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# Issue Brief

## The Adoption and Use of Health Information Technology by Community Health Centers, 2009–2013

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**Abstract:** With help from targeted federal investments, U.S. physician offices and hospitals have accelerated their adoption and use of patient electronic health records (EHRs) and other health information technology (HIT) in recent years. Comparison of results from The Commonwealth Fund's two national surveys of federally qualified health centers (FQHCs) in 2009 and 2013 show that HIT adoption has also grown substantially for these important providers of care in poor and underserved communities. Nearly all surveyed FQHCs (93%) now have an EHR system, a 133 percent increase from 2009, the year federal “meaningful use” incentives for HIT were first authorized. Three-quarters of health centers (76%) reported meeting the criteria to qualify for incentive payments. Remaining challenges for health centers include achieving greater interoperability of EHR systems and ensuring patient access to their records. Mobile technology, such as text messaging, may help FQHCs further expand patient outreach and access to care.

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### OVERVIEW

Federally qualified health centers (FQHCs) provide comprehensive primary care, behavioral health, dental care, and other services to all people, regardless of their ability to pay or their health insurance status. First established in 1965, FQHCs and their predecessors have expanded access to care for people in low-income communities throughout the United States and reduced racial and ethnic health disparities.<sup>1</sup> Since 2009, the federal government has provided community health centers with unprecedented funding to help them build their health information technology (HIT) infrastructure so they can provide more coordinated and efficient care to an ever-growing patient population. Both the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH) and the Affordable Care Act (ACA) contain specific incentives and programs to foster development of HIT systems and networks among FQHCs.<sup>2,3</sup>

While national trends in physicians' use of HIT have been well documented, less is known about the progress made by the nation's health centers. We

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examine data from The Commonwealth Fund's two national surveys of FQHCs—the first one conducted in 2009, before enactment of the ACA and during the very early stages of deployment of HITECH funds, and the second in 2013—to describe trends in HIT adoption among FQHCs. (To learn [how this study was conducted](#), see page 5. For survey findings on health center workforce issues, see our companion brief, *Ready or Not? How Community Health Centers View Their Preparedness to Care for Newly Insured Patients*.)

## RESEARCH FINDINGS

### **The adoption of patient electronic health records by federally qualified health centers more than doubled between 2009 and 2013.**

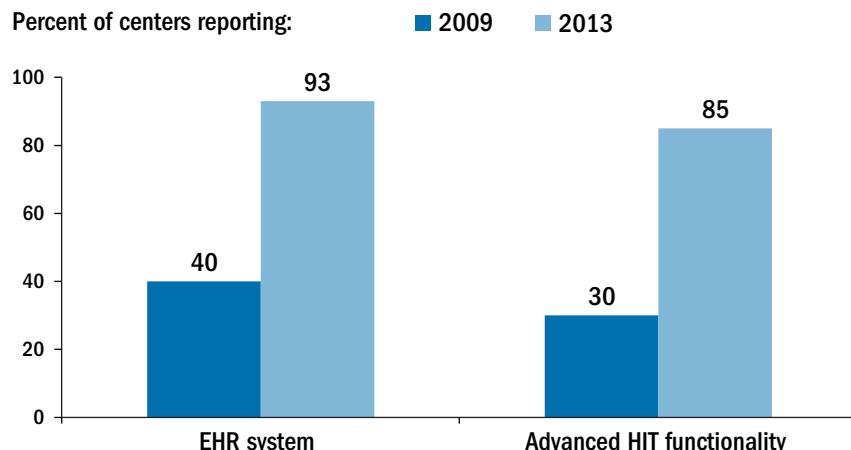
Over the period between the two surveys, the percentage of FQHCs establishing patient electronic health record (EHR) systems more than doubled, from 40 percent to 93 percent (Exhibit 1). When asked about the specific functionalities of EHR systems, the vast majority of FQHCs reported they had systems to assist providers with tracking information about all their patients and managing their care. Nearly all FQHCs have the ability to electronically generate information about individual patients or a panel of patients,

including lists of patients by diagnosis (98%) and lab result (90%), as well as a list of medications each patient is taking (86%). The vast majority of FQHCs (82%) also can generate a list of patients who are overdue for tests or preventive care ([Table 1](#)).

Computerized provider order entry is also widespread. About nine of 10 FQHCs can routinely electronically prescribe medications (91%), enter clinical notes (92%), and order (87%) and access (86%) lab test results, and three-quarters can track test results until they reach clinicians (77%). While use of electronic clinical decision support, a sophisticated HIT component intended to reduce errors and adverse events and increase efficiency, generally lags other EHR functions, significant progress has been made on this front as well: more than half (55%) of FQHCs reported that their providers can receive electronic alerts or prompts to provide patients with their test results, nearly double the proportion reporting this in 2009 (28%).

