Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap version 1.0
Calls to Action and Commitments for People and Organizations That Provide Health IT Capabilities

Stakeholders include: Technology developers for EHR and other health IT, including but not limited to health information exchange (HIE) technology, laboratory information systems, personal health records, pharmacy systems, mobile technology, medical device manufacturers, telecommunications and technologies to enable telehealth, and other technology that provides health IT capabilities and services, which includes health information exchange organizations (HIOs) and clearinghouses.

People who receive care or support the care of others		People and organizations that deliver care and services	
Organizations that pay for care		People and organizations that support the public good	
People and organizations that generate new knowledge, whether research or quality improvement		**People and organizations that provide health IT capabilities**	
People and organizations that govern, certify, and/or have oversight		People and organizations that develop and maintain standards	

Goal for 2015-2017
Send, receive, find and use priority data domains to improve health care quality and outcomes

Calls to Action are opportunities where this group of stakeholders can take the lead and commit to as participants. Calls to action are prioritized actions that support achievement of the milestones.

B. Shared-decision making, rules of engagement and accountability

B2.1 Public and private sector health IT stakeholders should establish shared-decision making process to address operational issues related to standards, services, policies and practices that enable interoperability, including agreement on a nationwide learning health system technical architecture, and establishing clear, consistent feedback between SDOs and implementers about implementation successes and limitations, as well as supporting non-certification related testing of technical standards.

B2.2 Participants in the shared decision making process should agree on a nationwide technical architecture for an interoperable learning health system.

B2.4 Existing and future data sharing arrangements between organizations should align with ONC's policy guidance.

B2.5 ONC, in collaboration with stakeholders, should define a policy framework for exchange of patient-

B. Shared-decision making, rules of engagement and accountability

generated health data and pilot it.

B2.6 Participants in the shared decision making process should prioritize use cases based on a balance of national priorities and local needs.

B2.7 Participants in the shared decision-making process should work with ONC to establish metrics for monitoring and assessing nationwide interoperability and methods for data collection.

B2.8 The shared decision-making process should select standards for specific use cases/functions from ONC's most recent finalized Interoperability Standards Advisory (ISA) when the ISA contains relevant standards.

B2.9 Health IT developers, certification programs and governing bodies should look first to ONC's most recent finalized Interoperability Standards Advisory when making decisions about the standards they will use to enable specific interoperability functions and use cases.

C. Ubiquitous, secure network infrastructure

C2.4 Technology developers should follow Department of Homeland Security (DHS) and NIST guidance for "building security in" their health IT products and services. Security considerations should be incorporated at all phases of the software development lifecycle, including penetration testing.

C2.5 Health care providers, business associates, technology developers, and other industry stakeholders should begin adopting existing encryption standards to ensure that all electronic IIHI is encrypted "at rest" and "in transit," taking advantage of the most robust commercially available algorithms such as AES-256 as identified by NIST.[1] Encryption solutions should be able to be upgraded to address emerging standards without requiring a complete replacement of existing hardware.

D. Verifiable identity and authentication of all participants

D2.1 Technology developers should develop or adopt innovative solutions, such as mobile technologies and RESTful approaches, to provide efficient, effective paths for individual and provider identity authentication.

D2.3 Health care industry stakeholders should begin leveraging the Federal Identity, Credential, and Access Management (FICAM) Roadmap and Implementation Guide for identity management standards and best practices.

E. Consistent representation of authorization to access electronic health information

E2.3 SDOs should work with technology developers to conduct pilots of standards-based approaches, including RESTful approaches, for expressing and communicating authorization for electronic health information access/use.

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[1] http://csrc.nist.gov/publications/fips/fips140-2/fips1402annexa.pdf

F. Consistent understanding and technical representation of permission to collect, share and use identifiable electronic health information

F2.4 ONC, standards development organizations, technology developers and appropriate stakeholders should harmonize technical standards and implementation guidance for consistently capturing, communicating and processing Basic Choice across the ecosystem.[2]

F2.5 Technology developers should begin implementing harmonized standards that document and communicate an individual's Basic Choice.

G. An Industry-wide testing and certification infrastructure

G2.1 Technology developers, SDOs, government and other stakeholders should accelerate the development and availability of a suite of testing tools that can be used by technology users, not just developers, post-implementation to test and ensure interoperability while health IT is in use.

H. Consistent data semantics

H2.1 Technology developers should provide accurate translation and adapter services where needed in order to support priority delivery system reform and learning health system needs.

H2.2 Public and private stakeholders should work with SDOs to define a standard approach to federated distribution of centrally maintained code sets, including ongoing support for publicly available, API-enabled repositories like the Value Set Authority Center (VSAC).

H2.6 Health IT users should provide feedback to SDOs and other stakeholders, including government, regarding additional data elements and/or data domains that should be prioritized for semantic alignment.

I. Consistent data formats

I2.2 Provider and patient-facing technology developers should update their products and services to use format standards identified in ONC's most recent finalized Interoperability Standards Advisory, starting with the most recent version of C-CDA.

I2.3 States and other stakeholders across the ecosystem should further explore and determine the role that NIEM can serve in supporting health information interoperability across domains such as human services and justice.

I2.4 SDOs and stakeholders should document best practices and guidance on methods for exchanging unstructured health information, such as physician notes, in an interoperable manner.

I2.5 Technology developers and providers should use best practices and standardized methods for exchanging unstructured health information, such as physician notes, in an interoperable manner.

