

Collaboration of the Health IT Policy and Standards Committees

Policy and Standards Federal Advisory Committees on Health Information Technology
to the National Coordinator



September 13, 2016

B. Vindell Washington, MD, MHCM, FACEP
National Coordinator for Health Information Technology
Department of Health and Human Services
200 Independence Avenue, SW
Washington, DC 20201

Dear Dr. Washington,

The Interoperability Experience Task Force (IXTF) convened on March 8, 2016, as part of a joint collaboration between the Health IT Policy Committee (HITPC) and Health IT Standards Committee (HITSC). The Task Force was charged to provide recommendations on the most impactful policy, technical, and public-private approaches that could be implemented to improve the interoperability experience for providers and patients. This transmittal offers these recommendations, which are informed by the deliberations among the Task Force members, and consideration of testimony from public and private industry stakeholders and experts during a virtual hearing in May 2016.

Charge:

The Interoperability Experience Task Force (IXTF) was charged with providing recommendations on the most impactful approaches that could be implemented to improve the interoperability experience for provider and patient stakeholders.

- A key assumption underpinning our analysis is that the healthcare stakeholder already has access to a system(s) that can interoperate with at least one other external system
- The breadth of scope of the IXTF's work drove recommendations largely focused on steps that the federal government could take to begin addressing the highest-priority needs

Background:

The IXTF selected five broadly applicable use cases to quickly hone in on needs (details in Appendix A). They included:

1. **Transitions of Care:** Automated query from ER physician in one state to the patient's PCP EHR record in another state where the patient is regularly seen and have it imported directly to the ER physician's EHR.
2. **Shared Care Plans:** All health professionals (e.g., Patient/Caregiver, Primary Care Physician, Specialist/Oncologist, Home Health Agency, Lab, Pharmacist, etcetera) sharing care for a cancer patient have access to care plan developed by the oncologist.
3. **Patient-Initiated Data:** A diabetic patient's caregiver (the patient, family member, etc.) gathers notes and lab results from her PCP and Endocrinologist and submits the patient's glucometer readings to both doctors.
4. **Clinical Information Transparency for Patients/PCP:** Hospital discharge of high-risk patient to post-acute care with appropriate involvement of PCP. Patient able to access/review: health information, costs for medications/pharmacies, payer coverage.

5. **Quality Improvement:** Allow persons in quality management and health care organizations (such as ACOs) the ability to interchange and review clinical quality data for a patient or a population.

The Task Force held several meetings and subgroup calls that identified 8 distinct priority needs across the 5 use cases (details in Appendix B).

1. Ability to identify patients nationwide
2. Ability to locate relevant patient records
3. Ability to locate and identify providers
4. Ability to access and interpret consents/authorizations
5. Ability to exchange health information
6. Ability to encode data that is syntactically and semantically interoperable
7. Ability to effectively utilize health information
8. Governance

To inform the relative priority of these needs, a broad set of industry/ community stakeholders were invited to a virtual hearing. The hearing included three panels – healthcare stakeholders, health IT stakeholders and State and Federal stakeholders.

Through the testimony and subsequent discussions, the IXTF discovered that an inherent “formula” seemed to reside at the heart of the subject, namely that: “the Interoperability Experience is proportional to the user delight and inversely proportional to the stakeholders’ perceived friction in achieving interoperability”, i.e.,

$$\text{Interoperability Experience} \propto \frac{\text{User Delight}}{\text{Perceived Friction}}$$

As a result of this insight and the underlying details, the IXTF identified three out of the eight initial priority needs directly impact the user delight and perceived friction, and that ONC should consider focusing on them in order to improve the interoperability experience for stakeholders across the care continuum.

1. Ability to effectively use health information
2. Ability to encode data that is syntactically and semantically interoperable
3. Ability to exchange health information

Prioritized Findings:

1. Work is needed around clinical information reconciliation and curation to reduce the burden of clinical data import
 - Because of a broadly published set of guidance and best practices, these issues are being encountered and encumbering data exchange in a multitude of silos across the country.