Only 35 percent of health centers can electronically send patients reminder notices for preventive or follow-up care, the same percentage reported in 2009. However, 83 percent said their HIT system can provide alerts or prompts about potential problems with medication doses or drug interactions, up from 38 percent in 2009.

**Exhibit 1. Trends in Health Information Technology Capacity in Federally Qualified Health Centers, 2009–2013**



Notes: EHR = electronic health record. Advanced health information technology (HIT) functionality is defined as meeting at least nine of 13 key functions.

Source: The Commonwealth Fund 2013 and 2009 Surveys of Federally Qualified Health Centers.

A health center is considered to have advanced HIT capacity if it can perform at least nine of 13 key functions ([Table 1](#)). In the 2013 survey, 85 percent of centers reported having between nine and 13 of these functions, up from 30 percent in 2009 (Exhibit 1). Ten percent reported having between four and eight functions, and only 4 percent reported zero to three.

### **Rates of interoperability of EHR systems and electronic access for patients are low.**

More than three-quarters of the largest sites operated by health centers have the ability to share lab results (83%), imaging reports (76%), medication lists (80%), and visit summaries (77%) electronically with other providers within the health center organization ([Table 2](#)). However, far fewer sites reported such interoperability outside the organization. No more than two of five centers reported electronically sharing lab results (41%), imaging reports (33%), medication lists (37%), and visit summaries (34%) with external providers. Similarly, in only about one-third of centers can patients view test results (33%), request appointments or referrals (36%), or request prescription refills (34%) through an online portal. And just one of 10 centers allows patients to incorporate patient- or medical device-generated data, such as daily blood glucose

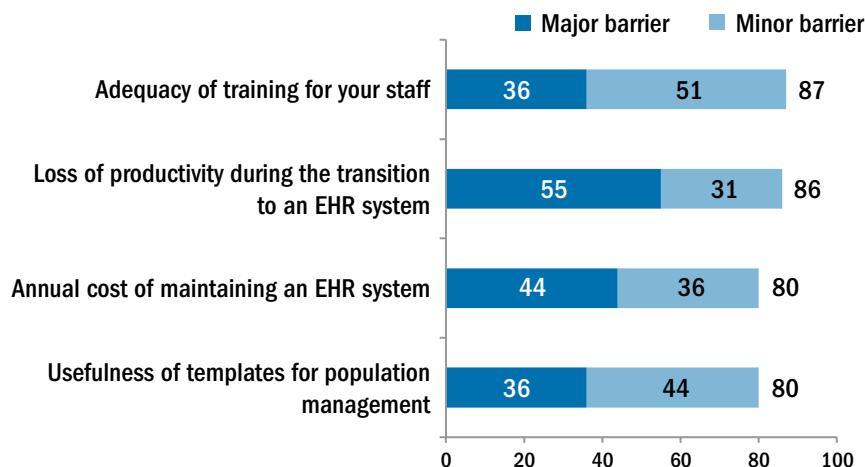
levels, into their medical record ([Table 2](#)). A 2012 survey of primary care physicians also found that electronic patient access and health information exchange were two of the least adopted EHR functions.<sup>4</sup>

### **The majority of health centers qualify for federal “meaningful use” incentive payments.**

Eighty-two percent of FQHCs have applied for the federal Meaningful Use Incentive Program, which rewards providers who meet criteria for the delivery of care using electronic health records ([Table 3](#)). More than three-quarters (76%) of FQHCs reported that their providers have received incentive payments since 2011. Stage 1 criteria, which emphasize data capture, include actively using an EHR system to track key clinical conditions and report information on clinical quality measures; stage 2 criteria focus on advanced clinical processes such as clinical decision support, as well as more rigorous health information exchange between providers.<sup>5</sup> Nearly all FQHCs (92%) reported that their current EHR system meets at least stage 1 criteria, and more than half (51%) said their system meets stage 2. Just 2 percent of health centers meet neither stage 1 nor stage 2 criteria ([Table 3](#)).

