



MedicalManagement
turning good practices into great businesses



EMR Framework

Adopting an Electronic Health Record (EHR) is a complex journey. Setting the right strategy, picking the right software, managing implementation, providing ongoing support and maintenance, and finding the best way to pay for it are all parts of bringing your practice to the new technology-enabled reality. We know how busy you are with patient care and practice operations and how difficult it is to step away from it all to think about what EHR adoption means for your practice.

ALN values your time and has developed this practical EHR Framework to help practices work their way through the EHR adoption decision process and set realistic expectations, goals and timelines. It consists of 8 dimensions, each covering three phases of the process: decision making, implementation and operations

← Phases →

Decision Making Phase

Implementation Phase

Operations Phase

Dimensions

- Strategy:** How will the practice operate and compete differently after the EMR?
- Business Case:** What are the costs, benefits, and associated ROI of the EMR?
- Leadership:** Who will lead this effort, from both physicians and administrative staff?
- Partners:** Will you partner with multiple technology vendors, or a single accountable partner?
- Software:** Will the chosen software deliver your needs, and be sustainable over the long run?
- Infrastructure:** Will you locate the software on local servers or use a hosted model?
- Data:** How will you use and exchange data to change patient care and practice management?
- Change Management:** How will you manage the impact on the practice from the EMR?

Strategy

How will the practice operate and compete differently after the adoption of Electronic Health Records?

One of the most important steps when adopting EHR is developing a strong strategy; a plan of action designed to achieve your goals. The most common mistake that practices make when deciding to adopt an EHR is to rush through the planning process. An EHR is not just a means of digitizing paper charts and automating processes, it is a tool to help you make clinical decisions and enhance patient care. Just as each practice is different, each EHR adoption strategy must also be different, designed to effectively enhance the workflow of the practice.

1. Define your current workflow.

Take time to document the daily work flow of everyone at the practice. Collect details on current paper processes including forms and flow sheets. Determine what information is being accessed, reviewed and documented in the paper chart. Take note of the current communication methods with staff, patients, other providers, pharmacies and labs. Document workflow both inside and outside the four walls of your practice.

2. Identify what works well and what doesn't.

This step will define what your EHR needs to do for you. Discuss where you'd like to see changes in work flow and performance and what they would look like.

"When looking at workflow, ask yourself, what happens when a test result comes in, what steps occur in the paper world that get that test result to the provider and the provider making their decision and the result getting to the patient. What is the workflow and how can you improve it; make it faster and more efficient using technology?"

Susan Thomas, MD, FAAF

3. Define your desired outcome.

Think of the future and what you are trying to accomplish. Identify your plans for growth, such as adding providers or locations. Recognize if your desired outcomes are financial or clinical in essence. Ask yourself if your long term patient care and financial goals will require special data and evaluate how efficient data capturing will impact these goals. Consider

how changes will strengthen your practice and its reputation with patients, referrals and staff.

4. Become familiar with the HITECH Act¹.

HITECH is driving the immediate adoption of EHR and providing those who qualify for a financial incentive to do so. Understand the qualifications to receive incentives including the criteria for an "Eligible Professional"², using a "Certified"³ EHR and demonstrating "Meaningful Use"⁴. Whether or not you take advantage of the financial incentives, be aware of the bigger picture of HITECH and how this program will impact the future use of your EHR.

HITECH's objective is greater than the movement to an electronic chart. It is the use of EHR as an application for information sharing and data exchange that supports a transformation of healthcare - an industry-wide vision. To learn more about the HITECH Act and how you can qualify for financial incentives, see the [reference page](#) and attached [Final Rule on Meaningful Use Summary](#) at the end of this document.

5. Do your research.

Conceptualize how EHR can help you meet your goals. Talk to those who are using EHR. Learn which systems can provide you with the features you need. Get hands on experience with the systems that you are considering and learn for yourself if the system is easy to use and right for your practice.

HINT: Committing your strategy and goals to writing will keep you on track through the adoption process and long after. Refer to them often throughout the process and after go-live to assess performance. Don't worry about making it perfect from the beginning. Get started and make changes where appropriate - the answers will come.

The development of your strategy will be followed by the completion of your project plan, time and resource allocation, budget, software selection, infrastructure requirements, implementation and training plan, integration and customization needs.

- 1 HITECH ACT
- 2 Eligible Professional
- 3 Certified EHR Definition
- 4 Meaningful Use Criteria

Decision Making Phase

- What is the strategy of the practice today (who does it serve, how is it different from other practices, what is the economic model)?
- How will the strategy change with the implementation of the EHR?
- How will the EHR change the delivery of patient care, internally and in conjunction with other care providers?
- How will practice management and daily operations change with the EHR?

Implementation Phase

- Have you outlined clear goals for the implementation?
- Will the approach to implementation produce the desired changes to the practice?
- What else needs to change about the practice, concurrent with the implementation of the EHR, to reach the business objectives?
- Who, outside the practice, needs to be involved in this change?

Operations Phase

- Which assumptions behind the strategy proved to be true, and which were not valid?
- Is the new strategy aligned with the evolving market realities?
- How does the strategy need to expand or evolve now that the EHR is implemented and operational?

Business Case

What are the costs, benefits, and associated ROI of the EHR?

EHR is one of the biggest, if not the biggest, financial investments you will make in the life of your practice. Gaining a clear understanding of both cost and benefits, and ultimately how they tie into your business strategy, will provide you realistic ROI expectations and keep you from unwise adjustments when looking at numbers. This section will give you an idea of what to expect in financial terms, performance improvements and outcomes.

Costs: EHR costs need to be estimated and budgeted at the front end of the decision process. Don't try to pencil the numbers to make them work. There are two groups of costs: external and internal.

- *External costs* include hard costs such as your software and hardware and the soft costs associated with the set-up and maintenance of the software and hardware, and can be minor when compared to internal costs.
- *Internal costs* include management, staff training and lost revenue resulting from the temporary slow-down in the appointment schedule, especially if not accounted for from the beginning. Underestimating internal costs inevitably leads to failure.

"[The] cost of purchasing EHR is not the price. Price is inconsequential compared to the cost of change management, training, support...and ultimately using the tool to generate better data."

David Ehrenberger, MD

1. External Costs

Note that external costs will vary by vendor, practice size, contract negotiation leverage and how much you do yourself versus how much you use a 3rd party.

