

# Five Steps to Successful EHR Adoption

Pragmatic advice for today's medical practice

White paper

## Table of contents

Executive summary .....	2
Introduction .....	3
Turning EHR adoption plans into reality .....	3
IT Readiness .....	4
Step 1: Establishing a technology baseline before the transition to EHR .....	4
Hardware .....	5
Step 2: Assessing the current hardware infrastructure .....	5
EHR Software .....	7
Step 3: Evaluating EHR software vendors and choosing a solution .....	7
Implementation .....	9
Step 4: Putting best practices into place .....	9
Change Management .....	10
Step 5: Minimizing loss of office productivity during implementation .....	10
Conclusion .....	12
About HP for healthcare .....	13
For more information .....	13
Notes .....	14



## Executive summary

After years of wrestling with the prospect of moving from paper to electronic health record (EHR) systems, many medical practices are now poised to make this important change. Developments such as the announcement of federal financial incentives for adopting EHR, as well as increased awareness of EHR-based operational, clinical and administrative benefits, are compelling an increasing number of practices to commit to EHR implementations. HP has developed this step-by-step guide to assist you throughout the process of EHR adoption, with practical advice on recognizing your practice IT maturity, evaluating hardware readiness and software solutions, and managing implementation to maintain practice efficiency.

# Introduction

## Turning EHR adoption plans into reality

How do you know where to even begin? What's needed is an organized, pragmatic approach to adoption that breaks down an otherwise potentially overwhelming process into a series of informed steps and decisions. HP is offering this guide as a resource for medical practices to use during EHR adoption. It presents practical advice in every area of concern and at every step along the way, from project planning and evaluation all the way through successful implementation. It's a valuable tool for helping medical practices move beyond discussion and into action.

### Why EHR now?

While operational, clinical and administrative benefits make it a good idea to consider adopting EHR systems, several immediate factors make it a particularly good idea to act now.

*Financial incentives.* The Health Information Technology for Economic and Clinical Health (HITECH) Act enacted as a part of the American Recovery and Reinvestment Act of 2009 (ARRA) offers financial incentives to medical practices to help them adopt EHR systems and to promote the meaningful use of such EHR systems. The HITECH Act is the portion of ARRA that provides specific financial incentives. Payments include up to \$44,000 over five years per practitioner who accepts Medicare patients in practices with qualifying EHR systems (see Figure 1).

Figure 1: Physician Incentive Payment Schedule Under ARRA

	ADOPTION 2011	ADOPTION 2012	ADOPTION 2013	ADOPTION 2014	ADOPTION 2015+
2011	\$18,000	\$0	\$0	\$0	\$0
2012	\$12,000	\$18,000	\$0	\$0	\$0
2013	\$8,000	\$12,000	\$15,000	\$0	\$0
2014	\$4,000	\$8,000	\$12,000	\$12,000	\$0
2015	\$2,000	\$4,000	\$8,000	\$8,000	\$0
2016	\$0	\$2,000	\$4,000	\$4,000	\$0
<b>TOTAL</b>	<b>\$44,000</b>	<b>\$44,000</b>	<b>\$39,000</b>	<b>\$24,000</b>	<b>\$0</b>
Health Prof. Shortage Area	\$48,400	\$48,400	\$42,900	\$26,400	\$0

U.S. Congress, House, American Recovery and Reinvestment Act of 2009, H.R. 1 111th Cong., 1st sess. (February 10, 2009). <http://www.irs.gov/efile/2010/29-31217.htm> (Pages 22 and 23, accessed June 2010).

*Fast-approaching deadlines.* To realize the maximum financial benefit from ARRA, medical practices must implement an EHR system by 2013. Those who miss the deadline see incentive payments drop from \$44,000 to \$39,000. Those who wait until 2014 qualify for a total payment of only \$24,000. After 2016, the window for receiving financial incentives closes completely.

*Potential consequences.* For medical practices that do not adopt EHR systems at all, missing out on incentives is just one consequence. They also risk having Medicare payments reduced for each year of non-adoption, beginning with a 1% reduction in 2015 and then increasing each year thereafter to a maximum of 5%.

