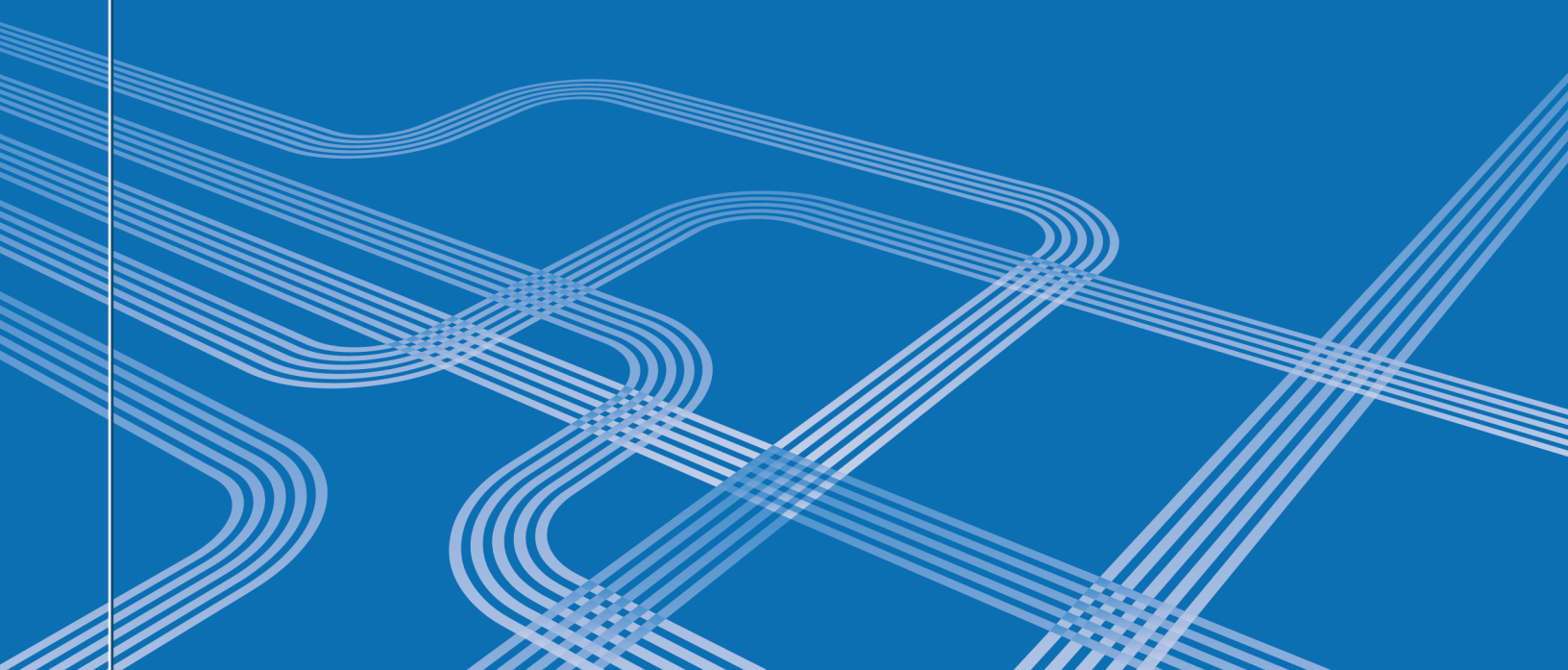The Office of the National Coordinator for
Health Information Technology

Connecting Health and Care for the Nation

A Shared Nationwide
Interoperability Roadmap

EXECUTIVE SUMMARY

Version 1.0

Executive Summary

The nation needs an interoperable health system that empowers individuals to use their electronic health information to the fullest extent; enables providers and communities to deliver smarter, safer, and more efficient care; and promotes innovation at all levels. While the Health Information Technology for Economic and Clinical Health (HITECH) Act stimulated significant health information technology (health IT) adoption and exchange of electronic health information with the goal of every American having access to their electronic health information, 2015's interoperability experience remains a work in progress. The vision is a learning health system where individuals are at the center of their care; where providers have a seamless ability to securely access and use health information from different sources; where an individual's health information is not limited to what is stored in electronic health records (EHRs), but includes information from many different sources (including technologies that individuals use) and portrays a longitudinal picture of their health, not just episodes of care; where diagnostic tests are only repeated when necessary, because the information is readily available; and where public health agencies and researchers can rapidly learn, develop, and deliver cutting edge treatments.