External Costs		
	One-Time Costs	Ongoing Costs
Physician/Staff Time <ul style="list-style-type: none"> • EMR/PM • Bolt-On Applications 	License purchase Vendor set-up fees	Annual Maintenance, or monthly rental
Hardware <ul style="list-style-type: none"> • Servers • Office Infrastructure • Connectivity 	Server purchase Desktop/laptop/tablet purchase WiFi installation Internet upgrade	Server maintenance/upgrades, or monthly hosting Office infrastructure maintenance/upgrades WiFi maintenance Monthly internet fees
Support <ul style="list-style-type: none"> • User support • Break/fix support • Software upgrades 	None	Monthly support fees Urgent support surcharges Upgrade fees
Services <ul style="list-style-type: none"> • Set-Up • Implementation • Custom development 	Database set-up Workflow consulting Training Report, forms and interface development Project management	Follow-on training Report, forms and interface development
Transaction <ul style="list-style-type: none"> • EDI/ERA • Eligibility verification • eRx 	Set up fee	Per transaction feed (or flat per provider fees) Non-participating payer fees

"Lost revenues are dependent upon the costs of soft tasks. Whether you lose money or reach neutral depends entirely upon the sophistication and best practices of the implementation itself. I look at it as a Successful Implementation Bundle.
 1. At end of implementation, providers are using EHR at 100%
 2. You've achieved minimal impact on productivity - defined as 5% or less.
 3. You've accomplished the above in such a way your providers aren't working overtime - defined as not working more than one hour overtime for up to one year."

David Erhenberger, MD

a. Software: There are three general pricing tiers for EHR software. Each tier offers differentiated service so it is important that you don't make a decision solely on price. Look for software that fits your strategic goals and provides the level of customization, integration and reporting you need to achieve them. Furthermore, look for software that is capable of staying afloat amidst the competition. One of the biggest mistakes you can make is to choose a vendor that will not be around a few years from now.

There are two options when purchasing software - buy or rent. Renting is also known as SaaS (Software as a Service). In addition to out-of-pocket price differences for your software, you should also understand the impact of hardware costs for running and maintaining the software.

Software Costs

Purchase vs. rent (SaaS, ASP)

- Initial license purchase + annual maintenance/support
- Monthly fee (combined with hosting fee)

Pricing basis: Provider vs. user

General pricing expectations (per provider, PM + EMR)

	Top Tier	Second Tier	Lower Tier
Purchase	\$11,000 – \$14,000	\$7,000 – \$9,000	\$0 – \$5,000
Annual Maintenance	\$2,000 – \$3,000	\$1,200 – \$1,800	\$0 – \$1,000
SaaS Fee* (per month)	\$700 – \$900	\$500 – \$750	\$0 – \$400

*SaaS Fee also includes hosting and support

b. Hardware: Just like software, you can buy or rent your hardware. When making this decision understand the complexity and total cost of building an in-house infrastructure versus renting. If you own your own infrastructure, plan to replace hardware every 3-5 years. You can also expect to spend 18-20% of the hardware price for annual maintenance. In essence, you've repurchased your hardware after five years – a little more if you've received services and upgrades in this cost.

In the SaaS model, the cost for software, much of the hardware, and maintenance are bundled in a manageable, consistent fee,

eliminating unexpected future investments. Necessary hardware specifications will depend on your PM/EHR software and hosting situation.

As reflected in this table, make sure you include not just the big hardware purchases when building your budget, but smaller purchases as well. Factors such as your wireless internet and bandwidth requirements must be defined if you want to represent the true hardware costs associated with implementing your EHR.

Hardware Costs	
One-Time Costs	Ongoing Costs (per month)
Purchase: In-House Infrastructure	
Application Server \$10,000 - 12,000	Network Engineer \$350 - 400
Test Server \$5,000 - 7,000	Systems Engineer \$1,250 - 1,800
Fax Server \$2,000 - 3,000	Database Admin. \$350 - 400
Terminal Server* \$4,000 - 6,000	
<small>*Terminal Server required if a practice has multiple locations</small>	
Rent: Hosted Infrastructure	
None	Per Provider \$150 - 300
Local Office Infrastructure	
Internet Connectivity	None
Local Office Network, WiFi	
PCs: desktops, laptops, tablets	
Printers	
Document Scanners	
Card Scanners	

c. Professional services. Costs will depend on numerous factors including size of the practice, number of locations, scope, training approach, hourly rate, remote or on-site training, fixed fee or a cost-as-incurred model and demand level.

Professional service fees can range from \$80-\$225 an hour. You can expect to pay \$125-\$135 per hour as a typical weighted average for professional services and more for on site time. Some services may have minimums. In addition, you should budget for travel expenses if not using local services. These costs depend greatly on the approach and can range from minimal to 25% of the professional fees. Actual expenses may be greater than the original quote if the scope of the project expands. Consider different options for training when using professional services...

- We train, you implement (more hours charged).
- We train your 'Super User' who will train everyone else (requires fewer training hours, but more of your staff's time).

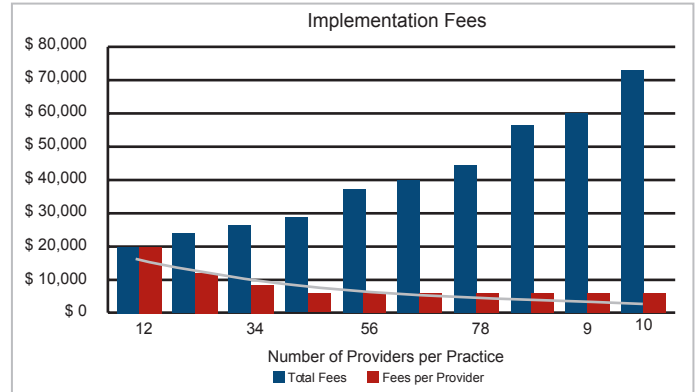
Professional Services	
Set-up Database configuration User set-up Practice information load: - payers, referring physicians, etc.	Pre/Post conversion support Intensive support around go-live dates One-on-one coaching for physician users Continuing 'optimization' consulting
Process redesign Workflow changes Job description/ role changes Policy changes	Change management Communication strategy Benefits realization focus Strategic repositioning of the practice
User Training Software administrator Staff and physician users	Project management Project planning Resource coordination Issue resolution

HINT: When assessing professional service billing rates, remember, paying more now to get it right is less expensive than paying to recover from bad implementation.

Economies of scale. Software, hardware, and licensing are fairly linear – two providers are twice as expensive as one provider. But economies of scale can be realized in some instances.

First, practice size. The most cost effective EHR implementation is usually with a 7-10 provider practice. Price doesn't adjust down with fewer providers. Fixed expenses such as training and implementation spread over a smaller group results in fewer physicians to bear the cost.

Second, multiple locations. Unless you can bring office staff and providers from other locations together, you will pay additional implementation and training costs.



d. Interfaces: Interfaces enable you to exchange data with other systems such as hospitals, labs, imaging facilities, registries, and referring providers. Exchanging data is a critical part of the HITECH vision for improving administrative efficiency and enhancing patient care and will require bi-directional interfaces. Do your research. Understand limitations of other facilities. Verify the interfaces current capabilities and, if they don't have it now, timing for bi-directional capabilities. Establish a budget for interfaces and customization of EHR up front.

As a general rule, the larger the practice, the more integration and customization is needed. Two to three interfaces in a large physician practice is common and a good estimate to begin with.

