

## Partners Use Electronic Health Records to Steer Quality Improvement

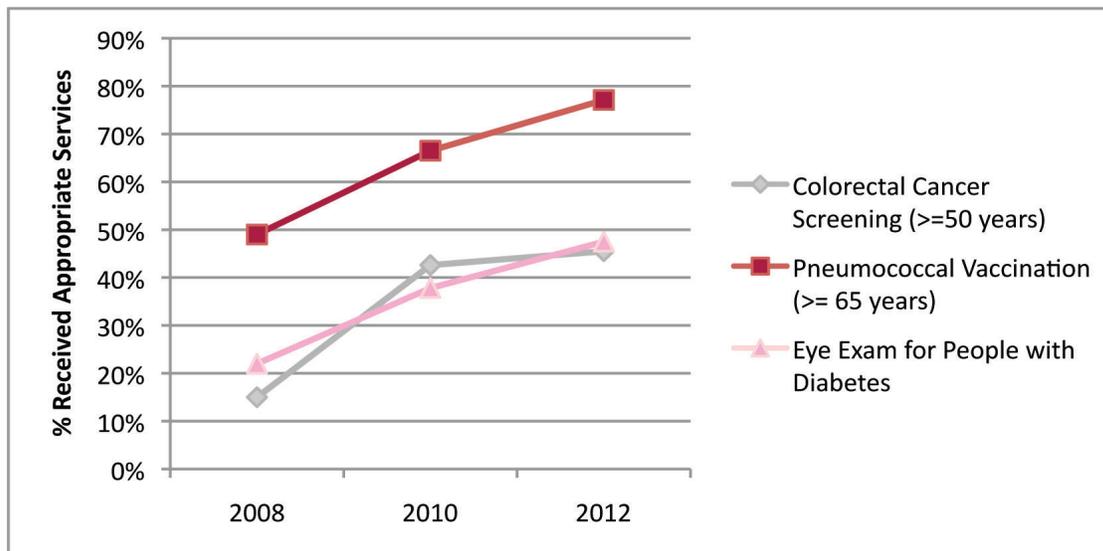
A decade ago, the Alliance of Chicago Community Health Services considered the operational and clinical challenges ahead and identified health information technology (IT) as a critical area in which to build infrastructure. Although limited in financial resources, the Alliance and its four Chicago-based health centers that serve underserved populations made the most of electronic health record (EHR) functionality by creating a standard data infrastructure to capture, store, and analyze data to improve the quality of care delivered to patients. The infrastructure and implementation approach, designed years ago, has since expanded to 28 additional health centers, effectively extending its benefits to many others.

With support from the Agency for Healthcare Research and Quality (AHRQ) and in collaboration with General Electric, the EHR vendor, the Alliance and health centers deployed a customized EHR to capture point-of-care data. They developed EHR-enabled tools to provide evidence-based decisionmaking support to clinicians. They created an electronic data warehouse to organize and report data to identify gaps in care and develop programs to assist patients' self-management of chronic conditions, such as diabetes.



At one of the original centers, Erie Family Health Center, some outcomes measures have improved since it deployed the EHR and began using aggregated performance data in the form of “quality dashboards” to guide improvements in patient care. In the 5 years since implementation and the end of the grant, measures for the percentage of people receiving appropriate colorectal screening, pneumococcal vaccination, and eye exams have improved drastically (see Figure 1). Health center efficiencies clearly have also improved, as the EHR has enhanced workflow.

**FIGURE 1. Family Health Center: Improvements in Rates of Recommended Procedures**



**Grant Title:** Enhancing Quality in Patient Care (EQUIP) Project

**Principal Investigator:** Fred D. Rachman, Chicago, Illinois

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*Implementation of health IT is not a start end process. It is constant, requiring lots of decisions to keep it viable.*

ANDREW HAMILTON, RN,  
ALLIANCE CHIEF  
OPERATING OFFICER

The success of the Alliance health IT project has led to its adoption at 32 different health center organizations across 11 states. The new members and sites receive the same content and services as the original participants. According to Andrew Hamilton, Alliance Chief Operating Officer, the project's aim to spread the

implementation of EHR and use of clinical decision support and performance measurement has succeeded beyond expectations.

### *Implementation and Results*

The process of making the EHR useful to the Alliance health centers required employing an operational workflow at each center to encourage practical use of the EHR and its tools. This process included an implementation team, with its members involved in care delivery to vet the workflow, simulations to test the workflow, and a “dress rehearsal” before the system went live. At the final stage of implementation, the clinic closed for 4 hours and hired “patients” to test the new system and workflow.

Once the EHR system was in place, the Alliance health centers incorporated toolkits into their workflow and established processes for using the information collected through the EHR to improve care. One toolkit, UPQUAL (Utilizing Precision Performance Measurement for Focused Quality Improvement), summarizes on a single page a wide range of different clinical situations for a patient. For example, in the case of a 55-year-old woman, the tool provides information on her last mammogram and cholesterol screen, and prompts for new tests if needed. Dr. David Buchanan of the Erie Family Health Center confirmed that the tool eliminates the need to search through charts for information. If only a few minutes remain in a visit, he can spend that time more effectively in addressing follow-up issues.

Erie also uses quality dashboards to aggregate EHR data and set goals on quality for providers and the health center. Provider groups, such as the adult medicine team, set annual goals for a handful of quality indicators they view as important for patient outcomes. During the year, data on those quality indicators are presented at the provider level, and a small incentive is paid to high-performing providers. Erie also uses the quality dashboards to identify needed changes at the health center. In 2008, the health center decided that it needed to improve eye exams for diabetic patients because only 22 percent of patients who should have been getting exams actually were receiving them on time. Erie developed a program to expand its capacity for providing eye exams, including bringing an optometrist on site. As of February 2012, the number of diabetic patients receiving eye exams on time had increased to 47. percent (see Figure 1).

### *Sustainability and Future Direction*

The success of the program has led to an expansion in the number of health centers that have joined the Alliance and implemented the EHR. New members have varied in settings and size, ranging from nurse-managed health centers housed in academic institutions to multispecialty health centers and mobile vans. The implementation, workflow redesign, and training processes developed for the original project have worked at all of these varied sites, demonstrating that the EHR and related tools and processes are applicable to varied outpatient health care settings. Although expansion to newer Alliance members often is grant funded at the outset by the Health Resources and Services Administration, the Centers for Medicare & Medicaid Services, or private foundations, the cost of the EHR eventually is incorporated into the general operational costs of the health centers. The mindset behind this decision by the centers to assume the costs for ongoing maintenance of health IT is indicative of what is required to sustain success in such endeavors—an understanding that health IT is not a one-time fix, but requires consistent and concerted efforts to keep it viable.

*“Having providers pick the [annual] goals [on quality] makes a difference.”*

— DAVID BUCHANAN, MD, CHIEF MEDICAL OFFICER, ERIE FAMILY HEALTH CENTER