Selecting the Right EMR

By John Lynn

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About the Author

John Lynn is the editor of the nationally renowned blog EMRandHIPPA.com, the founder of EMR Wiki and EMRandEHR.com. Begun in December 2005, John has published over 800 articles on Electronic Medical Record (EMR) focusing on EMR selection and EMR implementation as a physician's advocate. These EMR related articles have been viewed over 2.4 million times.

John has hands on experience in the EMR industry working as the EMR Manager for the University of Nevada's Health and Counseling Center. In this position he converted a paper based office to an electronic medical record in 4 months. He has written articles for MDNG, MedScape and For the Record. He has been featured in Forbes, The Financial Times and Smart Money Magazine.

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Introduction

An electronic medical record can be an incredible asset to any medical organization. However, if the organization is not prepared to implement an electronic medical record (EMR), then it can turn out to be one of the worst things that happen to your practice. Before we get into the details of selecting the right EMR software, I want to take a look at the most important thing you can do to make sure that your organization is prepared to implement an EMR. From my experience with EMR software, the number one factor in implementing an EMR successfully is achieving buy-in from the organization. If the organization has not bought into the idea of using an EMR, then the EMR implementation is doomed to failure.

The question then becomes how you gain clinical buy in for an EMR implementation. The answer of course is, "It depends." The problem with giving one answer is that healthcare organizations come in so many different varieties. Healthcare clinics range from solo docs to the large group practices and everything in between. Some practices are owned by the providers while others are owned by large organizations. This of course means that the governance structure in each of these organizations is different. Not to mention we haven't even talked about the various specialties, practice managers, mid level practitioners, nursing staff, billing staff, front desk staff, HIM staff and the varying roles that each of these groups play in the various practices.

Some organizations might have one strong leader who can almost mandate the implementation of an EMR and the rest of the clinic will follow along. Other times (and more likely the case), there are a number of leaders within a clinical organization. You need to take some time to look at the "leaders" in your organization who will need to get behind your EMR implementation. These "leaders" might be older or younger, clinical staff or practice managers, outspoken or soft spoken, but are most likely the doctors. The key is to find those EMR advocates that can help you gain buy in for an EMR implementation from the rest of the clinic. Without this staff buy in, your EMR implementation is doomed to failure. With staff buy in, you are infinitely more likely to enjoy the benefits of an EMR.

EMR vs. EHR

A quick note on the difference between electronic medical records (EMR) and electronic health records (EHR). Multiple terms have been used to define electronic patient care records, with overlapping definitions. Both electronic health record (EHR) and electronic medical record (EMR) have gained widespread use, with some health informatics users assigning the term EHR to a global concept and EMR to a discrete localized record. Other people prefer to define an EMR as the physician interface and once you add a patient portal to your EMR you get an EHR. This essentially builds on the idea that once the patient is submitting information it's not a medical record, but is then a health record. For most users, however, the terms EHR and EMR are used interchangeably. For purposes of this e-book, EMR will be used since spell check corrects EHR to HER.

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Gaining EMR Implementation Buy-In

Now that you're ready to get buy-in for your EMR implementation, you're probably wondering how you can help those less interested in an EMR become interested. The best way to gain buy in for an EMR implementation is to evaluate all of the benefits that your clinic will receive from the implementation. A compiled list of benefits that the clinic will gain from an EMR is a tremendous way to obtain clinical buy in and also provides a set of goals to guide the EMR implementation. The following is a list of benefits associated with an EMR to get you started making your own list of EMR benefits based on your clinics own wants and needs. I've broken them up into *Guaranteed Benefits, Possible Benefits, Debatable Benefits and Long Term Benefits*.

Guaranteed Benefits - These are benefits that EVERY EMR implementation is guaranteed to experience.

Legibility of Notes - No more dealing with various handwriting styles since notes are typed. Many people do use voice recognition with an EMR and so this is still prone to errors. Others continue to use a transcription service with an EHR which is still prone to the normal transcription errors as well. However, there's no doubt that a typed note is more legible.

Accessibility of Charts - Patients charts are automatically indexed and easily searchable by multiple identifiers. No more searching the entire clinic for the paper chart in medical records since it can be pulled up from any computer terminal that can connect to your EMR software instantly.

No More Lost Charts - No more wondering if the paper chart was left in the doctor's office, in the exam room, at the nurses' station, in the lab sign off box, etc. Time spent looking for charts is eliminated.

Multiple Users Accessing Chart - Most EMR programs support multiple users accessing a chart at the same time. Many even allow multiple people to chart notes at the same time also.

No Time Spent Pulling and Filing Charts - All the charts are available and easily accessible. No one has to pull the chart for you and re-file it when you are done. Not to mention all the time spent redoing the filing system so that it is easier to find the charts.

Disaster Recovery - Depending on your EMR backup schedule, you can store a copy of your data in multiple locations and across multiple time periods for better disaster recovery. At any one point you might have 10 backups of your clinical records. Plus, in an emergency you could carry a backup of your data with you. Think about how you'd carry a room full of paper charts with you in an emergency.

Drug to Drug and Allergy Interactions - This doesn't take away your skills as a doctor, but can provide a point of reference for you to evaluate the medications your prescribing based on factors that may have been missed or forgotten. In complex cases where a patient is on multiple drugs with multiple allergies this is even more valuable.

Electronic Prescriptions - Scripts sent electronically or printed out avoid problems of legibility by the pharmacy receiving the script. Not all EHR have e-Prescribing, so if you are interested in this benefit be sure to add this to your list of requirements. Also, be sure to learn whether the EMR does e-Prescribing or just e-Faxing of the prescriptions. e-Faxing basically just automates the fax to the pharmacy. That is very different than e-Prescribing the drug to the pharmacy software.

Fewer Pharmacy Calls - Pharmacies will need to call your office less since they will not have any issues reading the scripts you create since they will either be sent electronically or printed out.

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Possible Benefits - These are the benefits an organization could achieve depending on the clinical environment.

EMR Stimulus Money - $44,000 per provider is available for those who take Medicare. $65,000 per provider is available for those who take Medicaid. See the EMR Stimulus section for more detailed analysis.

Transcription Costs Savings - Many users have been able to save on transcription costs by implementing an EMR. Often the transcription costs are replaced by point and click template systems or through the use of some sort of voice recognition software.

Eliminate Staff - The elimination of staff after implementing an EHR almost never happens immediately. Usually this happens through natural turnover of employees and usually occurs with your front desk, billing, and medical records staff.