Interfaces
Interface Types HL7 Document CIIIS Medicaid devices
Expected Costs \$3,000 - \$10,000 per interface for development It depends. Bi-directional vs. Uni-directional. Extract vs. HL7 May have additional hosting maintenance fees
Other Money Sources Labs Hospitals RHIOs Other entities: IPA, MSO, etc

HINT: Look in your community for financial funding sources for interfaces and information exchange. There are grants for immunization data exchange and some hospitals and lab vendors are subsidizing their interfaces.

2. Internal Costs

Internal costs are revenues lost from the time your practice spends working on EHR implementation versus their regular daily tasks. It is important to have clear expectations on lost revenues, including cash out of pocket and lost productivity. Implementation is where you will invest most of your time and resources. It is also where you can control costs and realize benefits by having a well defined plan, the right resources doing the right tasks, identifying issues and making changes quickly, and staying on time. Keep focused.

Soft Costs		
	One-Time Costs	Ongoing Costs
Physician/Staff Time <ul style="list-style-type: none"> • Training • Pre-Load • Application admin • Communication • Project management 	Process redesign work Training sessions Initial reduced productivity Pre-load (paper chart load) Practice communication meetings	Application/user admin New employee training time Ongoing communication
Lost Revenue <ul style="list-style-type: none"> • Reduced patient volume 	Reduced physician productivity (fewer charges) during initial implementation	None

The financial benefits are small compared to the non-financial. Financial benefits include such things as improvement in revenue cycle; reduction in unbilled services, days in A/R, denials, time savings and some small paper supply and storage efficiencies.

Included in financial benefits are the HITECH¹ financial incentives. Although HITECH financial incentives shouldn't be the only reason you decide to adopt EHR, it certainly can help lower some of the out-of-pocket investment. If you meet the criteria for Eligible Providers² and can prove 'Meaningful Use'³ of a Certified⁴ EHR, you can qualify to receive up to \$44,000 per provider in HITECH financial incentives. Providers that don't adopt EHR and demonstrate 'Meaningful Use' will be subject to penalties in reimbursement beginning in 2015.

"EHR should be viewed as an investment for the financial health and stability of your practice and not just perceived as a cost."

Mary Bryars, MSHA

Non-financial benefits are extensive and include data accessibility, information management, standard practice maintenance, risk reduction, brand and competitive advantage and 'customer' (staff, patients, stakeholders, and partners) satisfaction.

The most valuable non-financial benefits of EHR are the collection, exchange, and use of data to support better decision making and higher quality healthcare. As you begin using your EHR, you will discover its ability to create new models of care and how that favorably impacts your practice. You will also realize that data will give you greater business intelligence to analyze where your strengths and weaknesses reside, and to position your practice for success with contracting leverage, pay-for-performance plans, and accountable care organizations.

"Think strategically about costs and benefits. Goals should be ROI neutral or 10% positive from better charge, coding, and contract performance. You will achieve much greater ROI if you become king of your data. ROI is the possession of valuable data and being able to use it to demonstrate quality care."

David Erhenberger, MD

- 1 HITECH ACT
- 2 Eligible Provider Criteria
- 3 Meaningful Use
- 4 Certified EHR

3. Misc 3rd party costs

Many features of EHR are 3rd party programs that the vendor has integrated into their product. 3rd party costs include: the clinical content library, eRX software and fees, fax server software, document management software, the patient portal, secure messaging systems, CPT code updates, EDI/ERA set-up fees and training materials. It is important to monitor these costs. If you're not sure you understand them, have your vendor line-item these features on your invoice every month.

Financial and non-financial benefits of adopting EHR

Ultimately, you adopt EHR for the financial and non-financial viability of your practice. Therefore, it is important that you set the right expectations on how EHR adoption will affect your practice in both of these areas.

Decision Making Phase

- What is the compelling business reason to consider moving to an EHR?
- What impact will an EHR have of the strategy/ positioning of the practice?
- Where are all of the costs (3rd parties, salaries, lost productivity, and revenue) required to implement an EHR?
- What are the financial benefits (increased provider productivity, lower staff costs, reduced 3rd party fees, better coding and charge capture) that will be realized from an EHR?
- What is the timing of the cost outlay and benefit realization (up-front capital required)?

Implementation Phase

- Does the implementation approach align with the goals of the business case?
- Have you allowed for the staff time required for implementation?
- Does the implementation approach work to align the timing of cost outlays and benefit realization?
- Is the project scope being controlled to conform with the business case?
- Is implementation preparing the practice to qualify for HITECH subsidies (getting to meaningful use)?
- Is there a focus on early financial wins?

Operations Phase

- Is there a clear leadership focus on making the necessary changes to align with the business case?
- Have you established the tools and processes to measure the realized benefits?
- Is there an emphasis on realizing benefits (revenue increases, cost reductions)?

Leadership

Who will lead this effort, from both physicians and administrative staff?

Appoint a leader from day one and your odds for a successful EHR adoption will increase. Select a leader who has a vested interest in your EHR adoption, is willing to invest the time, and who possesses the right qualities:

- ability to influence and enlist the support of others
- well respected by other providers, clinical and administrative staff
- clearly sees the vision and can maintain and communicate the vision throughout the process
- able to set strategy and goals and keep everyone on course to achieve them

The scope of EHR is broad and affects all aspects of the practice including clinical, financial and operational. It will impact every member of your staff, therefore, your leader should know all the members of the staff and be able to lead and communicate at all levels. Your EHR adoption will be much more successful if you include the entire staff in the overall vision and strategy and help them understand how it will affect them.

Many tasks in the EHR adoption process can be assigned to staff members. You may include everyone or only certain individuals on your project team, but everyone needs to understand their role in the process. Because of the strong tie between business and clinical activities, the administrator should be considered a valuable resource. Individuals must own their part of the process, and it helps if the leaders provide a clear, written plan outlining the team member's roles. Make changes to the plan, as necessary, and be sure a physician leader is supervising.

HINT: Depending on practice size, consider assigning co-leaders.

Communication is paramount. The physician leader must be a great listener and able to open, promote, and direct dialogue between themselves and individual team members. Set expectations, and have regularly scheduled meetings with an agenda. Develop procedures on how to raise issues and the methods

you will use to resolve them. Be clear about your availability and when best to be approached. Set aside realistic daily or weekly meeting times, during office hours or outside of office hours, when your staff can expect to have your attention on non-urgent EHR matters. Stay consistent.

This is not an endeavor everyone has the skill set to lead. Recognize where you need help. Engage external resources for support. A partner that has project management experience, knows the technology, and understands the intricacies of adopting EHR can easily identify your plans strengths and weaknesses and help you avoid mistakes learned from others. The right partner can be with you through the entire process; from planning, implementation, product selection, and training to ongoing support.

“Physician leadership is critical in every aspect of business including EHR. However, with the skill set required, we need to recognize and accept provider limitations. In my experience, several physicians took on the championship role and various aspects of the implementation piece. One was more passionate about working through the templates and another better at working through software selection and what product is most appropriate for the practice.”