Given the financial stakes, the operational, clinical and administrative benefits, and the assistance available in this guide, medical practices have even more reason to move forward with EHR adoption and to do it now. The following material provides specific help in these key areas: IT Readiness, Hardware, Software, Implementation and Change Management.

# IT Readiness

## Step 1: Establishing a technology baseline before the transition to EHR

### Where does your practice fall on the spectrum of IT sophistication?

As the chart below illustrates, the role of information technology (IT) can vary widely in medical practices, from being used minimally and only as necessary to delivering benefits in every area of the practice. The following is a simplified model with three levels of sophistication. Understanding how far along your practice is in its use of IT can be helpful during the EHR selection process.

Figure 2: The Role of IT in Today's Medical Practice

IT READINESS		
THE ROLE OF IT IN TODAY'S MEDICAL PRACTICE		
1. PROVIDING BASIC FUNCTIONALITY	2. ADDING SOME VALUE	3. DELIVERING SIGNIFICANT BENEFITS
<ul style="list-style-type: none"><li>• Only basic functions (billing, scheduling, office operations) computerized</li><li>• IT functions not integrated</li><li>• Obsolete, inconsistent hardware</li><li>• Completely paper-based patient records</li><li>• Few or no clinical operations computerized</li><li>• No long-term IT strategy; technology acquired ad hoc in reaction to needs</li></ul>	<ul style="list-style-type: none"><li>• Most functions computerized or partially computerized, increasing operational efficiency</li><li>• IT systems integrated (i.e., billing and scheduling systems work together), improving office productivity</li><li>• Some clinical systems in place, such as digital diagnostics, improving patient care</li><li>• Possibly a combination of electronic and paper-based processes for patient records</li><li>• Strategic planning and purchasing in some areas, but not in others</li></ul>	<ul style="list-style-type: none"><li>• All major functions computerized, maximizing efficiency</li><li>• IT systems integrated, with protocols in place for ongoing integration of future systems</li><li>• Current, consistent systems handling all aspects of practice operations and management</li><li>• Widespread use of systems for clinical care, improving speed and accuracy of diagnosis and improving treatment</li><li>• Established processes for technology (including software) acquisition and upgrades, increasing efficiency and cost-effectiveness of IT</li><li>• Electronic patient records in place with capabilities added as they become available, delivering maximum operational, clinical and administrative benefits</li></ul>

Regardless of where your practice lies on the spectrum, the wide selection of EHR systems in the marketplace means solutions are available to meet its specific needs. For example, a practice adopting EHR for the first time may start with basic capabilities for creating and maintaining electronic records, and then come back and add lab and prescription components later. Or a practice that already has basic capabilities in place may be ready to add mobility capabilities.

# Hardware

## Step 2: Assessing the current hardware infrastructure

EHR systems require a hardware environment that can support creating, maintaining and transmitting electronic records securely, reliably and cost-efficiently. A thorough hardware review is essential to ensuring that the environment has the consistent performance, advanced features, and mobility and networking to optimally support EHR. Realizing these capabilities requires features such as increased processor power, higher bandwidth, more storage, remote services and more-effective user interfaces.

### **Vendor/hardware standardization**

In many medical practices, the hardware environment represents a variety of vendors and products, having evolved over time to meet different technology needs. The more these systems are asked to do and support, the more complex and inefficient it becomes to manage and maintain them. A standardized environment with one vendor providing all hardware resources, maintenance and support is a better choice, especially as the practice moves toward adding EHR to its technology capabilities. One of the best times to think about standardization is when a major change such as adoption of EHR is about to take place in your practice.

It may require some broad analysis and consideration to move toward a standardized hardware environment, but on the other end, that environment should demand less cost and effort to maintain over the long term. Standardization eliminates the time wasted and inefficiencies created by the need to keep up over time with multiple companies' warranties, different service and support agreements, and systems that are at different stages of the equipment lifecycle. In a standardized environment, there is instead a consistent set of policies and agreements governing all hardware and streamlined points of contact for any issues that might arise.

### **Age of systems**

If a practice has not invested in new hardware in more than three years, a technology refresh may be in order. Aging hardware can pose a number of potential problems for an EHR implementation. For example, older computers have less advanced security features, and may therefore be more susceptible to virus, spyware and malware attacks that could compromise the confidential patient data in electronic records. Older hardware is also likely to need more costly maintenance, since systems tend to have more problems as they age. This includes direct costs such as upgrading hard drives and other components and paying for service calls to resolve problems. It also creates indirect costs such as the loss of productivity caused by computers that aren't working properly.

