Collaboration of the Health IT Policy and Standards Committees

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

Interoperability Experience Task Force

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Agenda

- Interoperability Experience Task Force (IXTF) Members
- Charge
- Findings based on Prioritized Categories of Needs
- Prioritized Findings
- Appendix A: Detailed Findings and Potential Opportunities

Our Task Force Members represent technology leaders and care givers across the care continuum, including consumers themselves

Member	Organization	Role
Jitin Asnaani	**CommonWell Health Alliance**	**Co-Chair**
Anjum Khurshid	**Louisiana Public Health Institute**	**Co-Chair**
Shaun Grannis	Regenstrief Institute	Member
Ty Faulkner	Lawrence Technological University	Member
Janet Campbell	Epic	Member
Larry Wolf	Strategic Health Network	Member
Phil Posner	Consumer representative	Member
A. John Blair, III	MedAllies, Inc.	Member
Lawrence Garber	Reliant Medical Group	Member
Kelly Aldrich	Center for Medical Interoperability	Member
George Cole	Allscripts	Member
Jorge Ferrer	*Veterans Health Administration*	*Federal Ex Officio*
Anastasia Perchem	*ONC*	*ONC Lead*

Summary of Our 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 findings to address the highest-priority needs

Key Finding: determinants of the Interoperability Experience

- A process of exploration was conducted across 25 stakeholders through a series of committee discussions and guest panels
  - Patients, providers, HIT vendors, HIEs, consumer advocates, public health experts, gov’t agencies, and other represented

- The IXTF discovered that the ***Interoperability Experience*** is proportional to ***user delight*** and inversely proportional to stakeholders’ ***perceived friction*** in achieving interoperability

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

Three Prioritized Categories of Needs

- Three prioritized categories of needs were identified to improve the ***Interoperability Experience*** for stakeholders across the care continuum, out of eight originally posited by the IXTF

Ability to effectively use health information

Ability to encode data that is syntactically and semantically interoperable

Ability to exchange health information

Ability to identify patients nationwide

Ability to locate relevant patient records

Ability to locate and identify providers

Ability to access and interpret consents/authorizations

Governance

Findings Based on Categories of Needs: Ability to effectively use health information

Ability to effectively use health information

Ability to encode data that is syntactically and semantically interoperable

Ability to exchange health information

- Clinical information reconciliation and curation is needed to reduce the burden of clinical data import
- Work is needed on user-centered design, usability, and testing to examine principles, standards, and increased transparency of usability of systems. True interoperability is more than just sharing data; it's enabling providers to act on the data, and by doing so, means that they are consuming data in a usable way.
- The burden of clinical data entry faced by clinicians has an impact on the demand for interoperability (e.g., time available for interoperability, user satisfaction, user effectiveness, etc.).

Findings Based on Categories of Needs: Ability to encode data that is syntactically and semantically interoperable

Ability to effectively use health information

Ability to encode data that is syntactically and semantically interoperable

Ability to exchange health information

- Work is needed to improve the usefulness and usability of non-clinical data, i.e., behavioral and social determinants of health
- Work is needed to better understand how to achieve interoperability with unstructured data.
- CCDA standards may be better enhanced and optimized in order to support more accurate individual data matching and integration into systems.
- Continued collaboration is needed with terminology stakeholders (e.g., NLM) to improve the coverage and value of industry terminologies and code sets (e.g. LOINC)

Findings Based on Categories of Needs: Ability to exchange health information

Ability to effectively use health information

Ability to encode data that is syntactically and semantically interoperable

Ability to exchange health information

- Widespread use of Open APIs is needed
- Additional work is needed to articulate the total costs of ownership for EHRs, as suggested in ONC's report to Congress on the Feasibility of Mechanisms to Assist Providers in Comparing and Selecting Certified EHR Technology Products
- Patient-generated health data needs to be better incorporated into the shared decision-making process
- A better understanding of the cost of data exchange in consumer-mediated exchange is needed, e.g., cost of obtaining a Direct address, requesting data, etc.
- Harmonization work is needed around discrepancies in HIE costs and interoperability policies among states (e.g., consent, privacy and security, and cost of exchange).

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 could establish some degree of consistency and reasonable expectation, balanced with private sector innovation.
2. **Incorporation of non-clinical data in 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.

Appendix A: Detailed Findings and Potential Opportunities

The Appendix includes detailed findings of the Task Force to improve the interoperability experience and lists examples of potential opportunities for collaborative action.

