

**Briefing on**  
**Health IT Interoperability**  
Institute for eHealth  
Policy, Capitol Hill *Steering Committee on*  
*Telehealth and Healthcare Informatics*

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# What is Interoperability?

- The ability of a system to exchange electronic health information with and use electronic health information from other systems without special effort on the part of the user. (ONC Interoperability Roadmap based on IEEE definition)
- All individuals, their families and their health care providers have appropriate access to electronic health information that facilitates informed decision-making, supports coordinated health management, allows individuals and caregivers to be active partners and participants in their health and care and improves the overall health of the nation's population. (ONC Interoperability Roadmap)

# What is Interoperability?

(i)Widespread interoperability: The term *widespread interoperability* means interoperability between certified EHR technology systems employed by meaningful EHR users under the Medicare and Medicaid EHR incentive programs and other clinicians and health care providers on a nationwide basis.

(ii)Interoperability: The term *interoperability* means the ability of two or more health information systems or components to exchange clinical and other information and to use the information that has been exchanged using common standards as to provide access to longitudinal information for health care providers in order to facilitate coordinated care and improved patient outcomes. (Medicare Access and CHIP Reauthorization Act of 2015)

# Who Wants Interoperability?

- EHR/health IT developers
- Patients and their caregivers
- Congress
- ONC, CMS, FDA
- State governments
- Payers
- Providers
- Device manufacturers
- Standards developers

***The shared sense of urgency is growing, especially with \$30B federal investment in EHR incentives***

***We should always ask, “Interoperability for what purpose?”***

# Barriers Extend Beyond Technology\*

1. Electronic health information is not sufficiently structured or standardized, and as a result is not fully computable when it is accessed or received.
2. Even when technology allows information to be shared, a lack of financial motives, misinterpretation of existing laws governing health information sharing and differences in relevant statutes, regulations and organizational policies often inhibit sharing.
3. No reliable and systematic method to establish and scale trust across disparate networks nationwide according to individual preferences.

\*Drawn from ONC Interoperability Roadmap

- Longitudinal patient-centric record across providers
- Care coordination across providers
- Patient access to or input of data
- Public health data submission and sharing
- Connect systems within hospital or HCO – widespread
- Connect to specialty systems, labs, eRx – widespread
- Gather data for quality measurement, research and big data analysis
- Connectivity across apps, mobile, modular health IT, devices

***New delivery and payment models require broad interoperability among providers***

# Varying Levels of Interoperability

- Within provider groups - widespread
- Within integrated delivery networks (IDNs) and across IDNs
  - Within a single IDN - occurs routinely
  - Across IDNs is more complex
- Simple exchange of basic data (e.g., demographics, billing, summary documents)
- More sophisticated exchange to *manage* workflow (e.g., test orders/results)
- *Directed* exchange from Dr. A to Dr. B (e.g., Direct)
- Simple *directed query* for documents or data elements
- *Complex query* within or across an HIE, IDN, or similar organization (multiple models in production)
- *HIE as a noun increasingly shifting to HIE as a verb*

***Extensive interoperability experience . . . more to do***



- Standards development organizations – HL7, ASTM, etc.
- Standards profilers – IHE
- ONC – Interoperability Roadmap, Standards Advisory, S&I Framework
- Terminology – SNOMED, LOINC, RxNorm
- Imaging – DICOM
- Content – HL7 V2, HL7 CDA and CCDA, HL7 FHIR, X12, QRDA
- Transport – Direct, IHE XDR/XDS/XCA, RESTful Services