Mary Bryars, MSHA

The physician leadership role is an unending responsibility; a long-term position that doesn't stop at go-live. Your EHR will take you well into the future and evolve as the industry learns more about how it can be used to improve the way patient care is delivered. Once EHR adoption has become operational, it is important to continually schedule time to evaluate your EHR performance and how it's meeting the vision you set forth. Reassess your strategy once a year and consider adjustments where necessary. Identify where staff members may need additional training or a refresher on a specific feature or function. Be prepared to identify problems and initiate change.

Your physician leader needs to want to lead. They need to make time to do it. They need to show they care.

Decision Making Phase

- Who are the physician and management champions that are committed to leading this effort?
- Are the champions fully vested in the success of this effort?
- Are they committed to the vision of a practice enabled by an EHR?
- Have the champions cleared their schedule to provide the time necessary to lead the effort?
- Who will be responsible for the project leadership of the specific areas (i.e. project management, clinical changes, RCM changes)?

Implementation Phase

- How will the leaders stay visible during the implementation?
- Are the champions personally involved in using the EHR early in the implementation process?
- What is the process for making decisions; identifying and resolving obstacles?
- How will the champions keep the focus on the big picture strategy and the big reasons for making this change?
- Do the champions have the ability and credibility to lead the team?

Operations Phase

- How will the leaders work to align all aspects of the practice culture and operations with the strategy?
- What will leaders do to make sure the changes 'stick' and become standard operations for the practice?
- How will leaders press the organization to make sure the expected benefits (quality of care, financial, operational efficiency) are realized and sustained?

Partners

Will you partner with multiple technology vendors, or a single accountable partner?

EHR adoption requires an investment of time and resources, therefore, practices often choose to involve outside partners to support the process. Identify early on if you have the internal labor resources, time, and expertise to dedicate to EHR adoption and where you may need help. The sooner you plan to involve partners, the higher your chances are for success.

“Physicians may not be able to manage the EMR process alone and need to develop a partnership between them, the practices business leadership team and external resources. Just as a physician refers patients to other providers in areas outside their expertise, so should they seek outside support from those with EMR experience beyond their own”

Mary Bryars, MSHA

There are two roads to go down when choosing a partner: technology ‘*vendor*’ or technology ‘*integrator*’. Their differences can be significant.

The *vendor*, usually a software vendor, knows the product well and can assist in set-up and training. They may include ongoing technology upgrades, but their work usually ends after go-live. Their focus is ‘does the software work’. Many times, their skill-set doesn’t include the leadership bandwidth needed to support the entire EHR process or the ability to make the ‘practice work with the software’, which could require bringing additional partners on your team with the skill sets they lack.

An *integrator* is a partner responsible for the entire process, has the relationship with the software provider, specifies the right hardware and provides training and consulting. They possess the right mind and skill set for project planning and management, conceptualizing strategies, designing and working from a plan, conducting status meetings, maintaining scope control and possessing the unique ability to resolve issues. Integrators are accountable for results and responsible for the goals you’ve set throughout the process and after.

There are standard implied billing rates for skill sets necessary to do the work. Rather than just considering price, look also at skill set. Focus on experience, rather than titles alone. Choose a partner with experience in the details of EHR from beginning to ongoing; project planning, management and assessment, software and hardware selection, set-up, support and maintenance, implementation, training, integration, customization, reporting. Dedicate time to evaluate the differences between the two to assure your EHR needs are met.

Identify what resources you need to manage outside partners. If using more than one, know how you will bring them together to form a solid team. Success will require a written plan with timelines, good communication, shared goals and expectations. The right partners can pave the way for a better implementation.

Professional Service Expenses

Billing rates

\$80 - 225 an hour
Remote Service rates: \$130 - 150 an hour
Onsite service rates: \$160 - 180 an hour
Onsite time may have a minimum rate

Travel expenses

Depends greatly on the approach
Can range from minimal to 25% of the professional fees

Decision Making Phase

- Will the practice work with multiple vendors directly (software, hardware, services) or use a single partner, responsible for the entire process?
- Do you understand the capabilities and scope of a software vendor vs. a partner?
- Are the partner(s) roles/ responsibilities clearly defined and aligned?
- How many partners can you manage?

Implementation Phase

- Is the partner(s) approach to focus on just the software, or the practice’s strategy, business change, getting to meaningful use, and tangible benefits?
- Are the various fees consistent with what is necessary to reach the practice’s business objectives?
- How capable are the partner(s) at the project management function?

Operations Phase

- How will scope changes be managed?
- How does the partner(s) role continue beyond implementation?
- Are the partner(s) responsible for assisting with benefits realization?
- What is the ongoing technical support that will be provided by the partner(s)?
- What is the partner(s) role in future technical upgrades?

Software

Will the chosen software deliver your needs, and be sustainable over the long run?

The market is currently flooded with EHR software vendors all vying for your attention. It is important that you keep an eye on the big picture and avoid getting caught on promises and too focused on software. Remember software selection makes up only about 10-20% of your EHR project.

When selecting software, don't walk in blind. Come up with a wish list before researching and looking at demos. Document daily workflow, and understand exactly how you deliver patient care on a daily basis. Identify your long term expectations, and the things you want to gain from your EHR that you have limitations on now. Your EHR should run your practice for 10-20 years. Choose software that can grow with you. Include plans for additional locations and more providers. Tie your wish list back to your strategy.

It is difficult to know what to look for or ask for in an EHR product when you've never used one. Many processes will be reviewed during planning; some of your current processes will still work and some will need to change. You can then go online, research what is available, and participate in vendor demonstrations. You can also engage experts to help you understand what to look for, especially in the area of data exchange.

"Don't cut corners. Do your research and get a system that could grow with you. Having seen providers go through 2 or 3 EMR's, I knew going in I didn't want to go through the process twice. I saw a lot of systems geared toward family practices that were small and less customizable, less broad, less expensive. I focused on a product that could grow with me in case I added locations and providers. One with interface capabilities like linking to laboratories, ability to customize and integrate patient portals. It was more than what I needed at the time, but I am extremely happy and know I don't need to go look for something bigger and better."

Markham McHenry, MD

As part of your research, it is imperative that you understand two primary long-term goals:

1. *Understand HITECH.* If you are a candidate for HITECH financial incentives, you are required to use certified software that allows you to fulfill meaningful use criteria to prove data collection and exchange. However, even if HITECH financial incentives are not in your plan today, collection and exchange of patient care data is a long term vision for the entire healthcare industry and you may be creating risks for your practice if you don't choose a product capable of supporting this plan in the future.

2. *Save time and money by understanding the capabilities of the EHR software* up front and how it meets the needs of your practice's strategy and goals. Look beyond features and functions - what you usually see in a demo. Look into the database, interface (linking to labs, pharmacies), integration with your Practice Management System and other systems, reporting capabilities and customization potential. You want a system that has a strong architecture for interfaces and data exchange. Identify software limitations and ask yourself if certain functions should be compromised.

