

Clinical Data Exchange: Improving Quality, Saving Costs

The oft-quoted *Crossing the Quality Chasm* report from the Institute of Medicine, published in 2001, made two important points about information technology (IT)—first, that it is a critical tool in the quality arsenal and, second, that many barriers exist to its effective adoption and use. Clinical data exchange (CDE)—the sharing of electronic patient data between and among health care facilities through secure health IT systems—is one way to begin overcoming those barriers. CDE expands the vision of IT as a quality tool used only within the four walls of a hospital or a physician's office to one that is employed across institutions and health care providers—with the goal of filling in gaps in patient information and improving continuity of care and patient safety. This issue of *In-Depth* looks at the rationale for implementing clinical data exchange, current and planned CDE activities—including a proposed national initiative—and GNYHA's CDE Collaboration Workgroup.

Clinicians have long known that missing information can delay or impede the delivery of patient care services. Clinical data exchange (CDE)—which enables health care providers from different institutions to share patient information for treatment purposes in a secure electronic environment—can address such obstacles to care and improve quality by speeding up the time to accurate diagnosis and treatment.

CDE is commonly undertaken with the goal of improving patient safety and quality of care by, first, eliminating gaps in patient information from provider to provider, and, second, enhancing clinicians' access to more complete patient information, which in turn enables them to make the best care decisions possible. Along the same lines, CDE can also reduce the number of repeat diagnostic studies that clinicians conduct because they lack the necessary information at the time of patient assessment—which both improves the quality of the patient's experience and saves unnecessary costs.

Regional Health Information Organizations: CDE is roughly synonymous with the concept of a Regional Health Information Organization (RHIO), a term used often by the U.S. Department of Health and Human Services to describe an ideal CDE—that is, a communitywide or geographically defined

effort to share health IT among multiple health care entities and across settings of patient care. Notable examples of already established RHIOs include the Indiana Health Information Exchange (www.ihie.com) and the Santa Barbara County Care Data Exchange (www.chcf.org/documents/ihealth/SantaBarbaraF-Web.pdf).

GNYHA's Clinical Data Exchange Collaboration Workgroup

Recognizing that many of its members are undertaking CDE initiatives, GNYHA developed a Clinical Data Exchange Collaboration

Workgroup in January 2006. The workgroup was formed to enable principals from these initiatives to share information and look for ways to work collaboratively on common issues that each of them faces as they develop and implement their CDE projects. More important, the efforts of the workgroup could lead ultimately to the creation of linkages among CDE projects and the development of a larger NYC metropolitan exchange.

Catalyst: In October 2005, the NYS Department of Health (DOH) issued the HEAL Health Information Technology Phase 1

continued on reverse

Local to National: The Secure Exchange of Data

Clinical data exchange, or CDE, begins with the collection of data from patient assessment and testing by individual health care entities (HCEs)—hospitals, long term care facilities, physicians, or other health care organizations. The HCE uses these data for, among other purposes, participating in clinical data exchange in order to improve access to patient information within a community, in a secure electronic environment. Building upon the CDE is the recently proposed National Health Information Infrastructure (NHII)—a national "network of networks," espoused by the U.S. Department of Health and Human Services and other policymakers, that seeks to improve patient safety and health care quality by using the Internet to make patient information available to health care providers for the purposes of treatment. The NHII is not a centralized database of medical records or a government regulation, but a network of networks that will connect community-based CDE initiatives to create a national infrastructure. For more information about the NHII, visit <http://aspe.hhs.gov/sp/nhii>.

Both CDE and the NHII are defined by their rigorous privacy and security protections of patient data. ■

Building the Architecture for a National Initiative

To test its concept for the National Health Information Infrastructure (NHII), the U.S. Department of Health and Human Services (HHS) has awarded four contracts for a total of \$18.6 million to develop prototypes of the NHII architecture. Under the contracts awarded to four consortia of technology vendors and health care providers, the consortia must develop a prototype network for secure information sharing of patient data among hospitals, laboratories, pharmacies, and physicians in three distinct geographical regions.