Space Savings - With less staff and no paper charts, you can switch to a smaller office or turn the free space into revenue generating space.

Pay-for-performance Eligibility - It is likely that doctors will be subject to new pay for performance initiatives as part of their reimbursement. Without an EMR, it will be difficult or impossible to qualify for these incentives. An EMR can also make it easier for a doctor interested in the PQRI incentives.

Paper Savings - You won't eliminate your use of paper after implementing an EMR, but you can significantly reduce the amount of paper you use in your practice. Not to mention the cost of purchasing charts, tabs, stickers, filing cabinets, etc.

Automated Lab/X-ray Results - This depends on a lab interface, but is more reliable and integrated with the care given. In a two way lab interface the order is made in an EMR system and is sent automatically to the lab performing the test. Once the test results are processed by the lab, the results are sent back to the EMR automatically. In a one way lab interface, the order is made through paper or some other process, but the results are sent back electronically to the EMR.

Automated X-ray Results - This also depends on a X-ray interface, but has the same possible benefits of a lab interface. In a two way X-ray interface the order is made in an EMR system and is sent automatically to the radiology software. Once the X-ray results are processed by the radiologist, the results are sent back to the EMR automatically. In a one way X-ray interface, the order is made through paper or some other process, but the results are sent back electronically to the EMR.

Clinical Decision Support - Many EMR software vendors are integrating decision support into their software to help clinicians make better decisions. Most allow the clinic to customize the clinical decision support to meet the guidelines of that practice. Often the impact of this isn't seen immediately after implementing an EMR, but is a longer term benefit of implementing an EMR.

Order Sets - Order sets provide a standard of care that can be used to ensure thorough treatment of patients. This is especially good when new doctors are brought into a practice. Order sets can also streamline the order entry process.

Interoperability - Depending on your location there are a number of regional and national initiatives happening to support interoperability of healthcare data. Also, PHR vendors like Google Health and Microsoft HealthVault are also creating a new demand from patients for their healthcare data to be interoperable.

Improved Patient Communications - Most EMR software has a number of electronic options for communicating with the patient. Patient education materials, appointment reminders, follow up appointments, care management messages, and other patient communication can often be automated using an EMR. Many EMR support email, SMS text messages, and phone calls.

Reporting - Every EMR software I've seen provides hundreds of standard reports to track your clinic and many over unlimited access to the data in your EMR for reporting purposes.

Anything from improving accounts receivable to improving patient care to clinical studies can be done thanks to the data in your EMR.

Spell Check - Many EMR software includes a spell check and often even include a medical dictionary.

Efficient Sign Offs - Many doctors have found that it is more efficient to sign off on charts, prescriptions and labs using an EMR. This will depend on how your EMR is designed.

Quiet Office - Without paper charts, many offices do not hear all that "clanking" from wheeled charts. Life is a little bit better without all the noise.

Remote Chart Access - Physicians and Practice Managers appreciate the capability to access charts from remote locations like a satellite office, a hospital, a hotel or their home.

Debatable Benefits - These are items that could be a benefit or a challenge with your EMR implementation depending on the EMR you select, how you implement it and other associate factors. I'll discuss the various arguments and let you decide how this might apply for your practice.

Increased Efficiency - Initially there is almost always a hit to the efficiency of a practice during an EMR implementation. However, many practices have found that after the initial slow down, they are able to see more patients and document in less time than they did before an EMR.

Quality of Care - Many argue that the quality of care will increase with the implementation of an EMR. This is a logical conclusion since an EMR should provide you quicker and more complete access to information. Others argue that the care doesn't improve since at the end of the day it's the doctor who is the key to the quality of the care. Still others argue that care decreases because doctors start relying on the computer too much and stop thinking as much about all the possible options.

Better Patient Services - The services provided by an EMR vary significantly by vendor. Plus, many of the patient related services like online appointment scheduling or online prescription refills aren't usually implemented during the initial EMR implementation. Instead these types of added patient services are phased in over time. Of course, this also means that many offices never get around to actually implementing them at all.

Improved Workflow - Many practices have reported improved clinical workflow after implementing an EMR. Part of this relates to the workflow evaluation that is often done while implementing an EMR. The other part is that an EMR can improve on the manual paper workflows of the past. However, other practices have found it difficult to adapt their paper workflow with the implementation of an EMR. Sometimes this is the fault of the poorly designed EMR software and other times its an organizations inability to let go of old processes. This sometimes leads to duplicate paper/EMR workflows.

Improved Coding Accuracy and Charge Capture - Some doctors have found their EMR documentation to be more complete than paper documentation thanks to things like EMR templates and code sets. This increased level of documentation can translate into an increase in the office visit level you are able to charge. Plus, many EMR software include a tool for evaluating which office visit code is appropriate based on the documentation completed. Some say that this tool is great at saving time and increasing accuracy. Others argue that the tool is often wrong and therefore a possible liability.

Improved Claims Submission - With integrated charge capture in an EMR, those charges can quickly be sent to electronically to your claims processor. The challenge is when you first start using the EMR to submit claims. Most users experience a learning curve as they first start filing claims through their EMR.

Time Savings - The time saved using an EMR or EHR is very different depending on the clinic, EMR software, doctor, workflow, etc. However, this list should give you a reasonable

idea of various clinical processes and how EMR software could save you time or cause you to spend more time caring for your patients.

Takes Less Time
- Finding and Retrieving Notes (milliseconds)
- Doing Refills (minutes)
- Faxing Off Prescriptions (seconds)
- Making Appointments (seconds)
- Looking Up Results (milliseconds)
- Doing Calculations (DAS28, Framingham) (seconds)
- Drug Interactions (seconds)
- Reporting to Recall Patients (minutes)
- Reprinting Letters (seconds)
- Looking Up ICD9s (seconds)

Takes More Time
- Documenting an Encounter
- Level of Documentation Is Now Higher than Before
- Entering Initial Diagnosis List

Long Term Benefits - One thing that is hard to evaluate, but important to consider is the possible long term benefits of using an EMR. Often we can't realize the benefits of technology like EMR until after we have it implemented and we can start leveraging the technology for good. I have no doubt that the efficiencies and innovations that happen with EMR software over the next decade will be outstanding.

