



Executive Summary: Healthcare IT and the Davies Awards of Excellence

In 1994, the Computer-based Patient Record Institute founded the Davies Awards of Excellence and managed the program until merging with the Healthcare Information and Management Systems Society (HIMSS) in 2004. The award showcases institutions—ranging from big city hospitals to small ambulatory clinics—that have done an exceptional job implementing electronic medical records/electronic health records (EMR-EHRs) in their facilities.

Most of the information used in the series of HIMSS white papers that form the basis of this executive summary derives from the award applications of the 2001 to 2005 Davies winners. The papers focus on four topics related to the institutions' EMR-EHR experiences: return on investment (ROI), leadership,

implementation and ambulatory practices. The first three papers deal with larger hospital settings, while the last examines ambulatory practices.

This executive summary digests data and strategies from **Maimonides Medical Center** in Brooklyn, NY; **Queens Health Network** in Queens, NY; **Evanston Northwestern Healthcare** in suburban Chicago, IL.; **Cincinnati Children's Hospital Medical Center**, OH; **The University of Illinois at Chicago**, **The Ohio State University Health System**, Columbus; and **Harvard Vanguard** in Boston, MA. Smaller institutions include **Heritage Behavioral Health Center Inc.**, in Decatur, IL; and **Citizens Memorial Healthcare** in Bolivar, MO. The experiences of several ambulatory clinics also are highlighted.

Return on Investment

Institutions saw ROI in two ways: soft ROI, which highlights important but unquantifiable improvements in patient care, workflow and other areas; and hard ROI, which measures dollars and cents.

Soft ROI highlights include:

- *Improved Patient Safety:* **Maimonides Medical Center** saw problem medication orders drop by 58 percent and medication discrepancies drop by 55 percent in 2001 following its EMR-EHR implementation. **Queens Healthcare** experienced 50 percent fewer pharmacist interventions in medication orders in ambulatory care because of improved legibility, system alerts, and more complete prescriptions. **Evanston Healthcare** found that its EMR-EHR eliminated any chance of wrong site, wrong patient, and wrong procedure surgeries.

- *Enhanced Processes:* The **University of Illinois at Chicago** reduced by 40 percent the number of patients seen without an accompanying medical record, and its physicians spent 30 percent less time looking for charts. More than 5,000 annual radiologist hours went to patient care because each radiologist now spends 5 fewer hours per week reviewing medical records. Physicians saved 5 hours per week reviewing resident orders because such orders can now be seen in real time. And finally, chart pull

requests dropped 75 percent. **RiverPoint Pediatrics** in **Chicago** decreased wait time by 36 minutes in all encounters, a 40 percent improvement. Its time to refill prescriptions went from between 24 and 48 hours down to approximately 15 minutes, a 9,600 percent decrease.

- *Strengthened Communications:* **Citizens Memorial** physicians send a "Message to Nursing" with specific instructions or information on a patient. The hospital system's EMR-EHR is available from any of its locations and from any hospital department, eliminating the need for transport of documents.

- *Improved Regulatory Compliance:* Computerized healthcare records can safely restrict access to confidential patient records through user passwords and other security protocols that offer differing levels of clearance. Such records allow greater compliance with the Health Insurance Portability and Accountability Act (HIPAA) and other regulations. **Ohio State University** found after its implementation that it could better comply with institutional policies regarding do-not-resuscitate orders, restraint orders, and advance directives and could better enforce informed-consent requirements for all patients undergoing chemotherapy. The organization also discovered that it could better comply with accrediting agencies' demands.

Hard RIO highlights involved:

- *Increased Patient Flow:* EMR-EHRs help healthcare providers move patients through the care continuum without any diminution of treatment. **Citizens Memorial Healthcare** saw net patient revenues increase 23 percent after its implementation. **Maimonides'** average length of stay plummeted from 7.26 days in 1995 to 5.05 days in 2001, 1 full day less than the New York City average. **Ohio State's** data revealed a decline in the length of stay in a majority of its services, from transplants to neurology. **Wayne Obstetrics and Gynecology** reports that time devoted to document patient encounters decreased by 4 hours per week, while its patient volume increased by 225 percent.

- *Reduced and Reallocated Materials and Staffing:* **Evanston Northwestern's** EMR-EHR allowed for the reduction of 65 full-time employees, or \$4 million, and the system saved another \$10.5 million by adding a Picture Archiving and Communications System (PACS) with voice recognition capabilities, along with a radiology information system. The hospital reduced personnel in the emergency department; medical records; and billing and decreased overtime and temporary staff expenses. Decreased reliance on paper forms saved another \$1.94 million.

