HIM on the Front Lines of Change: Marching Toward the National Health Information Infrastructure

by Gina Rollins

What will it take to get the much-needed national health information infrastructure (NHII) up and running? Plenty of support from HIM professionals is vital, plus renewed attention to standards and information technology. Learn how each of these factors contribute to making the NHII a reality.

As the march toward a national health information infrastructure (NHII) gains momentum, HIM professionals have a pivotal leadership role in advancing it, both in nationwide initiatives and within the workplace. By participating in the development and adoption of standards, urging the use of new technologies and applications, and promoting the need for the NHII, HIM professionals can help make it a reality in the near term. "If we all take a personal role, this will be a speedier process, and we can make some preliminary steps happen even within the next two years," says former AHIMA president Claire Dixon-Lee, PhD, RHIA, president of MC Strategies, a healthcare consulting and training firm based in Atlanta, GA.

Exactly what form the NHII ultimately will take remains to be seen. In its report, "Information for Health: A Strategy for Building the National Health Information Infrastructure," the National Committee on Vital and Health Statistics (NCVHS) described the NHII as a "comprehensive, knowledge-based system capable of providing information to all who need it to make sound decisions about health."[1] The report further identified the NHII not only as a collection of standards, technology, and systems and applications, but also as a set of values, practices and relationships, laws and regulations, and privacy considerations that affect the appropriate exchange and use of data.

At a minimum, the NHII likely will involve information collected, stored, and transmitted electronically according to common standards for data exchange and content. Whether that means it eventually will evolve into a central health data repository for the entire country is unclear.

"We're many years away from that because we haven't figured out a well-protected patient identity number. Also, it will cost billions of dollars to implement, and there's no initiative to spend so much," says Elizabeth Curtis, RHIA, director of medical information management at the Ohio State University Health System in Columbus, OH.

Still, forces are converging to develop the first generation of the NHII. "We're still in the early stages of the NHII, but there are pressures on the system to increase quality, lower costs, and to interface with the public health system, and the single biggest barrier to all those things is the inability to use information and knowledge in the healthcare setting," says John Lumpkin, MD, director of the Illinois Department of Public Health in Springfield and chair of the NCVHS. "So a number of people are concluding that the healthcare system can't survive without a significant commitment to automation."

A major step toward the NHII will occur this year with full implementation of the HIPAA transactions rule, which requires providers to submit bills electronically in accordance with new data exchange standards. "I think we'll look back and recognize that HIPAA was the tipping point," says Lumpkin.

A Taste of What's to Come

Both the first phase of HIPAA and the promises the NHII holds have HIM professionals anxiously looking forward. The smooth, secure, and consistent transmission of data and its impact on patient care will be a momentous outcome on its own. But the field is particularly excited about several derivative benefits of the NHII, including changing the nature of HIM work, bringing efficiency to the healthcare system, improving public health surveillance, and strengthening clinical research initiatives.

HIM professionals who participate in standards development organizations or whose employers are implementing electronic health records (EHRs) and electronic-based patient safety initiatives have already gotten a taste of what's to come.

Curtis, for example, has seen a change in the HIM work force. After initially cutting staff as Ohio State first began implementing an EHR, the HIM department grew and changed. "It evolved from people who were basically file clerks to health information technicians. Our work today is more sophisticated and time-consuming," she says. Over the last decade, Ohio State has developed and integrated six core systems, including an enterprise master patient index, clinical results repository, information warehouse, a patient management and accounting system, computerized physician order entry system (CPOE), and a patient care documentation system.

The CPOE system at Ohio State had a dramatic effect on patient care. Following its implementation, turnaround times dropped by 64 percent for medications, by 43 percent for radiology procedures, and by 25 percent for laboratory results reporting. The CPOE, combined with an electronic medication administration record, also eliminated all doctor and nurse transcription errors.[2]

Other organizations have realized similar outcomes. For example, the CPOE at Brigham and Women's Hospital in Boston decreased serious medication errors by 55 percent.[3]

Changes also are afoot at Baylor University Medical Center in Dallas. The 10-hospital system recently made health information a corporate function with all hospital-based HIM departments reporting to vice president Donna Bowers, JD, RHIA. The consolidation will prompt adoption of consistent policies, procedures, and information systems (IS), and provide a platform for sharing best practices. Some IS standardization is already taking place, with departments now implementing common chart abstracting, records release, and transcription and dictation systems. The change will result in greater purchasing power and thus lower costs for future IS investments.