Just consider the complexity of the human body and the brain's ability to process all of the various factors involved in treating a patient. At some point (if we're not already there), it will be so complex that the human mind won't be able to process all of the factors effectively. With the help of a computer and likely inside of an EMR, this can be done. Not as a replacement to a doctor, but as another clinical tool to assist the doctor in practicing better medicine. Another example is the benefits to patient care that will come from widespread adoption of interoperable EMR software. There are long term benefits that we might not have even imagined, just waiting for those that use an EMR.

The beauty of this list of benefits, particularly the "Debatable Benefits," is that they can act as a set of requirements you can use to measure the various EMR vendors. For example, if having a lab interface is extremely important to your office, then you can make sure that whatever EMR vendor you look at is able to support a lab interface with your lab. If electronic prescriptions are not important because you are a pediatric specialist and rarely prescribe, then you can take that into account when evaluating the various EMR vendors.

Selecting the Right EMR

Narrowing the Field of EMR Vendors

Once you understand why you want to implement an EMR and achieve clinical buy-in for the project, the next step is to select the various EMR features, functions, and pricing that will help you narrow the number of EMR vendors you need to consider. There are currently anywhere between 300 and 400 different EMR vendors out there with more popping up all the time. I know some doctors who've basically made it their hobby to evaluate EMR software. This is great if you enjoy the software research process and have the time you want to dedicate to evaluating all of the various EMR vendors. However, most doctors don't want to make searching for an EMR their hobby. If this is the case for you, narrow your list down to 5 quality EMR vendors. When narrowing your list to five, don't be afraid to have a few unique EMR vendors on your list. Their uniqueness will help you have a more rounded evaluation of what's available on the market and cause you to ask better questions of the traditional EMR vendors.

The easiest way to narrow the number of EMR vendors you'll demo is by understanding the features that matter most to your clinic. By selecting features that matter most to you and your clinic, you can quickly shrink the number of EMR vendors you need to evaluate to five EMR vendors you will demo. (Note: You can do more or less than five, but five seems like a reasonable number for most people to get a good understanding of what's out there without spending their life finding an EMR) For example, if your clinic decides that they are only interested in EMR software stored on a server in your office, you can quickly remove any EMR vendors who only provide a hosted EMR package from your list.

The following is a list of important EMR features that can help you know which features best match the desires of your clinic:

EMR Pricing Model - With over 300 EMR vendors in the marketplace, there are a variety of pricing models to choose from. The oldest and most common pricing model is the *lump sum fee plus annual maintenance* agreement. This model requires a clinic to pay a usually large upfront fee to purchase the EMR software, support, training, etc and then a small annual maintenance fee to receive support from an EMR vendor. In this model, larger clinics often negotiate a discount based on the number of providers. The biggest challenge with this pricing model is that once you've paid the large upfront fee you're almost locked in to that EMR software. This becomes a problem if during an EMR implementation you find issues that make it difficult or impossible to implement that EMR. Very rarely can you get the EMR vendor to refund your initial purchase price if you run into troubles with the EMR implementation. This can be true even with those EMR vendors who offer "money back guarantees." Another challenge to this pricing model is that after you've made the large initial payment, the EMR vendor has little motivation to ensure that you are successful at implementing and using their EMR. Sure, too many failed implementations will catch up to them, but many have experienced a much lower level of support after they've made the large payment. Of course, many also have a problem coming up with the money to pay so much for an EMR. Most EMR vendors have some sort of financing plans to assist with this problem. Just make sure you take into account the interest you'll pay if you choose to go with a financing plan. Plus, even if you've financed the EMR purchase, you'll still be on the hook for the full amount even if your EMR implementation fails. While this has been the most common pricing model in the past, there's a huge move away from this pricing model towards other pay as you go models.

The next pricing model to consider is the *monthly per provider*. Basically, the EMR vendor provides their EMR software and all associated updates to the software for one monthly fee

per provider. The beauty of this pricing model is that if you have a problem with your EMR implementation, then you'll have only paid for the months you used the software. This also means that the EMR vendor is motivated to help you successfully implement and use their EMR software so that you don't stop paying your monthly fee. If you compare the cost of these monthly subscription fees over a 3-5 year period with the large upfront fee you'll pay in the model above they usually work out to a similar total number. This is especially true for larger group practices with a large number of providers. Smaller practices and solo doctors usually pay less using the "monthly per provider" pricing model since they have fewer people to share in the large upfront fee in the other model.

Another interesting pricing model is a *pay per encounter*. In this model, EMR vendors sell you a number of encounters (ie. visits) for some nominal fee (ie. $0.60). This model is unique, because it charges you the same way that you make money. So, if you don't see any patients you don't pay. The more patients you see, the more you pay. This avoids a risky lump sum payment when you start the EMR and similar to the "monthly per provider" you still have an EMR vendor that needs you to implement and use their software in order for them to make money. This model and the "monthly per provider" usually include unlimited technical support as part of the monthly or per encounter fee.

A relatively new pricing model for an EMR is a *free EMR*. While it is true that you won't pay anything to purchase the software for a "free EMR," that doesn't mean that it is without costs. The two most common "free EMR" models are open source EMR and ad based EMR.

The open source model of software development has become a very popular and effective way to create software. The basic concept is that a community of users all contributed to the development of the EMR software. There are some real advantages and disadvantages to an open source EMR. I will not cover all of those details here. Let me just suggest that if you want to use an open source EMR, you will more than likely want to find a great IT partner or consultant who understands the benefits and challenges with an open source EMR. If done right, an open source EMR can be great. If done wrong, you will get nowhere since there is no company to blame when something goes wrong.

Ad based EMR software work similar to most free email software. You pay nothing to use the software, but targeted ads are found within the software. Free "ad based" EMR companies are a bit more tasteful in their ads than free email software, but the concept is the same. The ads in the EMR pay for the software. An ad based EMR has been met with some controversy. For example, some people argue that an ad for a drug company being shown while the doctor is writing a prescription might influence the way a doctor provides patient care. Others argue that doctors have always been influenced by these companies in other ways and that the doctor still is in control of the decision making process. Either way, there is a number of free "ad based" EMR out there. The good part of these free EMR is that it costs nothing to try them out before making a decision.

As more EMR companies continue to enter the market we are certain to see even more unique pricing models. In fact, many of the older EMR vendors who started with the "lump sum payment and support" model have since implemented "monthly per provider" pricing models. Any of these models are reasonable to consider as long as you understand the pros and cons of each and how they will affect your individual practice.