Reliability is also an issue for older computers. If patient records are all going into an EHR system, it's critical that the system be up and running at all times. Newer PCs can help, because they experience significantly less downtime than older ones,<sup>1</sup> And if newer PCs do experience problems, they're easier to support; many have functions that allow support teams to remotely access them to diagnose and resolve issues, which is faster and more cost-efficient than on-site service.

### **Mobility**

The hardware infrastructure for an EHR implementation should include a variety of mobile devices, such as notebooks, tablets PCs and handheld PCs. With these devices, physicians can have real-time access to electronic records at the point of care. By selecting a hardware vendor that can provide all types of mobile devices, and deliver strong capabilities in areas such as security, reliability and ease of use, a medical practice can meet all of its mobile needs and also reap the benefits of vendor/hardware consistency.

Different mobile devices offer different advantages for use with EHR systems:

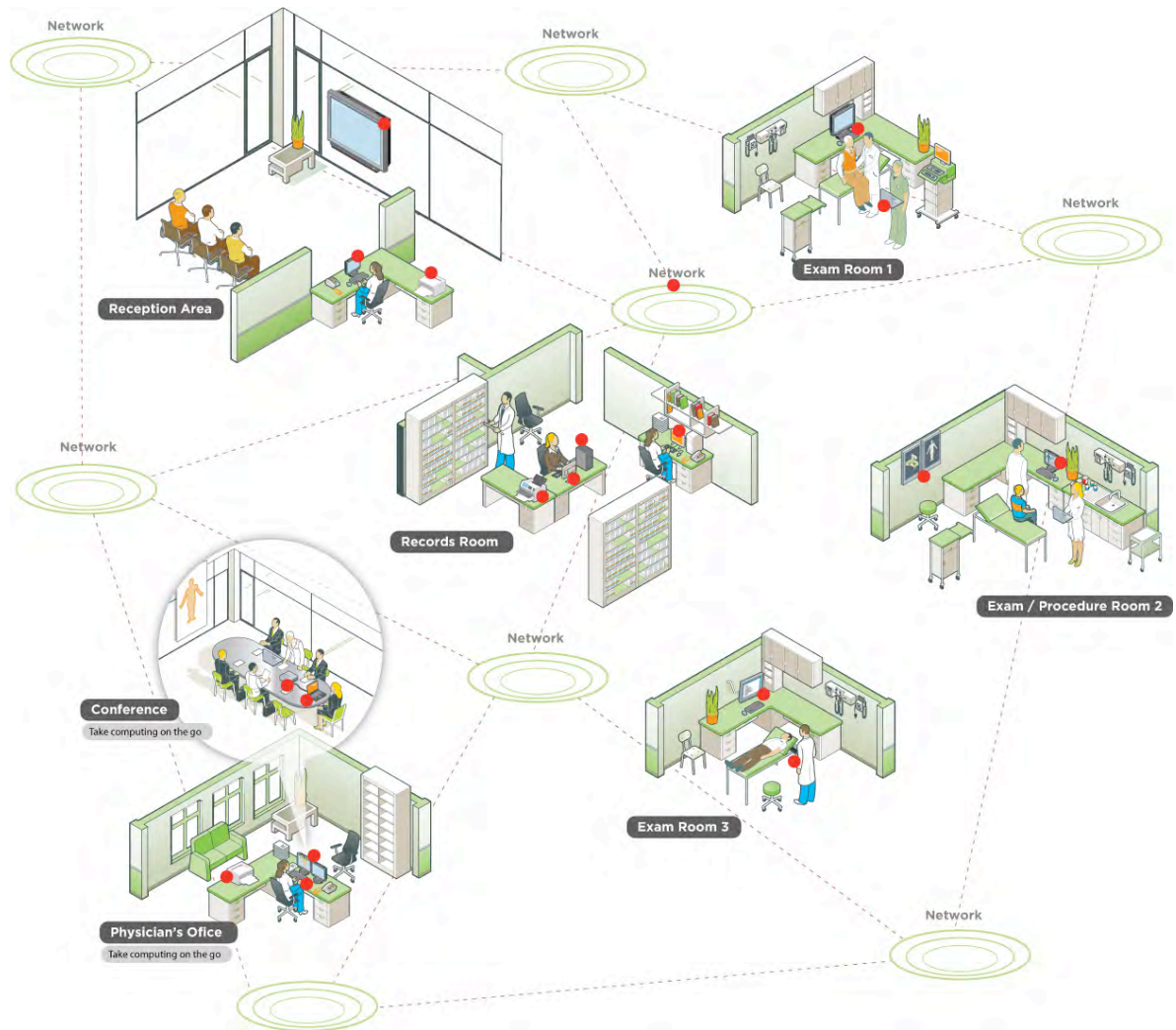
- *Notebooks* combine portability with the ability to store files locally on the hard drive, keeping information accessible regardless of whether the physician is connected to the network.
- *Tablet PCs* provide access to real-time patient information *and* enable convenient data entry at the point of care to update records and share information with colleagues.
- *Handheld PCs* fit easily into the pocket of a lab coat, delivering maximum mobility for physicians who need to access patient records as well as to scheduling and other data.