- A convening body can create some degree of consistency and reasonable expectation, balanced with private sector innovation
2. Incorporation of non-clinical data is needed so that it is useful to clinicians.
 - Stakeholders across the industry need better methods, and potentially new standards, to effectively capture and use non-clinical data (including unstructured data), such as the behavioral and social determinants of health
 - Most focus has been on EHR to EHR data, but to better care for a person, non-clinical information is needed.
 3. Work is needed to better understand how to deal with patient generated health data (PGHD), as interoperability includes PGHD (broader than non-clinical data above).
 - Methods and standards for inclusion are needed, as well as a better understanding of how to best summarize data.

We appreciate the opportunity to provide these recommendations and look forward to discussing next steps.

Sincerely yours,

/s/

Paul S. Tang, MD

Co- Chair, Health IT Policy Committee

/s/

Kathleen Blake, MD, MPH

Co-Chair, Health IT Policy Committee

/s/

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/s/

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Appendix A: Use Case Detail Use Case #1

USE CASE #1	NEED	NEED BEING FULFILLED?	HOW IMPORTANT IS THE NEED? (Low/Medium/High) + Reason
Automated query of Massachusetts PCP's patient summary when HIV+ patient visits ER in Florida	ER's EHR needs to know where outside records are available, including which organization/EHR has the data (for providers that work in multiple locations)	No - There are sporadic Record Location Services or Relationship Listing Services (RLS) available but not nationally for all sources (including patients). No national standards for RLS.	High – If you don't know where to look, you won't be able to find it. Also, automated processes (which are necessary for "Hassle-Free HIE") can only happen with RLS-type functionality
	ER's EHR needs to know the roles each source of outside records play (e.g. who the PCP is or which is the patient's PHR)	No - sporadic use of roles in RLSs	Medium - Less efficient if EHRs can't do focused queries to PCP, particular specialty, or patient's PHR, but it is not an absolute obstacle to communication.
	ER's EHR needs to know how to electronically contact EHR of PCP (protocols, certificates, addresses, etc...)	No – There are multiple implementations of provider directories and standards (HPD, HPD+, etc..) but no national standard, and no standard for keeping them up to date through EHR updates	High - If the requesting EHR doesn't know how the releasing EHR sends the data, transactions can't take place
	ER's EHR needs to be able to import the clinical data	Display - Yes Incorporate Using Manual Reconciliation – Variable , mostly for Meds, Allergies and Problems from C-CDA documents Automatic Incorporation - Sporadic (Lack of Lab Test standard required for mapping, and Data Provenance standard required to determine whether data are trusted for automatic incorporation)	Display – High (If you cant see it, this was all a waste!) Incorporate Using Manual Reconciliation – Medium Automatic Incorporation – Medium
	ER's EHR needs to notify ER doc that PCP's data are available	Variable – varying levels of notification, and some do no notification, particularly for automated queries	High – if you don't know that data has been retrieved, you don't know to look at it
	ER's EHR needs to be able to publish that patient was seen in that ER	Sporadic – some places do event notifications, and fewer update RLSs	High – Required to enable others to query for ER's records