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SaaS (hosted/web based) EMR versus Client Server (in house) EMR
This is one of the most heated questions you can ask EMR vendors when considering an EMR. For an EMR vendor, choosing one or the other becomes like a religion. My personal belief is that either model is reasonable. Certainly the SaaS EMR people are correct that web based systems are the major trend in technology and that EVERYTHING is going web based. However, it is also true that there are some things you can do with a client server EMR that still aren't as effective with a web based system (ie. complex document workflow). Some EMR vendors are combining the two models by having an in house server that is web based. Others are putting their client server EMR in a data center also so they get the advantages of a SaaS EMR while still having some of the client server benefits. For those that do not know the differences in SaaS versus client server, here's a high level summary of the advantages and challenges of each model.

SaaS (hosted/web based) EMR
A SaaS EMR is one that is hosted by the EMR company (or partner of the EMR company). Access to the EMR is done through a standard web browser. (Note: Client Server EMR can be hosted by the company and accessed using terminal server software as well, but that isn't usually considered a SaaS EMR for purposes of this description.) The biggest advantage to a SaaS EMR is a clinic doesn't have to pay for the server and associated IT help to support a server in the office (ie. server room, tech support, redundant network, UPS, backups, etc). SaaS EMR vendors reasonably argue that most clinics in house IT support cannot provide reliable and redundant server support the way a SaaS EMR can provide. Part of this is due to the lack of expertise of in house IT support (or lack of in house IT support altogether) and the other part is due to lack of funds to build a reliable and redundant server environment. Another advantage of SaaS EMR is that since they are web based they are available anywhere you have an internet connection. When a SaaS EMR updates its software, you will automatically get the latest and greatest features of the software. This can be a good and a bad thing depending on whether the latest updates were well tested and if they included features that would help your office. Since a SaaS EMR uses a standard internet web browser, you will not need to spend time installing special software on each computer in your office. This is even more beneficial when your SaaS EMR does an upgrade to the software.

The major disadvantages of a SaaS EMR are: internet connection dependence, EMR data not stored on site, and reliance on your EMR vendor. Access to a SaaS EMR is completely dependent on a clinic's internet connection. Since the SaaS EMR is stored offsite in the vendor's data center, any loss of internet connectivity means the clinic is without an EMR. The solution to this is to have redundant internet connections (where possible), but also often means an increased cost for your internet connection. Cellular broadband cards have helped to lower the cost of clinics having a redundant internet connection in many places. Many rural locations with poor internet connectivity should probably avoid using a SaaS EMR. Many clinics are also leery of SaaS EMR because the patient data in their EMR is stored in the vendor's data center instead of on site. Some SaaS EMR vendors will provide a backup copy of your data which you can store locally, but this is not very common and cannot usually be done at regular intervals. SaaS EMR vendors argue that there's no need to store a copy of your data locally since the server where your data is stored uses enterprise level backup to avoid any loss of data. Ensuring these backups are completed appropriately and your SaaS EMR server is always available means you as a clinic are relying on your EMR vendor's expertise in setting up those processes and configurations.

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Client Server (in house) EMR
As would be expected, the advantages and disadvantages of an in house EMR mirror those of a SaaS EMR. In house EMR software is traditionally done through a client install on a computer which accesses a server stored in the clinic. Since the server is stored on site, you are no longer dependent on your outside internet connection. Access to the EMR is done through your more reliable local network. This also means that all the data from your EMR is stored in your office. Many people would argue that client server EMR software is faster and can do more than web based software. Web based software is making major strides in this regard, but there are still some features of an EMR that are better implemented by a client server EMR.

The biggest challenge associated with an in house client server EMR is that it requires a certain amount of local IT expertise to support your local server. Many EMR vendors will assist your local IT support, but they still usually require some local IT support. The quality of your local IT support matters regardless of which EMR you choose, but is more important with a client server EMR.

Another challenge with an in house EMR is that you are the one required to make the backups. Some people consider this a pro since then you can be sure that the backups are done regularly and properly. However, most people would argue that this is a problem with an in house server. The reason for this is that too often making sure the backups are done and done correctly is forgotten or not done at all. This is very common since backups aren't appreciated until some major disaster happens and it's too late. Some local IT companies will partner with you in this effort and this can help solve this problem.

One of the most irritating parts of a client server EMR is the need to install the client software on each computer. Certainly this is less of an issue the smaller your clinic, but it still can be a pain to manage. Remember that this is not just a onetime event. When your EMR software gets upgraded (usually 2-3 times a year), you will need to make the rounds to upgrade the software. Certainly many EMR vendors have automated the upgrade process to some degree. You can also often automate this process using active directory. However, this upgrade process does create just one more area for something to go wrong with your EMR or require special IT support. The good part is that this means that you can do the upgrades on your own timetable.

Hybrid Model
Some EMR vendors do a mix of the two options above. They might have a server stored on site, but still have an EMR that uses web based technologies. This still means you need the in house IT server support, but means that you don't have to rely on your external internet connection to access the server. It does however, usually mean that you can access your EMR from anywhere with an internet connection. It also means that you can use a standard web browser to access your EMR instead of having to install a client on each computer to access your EMR.

This is not meant to be a comprehensive list comparing SaaS EMR with client server EMR. Instead it's meant as an overview of the major differences between the two types of EMR setup, but should give you enough information to choose which option will work best for your office.

Documentation Interface
The way your providers want to document in an EMR is an important part of the evaluation of various EMR vendors. Plus, it can be a great point of differentiation between various EMR vendors. The terminology that's used to describe the way an EMR documents varies by EMR vendor. You'll have to be discerning in your discussions with an EMR vendor to be able to adequately compare to different EMR vendors method of documentation. However, all EMR vendors' documentation methods should fall into one or more of the following categories:

Point and Click (Template)
This is by far the most common EMR vendor documentation method. As such, there are a number of sub categories within the point and click, also known as "template", method of documentation. Appropriately called point and click, entry of data with this method is most often done by clicking your mouse through a number of pre-designed templates, but can also be done on a tablet computer. Using this method, doctors often switch between clicking through templates with a mouse and entering abnormal findings on the keyboard.

The template and template creation is the key element in this type of documentation. Every EMR vendor has their own little twist on templates. Some offer you a number of pre-designed templates and then provide you the ability to modify them as you go. Others offer you the tools to be able to create your own templates. Some will even take your paper documents and assist you with creating templates based on those paper documents. Still others will have you create free form notes which become "templates" which you can use with future patients. The important question when evaluating the various vendors is how quickly can you update, modify, and improve the templates that they have available. Even if they have a whole bunch of pre-built templates, you can almost guarantee that you're going to want to make changes, additions and modifications to match the way that you want to document an encounter. Even if you've built the templates yourself, then you need to know how your EMR will handle exceptions that weren't built into your template.