## Networking

Networking is another measure of IT readiness in any medical practice. Secure networking connects exam rooms, physician offices, records rooms and other physical locations within a practice, and also connects the practice to affiliates with whom electronic records need to be shared or to satellite offices. Figure 3 illustrates the key role networking plays in the day-to-day operations of a medical practice. This role will grow even more crucial as EHR records become a requirement for care on demand.

Network-optimized thin clients can be a valuable hardware solution for access to clinical data from multiple locations. They provide quick, highly secure access to medical data; unlike traditional desktop PCs, they send only keystrokes, mouse events and screen images between client and server. They also use less power, take up less space and require less maintenance than traditional PCs.

Figure 3: Use of Network Connectivity to Facilitate Sharing of Patient Information in a Medical Practice

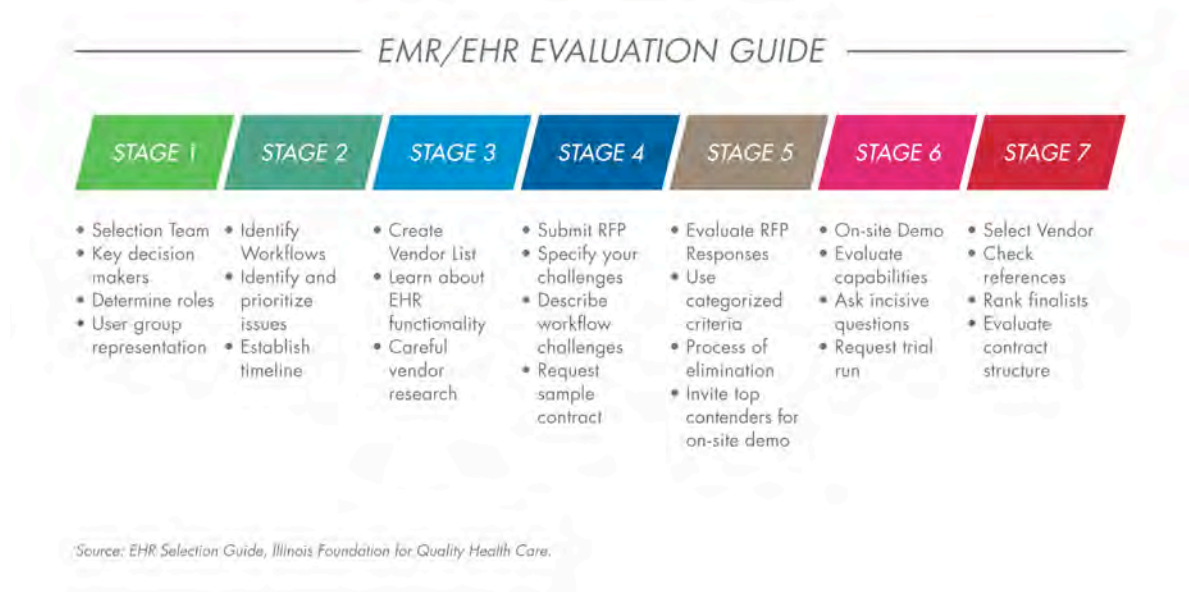


# EHR Software

## Step 3: Evaluating EHR software vendors and choosing a solution

Once the optimal hardware foundation has been identified, the next step is to select the EHR software solution. This is a multi-stage process, as illustrated in Figure 4. Read on for a closer look at each stage.

