



# 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 Support the Public Good

**Stakeholders include:** Federal, state, tribal and local governments.

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.

#### A. A supportive payment and regulatory environment

A2.1 All states should consider having operational plans for supporting interoperability in their health-related strategic plans.

A2.2 States should propose and/or implement strategies to leverage Medicaid financial support for interoperability.

A2.3 Roughly half of states should use their state-level authorities to advance interoperability beyond their current efforts.

A2.4 States with managed care contracts should routinely require provider networks to report performance on measures of standards-based exchange of information in required quality strategies, performance measurement reporting, etc.

A2.7. ONC should work with CMS to evaluate the use of health IT by providers participating in advanced payment models.



## **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.

B2.3 Federal agencies that provide or pay for health services should align their policies for interoperability with ONC's policy guidance.

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

## **D. Verifiable identity and authentication of all participants**

D2. 4. The Federal Health Architecture (FHA) and participating federal agencies should adopt ONC recommended best practices on authentication.

D2.5. NIST, OCR, CMS, CDC, FDA and other stakeholders should collaborate regarding approaches for identity management, including HIPAA guidance for remote identity, authentication and access management.

## **E. Consistent representation of authorization to access electronic health information**

E2.1 Health care organizations and other organizations with access to electronic IIHI should ensure that their access control rules and organizational policies are aligned to leverage permitted uses and disclosure under HIPAA to advance interoperable exchange of information and the learning health system.

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

F2.1 A majority of states should conduct an assessment of their health privacy laws to determine alignment with permitted uses of electronic health information regulated by HIPAA.

F2.3. Federal and state governments, in coordination with organizational health information privacy policymakers, should conduct outreach and disseminate educational materials about Permitted Uses and Disclosure, and Individual Access to 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.



## **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**

H2.2. 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).

H2.7 NLM, FDA, CDC, CMS and other stakeholders should collaborate regarding approaches to promoting laboratory information exchange (especially through the use of LOINC, SNOMED-CT, UCUM and UDIs) between in vitro diagnostic devices and database systems, including laboratory information systems and EHRs.

H2.8 CDC should encourage development of training aids to help laboratories use LOINC for laboratory test ordering and reporting in a structured format that includes data elements necessary to meet CLIA requirements.

## **I. Consistent data formats**

I2.1 SDOs, in coordination with ONC, should work together to align semantic standards (vocabulary, code set, value set, and structure where applicable) across health information format standards (starting with HL7 v2, C-CDA, QRDA, FHIR, and NCPDP SCRIPT) with semantic standards adopted in ONC's 2015 Edition for priority data domains and associated data elements.

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.

I2.6. SDOs and ONC should identify necessary updates to format standards (HL7 v2, C-CDA, QRDA, FHIR and NCPDP) to ensure priority data domains are not only required in those standards, but are also represented consistently across format standards.

I2.7. ONC, NIST, CMS, CDC and FDA should collaborate to advance laboratory data interoperability, including specifications to ensure compliance with CLIA, state and local quality laboratory regulations.

## **J. Standard, secure services**

J2. 4 ONC, NIST, CMS, CDC and FDA should collaborate to advance laboratory data interoperability, including the establishment of requirements for common application programming interfaces (APIs) that meet CLIA requirements for laboratory test ordering and reporting.

## **K. Consistent, secure transport technique(s)**

K2. 3 Public health agencies should converge on the use of standardized web services to support data submission as well as data query from registries and other systems.



## **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.

## **M. Health care directories and resource location**

M2.2 The FACAs should assess the critical health care directory questions identified in the roadmap and how current standards and/or legacy services already incorporated in products, can be used or extended to support stakeholder needs.

M2.4 CMS should, via various policies, require that Direct addresses and electronic service information are entered into and maintained in NPPES.

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

N2.3 Consumer groups in collaboration with government agencies, associations and payers should develop and disseminate resources, such as the Blue Button campaign materials,<sup>1</sup> to assist individuals with accessing and using their electronic health information.

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

O2. 4. Public and private stakeholders should incorporate interoperability into the training of new providers and continuing professional education.

## **P. Tracking progress and measuring success**

P2. 2 The behavioral health community should work with ONC and federal partners such as SAMHSA to determine the community's health IT needs and ways to measure interoperable exchange among their providers.

P2.3 The LTPAC community should work with ONC and federal partners such as CMS to determine the community's health IT needs and ways to measure interoperable exchange among their providers.

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.

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<sup>1</sup> <http://www.healthit.gov/patients-families/blue-button-psa-campaign>



**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 various stakeholder groups. We look forward to working with stakeholders to achieve them.

### **A. A supportive payment and regulatory environment**

A3.1 CMS will take advantage of opportunities, when possible, to build interoperability requirements into relevant payment rules and programs where appropriate.

A3.2 CMS will encourage states with Medicaid managed care programs to include references to health IT or health information exchange in any relevant sections of their state quality strategies.<sup>2</sup>

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

B3.1 ONC will publish an advisory that addresses policies and business practices that advance trust and interoperability.

