

Promoting Electronic Health Record Adoption Among Small Independent Primary Care Practices

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The federal government has appropriated an unprecedented amount of funding through the American Recovery and Reinvestment Act of 2009 to spur the adoption of electronic health records (EHRs).¹ Despite evidence that the adoption of EHRs has the potential to improve healthcare,^{2,4} rates of using fully integrated health information systems remain low among practices with 5 or fewer physicians.^{5,6} The most frequently cited barriers include cost and potential loss of productivity; on average, EHRs cost almost \$44,000 per full-time equivalent provider, with ongoing costs of \$8400 annually.^{7,8} Furthermore, practices operating in medically underserved areas and providing care to vulnerable populations are less likely to adopt EHRs because of limited resources and competing priorities.⁹

Before the passage of the American Recovery and Reinvestment Act of 2009, the New York City (New York) Department of Health and Mental Hygiene established the Primary Care Information Project (PCIP) to help implement EHRs and to assist providers in using information technology (IT) to improve healthcare. The city secured more than \$60 million in public and private funding to subsidize the purchase and implementation of EHRs for 2000 independent primary care providers. The PCIP focused on enrolling providers serving a 10% or greater threshold of Medicaid or uninsured patients. In addition, the PCIP extended extra attention to engage providers practicing in areas identified as District Public Health Offices (DPHOs). The DPHO areas are located in central Brooklyn, east and central Harlem, and the south Bronx and have the highest urban poverty concentrations, health problems among the population, and mortality rates.¹⁰

Despite significant resources offered by the city, primary care providers were not eager to adopt EHRs, and substantial effort was needed to generate interest and engagement among provider communities. Less than one-fourth of providers contacted by the PCIP had the knowledge or educational resources to make an informed decision about adopting EHRs.

Nationally, the Regional Extension Centers designated by the Office of the National Coordinator for Health Information Technology to assist providers in adoption and meaningful use of EHRs will be facing

similar challenges. Provider engagement has been a substantial first hurdle in the path to adopting information systems. This communication details

Objectives: To describe the benefits and limitations of incentive arrangements used to engage small primary care practices to adopt electronic health records (EHRs).

Study Design: Retrospective review of program outreach efforts and EHR enrollment rates.

Methods: Comparison of benefits and limitations of various promotional strategies in addition to a city subsidy. Measures of enrollment progress include the mean number of outreach attempts, the mean number of days from first attempt to enrollment, and the enrollment yield. Selected practice demographics were collected for comparison purposes.

Results: Of 890 providers representing 217 practices who were eligible for the city subsidy, 37.7% enrolled, with a mean of 96.6 days from first attempt to enrollment and a mean of 10 outreach attempts. The offer for full payment of technical assistance fees and hardware yielded an additional 100 providers representing 43 practices, a 14.1% enrollment rate. This group also had the highest mean number of days from first attempt to enrollment (236.0 days) and the highest mean number of outreach attempts (22 attempts). The offer for a partial rebate had the lowest yield (a 6.2% enrollment rate), a mean of 169.3 days from first attempt to enrollment, and a mean number of 19 outreach attempts.

Conclusions: Because of diverse needs and levels of awareness in the EHR adoption process, a flexible milestone-based process is needed to engage primary care providers. In particular, community influence and additional funding were necessary for increasing enrollment among providers in medically underserved neighborhoods. These providers also required persistent and numerous follow-up attempts. Because billions of dollars in federal aid are being offered, effective local recruitment strategies are needed to facilitate provider engagement to increase EHR adoption rates.

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Take-Away Points

Multiple methods are needed to engage primary care providers to adopt electronic health records.

- Beyond monetary incentives, educated outreach and recruitment support are needed to convince providers to adopt electronic health records.
- A contact relationship management tool or database is necessary for tracking progress and for coordinating recruitment efforts.

the strategies and outreach activities that the PCIP used from February 2007 through June 2009 and the lessons learned to engage more than 1100 providers to adopt an EHR.

METHODS

The PCIP focused recruitment efforts on primary care providers (eg, physicians, nurse practitioners, midwives, doctors of osteopathic medicine, and physician assistants in any of the specialties of internal medicine, family practice, pediatrics, geriatrics, or obstetrics and gynecology) practicing in New York City's poorest neighborhoods or serving Medicaid and uninsured patients. Practices located within the 5 boroughs with at least 10% Medicaid or uninsured patients were eligible to receive software subsidies and support from the PCIP. The standard city subsidy program (PCIP standard program) covered software licensing costs for eClinicalWorks (Westborough, MA) and technical assistance for up to 2 years. Practices were responsible for purchasing hardware (eg, computers, printers, fax servers) and for covering infrastructure costs (eg, Internet service, IT consultant). A technical assistance fee of \$4000 per full-time equivalent provider was also paid by the practice. The PCIP required the technical assistance fee as an indication of commitment to the implementation process. The technical assistance fee covered services from the PCIP on guidance with software integration, connection to electronic laboratory and pharmacy interfaces, community immunization registry, customized training and on-site sessions with experts in using the software for billing and effective documentation, and up to 10 coaching sessions with quality improvement specialists. Additional details of the PCIP standard program have been summarized in a previous communication.¹¹

