

# Electronic Health Record (EHR) Implementation



Ease the transition from paper to electronic health records.

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## How will this module help me successfully implement an EHR?

- 1 Strategies and tactics to simplify the process
- 2 Nine steps to begin implementation, train staff and finalize rollout
- 3 Answers to common questions and concerns
- 4 Implementation tools, such as an activation checklist



# Introduction

## What is EHR implementation?

Activating the EHR involves a multi-disciplinary approach to prepare the new system, ensure privacy and security compliance, design practice workflows, train the care team and manage the adoption process. A thoughtful EHR implementation can help the practice adapt more easily to the new system, which will benefit patients, physicians and staff.



## Nine steps to a successful EHR implementation

1. Create an implementation team
2. Configure the software
3. Identify hardware needs
4. Transfer data
5. Optimize pre-launch workflows
6. Consider the room layout
7. Decide on the launch approach: “big bang” vs. incremental
8. Develop procedures for when your EHR is down
9. Initiate a training plan



### Create an implementation team

Typically this team will include physicians, nurses, receptionists, medical assistants, compliance office staff and administrative staff. Clinical members play dual roles by teaching EHR skills to colleagues and also bringing

clinical challenges back to the implementation team. Three important roles to consider include: lead physician, project manager and lead super user.

**Lead physician:** The lead physician guides the organization throughout implementation, serving as a link between the front-line users and the technical and administrative staff. It is best if the lead physician is also in practice.

**Project manager:** The project manager works closely with the vendor and all staff in the practice to keep stakeholders focused on their timelines, track the progress of projects and manage day-to-day issues.

**Lead super user:** The lead super user will function as the in-house expert in the new EHR. The lead super user configures the EHR software, creates templates and order sets, and also develops revised workflows or standard operating procedures to address issues raised by front-line users.

Q&A

[In our practice, who should we select to be the lead super user?](#)

The lead super user should have an aptitude for information technology and be prepared to dedicate a significant amount of time to tasks related to building and launching the EHR. The lead super user could have a clinical (e.g., nurse or medical assistant) or non-clinical background (e.g., office coordinator). The lead super user should be knowledgeable in the clinic workflows, as s/he will be instrumental in building and customizing the EHR and designing new workflows. The lead super user will also be the first person that physicians and staff contact when they are having issues with the EHR or if someone new requires training. In smaller practices, the lead super user may take on some of the project manager's tasks. The practice may designate additional super users (e.g., a clinical and non-clinical staff member), depending on the practice's needs, size and geographical spread.

[Our physicians are concerned that they will spend much of their time doing data entry.](#)

This is one of the common experiences physicians report after adopting an EHR. The implementation team can help minimize time spent on data entry by thoughtfully triaging work away from the physician when developing new workflows (see Expanded Rooming and Discharge Protocols module). Setting expectations about the new workflows (see [Expanded Rooming and Discharge Protocols module](#)) will benefit the care team in the long run and help them transition more smoothly to the EHR.

[If our needs are too complicated for practice staff to manage, where else can we find help?](#)

To supplement the strategies presented in this module, physicians and staff can:

- Contact their Regional Extension Center (REC). RECs provide education, outreach and technical assistance to physicians in their service areas and help them implement and demonstrate meaningful use of certified EHR technology. The Office of the National Coordinator for Health Information Technology (ONC) has compiled a list of the [current RECs across the country](#).
- Employ consultants who can guide practice leadership to make thoughtful decisions. Practice leadership can ask colleagues for referrals and recommendations to find the right consultants.

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## Configure the software

First, work with your health IT vendor to configure your EHR to meet appropriate security measures. This may require that you conduct a [HIPAA risk assessment](#). For other tips on protecting practice computers and your network systems, go to: <https://www.ama-assn.org/delivering-care/cybersecurity>.

Practices can also consider customizing software to optimize workflow.