J. Secure, standard services

J2.2 Technology developers should implement standard APIs from the DAF, HEART and Argonaut projects and make them publicly available.

J2.3 Technology developers should work with SDOs to develop standard APIs for interoperable medical devices.

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[2] See the Supplemental Materials Document for a detailed discussion on Basic and Granular Choice.

K. Consistent, secure transport techniques

K2.2 Technology developers and Direct service providers (i.e., HISPs) should join a single common trust community and trust bundle to enable all their users to send and receive priority data elements with each other or develop a simple method for reciprocity between trust communities.

K2.4 Technology developers, providers and research communities should use standards for query functionality identified in ONC's most recent finalized Interoperability Standards Advisory.

L. Accurate individual data matching

L2.1 Public and private stakeholders should work with SDOs to ensure that data elements for individual data matching are standardized, and can be consistently captured and shared in all health information queries and record linking transactions.

L2.2 The industry should work together to document evidence-based best practices for individual data matching processes, data quality and matching technology.

L2.3 Technology developers and health care organizations in collaboration with ONC should advance the use of industry-recognized data definition and data normalization standards.

L2.4 Technology developers should include the capability to report duplication and matching rates in their products.

M. Health care directories and resource location

M2.1 Provider directory operators should align existing directories to the extent possible with best available standards for provider directories as identified in ONC's most recent finalized Interoperability Standards Advisory or with emerging RESTful approaches if implementation timelines are not near-term.

M2.3 Through public, transparent processes, stakeholders should prioritize the participants and services that are to be discoverable using resource location and identify a near-term goal for the first small set of resources to be included in initial implementations, such as Direct addresses, electronic service information, web addresses, and multiple practice locations.

N. Individuals have access to longitudinal electronic health information, can contribute to that information, and can direct it to any electronic location

N2.1 Health IT purchasers and developers should include individuals and caregivers in the co-creation of digital, accessible health information tools that can securely exchange health information.

O. Provider workflows and practices include consistent sharing and use of patient information from all available and relevant sources

O2.1 Technology developers should develop technology platforms that allow providers and other users to perform certain key interoperability functions, such as standardized exchange, within their system with minimal effort and ease, using clear instructions provided by the technology developers and made publicly available.

P. Tracking progress and measuring success

P2.1 Industry and health care organizations that enable exchange (e.g. HISPS, HIOs) should provide input on how to address measurement needs including identifying ways to address measurement gaps using data generated by systems and infrastructure that enables interoperability exchange.

P2.4 Stakeholders, federal partners, and ONC should work together to identify measures related to individuals and determine ways to address measurement gaps (i.e., consumer engagement in measurement, use of patient-generated health data).

P2.5 Stakeholders across the broader ecosystem (i.e., non-health settings) should work with ONC and federal partners to identify measures and potential data sources across their respective communities.

Commitments are prioritized actions that stakeholders have publicly committed to fulfilling. Commitments support achievement of the milestones. The following is a list of commitments where federal agencies have committed to working with your stakeholder group. We look forward to working with you to achieve them.

E. Consistent representation of authorization to access electronic health information

E3.1 ONC, in collaboration with stakeholders, will work to identify the technical standards and means by which a user's authority can be clearly represented among exchange partners.

F. Consistent understanding and technical representation of permission to collect, share and use identifiable electronic health information

F3.8 ONC will convene a group of industry stakeholders to determine if it is possible to create an open source mapping of the codes that capture clinical care to sensitive health conditions such as mental health. These mappings can serve as the foundation for common rules to be used by rules engines for determining what data may be shared based on individual permission.

H. Consistent data semantics

H3.1 ONC will promote and participate in collaborative processes to align SDOs and technology developers on the implementation and use of vocabularies, code sets, value sets and structure necessary to consistently represent and maintain the meaning of data elements associated with priority data domains across systems.

J. Secure, standard services

J3.1 ONC will support implementation of new API requirements in certification by working with industry stakeholders to develop and disseminate best practices and technologies to ensure that existing and emerging APIs facilitate interoperability in a secure way.

L. Accurate individual data matching

L3.1 ONC will work with public and private stakeholders to identify and test a core set of metrics that can be used across the health IT ecosystem to consistently assess matching algorithm performance across different data sets and settings.

M. Health care directories and resource location

M3.1 As an interim step, ONC will work with health IT stakeholders to encourage uptake of current provider directory activities.

N. Individuals have access to longitudinal electronic health information, can contribute to that information, and can direct it to any electronic location

N3.1 ONC will work with the health IT community to support the Blue Button Initiative to spur consumer demand for their health information and encourage testing and implementation of a portfolio of existing and emerging standards that support consistent methods for sharing health information with individuals.

N32 ONC will continue to work with the health IT community to remove barriers and support consumers' ability to access and electronically share their health information with whomever they trust.

N3.3 ONC will promote consistent, easy, and efficient methods for sharing health information with individuals by supporting existing and emerging standards for exchange, including APIs, and continuous iteration and development of those standards in partnership with the health IT community.

O. Provider workflows and practices include consistent sharing and use of patient information from all available and relevant sources

O3.1 ONC, federal agencies and the industry will identify additional best practices for the incorporation of patient-generated health data in health care delivery and research.

P. Tracking progress and measuring success

P3.2 ONC will work with federal partners and stakeholders to address measurement gaps, and identify future measures resulting in the development of a long-term measurement framework. This includes consulting with external stakeholders to develop proposed measures as mandated under MACRA.