If we steadily and aggressively advance our progress we can make it a reality. We must focus our collective efforts around making standardized, electronic health information securely available to those who need it and in ways that maximize the ease with which it can be useful and used.

The Office of the National Coordinator for Health IT (ONC) is committed to advancing this vision expeditiously, systematically and in a sustainable fashion. We first laid out this vision in Connecting Health and Care for the Nation: A 10-Year Vision to Achieve an Interoperable Health IT Infrastructure and followed with a draft Shared Nationwide Interoperability Roadmap and Interoperability Standards Advisory. Working collaboratively with federal partners, states, consumers, and the private sector, we developed this shared, comprehensive interoperability agenda and action plan described in

INTEROPERABILITY PROGRESS

2004
- National Coordinator for Health IT position created via Executive Order 13335
- Decade of Health IT: Delivering Consumer-centric and Information-rich Health Care: Framework for Strategic Action released

2005 to 2008
- Stark exception and anti-kickback safe harbor enable donations of health IT products and services
- American Health Information Community (AHIC) formed
- Health Information Technology Standards Panel (HITSP) formed
- Nationwide Health Information Network (NHIN) develops prototypes for exchange
- Certification Commission for Health Information Technology (CCHIT EHR certification program begins
- ONC-Coordinated Federal Health IT Strategic Plan 2008-2012
- Health Information Security and Privacy Collaboration formed across 42 states and territories
- State Alliance for e-Health

2009
- HITECH Act Passed
- 16% of hospitals and 21% of providers adopted basic EHRs
- Data Use and Reciprocal Support Agreement signed - enables exchange with federal agencies

2010
- State Health Information Exchange (HIE) Cooperative Agreement Program begins
- First ONC rule making for Health IT Certification program
- Blue Button Initiative, a tool that provides patients with access to their electronic health information, is launched
- Direct Project launched to enable a secure, standards-based way to electronically send health information to known, trusted recipients over the Internet