Bowers also sees an effect on the HIM work force. "It gives us the ability to share staff [between hospitals]," she says. As Baylor continues to implement aspects of an EHR, "we'll have a smaller, more skilled HIM staff," she predicts.

Dixon-Lee, who advises organizations on bioterrorism preparedness, sees the NHII as a kick start to a public health surveillance system that is "woefully inadequate." "There is no system that collects data in a standardized way," she says. Some states have already used electronic interfaces to strengthen reporting systems, with dramatic improvements in data processing times. The Medical Information Reporting for California (MIRCal) system is one example. The online reporting system for patient level data was implemented in April 2002. Before MIRCal, "hospitals submitted [data] to us on tapes and by paper, and it took us six months to get to the point of editing it and sending it back to the hospitals. Now it only takes us 24 hours," says Starla Ledbetter, RHIA, MHSA, assistant manager for the patient discharge data section of the state Office of Statewide Health Planning and Development in Sacramento.

The Role of Standards

Implementation of systems and technologies within provider organizations has a vital role in achieving patient care and other operational efficiencies, but many health information experts argue that further development and adoption of standards will best propel the NHII. Already there's an array of standards development organizations (SDOs), and many have generated widely accepted standards that have laid the foundation for the NHII (see "Who's Setting the Standards?" below). Still, much work remains to be done

"We've done a lot of work in transferring data, but not as much on developing data dictionaries. We have a long way to go before the physical exam content in a record in Boston will be consistent with what it is in San Francisco," explains Gretchen Murphy, MEd, RHIA, director of the health information administration program at the University of Washington in Seattle.

In addition to their effect on patient care, there are plenty of business reasons for healthcare organizations and HIM professionals to pursue common standards. For example, as public health departments implement standards, "it will be less of a burden," says Ledbetter. "In the past, every time we changed a data element or reporting requirement, hospitals had to change their software and systems."

As numerous SDOs work on a lexicon for capturing the depth and complexity of clinical care, some HIM professionals have expressed concern that efforts will begin to work against each other. The NCVHS acknowledged this possibility in

"Information for Health" and recommended the creation of a senior position at the US Department of Health and Human Services to coordinate and create synergy among private sector initiatives.

Whether such a position ever materializes, there's already a certain amount of built-in coordination in the standards community, according to Ledbetter. "In my experience, we're getting the same organizations represented across the board and the standards groups are better at sharing where they are," she says. Plus, the complexity of content standards and the effort involved in gaining widespread adoption demands participation, inclusion, and collaboration, argues Carol Diamond, MD, MPH, managing director of information technologies for better health at the Markle Foundation in New York City. "There are more than 100 organizations participating in Connecting for Health, and it feels like you need that kind of attention to be able to move it forward," she says.

Connecting for Health is a nine-month initiative designed to promote adoption of a core set of healthcare data standards. Sponsored by the Markle Foundation, it includes federal and state government organizations, health information technology groups, academic and research institutions, national standards groups, accrediting organizations, and others. The National Alliance for Health Information Technology (NAHIT) is a similar effort. Launched in June 2002 by the American Hospital Association, NAHIT counts more than 75 organizations as its members, including AHIMA.

Even as work to develop and adopt more standards goes into high gear, a consortium of public health agencies is trying to make the most of HIPAA transactions in response to the heightened need for bioterrorism surveillance, according to Ledbetter. "We're focused on how to get data the public needs, so we're pulling HIPAA elements that work for public health. We're trying to force-fit HIPAA to meet our needs."