Because small practices did not generally belong to a single umbrella organization and were widely dispersed, partnering organizations were identified to enhance the engagement process or to "get the word out." As a result, the following 4 programs were implemented to supplement the PCIP standard program: (1) community leadership, (2) health plan rebate, (3) Regional Health Information Organization incentive, and (4) private donation (Table 1). The community leadership used social networking to identify potential prac-

tices and leveraged provider-to-provider recommendations without additional monetary incentives. The health plan rebate was offered by a local health plan to practices with a minimum number of health plan members. Practices in this supplemental program would receive \$2000 per full-time equivalent provider

after implementing the EHR. The Regional Health Information Organization incentive was offered to practices located in Queens and sections of Brooklyn. Through the practice's membership with the Regional Health Information Organization, they would receive \$3400 per full-time equivalent provider before EHR adoption to help defray the technical assistance fee required by the PCIP standard program. The private donation was available only to practices in the DPHO areas and covered the costs of the hardware and technical assistance fee in full. The costs and support provided by the supplemental programs are summarized in Table 1.

A team of 4 staff members from the PCIP conducted outreach to recruit small medical practices, community health centers, and hospital ambulatory facilities. A customer relationship management tool, www.salesforce.com (The Landmark @ One Market, San Francisco, CA), was used to track communication with providers and to monitor progress toward enrollment. The PCIP obtained lists of providers from the American Medical Association and from health plan databases. Additional providers were identified by word of mouth from friends in the community, leveraging relations with physician leaders in New York City, and from ad hoc referrals. The PCIP generated interest in EHR adoption through education, software demonstrations, and e-mails containing program literature. Specific activities included announcements or articles in the PCIP partner newsletters, e-mail blasts to partner-affiliated provider networks, and in-person events. Follow-up activities were conducted by phone calls, e-mails, and facsimiles. The outreach team encouraged providers to participate in software demonstrations before enrollment.

Once engaged, the PCIP asked providers to submit an application by e-mail. The application form collected information on practice demographics, patient and payer mix, IT, and organizational readiness and goals for EHR adoption. The PCIP then reviewed applications and provided status updates within 3 days, followed by a phone call within 24 hours. Staff members sent contracts via e-mail to practices that met the minimum criteria for the city software subsidy. Providers were required to complete an IT assessment in preparation for implementation. Practices were given a deadline to submit a signed contract within 2 weeks. However, deadlines were

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Table 1. Description of the PCIP Standard Program and Supplemental Programs

Variable	Typical Start-up Costs for the Practice ^a	Covered by the PCIP Standard Program
PCIP standard program	\$4000 per FTE provider, hardware, IT infrastructure costs, in-kind time commitment	2 y of software licensing for eClinicalWorks (Westborough, Massachusetts), technical assistance with implementation, integration, and use of EHR
Supplemental Programs	Typical Start-up Costs for the Practice ^a	Supplemental Cost Covered by Partner Organizations
Community leadership ^b	\$4000 per FTE provider, hardware, IT infrastructure costs, in-kind time commitment	No additional coverage
Health plan rebate ^c	\$4000 per FTE provider, hardware, IT infrastructure costs, in-kind time commitment	\$2000 per FTE provider after practices went "live" on an EHR (time limited)
RHIO incentive ^d	\$600 per FTE provider, hardware, IT infrastructure costs, in-kind time commitment	\$3400 per FTE provider at the time of signing PCIP agreement
Private donation ^e	IT infrastructure costs, in-kind time commitment	\$4000 per FTE provider, hardware

EHR indicates electronic health record; FTE, full-time equivalent; IT, information technology; PCIP, Primary Care Information Project; RHIO, Regional Health Information Organization.

^aThe PCIP advises practices to anticipate some loss of productivity and revenue due to downtime from closing the practice to conduct staff training, implement software, and incorporate software upgrades.

^bPractices were contacted by a physician leader from a local organization.

^cHealth plan paid for 50% of the technical assistance fee after practices adopted the EHR.

^dPractices joining an RHIO would receive an incentive from the RHIO at the time of signing the PCIP agreement, covering 85% of the technical assistance fee.