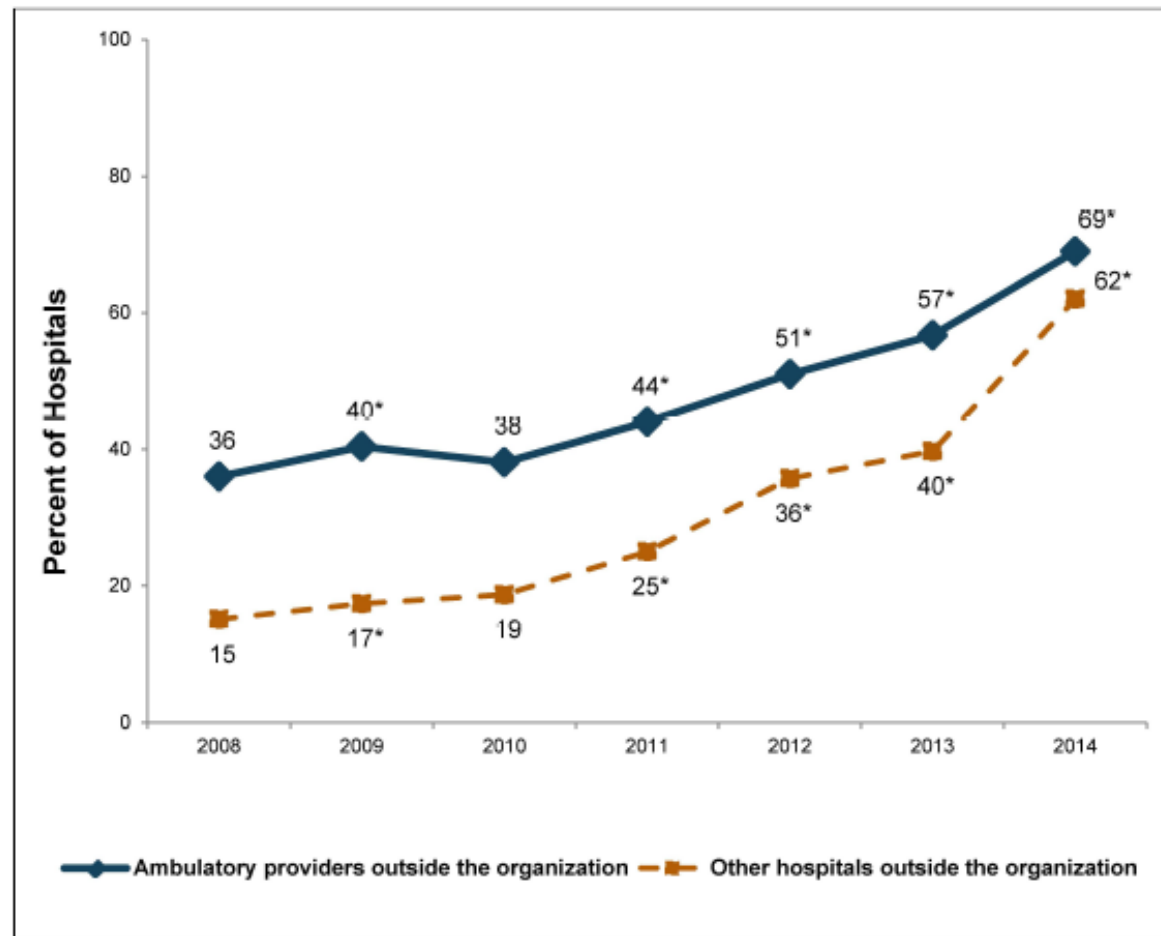
***Implementation specifications are equally important and need careful design based on real-world needs***

***Standards move through maturity cycles to improve use***

# Exchange Growing Among Hospitals

**Hospital to hospital electronic health information exchange increased by 55% between 2013 and 2014.**

Figure 3: Percent of non-federal acute care hospitals that electronically exchanged laboratory results, radiology reports, clinical care summaries, or medication lists with outside providers and hospitals: 2008-2014.