"EMR is a foundation tool for productivity, efficiency, safety and quality of care. A foundation tool for the emerging demands for new types of practices that are centered on demonstrating the value of the care they deliver." There is a new and evolving expectation for sophisticated systems. I recommend to get the best, most sophisticated software you can get because if you don't need it now you will need it tomorrow."

David Erhenberger, MD

When considering software providers with significantly different costs, it is important to understand that there are different tiers of software pricing. Beware of the complex and more progressive products and the excitement they provide during the product demonstration. Remember to think of functionality, reliability and stability. Not all EHR's are created equal; just as all practices do not perform paper processes the same way. Consider how much customization you will need as you review different software and realize some customization should be expected.

General pricing expectations (per provider, PM + EMR)

	Top Tier	Second Tier	Lower Tier
Purchase	\$11,000 – \$14,000	\$7,000 – \$9,000	\$0 – \$5,000
Annual Maintenance	\$2,000 – \$3,000	\$1,200 – \$1,800	\$0 – \$1,000
SaaS Fee* (per month)	\$700 – \$1,000	\$500 – \$750	\$0 – \$400

*SaaS Fee also includes hosting and support

"The top two tiers usually represent more established companies and systems. You should look beyond the price as it relates to product quality. What should drive your software selection is what you can do within the product."

Doug Bach

How to purchase your software is another consideration. You can own it or rent it. When you own your software, you have to consider where it resides. This can be done in-house with a client server application and requires an onsite infrastructure and support team, or it can be done offsite through hosting services delivered over the internet. Renting, also known as SaaS (software as a service), is a cost effective way to use software. You have full rights to use the software and you own the data and host it offsite, eliminating the need to build a costly internal infrastructure. The infrastructure expense is bundled into a manageable monthly fee to host, run, maintain and support the software.

EHR's come in all sizes as do their vendors. And there are many out there to choose from. Similar to any other industry, when there are too many competitors they cannot all survive. Make sure you know the history and vision of your software vendor and if they are positioned to sustain the current environment and all the government rules and regulations yet to come.

Decision Making Phase

- Does the software support the strategy?
- Does the vendor have the strength to survive for the long haul (financial backing, installed base)?
- Is the product certified and does it enable meaningful use?
- Does the database, software architecture allow for future changes and flexibility?
- Does the software facilitate interfaces with other applications and data exchange?
- Does the practice need a general or specialty-specific EMR?

Implementation Phase

- Does the software allow for the necessary flexibility in configuration and set-up?
- Is the interoperability of the software appropriately easy to manage?
- Is the software easy to use for physicians and staff?
- To what extent do practice business processes need to change to conform to the software?
- How easy is it to customize the software?
- Is there a clear plan to convert paper charts into the software?

Operations Phase

- Is the software stable when in production mode?
- Does the software easily support multiple interfaces and electronic data exchanges?
- Does the vendor or partner provide sufficient user support for the software (base functionality, compliance with HITECH requirements, interfaces and electronic data exchanges)?
- Is there a regular upgrade plan from the vendor to continue to advance the software?

Infrastructure

Will you locate the software on local servers or use a hosted model?

To use your software, it needs to reside on an infrastructure that allows it to run efficiently, provides uninterrupted access, and keeps patient information protected. You can choose to buy, build, and maintain your own infrastructure or you can have it hosted off-site.

Building your own infrastructure is a complex process. Be familiar with all the hardware and support required for a reliable system and expect an up-front capital investment. Understand service and support costs and whether you will employ someone in-house or contract these responsibilities. Count on future expenses including hardware replacement and upgrades and try to predict future growth now so you avoid a costly expansion project later.

“If you don’t make an investment in quality infrastructure, implementation and reliable hosting you will fail. If you go cheap, you will not have flexibility or reporting that can make you successful and give you and others proof what you are doing is right.”

David Erhenberger, MD

Because it will ultimately be more efficient and cost effective compared to owning your infrastructure, the hosted model has grown in popularity. Hosting provides a consistent, predictable expense that covers the cost of everything from updates, hosting, data back-up, security, maintenance and support. Providers can easily adapt to rapid technology changes and will keep your system up-to-date and secure. It is also quickly scalable, reducing your risk of future infrastructure investments if expansion is needed.

Infrastructure pricing can vary as much as software pricing. Some solutions are relatively small and some are industrial strength and provide features like redundant power, multiple firewalls, and 24x7 monitoring and disaster recovery. Make sure you dig deep to understand what you get in your hosting fee and ask what your options are. Bottom line, for cost effectiveness, resources and time, you will want to seriously consider a hosted solution.

Infrastructure Costs

One-Time Costs		Ongoing Costs (per month)	
Purchase: In-House Infrastructure			
Application Server	\$10,000 - 12,000	Network Engineer	\$350 - 400
Test Server	\$5,000 - 7,000	Systems Engineer	\$1,250 - 1,800
Fax Server	\$2,000 - 3,000	Database Admin.	\$350 - 400
Terminal Server*	\$4,000 - 6,000		
<small>*Terminal Server required if a practice has multiple locations</small>			
Plan to replace hardware every 3-5 years			
Rent: Hosted Infrastructure			
None		Per Provider	\$150 - 300
Hardware refresh the responsibility of the hosting provider			
Local Office Infrastructure			
Internet Connectivity		Internet*	\$20 - 40
Local Office Network, WiFi		Local network support*	\$60 - 90
PCs: desktops, laptops, tablets		<small>* per employee, per month</small>	
Printers		PC's/ laptops**	\$750 - 2,000
Document Scanners		Printers**	\$300 - 1500
Card Scanners		Scanners**	\$500 - 2500
		Card scanners**	\$250 - 350
<small>**One time fee per device, estimated 3 year replacement</small>			

The following are a few key terms to know when considering a hosted solution:

1. A test server helps avoid slow down on daily operations and when executing new software releases and conducting development projects.
2. A fax server allows communication into and out of your practice
3. If you have more than one location, a terminal server connects all locations.

HINT: When choosing a hosted model, you may be required to pay additional fees for reporting and interface servers and patient portals, make sure you ask about these costs prior to choosing a provider.

Decision Making Phase

- Should the practice operate the software locally or use a hosted model?
- Is the hosting provider responsible for the software or a hosting-only solution?
- Does the infrastructure have adequate data and application security measures?
- How do interfaces and data exchanges affect the infrastructure requirements?
- Does the practice have the requisite local infrastructure (network, PCs, web, etc.)?

Implementation Phase

- Does the infrastructure meet all HIPAA and data security requirements?
- Does the infrastructure allow for adequate testing before going into production?
- Is the infrastructure sufficient as the practice adds more users?
- Will the software be delivered to users within an appropriate response time?

Operations Phase

- Is the system available, as promised, once in production?
- Is there an appropriate data security and disaster recovery plan?
- Is there a smooth path for infrastructure upgrades to match the needs of the evolving software?
- Is the infrastructure managed in a way to optimize the total lifecycle costs?

Data

How will you use and exchange data to change patient care and practice management?