- A. Develop a list of build elements external to the EHR such as: demographics imported from the practice management software (PMS), computerized order entry (COE), treatment regimens/protocols, medication management settings, standing orders, default patient history settings and billing/charge master updated with new codes and consents.
- B. EHR software can be modified to create specialty- or physician-specific templates, which are used to support documentation. Discuss customization options and cost with your EHR vendor.

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### Identify hardware needs

The right hardware can save an organization time and money. **Some clinics find that a printer in every room saves 30 minutes of physician time per day and a large monitor saves 20 minutes of physician time per day.** Furthermore, some practices reduce the time spent logging into the system multiple times each day by providing every worker with their own laptop or tablet to carry from room to room. System hardware (i.e., server and network) needs depend on the type of EHR purchased (see Table 1).

Physician practices may hire an IT service company to help them with their system hardware needs. Typically, IT service companies are independent from the EHR vendor and may not even specialize in the health care industry. Both the IT service company and EHR vendor can be helpful in finding the right equipment at the best possible price. The IT service company may also supply, install and troubleshoot all devices, including the local area network and routers.

Q&A

What should I look for in an IT service company?

It is ideal to select an IT service company that can monitor the system remotely to detect problems before they become critical. They should also operate a 24/7 emergency number to help solve hardware and software problems that may arise. Ask colleagues about the IT support company that they use. They may be able to make a referral and confirm that your rate is competitive.

Table 1. Hardware needs for different server hosts

PRACTICES THAT CHOOSE:	WILL NEED TO:
<b>Self-hosting</b> , i.e., EHR data resides in the practice. or <b>Outsourced hosting</b> , i.e., EHR data resides with the application service provider.	Acquire and install vendor-specific hardware.
<b>Software-as-a-service or cloud-based EHR</b> , i.e., EHR data resides on the internet.	Have excellent internet connectivity for all devices. This may require a network upgrade or secure wireless routers for internet connectivity.

Source: AMA. Practice improvement series: EHR implementation. 2015.

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### Transfer data

- A. Determine the approach for migrating data from the former recordkeeping system or other PMS modules to the new EHR. A practice can assign existing staff to assist with this process. Alternatively, the practice can hire additional or temporary staff who can upload demographics and past medical, social, family and medication histories prior to the patient’s next visit.
- B. Prepare a checklist of items to be entered into the EHR. This will ensure that no critical information is missed during the transfer.
- C. Establish the amount of time required to transfer information for the average patient. This can help the practice properly distribute workload and set realistic dates of completion among staff transferring data.

## Q&amp;A

**Do I need to transfer all paper documentation into the EHR?**

No. Practices may choose to transfer only information that is critical to the patient's treatment such as:

- Preferred pharmacy
- Medication list
- Allergies list
- Past medical, family and social history
- Immunization history
- Patient registries
- Growth chart (for pediatric practices)
- Pregnancy history (for OB/GYN practices)
- International normalized ratio tracking (for cardiology practices)
- Recent visit notes

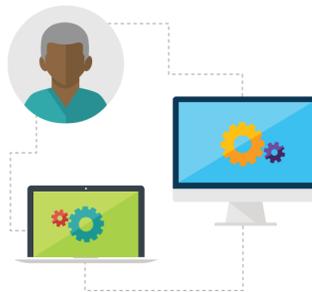
**During implementation, should the practice create paper duplicates of clinical records?**

No. Creating two repositories for medical information will only create more work. It will also lead to confusion because of the lack of version control, as some information may be available on paper that may not be available in the EHR or vice versa. If the practice team is uncomfortable using the EHR for daily clinic tasks, invest time in designing and practicing future patient encounters and other important workflows. This will help the physician and staff gain comfort with the new EHR without the fear of something falling through the cracks.

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**Optimize pre-launch workflows**

It is best to optimize workflows before EHR implementation. Some organizations postpone workflow optimization because they think, "This will all get better when we get our new EHR." Problems resulting from inefficient workflows or insufficient support staff will be exacerbated during the implementation of an EHR.