detail in the Shared Nationwide Interoperability Roadmap (the Roadmap). It is meant to build upon and shore up the existing foundation of health IT, move quickly to short-term success, and also lay out a longer term set of drivers and policy and technical components that will achieve the outcomes necessary to achieve the vision. ONC will continue to work with our partners as we coordinate the Roadmap's implementation, which is also a critical part of achieving the Federal Health IT Strategic Plan's vision of high-quality care, lower costs, healthy population, and engaged people.
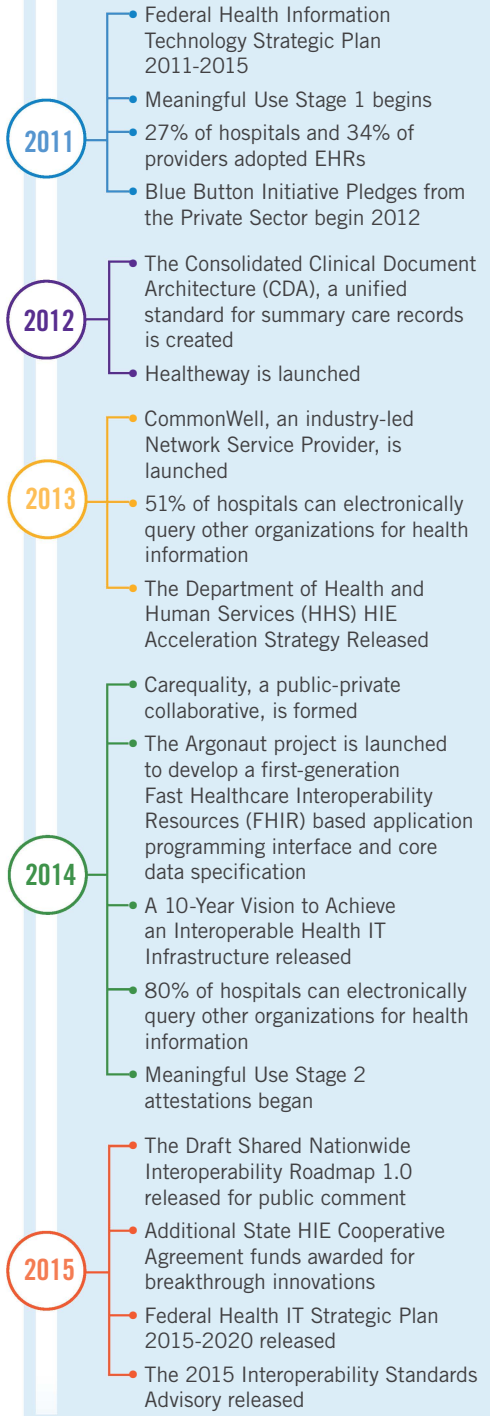
The Roadmap identifies near-term (i.e., by the end of 2017) actions and roles that health IT stakeholders should perform to make immediate progress and impacts with respect to interoperability. It also emphasizes that we should use and build on the technology and investments made to date, while continuing to seek out ways to support innovation and move beyond EHRs as the sole data source for electronic health information to a wide range of health information technologies used by individuals, providers, and researchers. The Roadmap's three high-level goals for health IT interoperability each reflect the progress we need to make in order to achieve a learning health system by 2024. Consequently, the short-term goal is focused on sending, receiving, finding, and using priority data domains, so that we can have an immediate impact on the care and health of individuals.

The goals are:

- **2015-2017:** Send, receive, find and use priority data domains to improve health care quality and outcomes.

- **2018-2020:** Expand data sources and users in the interoperable health IT ecosystem to improve health and lower costs.

- **2021-2024:** Achieve nationwide interoperability to enable a learning health system, with the person at the center of a system that can continuously improve care, public health, and science through real-time data access.

The Roadmap focuses deeply on the first priority goal and its accompanying milestones, critical action items, and commitments. To address current challenges, the Roadmap identifies four critical pathways that health IT stakeholders should focus on now in order to create a foundation for long-term success:
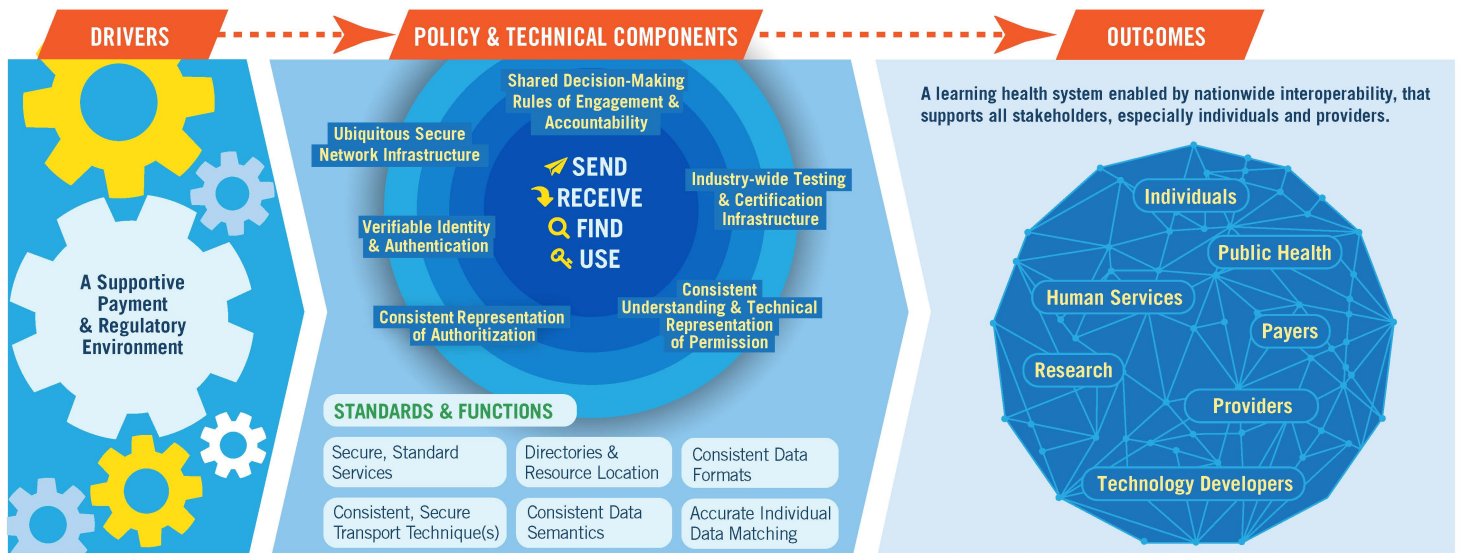
INTEROPERABILITY PROGRESS