### **Exhibit 2. Barriers to Electronic Health Record Adoption Among Federally Qualified Community Health Centers, 2013**

Percentage of centers reporting the following barriers when using EHR systems:



## Adequacy of staff training and loss of productivity are among the greatest barriers to EHR adoption.

Although nearly all federally qualified health centers use EHRs, the path to adoption has not always been smooth. Centers reported that the greatest barriers to EHR adoption were the adequacy of training for staff (87%) and the loss of productivity during the transition to an EHR system (86%), with 55 percent citing the loss of productivity as a major barrier (Exhibit 2). Four of five centers also reported that the annual cost of maintaining an EHR system was a challenge, and that the templates for population management were often barriers to EHR use. Only 1 percent of centers reported that none of these were barriers to EHR adoption or use ([Table 4](#)).

## DISCUSSION

Our survey research shows that the adoption of health information technology by the nation's federally qualified health centers has increased tremendously since targeted federal investments and meaningful-use incentives were first authorized in 2009.<sup>6</sup> The rapid rate of HIT adoption by FQHCs outpaces the rate of adoption by office-based physicians—78 percent of office-based physicians used an electronic health record system in 2013, up from 48 percent in 2009.<sup>7</sup> A higher proportion of FQHCs (93%) have an EHR system compared with both larger practices and integrated delivery systems (78% and 71%, respectively).<sup>8</sup>

Moreover, three-quarters of health centers reported having met federal meaningful-use criteria, a proportion similar to that seen for large, non-physician-owned medical practices and integrated systems.<sup>9</sup> Such practices and systems are likely better prepared than solo or small physician-owned practices to make the initial transition from paper-based record-keeping and to leverage the benefits of HIT. It may well be the case that FQHCs, which as part of a federal program function as a national network of safety-net primary care practices, enjoy a similar advantage.

The results of our study indicate a few areas for improvement, however, some of which may be

addressed by current and future stages of the meaningful-use incentive program. Interoperability across multiple care settings and basic electronic patient access have been prioritized in the program's second stage. The third stage, still under development, may highlight patients' access to self-management tools and comprehensive data through patient-centered health information exchange.<sup>10</sup> Health centers' ability to send patients reminder notices for preventive or follow-up care remains challenging as well. Moving forward, reaching out to patients via mobile health technology, such as text messaging, may be a promising strategy, especially considering the higher rates of housing instability among the low-income populations served by FQHCs.<sup>11</sup>

Clearly, targeted federal funding and incentives have played a significant role in the widespread implementation of EHRs and advanced health information systems by FQHCs. Health centers' impressive adoption of this technology bodes well for meeting not only the needs of their existing patients but also those of the millions of new patients expected as a result of national health reform.

### How This Study Was Conducted

The Commonwealth Fund 2013 Survey of Federally Qualified Health Centers was conducted by Social Science Research Solutions from June 19, 2013, through October 24, 2013, among a nationally representative sample of 679 executive directors or clinical directors at federally qualified health centers (FQHCs). The survey sample was drawn from a list of all FQHCs in 2011 that have at least one site that is a community-based primary care clinic. The list was provided by the federal Bureau of Primary Health Care.

All 1,128 FQHCs were sent the questionnaire and 679 responded, yielding a response rate of 60 percent. The survey consisted of a 12-page questionnaire that took approximately 20 to 25 minutes to complete.

Data were weighted by number of patients, number of sites, geographic region, and urban/rural location to reflect the universe of primary care community centers as accurately as possible.

### NOTES

<sup>1</sup> L. Shi, L. A. Lebrun, J. Zhu et al., “Clinical Quality Performance in U.S. Health Centers,” *Health Services Research*, May 2012 47(6):2225–49.

<sup>2</sup> Patient Protection and Affordable Care Act of 2010 (P.L. 111-148, March 23, 2010).

<sup>3</sup> American Recovery and Reinvestment Act of 2009 (P.L. 111-5, Feb. 17, 2009).

<sup>4</sup> A.-M. J. Audet, D. Squires, and M. M. Doty, “Where Are We on the Diffusion Curve? Trends and Drivers of Primary Care Physicians’ Use of Health Information Technology,” *Health Services Research*, Feb. 2014 49(1 Pt. 2):347–60.

<sup>5</sup> Centers for Medicare and Medicaid Services, *How to Attain Meaningful Use*, <http://www.healthit.gov/providers-professionals/how-attain-meaningful-use>.

<sup>6</sup> C. J. Hsiao and E. Hing, *Use and Characteristics of Electronic Health Record Systems Among Office-Based Physician Practices: United States, 2001–2013*, NCHS Data Brief, No. 143 (Hyattsville, Md.: National Center for Health Statistics, Jan. 2014), <http://www.cdc.gov/nchs/data/databriefs/db143.pdf>.

<sup>7</sup> Ibid.

<sup>8</sup> M. Crane, “Solo and Small Practices Increase EHR Adoption, Survey Finds,” *MedScape*, March 26, 2014.