**For each step, ask:**

- Is it necessary?
- Does it add value for the patient?

- Is it being done in the right order?
- Is it being done by the right person?

**For any step currently being done by the physician, ask:**

- Does this require the skills and training of a physician?
- Can another team member be entrusted with this task?

See the [Expanded Rooming and Discharge Protocols](#) and [Team Documentation](#) modules for more ideas about task-sharing with the clinical team.

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## Consider the room layout

Placement of the computer in the exam room impacts patient care. If the staff and physician must look over their shoulder to see the patient while using the computer, patient communication and engagement suffer. Many organizations have found that a “triangle of trust” with the patient, physician and computer at points of a virtual triangle facilitates effective communication. One way to create this triangular configuration is to use a semicircular desk, which allows the patient and physician to face each other and, as needed, to each turn slightly and include the electronic information source in their discussion. Another option is to place the computer on a cart that can be wheeled into a position anywhere in the exam room to accommodate patient and physician communication.

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## Decide on the launch approach: “big bang” vs. incremental

Some practices convert all users over to the EHR for all functions and all patients on the same day—the “big bang” approach. This has the advantage of minimizing the time spent managing both a paper record and the new electronic system simultaneously. It can also be highly disruptive and small glitches can be amplified.

Other practices implement their EHR incrementally, turning on certain functions in a step-wise approach (i.e., starting with e-prescribing, and a few months later adding visit note documentation functionality). Another incremental approach is to implement the EHR in certain sites or departments and slowly roll out to the rest of the organization, learning and tweaking the process along the way (see Table 2).

Once physicians and staff decide on the launch approach, they can begin to acclimate to the new system in the practice. Different implementation strategies can be used depending on the approach (see Table 3).

**Table 2. Comparison of the immediate and incremental approaches to EHR implementation**

APPROACH	ADVANTAGES	CHALLENGES
<b>Immediate approach (also referred to as the “big bang”)</b>	Eliminates confusion among physicians and staff since all administrative and clinical tasks will be completed electronically. Potential benefits of EHR are realized more quickly.	Requires significant resources and staff support.
<b>Incremental approach</b>	Reduces productivity loss due to operational and workflow changes from EHR adoption. Issues are easier to resolve because they are isolated from other EHR modules or functions. Allows physicians and staff to gradually learn and master the capabilities of the system.	Requires strictly following a work plan to keep implementation phases on track. Requires close attention to hybrid processes because not all tasks are completed electronically. Requires awareness of the different functions that are being launched on different dates.

Source: AMA. Practicexs improvement series: EHR implementation. 2015.

**Table 3. Strategies for immediate and incremental EHR implementation**

STAKEHOLDERS	IMMEDIATE APPROACH	INCREMENTAL APPROACH
Physicians and staff	Mobilize all physicians and staff to use the EHR on the first day of launch. This allows all users to access implementation resources and enables all users to gain proficiency in the EHR at the same time.	Train physicians and staff with basic EHR functions and focus on optimization after the launch is complete. This allows physicians and staff to acclimate to their new system before bringing trainers back to provide additional/ supplemental education. Establish a mentorship program that enables staff with similar roles to share their knowledge and experience with the system, rapidly increasing the level of EHR proficiency in the practice (e.g., physician super user teaches other physicians, experienced LPN shadows a medical assistant). Start with an enthusiastic and prepared physician and/or staff member using the EHR the first week and gradually increase the number of physicians and staff using the system.
Patients	Use the EHR for all patients in the practice. This approach can minimize variation of protocols used for different patients and appointment types.	Use the EHR according to visit type (e.g., new patients only and patients that made appointments). Use the EHR according to number of patient visits per day (e.g., a few patients on the first day of implementation and increase the number of patient visits documented in the EHR per day over time).

Source: AMA. Practice improvement series: EHR implementation. 2015.

Q&A

Can you give an example of an EHR implemented according to visit type?

A multispecialty practice or a practice that cares for obstetric patients may use the EHR only for new patients for the first week. The second week, they may expand to using the EHR for all patients.