2011
- Federal Health Information Technology Strategic Plan 2011-2015
- Meaningful Use Stage 1 begins
- 27% of hospitals and 34% of providers adopted EHRs
- Blue Button Initiative Pledges from the Private Sector begin 2012

2012
- The Consolidated Clinical Document Architecture (CDA), a unified standard for summary care records is created
- Healtheway is launched

2013
- CommonWell, an industry-led Network Service Provider, is launched
- 51% of hospitals can electronically query other organizations for health information
- The Department of Health and Human Services (HHS) HIE Accelestation Strategy Released

2014
- Carequality, a public-private collaborative, is formed
- The Argonaut project is launched to develop a first-generation Fast Healthcare Interoperability Resources (FHIR) based application programming interface and core data specification
- A 10-Year Vision to Achieve an Interoperable Health IT Infrastructure released
- 80% of hospitals can electronically query other organizations for health information
- Meaningful Use Stage 2 attestations began

2015
- The Draft Shared Nationwide Interoperability Roadmap 1.0 released for public comment
- Additional State HIE Cooperative Agreement funds awarded for breakthrough innovations
- Federal Health IT Strategic Plan 2015-2020 released
- The 2015 Interoperability Standards Advisory released

- Improve technical standards and implementation guidance for priority data domains and associated elements. In the near-term, the Roadmap focuses on using commonly available standards, while pushing for greater implementation consistency and innovation associated with new standards and technology approaches, such as the use of APIs.

- Rapidly shift and align federal, state, and commercial payment policies from fee-for-service to value-based models to stimulate the demand for interoperability.

- Clarify and align federal and state privacy and security requirements that enable interoperability.

- Coordinate among stakeholders to promote and align consistent policies and business practices that support interoperability and address those that impede interoperability.

The Roadmap is organized into three sections starting first with "**Drivers**," which are the mechanisms that can propel development of a supportive payment and regulatory environment that relies on and deepens interoperability. The next section addresses "**Policy and Technical Components**," which are essential items stakeholders will need to implement in similar or compatible ways in order to enable interoperability, such as shared standards and expectations around privacy and security. The last section addresses "**Outcomes**," which serve as the metrics by which stakeholders will measure our collective progress on implementing the Roadmap. Each section includes specific milestones, calls to action, and commitments that will support the development of a nationwide, interoperable health IT infrastructure.

The Roadmap is intended to be a living document. As we move forward to create a learning health system, the Roadmap will be updated and new versions will be created when milestones are met and new challenges emerge. Future Roadmap versions will continue to be informed by and incorporate stakeholder feedback. ONC's website will list calls to actions and commitments mapped out by stakeholder group so that all stakeholders can identify and do their part.