A very important aspect of point and click or template documentation is what I call documentation by exception versus documentation by veracity. In documentation by exception, the EMR puts down a huge number of normal items and then the physician changes those elements that don't apply or might be abnormal. Physicians don't particularly like this type of documentation since it creates LONG notes full of essentially irrelevant information cluttering the really important parts of the note. This is hard for a physician looking at past notes and also bad when you send notes to an outside provider or specialist since they have to sort through the long list of documentation to find which parts are relevant. Billers generally like this type of documentation since it documents all of the normal systems which can mean that you can bill a higher level office visit. Physicians like the increased reimbursement as well, but don't like when they find a 12 year old girl with "normal descended testes bilaterally." On the other hand is documentation by veracity where the physician only documents the history given and their findings. They might still use templates, but you wouldn't find a full neurological exam in the chart for someone who has an ankle sprain.

Tablet Handwriting Recognition and Touch Screen
A number of EMR vendors are clearly focused on utilizing handwriting recognition and touch screen interfaces in their EMR. The goal of most of these EMR vendors is to create a documentation environment that closely matches paper based documentation. In many respects they are able to achieve this goal. In fact, some people love the tablet handwriting recognition and would never document another way. Many others argue that the tablet

handwriting recognition technology is neat, but still has a ways to go before it's ready for prime time. Touch screen is just now starting to take off thanks to the iPhone and this type of technology will shortly be a part of many EMR vendor offerings.

Dictation
As I discussed above, many people are able to save on transcription costs thanks to an EMR. In fact, many people predicted the end of dictation thanks to EMR. The results have been varied, but many physicians who've implemented an EMR have chosen to continue dictating. Many EMR vendors have strong support for dictation and provide an interface for transcribers to enter their transcriptions directly into the EMR notes. These types of EMR vendors are an option for those practices who would like to continue dictating their notes.

Voice Recognition
Voice recognition is also a common form of documentation method used by physicians. It's often considered an option to dictation. However, it's most common use is in a "point and click" EMR. The voice recognition is used to create free text sections of notes in addition to the point and click templates that might be completed for a patient. One caution is that EVERY EMR can say that they support voice recognition. In its simplest form, voice recognition is just "typing" text into a field. Some EMR vendors have taken voice recognition to the next level by creating deep integrations between the voice recognition software and the EMR software. Make sure you understand to what extent an EMR vendor has integrated voice recognition into their EMR.

Hybrid
I hate the term hybrid, but in this method of documentation they'll use a mixture of multiple documentation methods. For example, they might use some point and click with document management (scanning of handwritten charts). The benefit of this method is that physicians can document on paper as they're used to doing. Opponents of this method argue that this documentation method doesn't store granular health data which can be used for better patient care, reporting and other benefits. Furthermore, this documentation method doesn't solve the issue of doctors′ handwriting being illegible.

Integrated, Independent or Interfaced Practice Management
The healthcare IT industry has gone through a major shift in its approach to integrations between practice management systems and electronic medical records. In the past, most people interested in EMR software already had a practice management system and few if any EMR software companies provided their own practice management software. Instead they focused on integrating the existing practice management software with an EMR software. The argument is that the practice management software company could focus on making great PMS software and the EMR vendor could focus on creating great EMR software.

While you can still find a number of EMR vendors who focus on integrating with external practice management software, the majority of EMR vendors are now offering an "integrated" PMS and EMR software package. The only problem is that many of the EMR vendors bought PMS software to create their "integrated" software packages. If the EMR software has two databases, one for the PMS and one for the EMR, this is likely what happened. Certainly there are some inherent benefits to having a truly "integrated" PMS and EMR or even having a "tightly integrated" PMS and EMR. The most common being a central patient database along with integrated billing. Plus, many people love the fact that there is only one vendor to blame if there is a problem with the systems. A truly integrated

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PMS and EMR does also have greater potential for high quality integrations between the two pieces of software. In fact, you'll barely know the difference between EMR and PMS. Just be careful, because the depth of integration varies widely amongst the 300+ EMR vendors.

My personal suggestion is that if you love your practice management software, then feel free to consider a high quality EMR that will integrate with that practice management software. If you don't like your current practice management software, then look for an EMR vendor that has a truly integrated PMS and EMR.

Interfaces

Knowing which type of interfaces you would like to have with your EMR software can help you narrow down the number of EMR vendors you will need to consider. Many clinics have interfaces with their local hospital, lab, pharmacies, and many EMR are starting to interface with various PHR vendors as well. Interfaces can save a tremendous amount of time and money if implemented correctly. For example, a lab interface can send the lab results directly to your EMR software electronically. No more managing a stack of unread lab results or trying to find a misplaced lab. Certainly most of the interfaces out there are built on a standard such as HL7. However, HL7 can be interpreted a number of different ways, so you'll want to make sure that whichever EMR vendor you select can interface with the outside vendors you want to work with.

Specialty Specific or General EMR

As you start to see demos of various EMR software, you will quickly learn that an EMR vendor cannot be all things to all people. Some of them try, but even the largest EMR vendors are better suited for certain specialties. In healthcare there are just far too many specialties for one EMR vendor to be able to perfectly cater to all of them. Identifying EMR vendors who focus on your specialty can be another good way to narrow down the pool of EMR vendors you will evaluate. Just be careful as you evaluate whether an EMR vendor really focuses on your specialty or not. A simple way to know how well they cover your specialty is to ask them for a list of specialty clinics who use their EMR and match your specialty. A few phone calls to doctors on that list and you will have a good idea how well that EMR vendor services your specialty.

Data Conversion Support

Many clinics want to convert and move their current clinical data into a new EMR. This most often happens when a clinic already has an EMR and is looking to move to a new EMR or when a clinic wants the data from their practice management software converted and imported into a new EMR. Either way, an EMR vendor's ability to convert this data is another good way to narrow your choice of EMR vendors. Be careful, since this is an area where clinics often get burned by an EMR salesperson. It is one thing for an EMR salesperson to tell you that they can convert your current data and put it in their EMR and quite another for them to actually do the conversion. Converting data between two EMR vendors is an imperfect art. Often the EMR vendor is making a "best guess" at where and how the data is stored in your legacy EMR software. Be very leery of any EMR vendor who speaks really confidently about their ability to convert all your EMR data. This is another time where it might be good to ask for a list of references that have gone through a similar data conversion with this EMR vendor before.

