

NIST's Activities in Health IT

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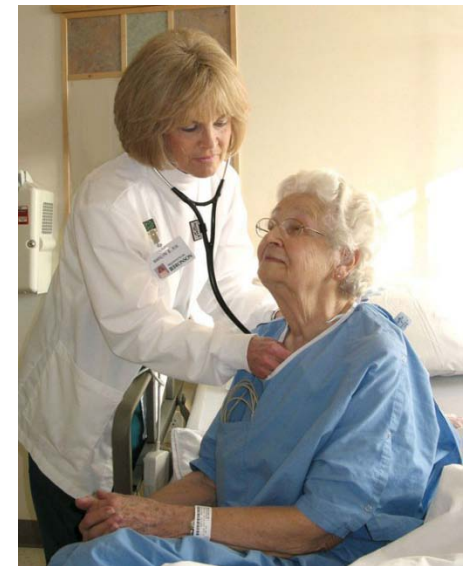
The Importance of Health IT

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

- When fully implemented:
 - 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



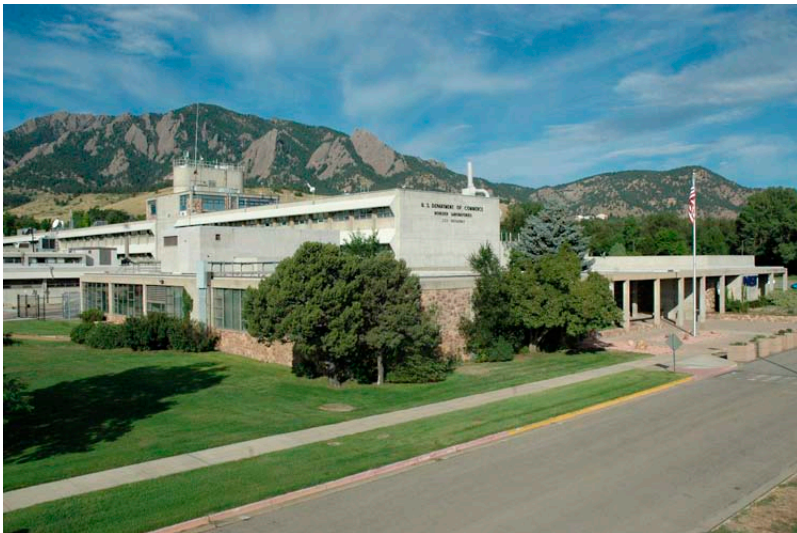
Credit: Mercy Hospital



Credit: Bronson Methodist Hospital

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.

Why NIST?

■ Pedigree

- 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

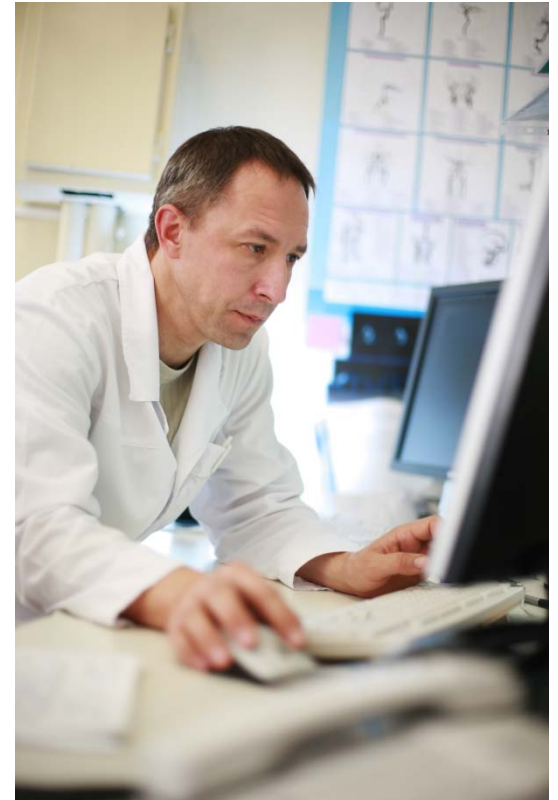


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Conformance Testing

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:

- Lead author 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.