Data is the one reason, if nothing else, why you should be adopting an EHR. Data provides you the information needed to make better patient care decisions and the business intelligence to run a great practice.

EHR enables you to share data inside and outside your practice. It provides the ability for continuous and automatic information sharing and data exchange. It will make exchanges more efficient, but more importantly, it will make them more effective and improve quality of care.

“Data is the future currency of success.”

David Erhenberger, MD

To assure data is collected, exchanged and documented properly, choose an EHR that has the ability to integrate and interface with other systems such as: your staff, practice management system, labs, hospital information systems, patient portals and document imaging systems. It should possess a variety of report templates. As it relates to HITECH, a certified EHR with proper interfacing, integration and data reporting architecture is needed to provide evidence for meaningful use.

Develop a budget for your data strategy. Identify what it will cost to develop custom interfaces and report templates. Before you commit to these costs, research the interface capabilities and system requirements of outside facilities and spend time using your EHR before determining whether or not you need certain customized reports. Include resources in your budget for management, facilitation, and monitoring of these functions.

“We will use data, evidence-based data, to support making better clinical decisions. Your EMR doesn’t tell you what to do. It brings information in front of you that you need to see while you’re seeing a patient to make a decision. So you can quickly order what needs to be ordered or advise what needs advised.”

Susan Thomas, MD, FAAF

Physicians can do their job better with EHR data. Every patient is different and physicians need to process a lot of information to make good decisions. EHR brings all the patients information together in a structured way so physicians can see what they need to see at the right time.

Decision Making Phase

What is the data sharing and exchange strategy for the EHR?

Does the data structure of the software match the needs of the practice?

What is the cost of building the necessary interfaces/integrations and the associated transaction fees?

Does the software allow adequate access to data for reporting/analysis?

Implementation Phase

• Do the partner(s) have the necessary data integration/interface capabilities?

• Are the relationships in place with 3rd parties to build the necessary interfaces?

• How do practice business processes need to be changed in order to collect the appropriate source data?

Operations Phase

• Are there processes in place to advance and evolve the practice’s use of data to manage patient care?

• Are the management processes in place to review data that comes from the EHR?

• Are clinical and financial data combined to provide a more complete view of the practice?

Change Management

How will you manage the impact that adopting an EHR has on the practice?

Change is necessary, but difficult. People's reaction to change is often unpredictable, but can be managed. When adopting an EHR, the magnitude of the dimensions listed in this document varies depending on the experience of each staff member and physician.

Keep in mind:

- It is difficult for everyone at some level, even for those who may be tech savvy or worked with an EHR in the past.
- Individuals tend to think of the EHR only in relation to their job and individual needs.
- One cannot assume what is needed for another and as a result it is important to get everyone involved in the EHR adoption from the beginning. Your employees are end users and often can provide valuable feedback on how it affects them and where the value is for them.

When determining how your practice will manage the impact of adopting an EHR, follow these three tips:

1. Don't try to do too much at once.

EHR implementation is the bulk of your time and where the most change can be seen and felt. With all the variables involved, you must assign realistic endpoints and accept these as flexible. Continue to stay on target and consistently evaluate workflow throughout the process. Assessing performance is a task you will do throughout the process and beyond.

"I liken an EMR implementation not as an event but as a process. It is a process that is like learning a new language. You need to start with some basic vocabulary then learn some of the grammar, but it takes a long time to become conversant and truly fluent in the language."

Margaret Blue

2. Provide adequate time for your staff to learn the technology.

Agree on a training plan that works around your practices' daily schedule. It needs to be efficient and mandatory. Allow everyone to understand how training time will impact their daily role and responsibilities in the practice. Focus on specific aspects of implementation first, and once mastered turn your focus to others, like scanning and documentation. Dedicate time for training before implementation so people have an idea of what they will be doing. On-the-job training is effective, but it is slower. EHR has many tools that increase efficiency. Use them first and move into the things that may take more time. You may have one or two weeks of slow down while learning, but this shouldn't have a substantial impact on your finances.

3. Recognize you can't do it all yourself.

If you don't have resources, get resources. Under the leadership of internal staff, partner with professional services for project planning

and management, system set up and configuration, training and even loading payer information.

"Going short on professional services for change management means you fail. Computers and health information technology is swift and cool, but not plug and play. You need to invest in the human engineering process."

David Erhenberger, MD

Another aspect of change management entails the decisions that you will have to make when determining how much you should customize. The answer varies by practice because all practices perform differently. Software is usually built a certain way and primarily to create efficiency, by eliminating manual steps or performing them more efficiently. Will you change your process to fit the technology or will you customize your EHR to mimic your current process? Refer to your strategic plan and evaluate resources. Do what is smart. The system will drive some of the decision making and some things may be non-negotiable.

While the end goal is to eliminate the paper chart, transitioning to an automated chart is a complex process. The most important step is getting all providers in the practice to commit to using the EHR and ultimately replacing the paper chart entirely with the electronic chart. The implementation is usually a phased approach such that the provider begins with using templates and/or forms to complete their documentation. They may choose only a select group of patients to begin the automated documentation process, e.g. new patients or just OB patients. Over time, possibly months, you can achieve documenting all patient care via the EHR. Once a comfort level is established for all providers, you can then move to electronic orders such as prescriptions and labs.

Many physicians fear EHR will change the way they interact with patients. In reality, it shouldn't make a difference. If you don't allow flipping through a paper file to interfere with your interaction, you won't allow your EHR to either. Be aware of what you are doing and communicate your concerns. Today's patients are more tech-savvy and place a higher level of expectation and accountability on their provider. There is a perception that their physician's use of technology will better service them.

Remember, EHR is a process that takes time and patience. Have realistic goals and give everyone time to adjust. Develop a detailed project plan that everyone can use to manage change. Don't rush.

"This is a process. It is not a tool you turn on and suddenly your practice will be transformed."

Susan Thomas, MD, FAAF

Decision Making Phase

Have leaders communicated the case for the EMR to the entire practice?

Has the long term strategy and vision been communicated?

How will the proper people be included in the decision making process?

Have leaders assessed the readiness for change and buy-in/ resistance from all physicians and staff?

Have the change supporters been identified and engaged?

What approach will be used to communicate to physicians and staff throughout the process?

Implementation Phase

- What methods will be used for rapid and frequent communication during implementation?

- What processes are in place to surface and resolve issues that come up during implementation?

- What changes will be required of physicians and staff in terms of their role, tasks that are performed, and general performance expectations?

- What approach will be used with those who resist the change?

- Is the change management strategy aligned with the implementation timeline?

Operations Phase

- How will management of the EMR process change as the project moves from implementation to ongoing operations?

- What processes will be put in place to continue enhancing the use of the EMR (increased proficiency, Stages II and III)?

- How will the culture be managed to move the practice to a technology-enabled business?

- How will rewards and punishments be used to ensure the changes stick?