Specialty Templates

If you are considering an EMR which uses template based documentation, you are going to want to know how many pre-built templates they have for your specialty. However, more

important is that you want to evaluate the process they went through in creating these specialty templates. Non clinical EMR salespeople basically receive a list of specialty templates their EMR vendor contains. Unfortunately, this list means that they have some clinical templates for your specialty. This doesn't guarantee that there will be a plethora of templates covering all of the aspects of your specialty. This doesn't guarantee that the templates are comprehensive. This doesn't guarantee that the templates are effective. In fact, I've very rarely seen a clinician take the templates built by a vendor and start using them. In almost every case, there is going to be some measure of customization required on the physicians end. However, a decent set of templates for your specialty can get you closer to your goal of the perfect templates.

EMR Training Options
There are some EMR vendors that require your whole clinic to go to their headquarters for trainings. Others only do live training while others have really good online training and test taking. Some EMR vendors will be happy to do onsite training and others will stick to only connecting online. The training process can greatly affect the success of your EMR implementation. So, you want to make sure that they provide the type of training you and your office will need to be successful. In fact, some EMR vendors will offer unlimited free training as part of their EMR package. Their pitch is that their EMR software is so easy to use that they are willing to train you as much as you need. Not a bad option to consider since the costs of training can be very high.

EMR Certification
Certification of EMR software has been one of the most misunderstand and misused items in the EMR industry. I will avoid boring you with the history of issues and conflict of interests that surround EMR certification. Instead, I will try to share with you the reason why you should be very careful as you look at so called "EMR certification."

My biggest problem with EMR certification is that it gives end users the false impression that a certified EMR provides some benefit to the end user. Most users get the impression that an EMR that is certified means that the EMR is somehow more usable, more complete, and more effective or that they are more likely to implement that EMR successfully since it is certified. Unfortunately, there is NO evidence that an EHR certification provides any of these benefits. In fact, it is very possible that EMR certification has the opposite effect.

No doubt an EMR vendor that has spent $30k for a certification and tens to hundreds of thousands of dollars developing according to an EMR certification criteria is going to have a very different take about the importance of EMR certification. From my experience, there are some good certified EMR software and some bad ones. The same can be said for EMR software that is not certified.

I am a strong proponent that you should focus on the benefits and goals listed previously and focus much less on EMR certification.

The only wrinkle in EMR certification is the HITECH Act's EMR stimulus money requires users to show "meaningful use" of a "certified EHR." Soon, I will be releasing another e-Book about the details of the EMR stimulus money. You will want to learn about the details of the EMR stimulus money to see if you qualify for the money and if you should take that into account in your EMR selection process. Just be aware that the details of the EMR stimulus money are still in a massive state of change. For example, we still do not know what the

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government will recognize as a "certified EHR" even if some EMR vendors are giving people a different impression.

Certainly the EMR stimulus money is worth considering. However, your selection of an EMR should focus on the benefits it will provide to your office regardless of the EMR stimulus money. Those who focus their selection of an EMR on getting the EMR stimulus money are very likely to regret the decision later.

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Tools for Narrowing the Field of EMR Vendors

Now that I have described many of the pros and cons of the EMR vendors differentiating features you might be asking yourself how you know which of the 300+ EMR vendors meet your desired criteria. Here are a number of tools you can use to help you narrow your list of EMR vendors to about five EMR vendors you will consider.

EMR Selection Websites

There are a lot of websites out there that will help you to identify potential EMR vendors. One that you should consider using is called EMRConsultant.com [Full Disclosure: They are an advertiser on my website, but I recommended them before they became an advertiser]. This website was started by a doctor and has the doctor's best interest in mind. It is not a perfect service, but they do a pretty good job in understanding your needs as a clinic and which EMR vendors might match those needs. EMR Consultant first asks you a number of questions about your clinic including: size of clinic, desired features, specialties, etc. It then uses the data you enter and compares it against over 50,000 data points from EMR vendors. From that, they produce 3-5 customized EMR recommendations for free. EMR consultant can do this for free, because when they refer your name to an EMR vendor they get paid a referral fee. Not all EMR vendors will pay them a referral fee, but enough of them do that they can provide the doctors a nice service for free.

One should be cautious with other EMR selection websites. More and more of these are cropping up every day. Some are good legitimate services and others are just front ends for capturing names which they can sell to EMR vendors. Just be careful for those services which want to refer you to the EMR vendor who pays the highest referral fee versus those who really want to help you find the best EMR software. Like I said, even the most honest isn't a perfect science, but it is a good free way to get started.

Manual Search

There is always the option of searching through the 300+ EMR vendors yourself. I have known a number of doctors who have turned evaluating EMR companies into a sort of hobby. One in particular spent about three years perusing all of the various EMR vendors before finally implementing one in his office. Granted, most doctors don't want to spend the time doing this.

Ask For Suggestions Online

I have seen many doctors go to online message boards like EMRUpdate.com. The people on these message boards have seen a lot of different EMR vendors and can help you understand the pros and cons of each. LinkedIn also has a growing EMR community where you can get suggestions on which EMR vendors to consider. Plus, on LinkedIn you can check out the person's profile and to see what vested interest they might have in their recommendation. Just be careful how you make your request since the EMR sales vultures will quickly appear to sell you their product.

Ask Colleagues

A large majority of EMR users find their EMR based on the recommendations of their colleagues. Colleagues are great as referral sources, because they can tell you firsthand about the EMR software that they are using. Plus, if the colleague is local, you have a perfect place to do a site visit if you like the demo of that EMR system. The problem with a colleague reference is that most of your colleagues only know about one EMR, the one they use. With 300 EMR vendors, your colleagues will only know about a small portion of the options available.

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EMR Selection Consultants

Many offices might want to consider using an EMR selection consultant. The beauty of a consultant is that they will often be familiar with a broad variety of EMR vendors. They also provide an outside perspective on which EMR might be most beneficial to your clinic. One problem that must be avoided is using an EMR salesperson who is dressed in EMR selection consultant clothing. Far too many EMR selection consultants really want to sell you a small subset of the available EMR vendors in order to get paid a referral fee. Similar to the EMR selection websites, many of these EMR consultants will get paid a referral fee based on which EMR vendor you select.