Ability to effectively utilize health information: Findings (1 of 3)

Findings	Potential Opportunities
Reduce the burden of clinical data import, e.g., time spent navigating and reviewing imported data for clinical and contextual information • Greater intelligence in curation • Effective reconciliation of relevant information • Effectively automation where applicable • Associated data provenance	There is a need to improve clinical information reconciliation and curation across interoperability contexts • e.g., reconciliation - for what data and under what circumstances should data automation be expected, and what are the expected behaviors of individuals involved • e.g., curation – ability to surface up new data points, new data that legitimately cannot be reconciled, or conflicts in the data that can initiate valuable conversations

Ability to effectively utilize health information: Findings (2 of 3)

Findings	Potential Opportunities
Incorporate effective user experience design, as well as task centered and goal centered workflows	Challenges and pilots should be sponsored, centered around user-centered design. The accessibility of a national repository of test patient data should be coordinated against which UIs can be evaluated in a standardized way. • These two efforts can be dovetailed in ways that demonstrate the possibilities for usability of "real" data, e.g., a UI-A-Thon to demonstrate the usability of the system against the test data. More focus is needed on User Design, Usability Standards, and Testing. Specifically: • User centered design principles. • Standards for UX design, e.g., WCAG Standards • Recommendations for increasing transparency of usability of a system

Ability to effectively utilize health information: Findings (3 of 3)

Findings	Potential Opportunities
Reduce the burden of clinical data entry • While this is a property of the system (e.g., EHR) rather than on interoperability itself, it has significant direct impact on the *demand* for interoperability (time available for interoperability, user satisfaction, user effectiveness, etc.)	• Note that the Task Force did not identify the root cause or causative factors here, so we have not provided a potential opportunity.

• Incorporate the data into the EHR in alignment with policy, business, and technical needs
  • Logically integrate into all the relevant workflows
	• Much progress is being made here in the private sector, and should be monitored
	• A study should be initiated to investigate:
	  • The clinical data entry burden that clinicians are facing with respect to these systems.
	  • The tools and opportunities that enable data to be efficiently captured
	• Appropriate partners need to be engaged to pilot incentive and participation models that incorporate the findings.

Ability to encode data for syntactic and semantic interoperability: Findings (1 of 2)

Findings	Potential Opportunities
Build upon existing work that has been done to improve the CCDA	• Efforts of HL7 should be supported to enhance and optimize CCDA standards. • Consideration should be given to engaging with and supporting efforts by industry stakeholders to enhance and optimize CCDA standards.
Identify a parsimonious set of interface terminologies (e.g. code sets, terms and nomenclatures)	Continue/renew efforts with terminology stakeholders, such as the National Libraries of Medicine, to improve the coverage and value of existing industry terminologies and codesets (e.g. LOINC)
Code data to improve the specificity of the clinical interpretation, e.g., how blood pressure was measured • Seamless care transition • Patient safety • Important to balance usability vs. specificity as moving increased granularity can burden the provider with coding/documentation requirements that may not be clinically relevant.	

Ability to encode data for syntactic and semantic interoperability: Findings (2 of 2)

Findings	Potential Opportunities
Enable greater usability and usefulness of non-clinical determinants of data	Focus should be placed on: • Recommending a path forward for standardizing non-clinical data (behavioral, social, other non-MU) • Understanding how natural language processing and data mining is being utilized in industry today to achieve semantic interoperability through unstructured data
Enable greater usability and usefulness of the data itself, especially for quality measures	Work should be monitored around quality measure usability standards (e.g., NQF, VA)

Ability to exchange health information: Findings (1 of 3)

Findings	Potential Opportunities

Enabling easier access, e.g.,
• Fostering open APIs
• Build on existing exchange infrastructure; e.g., 2014 Edition EHRs; DSNs and HIOs; and existing document, messaging, data and transport standards
• Transparency of interface costs
• Additional work is needed to articulate the total costs of ownership
	• There is potential for work to continue to enable Open APIs by examining g the requirements and considerations, if any, for other Health IT systems (beyond EHRs) to enable Open APIs
	• Pilots should be conducted that incent/require the use of Open APIs to demonstrate the value on care. Note that this can have an impact in precluding legislative actions, so in both private sector and end-user (caregiver, consumer) interest.
	• Continue the work identified in ONC's report to Congress on the Feasibility of Mechanisms to Assist Providers in Comparing and Selecting Certified EHR Technology Products
	  • When it comes to perceived friction of UI, costs have a high impact.
	  • "Interface costs" are not necessarily separable from "system costs", as the marketplace can have healthy diversity of business models and product/service/feature bundles. However the total cost should be updated to reflect current business expectations for interfaces.

Ability to exchange health information: (Findings 2 of 3)

Findings	Potential Opportunities
Harmony of policies from state to state: • Consent • Privacy & security • Cost of doing exchange, particularly in terms of working with state HIEs	Continue illuminating the discrepancies in HIE costs and interoperability policies across states
Transparency of cost burden to the consumer (from the point of view of both providers and patients)	Focus on the cost of data exchange in consumer-mediated exchange, including: • Costs of actual data exchange (transactions, services, etc.) for different models (query/retrieve, Direct, secure messaging to providers, etc.) • Utility Costs (e.g., burden to consumer who doesn't own a computer)

Ability to exchange health information: (Findings 3 of 3)

Findings	Potential Opportunities
Accepting direct communication from patients and other forms of patient-generated data	For successful incorporation of patient-generated data into the shared decision-making process, highlight opportunities and best practices, e.g., • Spotlighting case studies or research at industry events • Sponsoring challenges, hackathons, etc.

Other Key Considerations

- IXTF focused on the experience of interoperability; deliberately avoided going “down the rabbit-hole” of technical solutions
- Subsequent work needs to include user preferences, as “interoperability” really means having the information that a user needs at the time that he/she needs it
- Clinician-patient encounter is important; the burden of clinician-patient communication is not on the EHR but on behaviors of patients and clinicians and the clinical environment