B3.2 ONC will annually publish and update a list of the best available standards and implementation specifications for health IT interoperability purposes and to support priority learning health system functions (ONC's Interoperability Standards Advisory (ISA)). ONC will create this ISA list through an open and transparent process that facilitates competition between standards for selection.

### **C. Ubiquitous, secure network infrastructure**

C3.1 ONC will identify best practices for implementing encryption policies for existing at rest and in transit encryption standards (e.g., NIST).

C3.2 ONC will work with payers to explore the availability of private sector financial incentives to increase the rate of encrypting, starting with discussions with casualty insurance carriers who offer cybersecurity insurance.

C3.3 ONC will coordinate with the Office of the Assistant Secretary for Preparedness and Response (ASPR) on priority issues related to cybersecurity for critical public health infrastructure.

C3.4 HHS will continue to support, promote, and enhance the capability of a health and public health sector Information Sharing and Analysis Center (ISAO) for bi-directional information sharing about cyber threats and vulnerabilities between private health care industry and the federal government.

C3.5 ONC will work with NIST and OCR to finalize and publish the NIST Critical Infrastructure Cybersecurity Framework and HIPAA Security Rule Crosswalk.

### **D. Verifiable identity and authentication of all participants**

D3.1 ONC in consultation with stakeholders will establish and adopt best practices for provider and individual/consumer identity proofing and authentication, including specific levels of assurance and consult with OCR to ensure they are consistent with the HIPAA Security Rule and best practices already adopted for other, comparable industries.

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<sup>2</sup> For more information, see Sec 101(e) of the 2015 Medicare and CHIP Reauthorization Act.



## **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.

E3.2 OCR will consider where additional guidance may be needed to help stakeholders understand how HIPAA Privacy and Security Rules apply in an environment where ACOs and other multi-stakeholder entities permeate the landscape in support of value-based purchasing.

E3.3 ONC will convene workshops or listening sessions on the types of electronic health information sharing that may be required, by role, to support value-based purchasing. A major goal of the workshops will be to evaluate how close the nation can come to achieving its interoperability goals through existing privacy rules.

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

F3.1 ONC, in collaboration with states, national and local associations, and other federal agencies will launch a project to better understand the complexity of the rules environment, especially the diversity among more privacy restrictive state laws and their impact on computable privacy.

F3.2 ONC will identify a definition of "Basic Choice" and provide policy guidance regarding if/when Basic Choice should be offered, even when not required by law based on recommendations from the HITPC by the end of CY 2016.

F3.3 ONC will analyze and provide guidance on the consequences of offering Basic Choice on an Opt In vs. Opt out basis.

F3.4 ONC will monitor other consent management work such as: the Social Security Administration's (SSA) written permission to share data across states for disability determinations, and FTC's implementation of simple consumer preferences (akin to "basic choice") through the FTC's "Do Not Call" Registry to determine lessons applicable to Basic Choice for electronic health information sharing.

F3.5 Federal government (e.g., Office for Civil Rights (OCR) and Substance Abuse and Mental Health Services Administration (SAMHSA)), will consider where additional guidance in the form of education and outreach may be needed to help stakeholders understand a) the applicability of federal regulations regarding the confidentiality of substance use information b) how the HIPAA Privacy Rule permits health information to be exchanged (use and disclosure) for TPO without permission.

F3.6 OCR, in collaboration with ONC, will work to address barriers that prevent patients from accessing their health data. OCR will develop additional guidance materials to educate the public and health care providers about a patient's right to access his or her electronic health information under HIPAA.

F3.7 Federal and state governments, in coordination with organizational health information privacy policymakers, will conduct outreach and disseminate educational materials about Permitted Uses and Disclosure, and of Individual Access to 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.



## **G. Industry-wide testing and certification infrastructure**

G3.1 ONC will work with NIST and the industry to develop more rigorous testing processes for critical interoperability standards, such as C-CDA.

G3.2 ONC will consider approving non-governmental test tools within its certification program.<sup>3</sup>

G3.3 ONC will make an extensive set of computable data about certified health IT products publicly available on the Certified Health IT Product List (CHPL).

## **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.

## **I. Consistent data formats**

I3.1 ONC will promote and participate in collaborative processes to align semantic standards across format standards to consistently represent and maintain the meaning of data elements associated with priority data domains across systems.

## **J. Standard, secure 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.

M3.2 CMS will continue to support efforts to ensure that health plan provider directories are made electronic and published according to best available national standards to support learning health system resource location.

M3.3 ONC and other certification bodies will determine how to support provider directories through certification processes.

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<sup>3</sup> See <https://www.federalregister.gov/articles/2015/06/09/2015-13510/acceptance-and-approval-of-non-governmental-developed-test-procedures-test-tools-and-test-data-for>



## **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.

N3.2 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.

O3.2 ONC will develop a Health IT Playbook consisting of tools and resources designed to assist providers working towards the adoption and optimization of health IT, including key interoperability workflow considerations, and engaging consumers to access and use their electronic health information.

## **P. Tracking progress and measuring success**

P3.1 ONC will analyze and report on nationwide progress, including a report to Congress on proposed measures mandated under MACRA.

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.