Figure 4: EHR Evaluation Guide



### Stage 1

Evaluation of EHR software is best undertaken as a physician-led team effort in which different clinical and administrative needs are all taken into account. Ideally, the team should include at least one member of the clinical staff, representatives of the office staff, and the practice administrator, who will be deeply involved in implementing the solution that is ultimately chosen. If leveraging internal staff is not an option, you may want to consider bringing in outside help.

### Stage 2

The most important step to take before even beginning to evaluate vendors and software is to identify key workflows and the challenges associated with them, including current problems and areas for improvement. This is the best way to gain an understanding of what an EHR system needs to deliver. Failing to gain this understanding can have disruptive and costly consequences. One pediatrician, writing from his own practice's experience in choosing the wrong system, attributes the failure largely to the doctors in the practice not really knowing what they wanted to do with the system.<sup>2</sup>

### Stage 3

Evaluating EHR software involves gathering broad information both about the technology itself and the vendors who will provide the technology. Consider these general questions:

*Does the technology have the functionality that is needed?* The Illinois Foundation for Quality Health Care recommends specifically mapping functionality to solutions for key workflow issues, then analyzing the components of different products to assess whether they meet specific needs.<sup>3</sup>

*Does the vendor have significant health care experience and expertise?* A vendor should have not just the technology, but also the experience and expertise, to meet the practice's needs. Check vendors' track

records: how long they've been in business, how long they've been offering an EHR product, and whether they've worked with similar practices.

#### **Stage 4**

At this stage, your practice should prepare a Request for Proposal (RFP) to send to vendors identified in Stage 3. This can be time-consuming and tedious, but there are resources to make it easier. An Internet search will turn up RFP templates, for example, to save the time and trouble of developing one from scratch. An RFP gives vendors the information they need about the practice, workflow challenges and required EHR functionalities, and helps ensure standardized responses for easier evaluation. Your practice may also want to have a reliable healthcare IT hardware vendor assist with the RFP process.

#### **Stage 5**

While this is by no means an exhaustive list, the following are some key criteria to take into account when evaluating responses to RFPs.

*CCHIT certification.* The Certification Commission for Health Information Technology (CCHIT) is a nonprofit group that works toward accelerating adoption of health IT. CCHIT-certified solutions are inspected for functionality, interoperability and security, tested against expert-developed criteria, and verified for successful real-world use.

*Client-server vs. Web-based model.* An EHR solution based on the client-server model is physically located in the medical practice, while one that follows a Web-based model delivers capabilities over the Internet. The latter is worth considering for many smaller practices; it can be less costly and complex to implement, requiring only a PC and a high-speed Internet connection.

*Scalability/flexibility.* It's important for some practices to have the flexibility to enter the EHR arena at a level commensurate with their technology comfort level, and then scale up over time. This can be easier with a Web-based solution and its minimal on-site infrastructure requirements.

*Cost.* Where all else is equal, are there significant cost differences among vendors and products? Consider not only the initial outlay to deploy a system (including special hardware upgrades that may be required), but also ongoing costs in areas such as maintenance and software subscription fees.

*User satisfaction.* This information won't be in the responses to an RFP, but it's worth seeking out while reviewing them. *Family Practice Management*, a journal of The American Academy of Family Physicians (AAFP), conducts an annual EHR user satisfaction survey of family physicians that ranks systems on everything from overall ease of use to specific functions. AAFP publishes a summary of results each fall.<sup>4</sup>

#### **Stage 6**

Use the information from Stage 5 to narrow the field of vendors to a select few – probably no more than three or four – to be invited to demonstrate their offering. Each demo will probably require two or three hours, and each member of the selection committee should attend all the demos, so that subsequent comparisons are fair. This represents a major time commitment, but it's important.