Can you give an example of an EHR implemented according to the number of patient visits per day?

On the first day of implementation, the practice may use the EHR for the first patient every hour and use the EHR for the entire visit from check-in to check-out. After the first day, they may increase the number patients being entered into the system to two per hour. Starting the second week, the practice may feel comfortable using the EHR for all patients in the morning session and could use a hybrid system during the afternoon session. By the third week, the practice should feel comfortable enough to document all patient visits in the EHR.

How can I ensure that patients understand the changes in the practice?

Communicate with your patients about changes in the practice. They will appreciate the transparency. For example, staff can contact the patient and let them know to arrive a few minutes early for their appointment and that the visit may be lengthier than they are used to because staff are still getting acclimated to the EHR. Setting expectations prior to a visit lets patients plan ahead and prepare for any delays. In addition, some practices provide informational brochures or place signs in the office to increase awareness about changes in the practice and how they impact the patient.

I am interested in the incremental approach. Which EHR functions should I start with?

Typically, physician practices that choose the incremental approach start with a specific function such as:

- Physician orders (e.g., e-prescribing and laboratory and diagnostic tests)
- Procedures completed by staff (e.g., injections and casts)
- Chief complaint
- Patient history
- Patient vitals
- Procedures
- Phone messages
- Referrals
- Laboratory interface
- Physician visit documentation (e.g., history of present illness, review of systems, exam, assessment and plan, evaluation and management coding and electronic billing)

Certain modules or functions should always be implemented at the same time to reduce or eliminate confusion among physicians and staff. For example, staff can enter all referrals and phone calls into the EHR. This ensures that all information is centralized in one location. Similarly, the e-prescribing module should be used for all patients when activated.

We anticipate that the launch will be stressful despite our best efforts. Is there anything else we can do to make it easier?

For the first week or two of launch, it is helpful to have super users or vendor-supplied trainers in every clinical area to answer questions. If possible, decrease physician schedules for the first few weeks following go-live to allow the physician and care team to adjust to the new system without having a negative impact on the quality of care they are giving to patients. Super users can have scheduled monthly check-ins with the team for the first year after implementation to help the physicians and staff acclimate and improve over time. In addition, it is best not to embark on any other major strategic initiative in the first 12 to 18 months after EHR implementation to avoid change fatigue.

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### Develop procedures for when your EHR is down

What will you do in the event of a power outage or severe system malfunction? It is wise to develop procedures for periods when the EHR is down so that physicians and staff have clear instructions about workflows when the EHR is unavailable. Some key components of downtime procedures include how the downtime will be communicated to physicians, staff and patients and how the patient care flow will continue (e.g., check-in and visit documentation). Downtime procedures and supplies should be available electronically and on paper for greater accessibility. Some practices compile the procedures in a three-ring binder and store additional copies offsite.

[Developing procedures for times when EHR is down](#)

(MS-WORD, 34 KB)

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## Initiate training

Training staff and physicians is critical to ensuring EHR implementation success. Create a training plan to make sure everyone has the necessary knowledge and skills to use the EHR at the time of launch. A few guiding principles can help:

### A Go slowly

It is best to provide users with basic skills in preparation for launch. It is difficult for users to absorb more than this without having used the software in practice. Later, after the users have had a chance to “drive” the EHR for a week or so, conduct additional training to help users refine their skills and learn more time-saving tricks, such as developing smart sets and other preferences. This is a good opportunity to develop smart sets and discuss downtime procedures.

### B Arrange for colleagues to teach each other

Whenever possible, train super users in each specialty and for each type of role. Pediatricians learn best from pediatricians; surgeons learn best from surgeons; nurses learn best from nurses. As proficiency with the EHR grows, these super users can then be an ongoing resource to their colleagues.