Practices interested in an EHR selection consultant need to first identify his or her biases. Consultants who tell you they do not have any biases should be off your list immediately. Next, request from the consultant a list of clients that reveals the size of the practice and EHR selected. Look for trends that indicate a bias in favor of a particular vendor or vendors. For example, all large practices selected the same EHR. These trends may not prevent you from using this EHR consultant, but should be used to more thoroughly assess their decision-making process and the quality of their advice. Also, be careful with EMR consultants who want to help you select and then implement the EMR they help you select. An EMR consultant that has the knowledge and skill to help you implement a specific EMR will rarely be unbiased in their ability to help you select an EMR vendor.

Organization Ratings and Rankings

Many different clinical organizations have lists of EMR vendors. I personally have not found many of them to be that useful, but other people really love these resources. My problem with these lists is that you do not really have a way to know the honesty around the ratings given. The people who respond to most of these lists are people that had a very bad time with that EMR vendor or those who have financial ties to their EMR vendor. Many times EMR vendors will ask their doctors to rate them well. It is a real challenge to aggregate enough quality ratings to make these lists worthwhile. Even independent organizations like KLAS have a real challenge ranking over 300+ EMR vendors. Each clinical organization, specialty, practice size, location, adds a new level of complexity which makes it very difficult to make a list of any value.

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Details to Consider When Evaluating EMR Vendors

Now that you have narrowed your list of EMR vendors to a reasonable number (somewhere around five is a great number). You can start to evaluate the more specific details of an EMR vendor. These are the things that will really help you to differentiate between the various EMR vendors since you will find many similarities. Here is a quick look at some of the things you should consider as you evaluate the various EMR vendors.

List of EMR Benefits

Remember the list of EMR benefits that you used to get buy in for an EMR implementation? That list is the best place to start when evaluating the various EMR vendors. Take each of the benefits you would like achieve and use those as a basis for evaluation of each EMR vendor. Learn how each EMR vendor will achieve those goals and make an evaluation of how likely and how effectively that EMR vendor will help you reach the goals you have set for your EMR implementation.

For example, one major goal might be to improve the workflow of your clinic so that you can see more patients and make more money. As you go through the demos, site visits, test drives (which I'll talk about later), you will need to evaluate and keep track of how that EMR vendor will help you see patients faster while still maintaining the same standard of care. Do they speed up how you prescribe the medications? Do they improve how quickly you can make referrals? Does their documentation method allow you to more quickly and effectively document the patient visit?

Be systematic in your evaluation of the EMR software's benefits and how they will be achieved in your office. This will make it much easier for you to know which EMR vendor will earn your business.

True EMR Price

I previously discussed the various pricing models that EMR vendors employ. There are additional costs that must be considered when evaluating the true price of an EMR. Of course, we all know about the cost of the EMR software. There might be other software that you need to purchase also. For example, you might need to buy the server software, database software, workstation software, fax server software, scanning software, antivirus software, voice recognition software, and firewall software to name a few. Hardware is no different. You might need to buy servers, additional workstations, network devices, scanners, printers, cables, a fax server, microphones, and other peripherals to name a few. Evaluate the difference in price between your current IT infrastructure and the future needs for that EMR.

Make sure you don't forget the training fees that your EMR vendor is likely to charge you. Some EMR vendors offer free training, but most offer some combination of on site, online, or offsite training for end users. This can be very pricey so make sure you add it to your total cost for that EMR vendor. Interfaces are another often unexpected expense. Interfaces require the support of both parties. For example, the lab and your EMR vendor both need to be involved in a lab interface. This also means that you need to calculate both vendors' costs to implement desired interfaces.

Some EMR vendors will also charge you for any special databases they may have licensed from another vendor. This should be a part of the EMR vendor's quote to you, but make sure this is part of the quote. Plus, remember that this licensing is often an annual fee. It

is also very important to factor in the annual maintenance and support fee you will end up paying your EMR vendor for ongoing support and upgrades to the EMR system.

I have heard someone suggest the rule of thumb is 1/3, 1/3, 1/3 (software, hardware, services). This might vary somewhat depending on the business model of the EMR company, but it is a useful measure to consider as you evaluate the costs you have received for your EMR implementation. If one area is low you might want to ask a few more questions to make sure you did not miss out on any costs you might need later.

ARRA (HITECH) EMR Stimulus Money
There is a really big elephant in the EMR selection room called EMR stimulus money. It amounts to $18+ billion in government spending or more specifically $44k per Medicare provider or $65k per Medicaid provider. I won't go into all the details of the EMR stimulus in this e-Book, but will be coming out with a separate e-Book dedicated to the EMR stimulus money. However, the EMR stimulus money can be an important part of your EMR selection and so I will cover some of the broad details in relation to EMR selection.

In short, the HITECH Act, which is part of the ARRA stimulus package, requires doctors to show "meaningful use" of a "certified EHR" in order to qualify for the above stated EMR stimulus money. $44k per provider could amount to a pretty large sum of money, especially if we are talking about a large group practice with many providers. The case for doing it is simple: $$$$. Let me make the case against worrying about the stimulus money and then provide some counsel as to how I would approach the EMR stimulus.

The most important thing to consider with the EMR stimulus money is whether a "certified EHR" and the "meaningful use" requirements are going to make your practice less efficient. One way this could happen is by selecting an EMR vendor that qualifies you for the EMR stimulus, but is not very usable and therefore takes you longer to do your job. The other way is that the granular reporting that you have to do to show "meaningful use" requires more effort on your part in the documentation and retrieval and therefore you can see less patients. Either way, you must ask yourself how the loss of efficiency compares EMR stimulus money you will receive. Furthermore, remember that the loss of efficiency will likely continue on forever, but the EMR stimulus is only the next 5 years.

The other argument against the EMR stimulus is that EMR vendors that qualify for the EMR stimulus are often more expensive than some of the other usually smaller EMR vendors who do not qualify. You will be able to compare this first hand as you evaluate the various EMR vendors. You might also want to consider some of the past experiences from those who tried to get the PQRI incentives from the government. Many of them reported a challenge proving to the government that they qualified for the PQRI incentives. The EMR stimulus requirements are even larger and so I think we can expect similar challenges.

Do not misunderstand. The challenges I describe are with the EMR stimulus money legislation and not with EMR software itself. Remember the 30 some odd benefits listed at the beginning of this book to understand the potential benefits of EMR beyond the EMR stimulus money.