Appendix A: Use Case Detail

Use Case #2

USE CASE #2	NEED	NEED BEING FULFILLED?	HOW IMPORTANT IS THE NEED? (Low/Medium/High) + Reason
<p>Oncologist orders a blood draw. Home health nurse sharing care for the patient collects the specimen. The specimen is resulted by the lab and results are communicated to appropriate stakeholders.</p>	<p>Order should be performed in most appropriate and patient-friendly care setting (e.g., at home if an HH episode exists, lab if not).</p>	<p>Generally, all of these steps can be fulfilled in some way, but I don't think there is a single standard to point to.</p>	<p>High</p>
	<p>The order should be added to the appropriate HH nurse's "to do" list</p>		<p>High</p>
	<p>Results should be communicated back to the oncologist</p>		<p>High</p>
	<p>Results should be communicated to the patient</p>	<p>Generally, all of these steps can be fulfilled in some way, but I don't think there is a single standard to point to.</p>	<p>High</p>
	<p>Results should be communicated to other interested parties on the care team as appropriate.</p>		<p>High</p>
	<p>Results should mark the order as "done"</p>		<p>High</p>
	<p>If the nurse is unable to collect the specimen, the order should be escalated as unfulfilled</p>	<p>Generally, all of these steps can be fulfilled in some way, but I don't think there is a single standard to point to.</p>	<p>High</p>
	<p>Results should be discrete and able to be interweaved with other results from tests performed at other labs.</p>		<p>High</p>
	<p>Results communicated back to the Home Health Agency</p>		<p>High</p>

Appendix A: Use Case Detail

Use Case #3

USE CASE #3	NEED	NEED BEING FULFILLED?	HOW IMPORTANT IS THE NEED? (Low/Medium/High) + Reason
<p>Diabetic patient's caregiver gathers notes and lab results from her PCP and Endocrinologist, graphs the Hemoglobin A1c results from both, and submits the patient's glucometer readings to both doctors</p>	<p>Patient needs to provide authorization for caregiver to access her data</p>	<p>Sometimes, as a consent based authorization within EHRs, Patient portals, and paper-based. Usually 1 to 1 authorization not 1 to many?</p>	<p>High Should be made as a simple query process, portal use even non-EHR portals, password controls is also a high ranked issue, who has access to the users account including family or caregiver.</p>
	<p>Patient's caregiver needs to query for HgbA1c data</p>	<p>Sometimes using direct connect, or an API recall method provided by HIE</p>	<p>High Technology standards for 3rd party data need to be decided and certified by ACB or others to create automatically be generated data</p>
	<p>Patient's caregiver needs to submit "patient-entered" device (glucometer) data to providers</p>	<p>Patient generated data rarely integrated 10-20%, unstructured data, few standards</p>	<p>High Would be nice for device standards to automatically provide data via commercially approved tools FDA regs are underway, this data can be provided without Caregiver intervention</p>
	<p>Patient should be able to specify context of data (patient-entered) and responsibility (i.e., primary responsibility to endocrinologist and CC to PCP)</p>	<p>Patient portal data, free text boxes, governance needed</p>	<p>High</p>
	<p>Need to appropriately route incoming data appropriately to endocrinologist's & PCP's EHRs</p>	<p>Rarely, standards in the works for referrals, CCDA query,</p>	<p>High</p>

Appendix A: Use Case Detail
Use Case #4

USE CASE #4	NEED	NEED BEING FULFILLED?	HOW IMPORTANT IS THE NEED? (Low/Medium/High) + Reason
Hospital discharge of high-risk patient to post-acute care with appropriate involvement of PCP	Hospital needs to be able share Discharge Summaries, and other content, with the appropriately identified Patient's caregiver, PCP, Specialists and Home Health Agency (HHA)	Partially met, but not satisfactorily. The identification function is often performed by care directors, outside of the hospital per se, so that the total care team list is fragmented. Distribution of Discharge Summaries to the identified care team members, and patient, is happening from many hospitals, but we have no real measure of the extent of coverage.	High
	Hospital to have the ability to dynamically provide Discharge Summaries	Partial.	High
	Patient's healthcare teams need to identify patient and reconcile patient chart data	No. However reconciliation of content does take place at many encounters. Unfortunately, it is mostly manually performed, and typically involves only a small subset of the clinical content. Medication List, Allergies are more commonly reconciled than other content.	High
	Patient and primary care physician should have access to medication lists, medication adherence and medication reconciliation	Partially met, as the sharing of Medication Lists is not uncommon. Adherence, at least in terms of fulfillment, is also sometimes available. Adherence, or compliance, is most likely unknown. This data should be available to the PCP and patient/patient care team as well as outpatient recovery orders/suggestions (medical pharm, pt, etc.).	High Follow up is critical, since simple communication at the time of discharge is often lost by the patient and caregiver who are not particularly receptive to large amounts of new information at a stressful time.
	Patient and primary care physician should have access to medication information management information	no See above	High
	Patient's PCP HHA and PCP needs to know medication management Care Plan to follow-up with patient	no See above	High