Each consortium is led by one of four technology vendors—Accenture, Computer Science Corporation, IBM, and Northrop Grumman—and is responsible for developing an NHII prototype that tests patient identification services, user authentication, access control, and other security protections. In addition, each consortium must test whether its prototype can be scaled up for national use and must be able to exchange data with each of the three other consortia.

The consortia will be required to share information about their prototype architecture and design with the public and to report on their progress to the American Health Information Community, a Federal advisory committee chaired by HHS Secretary Michael Leavitt. For more information about the NHII contracts, see the HHS Web site at www.hhs.gov/healthit. ■

request for grant applications (RGA), which offered a funding stream for multi-stakeholder or collaborative IT projects. The HEAL NY program was initially put forward by the GNYHA and 1199 SEIU Health-care Education Project in January 2004 as part of a comprehensive health care reform proposal; the program authorizes \$1 billion in capital grants over four years to strengthen the health care system.

At the time the HEAL RGA was issued, nearly 40% of GNYHA member hospitals were already pursuing collaborative IT—or CDE—projects with other health care entities. However, the HEAL funding stream sped up those activities and spurred additional CDE activities as members moved to respond to the RGA.

To facilitate members' efforts in developing CDE projects, and in recognition of common issues facing each of them, GNYHA developed the concept for the CDE Collaboration Workgroup. Although DOH has announced its intention to develop a statewide health IT stakeholders group, it supports GNYHA's CDE Collaboration Workgroup given the density of downstate CDE projects and the need for collaboration. GNYHA will share the lessons learned from its workgroup in order to inform the activities of the DOH statewide group when it is established.

Concrete Aims for Collaboration: At its first meetings, GNYHA's CDE Collaboration Workgroup identified many opportunities for facilities undertaking CDE projects to collaborate with one other. Among the high-priority issues that the group has

begun to address are:

- legal issues, such as analyzing liability concerns and developing possible mitigation strategies, developing a model individual-user agreement, and investigating legal issues associated with using the CDE projects for research purposes; and
- patient identification and authentication issues, such as developing a common transaction that could be used to identify and authenticate a patient when communicating with outside data sources like health

plans and commercial laboratories.

In addition, all the participants have agreed to present the specific aspects of their initiatives to the workgroup, including governance, key players, technical architecture, evaluation, and overall goals of their individual CDE projects. This information will be presented with an eye toward identifying additional common goals and possibly developing a regional strategy for approaching CDE.

Finally, as part of its long-range plan, GNYHA's CDE Collaboration Workgroup has identified the following specific areas for collaborating in the future:

- **Evaluation**—development of a common evaluation framework that would enable comparison of outcomes across CDE projects.
- **Public health**—refinement of a public health reporting model proposed by the NYC Department of Health and Mental Hygiene, utilizing common standards and architecture.
- **Data sources**—approaching certain health care entities (for example, commercial laboratories and health plans) regarding their participation in CDE projects as a data source.
- **Standards**—formation of a technical subgroup to enable information sharing and joint decision-making regarding specific implementation standards.

GNYHA members and other CDE principals that are interested in participating in the CDE Collaboration Workgroup should contact Susan Stuard at stuard@gnyha.org or (212) 259-0727 for more information. ■

The Value of Clinical Data Exchange

A study by the Center for Information Technology Leadership entitled "The Value of Health Care Information Exchange and Interoperability," published in *Health Affairs* in 2005, places a conservative estimate on the net value of a national health information exchange at \$77.8 billion in annual savings to the health care system when fully implemented. A New York-based version of the study commissioned by the United Hospital Fund estimated the value of health information exchange in NYS to be around \$4.54 billion in annual savings, again when fully implemented. One Regional Health Information Organization, the Indiana Network for Patient Care, has already reported a \$26 reduction in cost per emergency department encounter resulting from access to prior clinical information via a clinical data exchange.*

*J. M. Overhage, P. R. Dexter, S. M. Perkins, W. H. Cordell, J. McGoff, R. McCrath, and C. J. McDonald, "A Randomized, Controlled Trial of Clinical Information Shared from Another Institution," *Annals of Emergency Medicine* 39, no. 1 (January 2002): 14–23.