

Health Information Technology/Informatics

(Policy Number)

Policy Statement

ASCP supports the implementation of standardized health information technology within the nation's health care system as a means to improve patient care, patient safety and public health. Pathology informatics will be central to these improvements in healthcare.

Background and Rationale

I. Introduction

Informatics (the study of information processing) is the application of knowledge from multiple disciplines, particularly computer science. Laboratory informatics involves understanding and promoting the effective organization, analysis, management and use of information in the laboratory. Pathology informatics includes laboratory informatics as well as "anatomic pathology reports, image files, and telepathology data."¹ Through pathology informatics, the laboratory community is able to improve laboratory information technology and enhance data in order to improve patient care.

Proper communication of health-related information can insure that healthcare services are delivered in the fastest, most accurate way possible. The laboratory should be a leader in healthcare informatics because the medical information labs provide is the heart of a patient's medical record. Many decisions about treatment stem from diagnostic tests performed in the laboratory.

All indicators point to implementation of health information technology being a catalyst to improved patient care and cost savings. The annual savings from efficiency alone could be \$77 billion or better. The health and safety benefits could also double the savings while reducing illness and prolonging life.²

Although the use of technology in the health care delivery system has been evolving, it has gained momentum in large part due to the federal government. In 2004, the Administration (Health and Human Services) made health information technology (IT) a national priority by issuing a ten-year plan to transform both public and private health care provider systems. The American Health Information Community (The Community) was formed from that vision. Under the U.S. Department of Health and Human Services, The Community is a combination of 16 key members of the public and private sector, with additional representation through a variety of workgroups.

II. Public Health Role in Health Information Technology

The Public Health Laboratory Information Management System (LIMS) is a way of providing "infrastructure for public health laboratories to effectively log and access specimens; unambiguously associate specimen data with epidemiological, clinical, and test result data; and electronically report findings to public health partners at the state and federal levels".³ Public health laboratories are essential at the local, state and national level to address health outbreaks such as influenza or disastrous events such as bioterrorism. Despite their importance, public health laboratories often lack the capacity for electronic reporting and communication. This can be attributed to a lack of resources to establish a proper infrastructure or the inability to dedicate labor capital to education and training.

III. Electronic Medical Health Records (EMR)

With only 15% of the primary care physicians, six percent of solo practices and 13% of hospitals using electronic health records, it is evident that the health care industry in general has been slow to adopt EMRs of their own accord.⁴ The reliance on paper, by an industry that is estimated to invest over \$1.7 trillion annually in health care is wrought with inefficiency and poor quality.² It has been estimated that 44,000 to 98,000 people in the United States die annually as a result of medical error. IT (information technology) has been identified as one of four critical forces that could significantly improve health care quality and safety.⁵

The EMR has been introduced as an answer to these discrepancies. EMRs are comprehensive medical records that include all relevant patient care data, including demographics, progress notes, medications, laboratory results, radiology information, and immunization history.

Some of the positive attributes of the EMR are:

- portability and ease of access to patient data by clinical staff at any given location.
- viewing and updating by laboratories for almost immediate posting of test results.
- ease in scheduling appointments.
- accurate and complete claims processing by insurance companies.
- building automated checks for drug and allergy interactions.

In that same vein, Computerized Physician Order Entry (CPOE) offers another vehicle to assure timeliness, accuracy and the reduction of error and costs. With CPOE, physician orders are entered electronically rather than on paper. Those orders are integrated with patient information that includes laboratory and prescription data. This electronic record allows for an automatic screening for potential errors and problems. Similar to the EMR, the benefits of physicians entering computerized orders include⁶:

- Promptness- detecting the possibilities of drug reactions, allergies or overdoses.
- Accuracy – allowing clinicians to keep abreast of new drugs and/or laboratory tests entering the market.
- Drug Specific Information – eliminating confusion regarding drug names, particularly among those with similar names.
- Improved Communication – facilitating a better dialogue between physician and pharmacists.
- Reduced costs – resulting from improved efficiencies.

A. Commitment to Implementation

As of June 2005, the US federal government announced that it was ready to entertain proposals that would create standards for the American EMR.

- Create an Internet-based prototype for a national health care network so that doctors and hospitals can share patients' medical records.
- Choose one set of data standards for how hospitals, doctors and others would collect, store and ship such records.
- Certify electronic health records so that they would meet set data and security standards.
- Engage the states to expand and clarify just how electronic medical data could be kept secure.

- Establish standards for transmitting X-rays over the Internet to be seen immediately by doctors.
- Establish standards for electronic lab results transmitted to physicians for immediate analysis, diagnosis, and treatment -- assuring a prompt response and eliminating errors and duplicate testing due to lost laboratory reports.
- Establish standards for electronic prescriptions to save time for patients and help avoid serious medical errors.

The Administration appears to be strongly committed to this effort. The President's proposed FY (fiscal year) 2007 budget included a budget request of \$169 million for health information technology. This is a \$58 million increase over the FY 2006 request.

