Electronic Health Record (EHR) Implementation

Ease the transition from paper to EHRs.

CME CREDITS: 1.0

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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

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.

Electronic Health Record Implementation
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Objectives
At the end of this activity, participants will be able to:
1. Implement a new EHR in the physician practice
2. Transfer select data into the new EHR for launch
3. Determine whether to launch incrementally or immediately
4. Choose the exam room design and hardware that will best meet physician and patient needs
5. Identify financing options for purchasing the EHR

Target Audience
This activity is designed to meet the educational needs of practicing physicians.

Statement of Need
Activating a new electronic health record (EHR) in the practice will require a redesign of clinic workflows. There are many changes that the care team will have to anticipate for a smooth transition to the new electronic record. Patient visits will be documented differently, and it may make sense to have clinical support staff (e.g., nurses or medical assistants) become more involved in elements of the patient visit that had previously been completed by physicians (e.g., patient rooming activities). EHR implementation will aid practices through the process of implementing a new EHR. It will help physicians and their teams prioritize their needs and their patients' needs to make the most efficient and seamless transition possible. A successful EHR activation will enable the technology to be leveraged to provide the highest quality, safest patient care possible.

Statement of Competency
This activity is designed to address the following ABMS/ACGME competencies: practice-based learning and improvement, interpersonal and communications skills, professionalism, systems-based practice, interdisciplinary teamwork, quality improvement and informatics.

Accreditation Statement
The American Medical Association is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Credit Designation Statement
The American Medical Association designates this enduring material for a maximum of 1.0 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Claiming Your CME Credit
In order to claim *AMA PRA Category 1 Credit*™, you must 1) view the module content in its entirety, 2) successfully complete the quiz answering 4 out of 5 questions correctly and 3) complete the evaluation.

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About the Professional Satisfaction, Practice Sustainability Group
The AMA Professional Satisfaction and Practice Sustainability group has been tasked with developing and promoting innovative strategies that create sustainable practices. Leveraging findings from the 2013 AMA/RAND Health study, "Factors affecting physician professional satisfaction and their implications for patient care, health systems and health policy," and other research sources, the group developed a series of practice transformation strategies. Each has the potential to reduce or eliminate inefficiency in broader office-based physician practices and improve health outcomes, increase operational productivity and reduce health care costs.

Disclosure Statement
The content of this activity does not relate to any product of a commercial interest as defined by the ACGME; therefore, neither the planners nor the faculty have relevant financial relationships to disclose.

Media Types
This activity is available to learners through Internet and Print.

References
1. American Medical Association. *Health information technology*. April 2011. Accessed July 14, 2014.

2. Sandoval M, Palumbo MV. Electronic health record communication skills. University of Vermont; 2013. Accessed January 21, 2015.

3. Cresswell KM, Bates DW, Sheikh A. Ten key considerations for the successful implementation and adoption of large-scale health information technology. *J Am Med Inform Assoc.* 2013;20(e1):e9-e13.

ⓘ 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

1 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 Heath 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.

2 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.

3 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:
Self-hosting, i.e., EHR data resides in the practice. or **Outsourced hosting**, i.e., EHR data resides with the application service provider.	Acquire and install vendor-specific hardware.
Software-as-a-service or cloud-based EHR, 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.

4 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&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.

5 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.
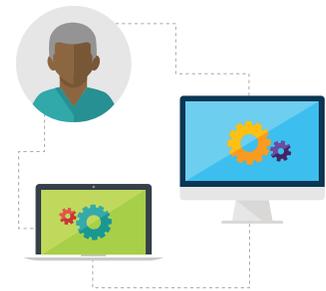
6 Consider the room layout

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.

7 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).

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. 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.

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 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?

The following training tool can help providers avoid some of the common pitfalls in patient communication after implementing an EHR. 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 the patient 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.

8   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.

DOWNLOAD Patient Registration Form

9   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.

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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.

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.

To demonstrate completion of this module and claim *AMA PRA Category 1 Credits*™*,* please visit:

www.stepsforward.org/EHRImplementation

Get implementation support

The AMA is committed to helping learners implement the solutions presented in this module. If you would like to learn about available resources for implementing the strategies presented in this module, please call us at (800) 987-1106 or click here to send a message to StepsForward@ama-assn.org

References

1. American Medical Association. *Health information technology*. April 2011. Accessed July 14, 2014.

2. Sandoval M, Palumbo MV. *Electronic health record communication skills*. University of Vermont; 2013. Accessed January 21, 2015.

3. Cresswell KM, Bates DW, Sheikh A. Ten key considerations for the successful implementation and adoption of large-scale health information technology. *J Am Med Inform Assoc*. 2013;20(e1):e9-e13.