^eUpfront coverage of the \$4000 technical assistance fee and hardware costs.

flexible and allowed leeway for time-intensive steps, such as hardware and funding procurement by the practice. The outreach team persisted with phone follow-up until the contracts were completed and payment was received.

The PCIP monitored each stage of the enrollment process using the customer relationship management tool. The tool alerted outreach team members of an individual practice's progress from one step to the next in the application and agreement process. Practices that declined to enroll in the PCIP were categorized as "Decided Not to Sign Up"; others who did not move on to enrollment within 3 months were categorized as "Aged." For both categories, no additional phone follow-up was conducted by the PCIP. Providers who delayed enrollment because of various constraints were categorized as "On Hold," and PCIP staff established a time frame in which to reinitiate contact.

Staff members generated descriptive statistics to assess the effect of each strategy on improving enrollment. Fewer than 10 practices qualified for more than 1 of 4 supplemental programs; analysis considered only the most recent supplemental program to which a practice was exposed. The mean number of outreach attempts, the mean number of days from first attempt to enrollment, and the enrollment yield were calculated. Selected practice demographics were collected for comparison. Descriptive statistics of enrollment yield, the mean number of outreach attempts, and the

mean number of days from first attempt to enrollment were limited to federally qualified health centers or small independent practices.

RESULTS

Of 30,000 providers estimated to practice in New York City, the PCIP contacted 7263 potentially eligible primary care providers. Of those, 4379 were identified as eligible for the PCIP standard program and were affiliated with a federally qualified health center or a small practice. Roughly 25% of eligible providers enrolled by April 2009, and the remaining providers decided not to sign up, became an aged application, or were put on hold.

Through the PCIP standard program, 890 providers representing 217 independent practices joined, an enrollment yield of 37.7%. On average, these practices took 96.6 days to sign an agreement and 10 outreach attempts (including phone, e-mail, and facsimile). The average practice that enrolled through the PCIP standard program had 4.1 providers, with a patient population of 44.6% Medicaid and 8.6% uninsured (Table 2).

An additional 48 providers representing 24 practices joined through the community leadership process. These practices had the highest mean proportion of Medicaid-insured patients (73.8%) and were similar in practice size (2 providers

■ TRENDS FROM THE FIELD ■

■ Table 2. Enrollment Yield, Enrollment Effort, and Practice Characteristics by the PCIP and Supplemental Programs Among Eligible Providers

Variable	PCIP Standard Program (n = 2360)	Community Leadership (n = 400)	Health Plan Rebate (n = 529)	RHIO Incentive (n = 379)	Private Donation (n = 708)
Enrolled					
No. of practices	217	24	18	18	43
No. of providers	890	48	33	51	100
Enrollment yield, %	37.7	12.0	6.2	13.5	14.1
No. of providers per practice, mean (SD)	4.1 (8.6)	2.0 (1.4)	1.8 (1.2)	2.8 (2.2)	2.3 (3.5)
Enrollment effort, mean (SD) [25th to 75th percentiles]					
No. of days from first attempt to enrollment	96.6 (106.1) [32-129]	101.3 (19.7) [38-117]	169.3 (273.7) [43-243]	149.6 (282.1) [38-114]	236.0 (439.8) [38-470]
No. of outreach contacts ^a	10 (18.4) [5-13]	13 (7.3) [6-19]	19 (8.4) [12-24]	17 (10.6) [12-23]	22 (2.9) [17-25]
Practice demographics, mean (SD), %					
Medicaid patients	44.6 (28.9)	73.8 (21.5)	34.8 (28.4)	61.0 (30.9)	61.8 (25.8)
Uninsured patients	8.6 (13.2)	4.9 (4.8)	7.8 (4.5)	5.1 (7.1)	6.8 (7.5)

PCIP indicates Primary Care Information Project; RHIO, Regional Health Information Organization.
^aPhone calls, facsimiles, electronic mailings, and in-person meetings or events.

per practice) to the other supplemental subsidy programs.

The health plan rebate had the fewest additional providers join (33 providers representing 18 practices), with the lowest enrollment yield of 6.2% from an eligible pool of 529 providers. The Regional Health Information Organization incentive brought in more providers (51 representing 18 practices) and required a little less effort by the outreach team. The private donation brought in an additional 100 providers representing 43 practices but required the most recruitment effort and the longest lag time for signing an agreement. Statistics for the number of attempts and the time to enrollment across the programs are summarized in Table 2.

DISCUSSION

Within the first 28 months, the PCIP assisted 1122 providers representing 320 independent primary care practices to adopt EHRs. Although the PCIP offered various supplemental incentives, persuading physicians to implement EHRs was challenging and labor intensive. Summarized herein are experiences of the PCIP with provider engagement and recruitment strategies for EHR adoption.

