell the story of a patient's medication history, including which systems know about the patient and their relationship to both problems and allergies. The data must be pulled together on demand and displayed in a way that is cognitively helpful. The provider and the veteran have very different cognitive requirements. Calco moved on to delineate several persistent challenges. Data standardization is complicated even when semantics are not an issue. Semantics are a challenge even

when built on the same database; for example, the RPMS is centered on the encounter, whereas the VistA is centered on departments. Both are built in FileMan written in MUMPS and share some code but are not semantically equivalent. Furthermore, most databases lack the conceptual tools needed to tell the story from existing data and help in any meaningful way with filling in knowledge gaps. According to Calco, policy obstacles to interoperability are driven by orthogonal concerns, such as security.

John Kansky, Indiana Health Information Exchange, agreed with other presenters that the most difficult challenges to interoperability have never been technological. They are related to economics, workflow, and perception of the value of sharing data. Some interoperability challenges are the apathy of nonsharing organizations, perceived lack of sufficient clinical and economic value of sharing, inherent economics of small data sources, and making data exchange fit clinical workflow. Kansky suggested that when the focus is on workflow, technology will follow. He emphasized that the lack of standards or a unique patient identifier are not significant barriers.

Daniella Meeker, Keck School of Medicine, Southern California Clinical and Translational Science Institute, showed slides that depicted the patient-centered SCANNER Network, which connects 21 million patients' EHR data with clinical and health services researchers. Two common data models are used to normalize data for research. The data can also be accessed by a single authorized patient. Meeker said that most of the issues that her program has encountered were described by other panelists. Provider participants can use the services to report on quality measures. Constant monitoring and support to participants is required.

Thomas Check, Healthix, showed slides and described challenges encountered by his organization, which he said is the largest public HIE in the nation. Pertaining to the great challenge of providing truly actionable information, he said that the solution is to monitor the clinical content of new patient information in relation to previous information and generate an alert when there is a change in the clinical condition that the provider or care manager is managing. This requires a repository model HIE (either federated or centralized), not point-to-point query or rerouting of incoming events. Check's system is live with notifications of inpatient, ED, and skilled nursing facility admissions and discharges; incarceration and release from jail; and patient expiration. The system is ready to deploy a specific clinical diagnosis or result (e.g., creatinine, HbA1c); an ED visit related to a specific chronic condition; a consult note, discharge summary, and transfer of care document created at another Healthix participant; and changes to care plan. A predictive risk model is under development.

Q&A

Check responded to a question from Ferrer, saying that a change in a patient's condition is reported to those providers who had indicated their interest in such information. The new changed condition is compared with previous information on condition.

In response to a question from Khurshid about a national infrastructure, Meeker said that there must be incentives for a standard data model. Wolf referred to Meeker's slides, noting several feeds from the same vendor. He wondered whether standards are leading to better interfaces. Meeker responded that even with the same vendor, there are many challenges.

Check told Wolf that although providers want alerts, they want to know which are actionable. Looking at the clinical content of the alert is necessary. Coordination and care management will be improved by analytics and the development of a predictive risk model. Regarding public health reporting, Kansky reported that the Indiana HIE is doing multiple things, which increases the value to participants and helps to sustain the system. Davidson said that the Colorado system supports public health case reporting.

Ferrer asked about med reconciliation. Calco said that med errors are a serious problem. With the VA project, the workflow had to be carefully considered to determine the efficiency of the reconciliation process. The reconciliation process with the patient brings in many factors.

Closing Remarks

The co-chairpersons thanked everyone. Due to the late start of the meeting, there was not time for additional questions or remarks.

Next Steps: The task force will meet May 11.

Public Comment: None

Meeting Materials

- Agenda and panel questions
- Presentation slides
- Written testimonies and comments
- Presenter bios

Attendance:

Name	05/06/16	04/26/16	04/06/16	03/23/16	**03/08/16**
A. John Blair III		X	X	X	X
Anastasia Perchem	X	X			
Anjum Khurshid	X	X	X	X	X
Christopher Ross				X	
George Cole	X	X	X	X	X
Jane Perlmutter		X		X	
Janet Campbell	X	X	X	X	X
Jitin Asnaani	X	X	X	X	X
Jorge Ferrer	X	X	X	X	X
Kelly Aldrich	X	X	X	X	
Larry Wolf	X	X	X	X	X
Lawrence Garber	X	X	X	X	X
Phil Posner	X	X		X	X

Shaun Grannis		X		X	X
Ty Faulkner	X	X	X	X	X