The proposed budget also includes \$116 million for the Office of the National Coordinator for Health Information Technology to support strategic planning, coordination and analysis of technical, economic and other issues related to the addition of health information technology.⁷

Although, the benefits of integrating technology into health care delivery have been widely touted, its actual application into the mainstream of physician offices, hospitals and laboratories has been slow. Research indicates that the adoption of HIT has been slow because of barriers such as the initial high cost of investment and short term loss of productivity due to the need for staff training.⁸ Other concerns raised have included limited reach thereby putting vulnerable populations at a disadvantage, creating disparities to access and quality of care.

B. Patient Privacy Concerns

While most agree EMRs are a necessary advancement to the medical industry, there are, concerns regarding the management of the records and the protections of patient privacy.

The Health Insurance Portability and Accountability Act (HIPAA)'s medical privacy rule created national standards when it became public law in 1996 intended to protect individuals' medical records and other personal health information. The law established limits on the use and release of patients' health information, protecting patient information in any format.

As it stands today, HIPAA rules demand these safeguards to protect EMRs and other electronic patient information⁹:

1. Implementing administrative, physical, and technical safeguards.
2. Developing security policies and procedures.
3. Documenting the assessment of the reasonableness of certain implementation specifications for the organization.
4. Training all of the organization's workforce on the security procedures.
5. Revising agreements with business associates to incorporate security obligations for the business associate.

Even with these safeguards in place, HIPAA regulations allow medical information to be shared for treatment and billing processes without a patient's knowledge. Data can also be shared with an estimated permitted 600,000 health-care-related businesses (HHS).

Patient privacy remains a concern that needs to be addressed. In a February 2007 report by the United States Government Accountability Office (GAO), it was recommended that HHS develop a comprehensive privacy approach to answer challenges that stem from nationwide exchange of health information technology. Specifically, GAO stated that HHS define and implement an overall approach for protecting health information as part of the strategic plan called for by the President.¹⁰

IV. Shared Data Repositories and Patient Safety Organizations

As the Federal government continues its mandate to move health IT into the mainstream, the concept of shared national data repositories is a topic that has provoked privacy advocates. Regional Health Information Organizations already serve as exchange centers in some areas. These regional organizations have in fact become a prototype for a National Health Information Network. However, safeguards to patient privacy still need to be developed and tested on a national level.

The creation of patient safety organizations (PSOs) is also in development nationally. These organizations would be responsible for obtaining patient information for the strategic review and improvement of health care delivery, with the express purpose of reducing medical error through best practices. Submission to PSOs would be voluntary, with analysis and results of the submitted data disseminated to the individual organization. PSOs themselves would need to be registered and regularly monitored and maintained by government authorities to ensure patient confidentiality.

V. Recommendations

To ensure the implementation of a health information technology infrastructure geared toward quality care and patient safety, ASCP recommends:

- The establishment of electronic health records for all Americans.
- A national standard for electronic health records that encompasses the needs of patients, clinicians, laboratories and hospitals.
- Financial investment from both federal and state governments to launch such technologies.
- Public health laboratories must be equipped with technology to communicate essential public health information to appropriate authorities at the local, state and national levels.
- Standardized training on the uses and application of such technology.
- The establishment of a review board comprising the continuum of medical professionals, especially laboratory personnel, to rate the effectiveness of using health technology and to make enhancement recommendations.
- The establishment of strong measures to protect the privacy of electronic health records.

VI. Conclusion

ASCP acknowledges tremendous benefit of further implementing health information technology into the health care delivery system. ASCP is committed to working with the government and others to assure that use of electronic medical records and other forms of health information technology to guarantee quality medical practice and patient safety.

References

- ¹ Requirements for Public Health Laboratory Information Management Systems. A Collaboration of State Public Health Laboratories, the Association of Public Health Laboratories and the Public Health Informatics Institute. September, 2003.
- ² Health Information Technology Can HIT Lower Costs and Improve Quality? The Rand Corporation. Rand Health. Research Highlights. 2005
- ³ [Factsheet: Computerized Physician Order Entry](#). LeapFrog Hospital Survey, Revised: 4/1/2016. Accessed on 9/26/2017.
- ⁴ Terry, K. Exclusive Survey: Doctors and EHRs. Medical Economics. January 21, 2005.

⁵ Information Technology in Health Care. MedPac. Report to Congress:New Approaches in Medicare. June 2004. pp. 161.

⁶ http://www.leapfroggroup.org/media/file/Leapfrog-Computer_Physician_Order_Entry_Fact_Sheet.pdf

⁷ The President's FY 2207 Budget Proposal: Overview and Briefing Charts. The Henry J. Kaiser Family Foundation. Pp. 6.

⁸ Health Information Technology in the United States: The Informational Base for Progress. Executive Summary. The Robert Wood Johnson Foundation. The George Washington University. Massachusetts General Hospital. 2006.

⁹ [Summary of the HIPAA Security Rule](#), Centers for Medicare and Medicaid Services, Revised: July 26, 2013. Accessed on 9/26/2017.

¹⁰ Health Information Technology: Early Efforts Initiated but Comprehensive Privacy Approach Needed for National Strategy. Government Accountability Office Testimony Before the Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia; Committee on Homeland Security and Governmental Affairs, United States Senate. February 2007.