Lessons Learned

Make Use of the Customer Relationship Management Tool. The strategies developed by the PCIP were refined based on available call logs and communication activities entered into the customer relationship management tool [www.](http://www.salesforce.com)

[salesforce.com](http://www.salesforce.com). These data permitted the staff to continually assess their efforts through the early stages of the outreach process and to identify needs for follow-up, as well as to coordinate communication efforts to avoid repeated or conflicting messages.

Choose the Right Modes of Communication. In comparing modes of communication with practices, phone contact was the most effective method and was overwhelmingly preferred by providers, supplemented by faxing. Although they were encouraged to use electronic mail, not all providers had an e-mail account, and several practices shared a single e-mail address. Few on-site presentations were conducted for larger practices; door-to-door visits to the practices to discuss EHR adoption was the least effective strategy and was difficult to scale broadly.

Know the Practice Personnel. A significant facilitating factor for engaging practices is identifying the “right” contact at practices. For small practices, targeting the lead physician and practice decision maker resulted in a higher likelihood of enrollment.¹²

Perseverance Pays. It was important to be persistent with practices that did not sign on within the first few attempts. More than 75% of the practices needed more than 10 “touches” before submitting the agreement. Most practices received between 10 and 20 follow-up contacts from the PCIP, and it was not uncommon to have at least 30 to 40 communications with a practice before obtaining a signed agreement. In an average week, staff would start with 15 to

20 providers expressing interest but would only receive 3 to 4 signed agreements.

Offer Deadlines, Limits, and Feedback. In addition to persistence, providers were more responsive if the PCIP staff insisted on target dates, which emphasized the importance of acting soon. However, missed deadlines could be extended when helpful. Other tactics that sustained engagement included stressing that the number of free software licenses was limited (eg, available on a “first come first served” basis) and informing practices of their application progress to create a sense of accomplishment.¹³

Know the Costs and Process. Aside from general cost barriers, providers did not know what to expect or how to anticipate the requirements for adopting an EHR. Most of the time spent by the outreach team was to educate providers and to answer questions about start-up costs and effect on resources. Outreach staff had to quickly learn and be able to inform providers on various questions ranging from how much to set aside for hardware, monthly Internet access fees, hiring an IT consultant to assist in setup, and other potential expenses, such as building modifications for additional electrical outlets or locations for monitors and keyboards. Providers also wanted to know how much time to set aside before the transition and the amount of downtime during the installation. In-person demonstrating of software or connecting providers to other clinicians already using an EHR was helpful to gain buy-in about the benefits of the EHR.

Emphasize Upfront Funding. Supplemental programs, such as the private donation program available to the PCIP, were necessary to reach providers practicing in medically underserved areas. The DPHO area providers often agreed about the benefits of EHR adoption but would not consider adoption without immediate financial aid. Rebates or partial upfront subsidies were not effective in convincing providers, as funding was too distant or insufficient. Few providers used the rebate or partial reimbursement, and most were not interested in loans or financing.

Leverage Relationships. The PCIP dedicated 4 full-time staff members with a public health background and a master’s-level education to conduct outreach efforts. Increasing the scale of their efforts was possible through leveraging community leaders and collaborating with physician membership organizations or associations, as well as health plans. These relationships garnered the practice’s attention and follow-through to the enrollment process, especially for high-volume Medicaid providers. By having community leaders send letters, copresent enrollment materials, or repeat messages of the PCIP in their routine communications, physicians were more likely to recognize follow-up phone calls or materials sent by the PCIP, as well as provide a quicker response.

Implications

Although challenging, motivating primary care practices to adopt an EHR is not impossible. From the experience of the PCIP, supplemental funding programs are necessary to reach providers practicing in medically underserved areas. Without full upfront funding, EHR adoption would not be feasible for practices like those in the New York City DPHO areas with extremely limited resources, minimal staffing, and time constraints. It is encouraging to see that the Medicaid “meaningful use” incentives provide an initial payment of \$21,250 and subsequent funding after demonstrating use of clinical systems.¹⁴

Additional studies and reports will help identify strategies to engage physicians or identify solutions to facilitate the adoption of health IT. Much of the health benefits to be gained by widespread adoption of clinical information systems can only be realized if most providers participate. The same challenges that the PCIP faced in enrolling practices to implement an EHR will be faced by the Regional Extension Centers designated across the country. Although an unprecedented amount of funding has been made available through the American Recovery and Reinvestment Act of 2009 and through support services from the Regional Extension Centers for EHR implementation, it is important to anticipate that a major barrier remains to fully engage primary care providers.

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