

NIST's Activities in Health IT

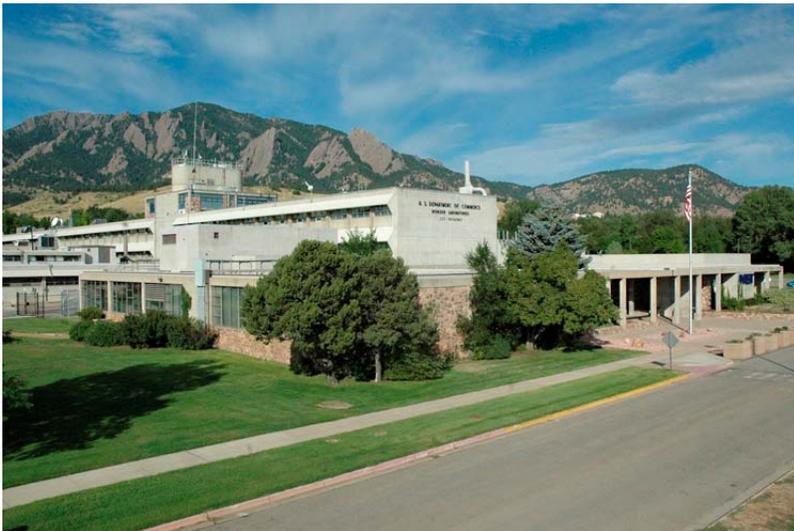
Cita M. Furlani

Director, Information Technology Laboratory
National Institute of Standards and Technology
U.S. Department of Commerce
Gaithersburg, Maryland



NIST's Mission

To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology ...



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... in ways that enhance economic security and improve our quality of life.

The Importance of Health IT

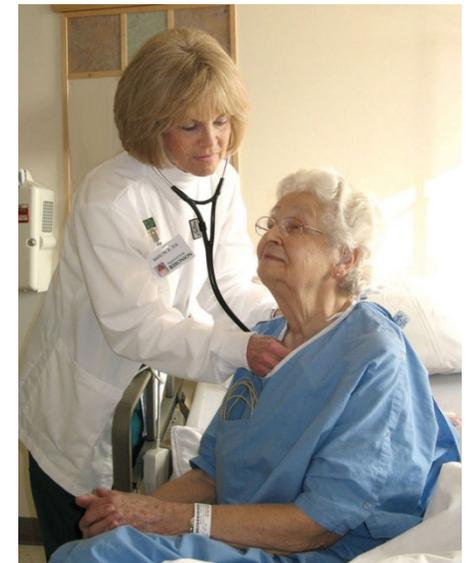
Interoperable health IT will lead to improved care at lower cost.

■ Goals:

- Seamless movement between health care providers without loss of information
- Instant access to medical histories at the point of care
- Fewer errors and redundant tests
- More efficient and effective reporting, surveillance, and quality monitoring
- Quick detection of adverse drug reactions and epidemics



Credit: Mercy Hospital



Credit: Bronson Methodist Hospital

Why NIST?

■ Mission

- NIST's mission is to work with industry to solve these types of problems

■ History

- NIST has been helping to improve information infrastructure for health care since the 1990s

■ Expertise

- NIST IT researchers have an internationally respected reputation for their knowledge, experience, and leadership



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Why Now?

NIST's roles are articulated in the 2008 – 2012 Federal Health IT Strategic Plan.

NIST has had an interagency agreement with HHS/ONC since 2005.

The American Recovery and Reinvestment Act (ARRA) stipulates that NIST should:

- Advance health care information enterprise integration through standards and testing
- Establish grants program for health enterprise integration centers
- Consult on updating the Federal Health IT Strategic Plan
- Consult on voluntary certification programs
- Consult on health IT implementation
- Provide pilot testing of standards and implementation specifications, as requested

NIST's Activities

NIST enables **interoperability** and **adoption** by:

- Accelerating **standards** development and harmonization
- Developing a conformance **testing** infrastructure
- Expanding R&D and deployment of **security** protocols
- Leveraging testing infrastructure to assist with **certification** process



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Leading to an emerging health IT network that is correct, complete, secure and testable.

Standards Development and Harmonization

NIST provides technical expertise to **leverage industry-led, consensus-based standards** development and harmonization.

An example is the **Cross Document Enterprise Sharing (XDS) Profile**:

- Allows doctors to securely share health information:
 - With the patient's consent
 - Wherever the records are
 - Whatever the format

Other technical accomplishments include:

- Developed extensible profile methodology for Electronic Health Records
- Developed standards and guidelines for telemedicine in the areas of diabetic retinopathy and teledermatology, in collaboration with the American Telemedicine Association

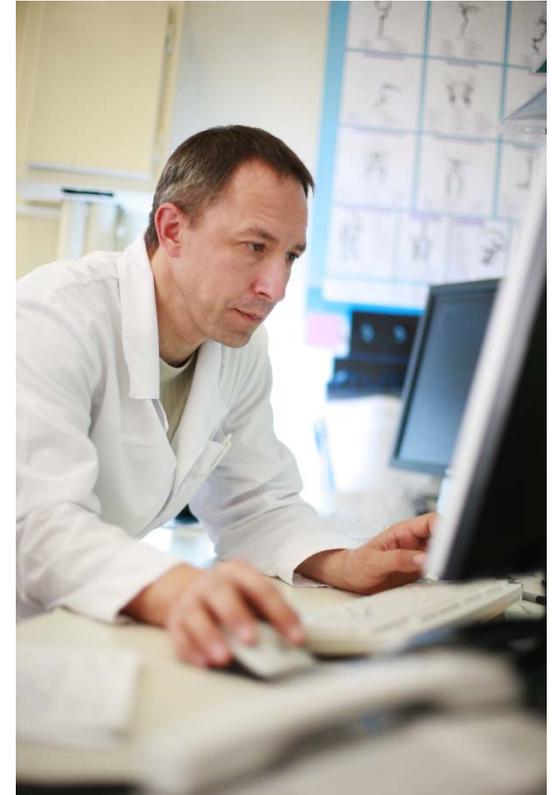


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Conformance Testing

NIST leads the development of an integrated **testing infrastructure**.

An example of a test tool NIST developed is the **Clinical Document Validation Tool**:

- Tests the correct generation of different types of clinical documents
- Includes built-in extensibility

Additional technical activities include:

- Leading the development of an integrated virtual testbed for standards-based health systems
- Co-chair for the NHIN Collaborative testing strategy and working group
- Evaluation tools served as the basis for industry Connectathon testing (February 2009) for over 140 vendors and over 400 systems
- Leads the testing effort within IEEE Medical Device communication committee and IHE Patient Care Domain

Security

NIST's **security specifications** enable communicating parties to **ensure the confidentiality, integrity, and availability of health information.**

NIST helps to **safeguard health information** by providing a **harmonized set of security principles and guidelines** for use in developing secure health information exchanges.

Technical accomplishments include:

- Led development of HITSP secure communication construct
- Developed a resource guide for covered entities implementing the HIPAA Security Rule



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Moving Forward ...

Future opportunities include:

- Advancing **usability** and **accessibility** of health information technologies
- Expanding the health IT infrastructure to **other environments**, such as home healthcare
- Applying NIST-wide competencies to meet **future clinical needs**, such as personalized medicine
- Researching standards and testing needs for evolving technologies



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Questions?



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Hang in there, we are trying to find your chart.