To make the most of the demo sessions, provide each prospective vendor with a couple of examples of patient-visit scenarios, giving all of them the same examples to keep the playing field level. Let them know what, if anything, you'd like to improve about the way the scenarios unfold. Be careful not to become too caught up in the capabilities for entering clinical notes. It's important – but so are other capabilities such as retrieving information, writing prescriptions and viewing lab information.

#### **Stage 7**

Consider the three R's: references, recommendations and rankings. Talk to final candidates' references. Seek out others who have used the vendors you're considering to see if they would recommend them. Working as a group, rank the results. Once you reach a consensus for the first choice, move ahead to negotiating terms and costs. If the first negotiation falls through, be prepared to go on to the next name on your list, until you can reach agreement with a vendor and finalize a contract.



# Implementation

## Step 4: Putting best practices into place

As more medical practices implement EHR systems, more knowledge emerges that can guide others who are implementing systems. There is enough information available now to suggest several best practices for a successful implementation.

### **Choose your team wisely**

The need for a strong leader doesn't end when a vendor is chosen. The ultimate success of an implementation relies largely on having a project lead in place to handle day-to-day coordination with the software vendor, keep physicians and others apprised of progress, and try to keep down everyone's stress about impending changes. An internal person who already has others' trust and respect is a natural choice to fill this role. However, it can be too much to ask them to do this in addition to their other full-time responsibilities. Consider reassigning at least some of their duties to others for the duration of the project. Or look at the possibility of engaging a trusted outside resource, such as an IT services provider, to fulfill this requirement while your internal resources play a less taxing support role.

The key to making any EHR implementation successful when working with outside vendors is to choose a partner that acts as both an advisor and team member. Many hardware and software vendors offer a range of services which can help at the logistics level of EHR adoption, so with limited human resources make sure to choose outside partners who can help you during initial rollout and beyond.

### **Plan, plan and plan**

There's no such thing as too much planning when it comes to a successful EHR implementation. Time spent with the EHR vendor on everything from developing an implementation timeline, to documenting the tasks that will be required and who will be responsible for them, to determining what will happen to the paper records post-implementation, is time well spent. A project plan that includes every important activity and major milestone will be an invaluable resource in managing activities during the implementation. Expect to update this plan frequently to reflect progress and inevitable changes throughout the course of the project.

### **Open the lines of communication**

Keeping everyone, from staff to patients, apprised of project progress is an important part of keeping the implementation on track. Regular meetings of the full project team can be a good forum for facilitating collaboration and making sure any issues that arise are resolved quickly and efficiently. Regular written status updates let practice leadership and staff who aren't directly involved know how things are going. Patient updates help to make sure patients are informed about how the project is progressing and how the resulting system will ultimately benefit them.

### **Get the help you need**

The need for an EHR vendor that can be there to provide support 24/7 during implementation should not be underestimated. Choose a vendor who is committed to being proactive, responsive and available to assist with implementation – onsite, initially, and then by phone as the project progresses. In addition, at least one study suggests that once users begin to work with the system, an internal “super-user” – someone with a special interest in the project or with broader IT experience – be assigned to communicate with the vendor to help get a speedy resolution to any issues that may arise.<sup>5</sup>

# Change Management

## Step 5: Minimizing loss of office productivity during implementation

A medical practice can potentially lose plenty of time to work slowdowns associated with an EHR implementation. This can have a particularly dramatic impact on a small practice. But the effects of office downtime can be minimized through awareness and planning to anticipate and address problems that might arise in this area.

### **Rely on a vendor with experience in small and medium-sized practices**

Productivity loss during implementation can have dramatic consequences for small and medium-sized practices. Some complex systems can be labor-intensive and time-consuming to deploy, putting a smaller practice out of commission for weeks. A vendor who has worked with smaller practices should understand this and simplify design and implementation where possible to minimize this effect.

Another choice for controlling productivity loss is a Web-based EHR implementation. This requires less hardware-related implementation time, since the fundamental hardware structure is owned and operated off-site by the vendor. A practice that opts for this won't need to budget time to install and configure a server to host the software, or to perform ongoing updates. These and other hardware-related tasks are handled by the vendor as part of a monthly subscription fee.

### **Plan ahead to minimize the impact**

The advice to “plan, plan and plan” in Step 4 is relevant here. Carefully planning and preparing for the implementation period reduces the risk that something will go wrong and add to the time that physicians and staff are unable to work productively while hardware or software is being installed.