- *Enhanced Billing:* An EMR-EHR system clarifies the often messy world of billing. **Evanston Northwestern Healthcare** saw a \$2.5 million increase in revenue after solidly linking charge capture directly with orders. **Maimonides** watched as profits rose from \$761,000 in 1996, before the EMR-EHR, to \$6.1 million in 2001 after implementation, largely due to improved bill collection. **Pediatrics @ The Basin** in Pittsford, NY, saves \$4 for each chart-pull request it now avoids, saving \$16,800 a year. The clinic saved \$1,400 a year on data-entry costs and \$10,000 by eliminating records transcription.

Leadership and Implementation

No successful EMR-EHR can occur without strong, consistent, and visionary leadership and a precise plan for implementation. Leadership may start at the top, but transformation to a digital world requires support and assistance from dozens, if not hundreds of staffers, physicians, and managers, each of whom plays an instrumental role in executing an EMR-EHR implementation.

• *Gaining Support from the Top:* Executive leadership is a prerequisite of successful EMR-EHR installations. **Maimonides** found that it was crucial to have “a strong CEO prepared for the expected difficulties, especially with the community-based physicians.” **Queens Health Network’s** chief executive “has been tireless in his promotion of the system, endorsing it in public and private sessions throughout the organization and never ceasing to encourage the recalcitrant or reluctant to implement it.” Boards of directors can play an equally important role. “The board of directors drove strategic planning, which focused on developing an organizational culture in which patient safety was the number one priority,” wrote the authors of **Cincinnati Children’s** submission.

• *EMR-EHR Planning and Vendor Selection:* Planning for an EMR-EHR begins with committees and cross-functional teams. The more input planners receive, the more buy-in they get from management and staff. When every department has a seat at the table, implementation will go more smoothly because hospitals then can add functionality to the EMR-EHR based on staff input and customized training for various users. **Citizens Memorial** created an Information Services (IS) Steering Committee—comprising technologists as well as directors of clinical services, finance, home care, and other relevant departments—to handle a needs assessment, to align organizational strategic objectives with IT strategies, and to produce a series of guiding principles. **Old Harding Pediatric Associates** assembled an implementation team comprising a physician, a nurse, an executive administrator, and an assistant administrator to search for an appropriate IT system and to coordinate implementation. An outside contractor served as technical leader.

• *Creating Governance:* **Ohio State’s** physicians and clinical staff conducted a needs analysis to make certain the EMR-EHR could serve as a caregiver’s “decision-making guide.” Hospital administration and the IS department worked on contract negotiations with the vendors. IS led the initial implementation charge. When the project reached the system design and development stage, governance shifted back to physicians, with assistance from the IS department.

• *Providing a Business Case:* Leaders look at how and why an implementation might fail and create safeguards to ensure that cannot happen—and to demonstrate why an EMR-EHR makes sense. **Citizens Memorial**, for instance, reaped a positive return within five years by realizing several goals: growing admissions; increasing revenue by adopting standardized protocols and recording accurate coding; decreasing transcription costs; eliminating five positions; and jettisoning expenses associated with paper records. **Cincinnati Children’s** quelled fears about acceptance by creating a design team staffed by physicians who were paid to attend meetings and review design standards.

• *Planning for the Transition:* Some organizations select and implement complete EMR-EHR systems quickly—the “big bang”—often using one or a few interoperable vendors in order to maximize the technology’s clinical benefits. Conversely, some institutions roll the technology out gradually, department by department. Before any such decisions can be made, a good strategic plan is an absolute requirement. “The importance of operational planning for the impact of new technology cannot be overemphasized,” **Ohio State** remarked in its Davies award application. **Roswell Pediatrics Center** had a 3-week planning phase, during which a 51-page “project charter” was completed, outlining the objectives and responsibilities of the system’s users. “The project charter was a key reason we went live on our targeted date,” writes Roswell Pediatrics’ Davies application author Nancy R. Babbitt.

• *Insuring Training and Support:* A key ingredient to successful implementation is teaching end users to successfully navigate and utilize the technology. **Maimonides Medical** developed “just-in-time” training, done by specialty or department and using a physician-approved curriculum. Essentially, the IT staff focused on the “human aspect” in training end users to master the newly implemented, multi-vendor EMR-EHR deciding that the best way to train clinical staff was to find the most comfortable way for them

to use the system. Medical staffers called this the most important factor in the success of the project. **Wayne Obstetrics and Gynecology** began staff training one week prior to the go-live date, and by the third day of the first week of implementation the entire practice staff was able to use the system.

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