Appendix A: Use Case
Detail Use Case #5

USE CASE #5	NEED	NEED BEING FULFILLED?	HOW IMPORTANT IS THE NEED?
Allow persons in quality management and health care organizations the ability to interchange and review clinical quality data for a patient.	EHR needs to identify where a patient's data resides.	Partially	HIGH
	EHR needs to be able to query that source for raw data that underlies that measure (Standards for Query and Response)	Partially	HIGH
	EHR needs to perform a calculation on the data (Access standard computable definition of the measure)	Partially	HIGH
	EHR needs to store calculated value (Make it accessible in a standardized format)	Yes	HIGH
	EHR needs to report on calculated measure externally (PQRS, MU, ACO, HEDIS)	Yes	HIGH
	Surface the measure at the right time in the decision making process (Nurse-sensitive indicators)		HIGH

Appendix B: Prioritized Needs and Sub-needs identified by IXTF, Table-1

1. Ability to identify patients nationwide
1.1 Capture standardized demographics for patients
1.2 Patient matching algorithm(s)
1.3 Show how to communicate with patients
1.4 Show proxy relationships and how to communicate with them
1.5 Show authenticated devices and how to communicate with them
2. Ability to locate relevant patient records
2.1 Show providers affiliated with patients
2.2 Show roles of affiliated providers
2.3 Show patient authorizations for communication with specific providers
2.4 Show provider subscriptions for specific types of information, including events
2.5 Show how to retrieve record (or alternatively, enable native access/connection to record)
3. Ability to locate and identify providers
3.1 Show provider services offered
3.2 Show provider capabilities to communicate electronically, including necessary certificates/addresses (or alternatively, enable native access/connection to provider EHR/HIT)
3.3 Enable locations to be continuously and automatically updated by provider EHRs/HIT
4. Ability to access and interpret consents/authorizations
4.1 Detail types of data, uses of data, restrictions on redisclosure, timeframes, etc...
4.2 Show how to convey requirements and assert that they have been received from patient
4.3 Show how to convey authorization for proxy access (e.g. to parents of minors, or children of elderly parents) on behalf of patient

5. Ability to encode data that is syntactically and semantically interoperable
5.1 Standardized encoding for computable data (esp. orderable tests and procedures)
5.2 Standardized formatting of (or access to) discrete data
5.3 Standardized formatting of (or access to) free-text descriptions/explanations
5.4 Standardized formatting of (or access to) non-clinical data (e.g., social, behavioral, etc.)
5.5 Ability to determine provenance of the data
6. Ability to exchange health information
6.1 Querying & retrieving data from EHRs/HIT
6.2 Pushing to & receiving from EHRs/HIT
6.3 Submitting device data to EHRs/HIT
6.4 Accept data push directly from patients
6.5 Acknowledgement that data has been received (especially from Consumer POV)
7. Ability to effectively utilize the health information (at the least, reduce cognitive burden)
7.1 Seamlessly reconciling data
7.2 Surfacing clinical insights from data
7.3 Usability/Visualization
7.4 Usability/Workflow design
8. Governance
8.1 Effective User Training
8.2 Clear Program Accountability
8.3 Compliance Mechanisms
8.4 Appropriate Incentives
8.5 Trust Framework - Technical (national vs. local)
8.6 Organizational/Community Alignment (national vs. local)