Closing Remarks

“Inevitably, you will hit a critical barrier during EMR adoption and ask “What did I do?”, “Am I doing the right thing?”, “Why am I doing this?”, “Did I pick the right product?” You will compare yourself to the physicians that share their excitement and success and say, “Everything is great.” and “We are doing good.” You will ask yourself why it isn’t like that for you. Know those same physicians saying everything is great, felt the same way you do at this point in the process. They persevered, became operational and never looked back. They were able to get to the other side and so will you. Hang in there.”

Margaret Blue

Reference page

HITECH Act.

In an effort to reduce Healthcare costs and improve patient outcomes, the Health Information Technology for Economic and Clinical Health (HITECH) Act allocates \$17.2 billion in Medicare and Medicaid financial incentives for physicians and hospitals using qualifying Electronic Medical Record (EHR) systems. Physicians can earn between \$44,000 to \$64,000 over five years if they are utilizing an EHR in 2011 or 2012. Listed here are resources to help you understand HITECH and how you can benefit from it. Also be sure to review the [Meaningful Use Final Rules summary](#) that can be found at the end of this document.

1. **Understanding The HITECH Act.** Read this detailed Q&A and realize what the HITECH Act means to you.
<http://alnm.com/article/who-qualifies-for-the-hitech-act-rebate>
2. **Eligible Professionals.** Outline discussing the definition of who qualifies as a Medicare or Medicaid Eligible Professional, as specified by the Centers for Medicare and Medicaid Services (CMS).
http://www.cms.gov/EHRIncentivePrograms/60_Medicare_Eligible_Professional.asp
3. **Certified EHR.** CMS' overview of EHR certification, timing, and how it is related to the EHR incentive program.
http://www.cms.gov/EHRIncentivePrograms/30_Certification.asp#TopOfPage
4. **Meaningful Use Final Rules.** Summary of the final rule on meaningful use. Overview of incentive payouts and core set/ menu set objectives and measures.
http://alnm.com/_library/2010/7/meaningful_use_final_rules_aln_document.pdf

EMR Education Series Webinar Recordings and Podcasts.

Access this 4-part series at alnm.com where you'll receive comprehensive, practical information on the lifecycle of electronic medical records. These webinars were recorded live and are engaging discussions between Tim Coan, ALN's CEO and leading healthcare professionals and providers who possess hands-on experience with the intricacies of EMR adoption.

- [Understanding the Big Picture – A Look at the EMR Lifecycle.](#)
- [The Real Meaningful Use: Preparation, Implementation and Successful Use Across Your Entire Patient Population.](#)
- [Lessons Learned: Insight from a Provider Who Made the Journey.](#)
- [The Business Case – EMR Costs and Benefits.](#)

About ALN Medical Management

ALN Medical Management is a Revenue Cycle Management and Information Technology company serving the financial, EMR/PM technology and consulting needs of physician practices. Founded in 2000 with offices in Colorado, Nebraska, California, Oklahoma and Arizona, we have built a national reputation for excellence in helping turn good practices into great businesses. Our portfolio of over 500 physicians in 15 states includes practices ranging from solo to large groups in primary care and most all specialties.

Our success is built on a foundation of over 22 years of business expertise and healthcare experience. ALN team members are skilled in every facet of revenue cycle management and information technology including: electronic claims submission, coding, claims tracking, contracting, data collection and analysis, account management, EMR/PM implementation, training, support and service. Using industry-leading financial and clinical information systems, data and business intelligence, and disciplined work processes, we help medical practices achieve the results every successful business owner is chasing: higher revenues, lower total costs, less risk, a sustainable future. [Click here to learn more.](#)

Quotes

Mary Bryars, MSHA, Physicians Management Consulting, LLC. Ms. Bryars is a healthcare consultant and founder of Physicians' Practice Consulting, LLC with over seventeen years of professional healthcare experience. Ms. Bryars' advice to physicians and practice administrators has exceeded their financial performance goals through managed care contracts, business process efficiency and electronic office automation. Ms. Bryars has successfully implemented technology programs that include practice management systems, electronic medical records and electronic claim submission utilizing various clearinghouses.

Sue Thomas, MD, FAF, Expert in clinical adoption of Health Information Technology. Dr. Thomas is an expert in the clinical adoption of Health Information Technology in physician practices. She is a Family Physician and the former Chief Medical Officer for GE Healthcare. She holds a degree in Electrical Engineering and Computer Science from MIT and graduated from the Yale University School of Medicine. Dr. Thomas specializes in helping doctor's offices enhance clinical quality and improve physician satisfaction with EMR implementation and its associated technologies.

Margaret Blue, President, Desert Practice Management. Ms. Blue has nearly 15 years of varied healthcare experience including: physician practice management, process engineering, hospital administration and biomedical research. Her diverse experience provides her with a strong foundation for understanding the business of healthcare in a wide variety of settings. She has strong analytical skills and demonstrated leadership success in all aspects of medical practice operations.

Markham McHenry, MD, Comprehensive Family Medicine, Scottsdale, AZ. Dr. McHenry is board-certified in both Family Medicine and Neuromusculoskeletal Medicine, graduated from Arizona State University and earned his doctorate in osteopathic medicine from the College of Osteopathic Medicine at Des Moines University. He later completed his internship and residency at Tempe St. Luke's Hospital, where he was recognized as Intern of the Year and served as Chief Resident. In addition to running his private practice in Scottsdale, Arizona, Dr. McHenry is an Assistant Clinical Professor at the Arizona College of Osteopathic Medicine at Midwestern University. Dr. McHenry implemented and is using Centricity.

David Ehrenberger, MD, Broomfield Family Practice and Chief Medical Officer, Avista Adventist Hospital. Dr. Ehrenberger serves as the Chief Medical Officer for Avista Adventist Hospital and the CMO and Vice President for the integrated Physicians Network. A board certified family practice physician with Broomfield Family Practice, Dr. Ehrenberger attended Tufts University School of Medicine and did his residency at the University of California, Los Angeles. He is also clinical assistant professor of medicine at University of Colorado School of Medicine. Dr. Ehrenberger has been actively involved in quality improvement at Avista, and has also been a key driver in the collaborative partnership of four local providers—Avista, the Boulder County Health Department, Clinica Campesina and the Integrated Physician's Network—who are working together to create an electronic health record initiative for patients.

Doug Bach, CEO and Founder of HD Consult. Mr. Bach is a Health Information Technology pioneer and founder of HDConsult. Doug understands the healthcare industry from several perspectives, based on his experience with insurance carriers, Medical and Behavioral Health provider communities, IPAs, Community Health Centers and many other provider market segments. With this perspective, Doug can assist healthcare organizations in formulating and executing strategies that allow them to achieve their business goals. Doug currently serves as the Managing Partner for both HDConsult, and sister company ClinicConnection. He serves as the Project Manager for several Health Information Exchange (HIE) projects and is engaged as the Project Manager for the installation of Electronic Health Records (EHRs) for a large community health center.