<sup>9</sup> C. J. Hsiao, S. Decker, E. Hing et al., “Most Physicians Were Eligible for Federal Incentives in 2011, But Few Had EHR Systems That Met Meaningful Use Criteria,” *Health Affairs*, May 2012 31(5):1100–7.

<sup>10</sup> CMS, *How to Attain Meaningful Use*.

<sup>11</sup> R. Cohen and K. Wardrip, *Should I Stay or Should I Go? Exploring the Effects of Housing Instability and Mobility on Children* (Washington, D.C.: Center for Housing Policy, Feb. 2011).

**Table 1. Trends in Health Information Technology Adoption  
Among Federally Qualified Health Centers, 2009–2013**

	Total 2009	Total 2013	Absolute change	Relative change
<b>Percent Distribution</b>	100%	100%	—	—
Unweighted n	795	679	—	—
1. Currently using EHRs	40	93	53	133%
<b>Ability to generate patient and panel information electronically:</b>				
2. Can generate list of patients by diagnosis	80	98	18	23%
3. Can generate list of patients by lab result	59	90	31	53%
4. Can generate list of patients overdue for tests or preventive care	46	82	35	74%
5. Routinely use electronic lists of medications taken by a patient	38	86	48	126%
<b>Computerized order entry management:</b>				
6. Routinely order lab tests electronically	45	87	42	93%
7. Routinely prescribe medication electronically	35	91	56	160%
8. Electronically track all lab tests until results reach clinicians	36	77	41	114%
9. Routinely electronically enter clinical notes, including medical history and follow-up notes	38	92	53	136%
10. Routinely electronically access patients' lab results	57	86	29	51%
<b>Computerized decision support:</b>				
11. Providers receive alerts or prompts to provide patients with test results	28	55	27	96%
12. Providers routinely receive electronic alerts or prompts about potential dose/drug interaction	38	83	45	118%
13. Patients sent reminder notices for regular preventive or follow-up care	34	35	1	3%
<b>Advanced HIT capacity:</b>				
Low (0–3 of the above items)	39	4	-34	-89%
Medium (4–8 of the above items)	31	10	-22	-69%
High (9–13 of the above items)	30	85	55	183%

Sources: The Commonwealth Fund 2009 and 2013 Surveys of Federally Qualified Health Centers.

**Table 2. Interoperability of Electronic Health Record Systems and Patient Access**

	Total 2013
Percent Distribution	100%
Unweighted n	679
<b>Largest site can electronically share the following data with other providers:</b>	
Lab results	
Within the health center organization	83
Outside the health center organization	41
Imaging reports	
Within the health center organization	76
Outside the health center organization	33
Medication lists	
Within the health center organization	80
Outside the health center organization	37
Visit summaries	
Within the health center organization	77
Outside the health center organization	34
<b>Patients have online access to:</b>	
View test results	33
Request appointments or referrals	36
Incorporate patient generated/device data	11
Request prescription refills	34

Source: The Commonwealth Fund 2013 Survey of Federally Qualified Health Centers.

**Table 3. “Meaningful Use” of Health Information Technology in Federally Qualified Health Centers**

	Total 2013
Percent Distribution	100%
Unweighted n	679
<b>Meets “meaningful use” criteria:</b>	
Stage 1	41
Stage 2	51
Neither	2
<b>Applied to “meaningful use” incentive program:</b>	
Yes, already applied	82
Yes, plan to apply	11
Uncertain	3
No, will not apply	2
<b>Received “meaningful use” incentives:</b>	
2011	42
2012	79
2013	56*
Any year	76

\* Through October 2013.

Source: The Commonwealth Fund 2013 Survey of Federally Qualified Health Centers.

**Table 4. Barriers to Electronic Health Record Usage  
Among Federally Qualified Health Centers**

	Total 2013
Percent Distribution	100%
Unweighted n	679
<b>Barriers to EHR adoption:</b>	
Annual cost of maintaining an EHR system	
Major barrier	44
Minor barrier	36
Not a barrier	17
Usefulness of templates for population management	
Major barrier	36
Minor barrier	44
Not a barrier	17
Adequacy of training for your staff	
Major barrier	36
Minor barrier	51
Not a barrier	11
Loss of productivity during the transition to an EHR system	
Major barrier	55
Minor barrier	31
Not a barrier	11
Any of the above	
Major barrier	78
Minor barrier	81
Major or minor barrier	96
Not a barrier	1

Source: The Commonwealth Fund 2013 Survey of Federally Qualified Health Centers.

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