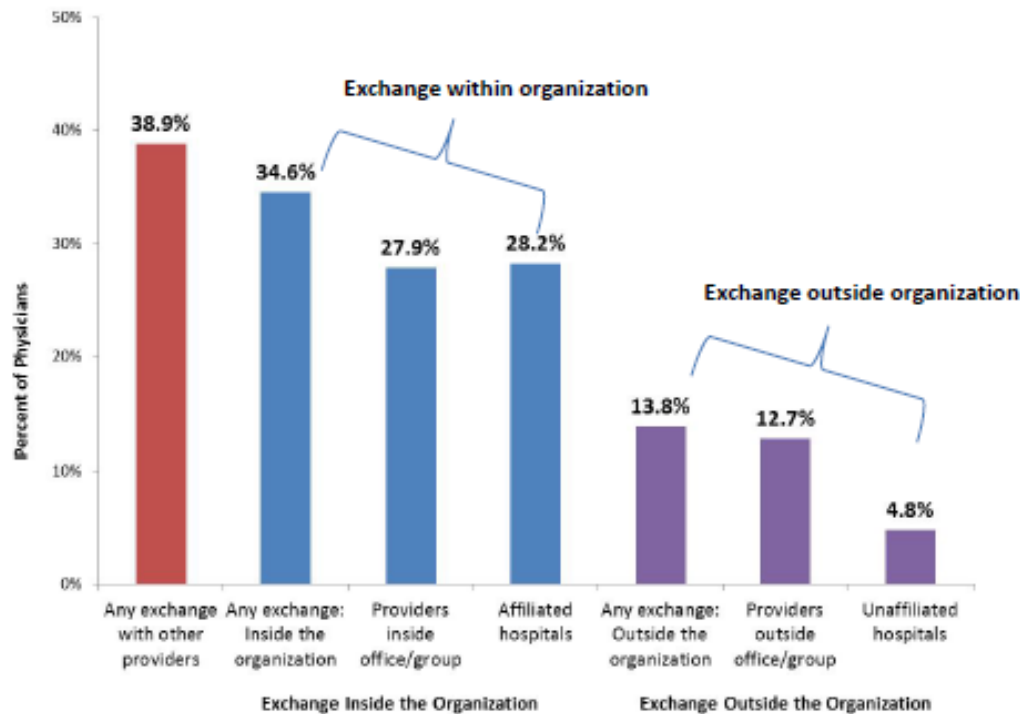


SOURCE: ONC/American Hospital Association (AHA), AHA Annual Survey Information Technology Supplement.  
NOTES: \*Significantly different from previous year (p < 0.05).

ONC Data Brief ■ No. 24 ■ April 2015  
Health Information Exchange among  
U.S. Non-federal Acute Care Hospitals: 2008-2014  
Matthew Swain, MPH; Dustin Charles, MPH; Vaishali Patel, PhD MPH; Talisha Searcy MPA

# Exchange Growing Among Physicians

Prior to Stage 2 Meaningful Use, 4 in 10 physicians electronically exchange- however outside exchange is limited



ONC analysis of 2013 National Electronic Health Records Survey: Furukawa M. et al Health Affairs, Aug, 2014

6

- High levels of EHR adoption reaching 80% have produced a more digital healthcare system
- Stage 1 and Stage 2 established foundation
  - Standards for content, vocabulary, transport and requirements for exchange
- Stage 3 should focus on interoperability, building on/expanding from Stage 2, especially for query models, while encouraging and being permissive of emerging standards (e.g., HL7 FHIR)

- Relative role of federal and state governments
- How fast is fast enough or too fast?
- Interoperability is about more than technology and standards, it requires business case, infrastructure, policies
- Documents or granular data?
- What are most useful/promising standards?
- Application programming interfaces (APIs) as part of overall strategy
- Are current meaningful use standards ready (e.g., CCDA)
- “Information-blocking”
- Privacy in the rapidly changing cyber security landscape, including varying federal and state privacy laws
- Approaches to certification and testing

- Much progress has been made and prior policies bearing fruit
- New payment and delivery models accelerate interoperability business cases
- Provide leadership on pivotal issues
  - Congressional oversight
  - Implement MACRA interoperability provisions
  - Help prioritize use cases
  - Provider directories
  - Patient matching
  - Infrastructure
  - State and federal privacy laws

**Much of what is needed, especially infrastructure and policies, extends beyond standards and EHRs**

- Need effective public/*private* partnership
- Recognize/accommodate range of use cases and business cases
- Realize value from mature, tested standards and technologies
- Encourage and pilot new standards and technologies
- Allow time for development and implementation and minimize uncertainty
- Focus on business case creation vs. prescriptive technology and governance requirements
  - ACOs and value-based payment
  - HealtheWay, CommonWell, and others
- Pursue evolutionary path

***Thank you!***

For more information, go to [www.ehra.org](http://www.ehra.org)  
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