### C Plan for ongoing training needs

In addition to pre-implementation training, practices should have a plan for ongoing learning and improvement. After several months, many users will develop shortcuts or find new functionalities that they can share with colleagues. Over time, there will also be EHR updates with new and/or improved functionality, which will require additional training. Some opportunities to effectively handle these situations include:

- Develop a platform for submitting and tracking EHR enhancement recommendations so that the change team can actively set improvement priorities. Encourage users who are constantly interacting with the system to actively engage in improving the EHR. They can openly share their input and offer solutions for enhancing usability. This could be a formal tracking system or in an online discussion forum that allows for the sharing of useful tips and tricks.
- Establish a mechanism for continuous EHR customization. After physicians and staff have acclimated to the new EHR, they may find that minor modifications to the system can improve their workflow.
- Maintain a relationship with the EHR vendor and engage ongoing IT support to:
  - Develop new or further customize templates for data entry
  - Revise or reformat forms and letters that are generated by the EHR
  - Enable new clinical decision support rules if available
  - Modify order sets as medical knowledge advances or other health care entities change their service offerings
  - Identify opportunities for integration with other systems that are commonly used in the practice or by other providers
- Plan ahead for any necessary group training related to system updates and new functionality. It is likely that practices will have to take time away from seeing patients to attend training. Preparing ahead of time creates less disruption for the practice and its patients.

Q&A

What training assistance can I expect from my EHR vendor?

Vendors offer different levels and types of training. They may provide written materials, online instruction, remote instruction (e.g., webinars or conference calls), onsite training and/or offsite training. Be sure to address this with your vendor during the contracting phase to ensure adequate training before, during and after implementation. The project manager, lead super user and any additional super users the practice chooses to designate will likely receive more thorough training.

Where else can we get practical advice?

Site visits to other practices that use the same EHR can be helpful. The EHR vendor may be able to connect the practice with a similar client if you are unaware of another practice in your area that uses the same system. Be aware that functionality may differ slightly depending on the system version and functionality purchased.

Should we build all of the documentation templates during training?

A few custom templates for the physicians' most common encounter types can be built before launch, but it is generally best to wait until after the physicians and staff have gained some experience before building the majority of their templates. The better they know the EHR, the better they will be able to anticipate how to leverage the technology to meet their needs in the most straightforward way (e.g., which templates should be built for which portions of the patient visit and for which type of encounter). Work with your lead super user or vendor to continue to modify the practice templates to make the team more efficient.

We are concerned about the diminished quality of the patient-physician interaction that others report after implementing their EHR. Do you have any suggestions?

Studies show that the first minute with the patient is critical to establishing rapport. Physicians and other staff can be taught to attend first to the patient and then to the computer. When documenting visit details in the EHR, explain to patients that you hear them and are carefully recording what they're saying. Make sure the computer is set up in the room so you can address documentation needs while facing the patient, making eye contact at every possible opportunity. Once you and your staff are comfortable with the new EHR, you can also consider implementing **team documentation**, which can allow for more face-to-face interaction between the patient and physician.



“Redesign work for a successful EHR transition #STEPSforward”

## Conclusion

The strategies and tactics presented in this module will aid you in thoroughly understanding your practice's specific needs—from the team who will lead the rollout to the software and hardware options to the layout of your office—to successfully implement an EHR.



### Introduction:

Increasing administrative responsibilities—due to regulatory pressures and evolving payment and care delivery models—reduce the amount of time physicians spend delivering direct patient care. Technology can make some processes more streamlined (e.g., billing and accessing patient historic data), and it can also make certain processes more cumbersome (e.g., documenting a multifaceted patient visit). Pressures from government and regulatory agencies continue to grow as technology becomes an increasingly important element of providing safe, high quality patient care. Electronic health record (EHR) implementation will guide physicians and their teams through the process of activating the selected EHR in the practice setting.

### Learning Objectives:

At the end of this activity, you will be able to:

1. Identify who should be involved on an EHR implementation team
2. Describe strategies to implement an EHR system in your practice
3. Compare immediate and incremental approaches to EHR implementation

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