For physicians, one of the greatest productivity concerns is that it will be a long time before they can see their full patient load. Combining the right system for the practice with careful implementation planning and effective staff training (see below) will keep this time to a minimum.

To be effective in reducing practice disruption, the implementation plan should take into account everything that could affect the rollout and timing. Here are some questions to consider:

- Is it clear who exactly is responsible for what task on both the vendor and the practice sides?
- Are the practice's plans and needs aligned with the implementation schedule?
- Are there holidays in the implementation period that could throw off the timing? This can be a huge factor in fall and winter.
- Is there an escalation plan in place for who to contact and how to proceed if something *doesn't* go according to plan?
- Have all expectations for timing and completion been documented in the form of milestones and shared with all the responsible parties?

### **Reduce disruption by scheduling training time**

One of the most common causes of office downtime during and just after an EHR installation is the “learning curve” experienced by staff members as they become acquainted with a new way of doing things. By allotting sufficient time and resources to properly train the entire staff, a practice can avoid unnecessarily interrupting operations while people learn the basics of the system.

It's important to schedule training outside of patient care hours, to minimize the effect on patient care. Many vendors offer self-paced courses and tutorials over the Web, which can take place at flexible times. For practices that go with on-site, vendor-provided training, vendors should recognize that it is impractical for training to shut down offices for protracted periods, and they should have training programs in place that do not require this.

### **Choose the right training for your practice.**

Having the right type and amount of training will help to reduce disruption and ensure implementation success. For example, a smaller practice may not need a full on-site program of training from the vendor and may want to use online learning, which can take place at flexible times, for the bulk of training. This

can involve supervision by an internal person who has worked with the vendor, in a “train the trainer” approach. Medium-sized practices may want to opt for onsite training from the vendor, who should give due consideration to the need to minimize the effects on operations. The right vendor can also help set up a combination of on-site and online training, which in some cases is the right choice to reduce disruption while still ensuring an effective training experience.

## Conclusion

The prospect of making the transition from paper records to EHR can be overwhelming– to the extent that many medical practices have been putting it off for years. Now, however, there’s little time to waste. Federal financial incentives will reward those who act quickly, while financial penalties are in store for those who fail to act. To help make the process less overwhelming, HP has broken it down into a handful of key steps, which are presented in this paper along with practical advice for working through some of the specifics of each one. This material will help medical practices – particularly small and medium-sized practices – achieve an efficient, cost-effective EHR implementation, and start enjoying the operational, clinical and administrative benefits the right EHR solution can bring.

## About HP for healthcare

HP systems, including technologies and services, are a part of many leading medical institutions including both private and public sector organizations. HP brings to the healthcare landscape a 50-year history of innovation; end-to-end, tailored solutions based on best-in-class technology; and rock-solid IT that delivers the high reliability, security and manageability that healthcare environments demand.

To support EHR adoption, HP helps support the transition to electronic records by providing:

- Flexible financing options from HP Financial Services to help practices move forward with implementation while applying for potential ARRA subsidies
- Hardware services to support a seamless EHR installation or upgrade, including end-to-end assessment and implementation to support EHR, along with a range of support including consultation, planning, installation and configuration services
- EHR software solutions and services from selected key independent software vendors (ISVs)

## For more information


To read more about HP technology for small and medium-sized medical practices, please visit:

<http://www.hp.com/sbso/solutions/healthcare>

## Notes

- 1 "SMBs – The Case for Buying Modern PCs," Techaisle white paper, March 2010.
- 2 "How to choose the 'right' electronic medical record system," *Modern Medicine*, February 5, 2010.
- 3 "Electronic Health Record (EHR) Selection: Step-by-Step Guide," Illinois Foundation for Quality Health Care, [www.ifqhc.org](http://www.ifqhc.org).
- 4 "Fishing for EHR Information? FPM's EHR User Satisfaction Survey Can Help," *aafp news now*, November 11, 2009.
- 5 "Best Practices in EMR Implementation: A Systematic Review," K. Keshavjee, Centre for Evaluation of Medicines and McMaster University, Hamilton, Ontario, Canada, and others.

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