No Progress without Technology

Further development and adoption of content standards is arguably the single most important step toward the NHII. Following close behind is wide-spread adoption of technologies that support electronic transactions. "We need to have an appropriate technological infrastructure with private practices in particular using hardware and software that enable them to connect into a unified system," says Tejal Gandhi, MD, MPH, director of patient safety at Brigham and Women's Hospital.

Physicians are among those who have the most to gain from the NHII, but few have invested in an EHR or CPOE. A 2001 survey of members of the Medical Group Management Association found that only 15 percent of respondents were using a software product to perform clinical documentation in the ambulatory setting.[4] Added momentum toward the NHII also will come with broader use of SNOMED-CT, according to Dixon-Lee.

HIM Professionals in the Driver's Seat

HIM professionals, too, have a crucial role in determining the pace of change. "It's critical that HIM professionals push organizations in this direction. Other people won't be doing it if we're not," says Bowers. Part of that pushing involves taking part in organizational technology strategy sessions and purchasing decisions. "Make yourself known to the players and designers of systems. Make sure you're at the table. If we're not, the decisions will be made without us," says Curtis.

Leadership is especially needed to outline an implementation plan for realizing the NHII. "With appropriate leadership, we could articulate a fundamental navigation strategy that would make the NHII a contributing force within a five-year time frame. HIM is the group to do this because we're the ones who pull all the health information together and integrate it from the perspective of all involved," says Murphy.

Another key task is connecting with local and state public health departments. "Introduce yourself and let them know you're a content expert and know your organization. Offer to be a resource to them to see what can be done to improve processes," advises Dixon-Lee.

Finally, participating in nationwide standards initiatives will not only keep HIM professionals informed but also make them better able to advise their organizations on software and information system purchases. With the entire HIM profession adding its weight to the process, the NHII will be here sooner than can be imagined today, says Diamond. "We need each stakeholder to recognize its importance and promote it, and we need each stakeholder to do their part. When that happens, we'll have a critical mass, and it will be like a snowball going downhill."

Notes

1. National Committee on Vital and Health Statistics. "Information for Health: A Strategy for Building the National Health Information Infrastructure." Washington, DC, November 15, 2001. Available online at www.ncvhs.hhs.gov/nhiilayo.pdf.

2. Mekhjian, H. S. et al. "Immediate Benefits Realized Following Implementation of Physician Order Entry at an Academic Medical Center." *Journal of the American Health Informatics Association* 9, no. 5 (2002): 529-539.

3. Bates, D.W. et al. "Effect of Computerized Physician Order Entry and a Team Intervention on Prevention of Serious Medication Errors." *Journal of the American Medical Association* 280, no. 15 (1998): 1311-1316.

4. Medical Group Management Association. "The Current Status of Electronic Medical Record and Practice Automation Systems in Medical Group Practices." Pfizer Health Solutions EMR Study (2001).

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Who's Setting the Standards?

Take a look at some of the major players developing standards for the use and exchange of health-related information:

Accredited Standards Committee (ASC) X12: Develops standards for electronic exchange of business information across industries. The insurance subcommittee, X12N, develops standards and guidelines related to all aspects of insurance and related businesses. Available online at www.x12.org.

ASTM International: Develops voluntary standards for products, materials, systems, and services across more than 130 industries. Available online at www.astm.org.

Health Level Seven (HL7): Develops standards for health data exchange and interaction. The National Committee on Vital and Health Statistics recently endorsed HL7 as the standard for the electronic exchange of patient medical record information. Available online at www.hl7.org. (For more information, see "HL7 Standard Shapes Content, Exchange of Patient Information" in the September 2002 *Journal of AHIMA* or in the FORE Library: HIM Body of Knowledge at www.ahima.org.)

Public Health Data Standards Consortium: Part of the National Center for Health Statistics, the Consortium represents public health and health services research interests in HIPAA implementation and other data standards-setting processes. Available online at www.cdc.gov/nchs/otheract/phdsc/phdsc.htm.

Workgroup for Electronic Data Interchange (WEDI): Supports the adoption of electronic commerce in healthcare through standards, education, and training. Available online at www.wedi.org.

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