Meaningful Use of Electronic Health Records (EHR)

A Summary of CMS's Final Rule on Meaningful Use

This document provides a summary of the 'meaningful use' objectives, as defined by CMS, for physicians seeking to receive Medicare or Medicaid incentives related to their electronic health record (EHR). These rules, which are now final, define what a physician must do to be considered 'meaningful users' in 2011 and 2012, and thus qualify for incentive payments.

CMS's Health Care Goals and Meaningful Use

The MU objectives, as defined by CMS and the basis for eligible providers (EP) to receive HITECH incentive payments, are based on five stated goals.

1. To improve the quality, safety, and efficiency of care while reducing disparities
2. To engage patients and families in their care
3. To promote public and population health
4. To improve care coordination
5. To promote the privacy and security of EHRs

HITECH's goal is not EHR adoption alone but "meaningful use" — that is, their use by providers to achieve significant improvements in care. The legislation ties payments specifically to the achievement of advances in healthcare processes and outcomes.

These rules are the final regulation for the first two years (2011 and 2012) of this multiyear incentive program. Subsequent rules will govern later phases.

Concerns about the pace and scope of implementation that gets to 'meaningful use' led CMS to adopt a two-track approach regarding the MU objectives. Of the 25 MU objectives required of physicians, CMS has now divided these elements into two groups.

- **Core Set:** These 15 objectives are required to demonstrate MU and constitute an essential starting point for meaningful use of EHRs. These include tasks essential to creating any medical record, including the entry of basic data: patients' vital signs and demographics, active medications and allergies, up-to-date problem lists of current and active diagnoses, and smoking status.

Other Core objectives include several features that begin to realize the true potential of EHRs to improve the safety, quality, efficiency of care -- and avoid preventable errors: clinical decision support tools, using records to enter clinical orders and medication prescriptions, and providing patients with electronic versions of their health information.

- **Menu Set:** Of these additional 10 objectives, physicians must choose at least 5 that they meet during the 2011 and 2012 time frame. These objectives provide physicians latitude to pick their own path toward full EHR implementation and MU. For example, the Menu Set includes: drug-formulary checks, incorporating laboratory results into EHRs, providing reminders to patients for needed care, identifying and providing patient-specific health education resources, and employing EHRs to support the patient's transitions between care settings or personnel.

For most objectives, the regulation specifies the rates at which providers will have to use particular functions to be considered 'meaningful users.'

Meaningful Use Incentive Payouts

The final rule also includes the calculation for incentive payments. The payments will begin in 2011 and continue throughout 2016. Payments are based on meaningful use reporting, which is on an annual schedule beginning with 90 days of reporting in 2011. As the chart illustrates below, no payments will be made after 2016 so the sooner EP's begin meaningfully using EHRs, the more incentive money they will receive.

	2011	2012	2013	2014	2015 and later
2011	\$18,000				
2012	\$12,000	\$18,000			
2013	\$8,000	\$12,000			
2014	\$4,000	\$8,000	\$12,000	\$12,000	
2015	\$2,000	\$4,000	\$8,000	\$8,000	\$0
2016		\$2,000	\$4,000	\$4,000	\$0
TOTAL	\$44,000	\$44,000	\$39,000	\$24,000	\$0

CMS's Final Rule on Meaningful Use

Core Set and Menu Set Objectives

Meaningful Use Objectives- Core Set		
	Objective	Measure
1	Record patient demographics (sex, race, ethnicity, date of birth, preferred language, and in the case of hospitals, date and preliminary cause of death in the event of mortality)	More than 50% of patients' demographic data recorded as structured data
2	Record vital signs and chart changes (height, weight, blood pressure, body-mass index, growth charts for children)	More than 50% of patients 2 years of age or older have height, weight, and blood pressure recorded as structured data
3	Maintain up-to-date problem list of current and active diagnoses	More than 80% of patients have at least one entry recorded as structured data
4	Maintain active medication list	More than 80% of patients have at least one entry recorded as structured data
5	Maintain active medication allergy list	More than 80% of patients have at least one entry recorded as structured data
6	Record smoking status for patients 13 years of age or older	More than 50% of patients 13 years of age or older have smoking status recorded as structured data
7	For individual professionals, provide patients with clinical summaries for each office visit; for hospitals, provide an electronic copy of hospital discharge instructions on request	Clinical summaries provided to patients for more than 50% of all office visits within 3 business days; more than 50% of all patients who are discharged from the inpatient department or emergency department of an eligible hospital or critical access hospital and who request an electronic copy of their discharge instructions are provided with it
8	On request, provide patients with an electronic copy of their health information (including diagnostic test results, problem list, medication lists, medication allergies, and for hospitals, discharge summary and procedures)	More than 50% of requesting patients receive electronic copy within 3 business days
9	Generate and transmit permissible prescriptions electronically (does not apply to hospitals)	More than 40% are transmitted electronically using certified EHR technology
10	Computer provider order entry (CPOE) for medication orders	More than 30% of patients with at least one medication in their medication list have at least one medication ordered through CPOE
11	Implement drug–drug and drug–allergy interaction checks	Functionality is enabled for these checks for the entire reporting period
12	Implement capability to electronically exchange key clinical information among providers and patient-authorized entities	Perform at least one test of EHR's capacity to electronically exchange information
13	Implement one clinical decision support rule and ability to track compliance with the rule	One clinical decision support rule implemented
14	Implement systems to protect privacy and security of patient data in the EHR	Conduct or review a security risk analysis, implement security updates as necessary, and correct identified security deficiencies
15	Report clinical quality measures to CMS or states	For 2011, provide aggregate numerator and denominator through attestation; for 2012, electronically submit measures

Meaningful Use Objectives- Menu Set		
	Objective	Measure
1	Implement drug formulary checks	Drug formulary check system is implemented and has access to at least one internal or external drug formulary for the entire reporting period
2	Incorporate clinical laboratory test results into EHRs as structured data	More than 40% of clinical laboratory test results whose results are in positive/negative or numerical format are incorporated into EHRs as structured data
3	Generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research, or outreach	Generate at least one listing of patients with a specific condition
4	Use EHR technology to identify patient-specific education resources and provide those to the patient as appropriate	More than 10% of patients are provided patient-specific education resources
5	Perform medication reconciliation between care settings	Medication reconciliation is performed for more than 50% of transitions of care
6	Provide summary of care record for patients referred or transitioned to another provider or setting	Summary of care record is provided for more than 50% of patient transitions or referrals
7	Submit electronic immunization data to immunization registries or immunization information systems	Perform at least one test of data submission and follow-up submission (where registries can accept electronic submissions)
8	Submit electronic syndromic surveillance data to public health agencies	Perform at least one test of data submission and follow-up submission (where public health agencies can accept electronic data)
9	Send reminders to patients (per patient preference) for preventive and follow-up care	More than 20% of patients 65 years of age or older or 5 years of age or younger are sent appropriate reminders
10	Provide patients with timely electronic access to their health information (including laboratory results, problem list, medication lists, medication allergies)	More than 10% of patients are provided electronic access to information within 4 days of its being updated in the EHR