My suggestion is that clinics focus on the natural benefits they can receive from implementing an EMR instead of focusing on the government handout. Do not let the EMR stimulus money lead you to an EMR that will make your work life miserable or you will

seriously regret it later. Instead, create a business case for EMR without the EMR stimulus money and then use the EMR stimulus money as a possible bonus if everything works out.

EMR User Interface

One of the hardest parts of an EMR to judge is the EMR software's user interface and yet it might be the most important thing you do. At the core of the user interface you should ask yourself the question, how usable is this EMR? How quickly will I be able to process patients, documents visits, print scripts, order labs, make referrals, etc? Think about the tasks that you do most often each day and then imagine doing those tasks over and over again with that EMR software.

A well done EMR software makes the tasks you do regularly easier to accomplish. This is why the EMR demo, test drives and site visits which I talk about later will be so valuable. They will give you a chance to see firsthand how usable the EMR software will be.

A good sign of a usable EMR system is how obsessive the EMR vendor is about the number of clicks you have to do to accomplish a task. Be concerned about an EMR vendor who says that something is just a click away, and then clicks three times to show you what they are talking about. Every extra click will matter once your clinic implements that EMR and you have to do that click for every patient you see that day.

While you cannot easily put a dollar sign on the usability of an EMR, do not undervalue the benefit or pain associated with the usability of an EMR.

Matching EMR Organization Size with Your Organization's Culture

One factor that I think that most clinics don't consider enough when selecting an EMR is the size and focus of the EMR vendor. I'm not even going to sit here and advocate that you select a small, medium or large EMR vendor. Instead, my suggestion is that you find an EMR vendor whose size matches your clinic's culture.

Let me explain. Some clinics have a nice sized budget and want the ability to customize an EMR like crazy. Many of the large EMR vendors provide customization beyond what you can imagine. The problem is that this often costs a lot of money. However, if you have the money and want it customized to your exacting specification, then maybe a large vendor is right for you.

On the other hand, maybe your organization's culture is such that you want to be able to help mold the product development and help the EMR vendor to be on the cutting edge of what you think is important for you and your patients. In this case, it might make more sense for you to select a small EMR vendor who's looking for clinics to essentially be partners in helping to drive the development of their EMR software. This can be a lot of fun to see happen as your suggestions and input is realized in future releases.

In other cases, maybe you just want to find an EMR that just flat out works. It doesn't take too much time and money to customize to your needs, but has almost all the features that you're likely to need. You are willing to make some reasonable workflow modifications and adapt as needed to make the EMR work effectively. A mid size EMR vendor is likely to be a good fit for this type of clinic.

The fact is that each clinic has a different culture and so does the EMR vendor. One major part of the EMR vendor's culture relates to the organization's size and the maturity of their

EMR software. Matching up the size of the EMR Vendor with your organizational culture can be one of the smartest things you do when selecting an EMR.

Evaluating EMR Vendor Size and Focus
When writing about matching the size of an EMR organization with your organizational culture, I deliberately left out evaluating the size of the EMR vendor. When selecting an EMR, it's valuable to understand the real size of your EMR vendor and related to its size is its focus.

When talking about size, one aspect to consider is the number of EMR implementations your EMR vendor has in your specialty. Many EMR vendors are trying to be the one universal EMR for all specialties, but the reality is that EMR vendors tend to become very good at certain specialties. You need to ask your EMR vendor questions that will help you understand how many in your specialty are using their EMR. Then, you want to evaluate that against the total number of EMR implementations by that EMR vendor. Also worth considering is an EMR vendor with two EMR implementations in your specialty might still be an enormous organization with hundreds of EMR implementations in other specialties. Other EMR vendors might have a large number of EMR implementations in your specialty, but are still a small company since they only focus on your specialty.

Knowing the EMR implementation ratio for your specialty and true size of the EMR vendor, you need to start finding out where the EMR vendor's focus lies. Having more EMR implementations in your specialty isn't always a good thing. This might mean that they'll stop focusing development of their EMR for your specialty and will focus on expanding their EMR for other specialties. The question you want to ask yourself is how much development and support time this EMR vendor be putting towards my clinic's successful use of their EMR. Their focus on your specialty is one measure to consider in this evaluation.

Now how do you evaluate the focus of your EMR vendor? I've found most of them are quite transparent with their direction, goals and ambitions. A quick look at their website will often show you which specialties their EMR is focused on or if they're trying to serve everyone under the sun. Some EMR vendors have message boards or blogs where you can interact with users of that EMR system. These users will often know where the EMR vendors focus lies. Trusted outside consultants for that EMR software can be another source of learning about the EMR vendor's direction. Another option is to look at the latest changes to the EMR software in what most people call the "release notes." A look at the latest addition to the EMR can often reveal an EMR vendor's focus.

Who Owns the EMR Data?
Each EMR vendor approaches the data you create in their EMR software a little bit different. Who owns the data stored in your EMR is a good question to ask EMR vendors. Don't accept a simple answer that might not tell the whole story. For example, they might tell you that you own the EMR data. However, if they provide no way for you to get the data out besides their EMR, then do you really own the EMR data? EMR data portability has become a heated discussion with most EMR vendors. Most EMR vendors believe that it is not in their best interest to provide you the tools to access the data stored in your EMR in a portable format. They of course want you to continue buying their software. However, there is a new movement in the EMR industry where some EMR vendors are providing the option for you to export all of the data from your EMR.

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In the case of a hosted or SaaS EMR, this become an even more important consideration. With a SaaS EMR, not only does EMR data portability mean that you could move to a new EMR if needed, but it also means that you can store your EMR data locally if you want. Ownership of EMR data is also important to consider with SaaS EMR vendors who might sell the aggregate data across all users of their EMR. Often this means that the EMR vendor is providing a very low cost solution, but many people do not feel comfortable with their patients' health data being sold to other companies.

Standards Used
There are number of healthcare IT and EMR standards which can be integrated with an EMR. Standards include: HL7, CCR, CCD, ICD-9, ICD-10, and SNOMED to name a few. Understanding a vendor's approach to these standards can be really beneficial when differentiating the different EMR vendors. Does the EMR vendor embrace standards? When they choose not to implement a standard do they have a logical reason why they have not implemented the standard? Looking at a vendor's approach to the future ICD-10 diagnosing can give a nice indication of how that EMR vendor will approach future changes in healthcare standards. The healthcare IT and EMR standards are still under major development and are likely to drastically change over the next 10-20 years. Evaluating how your EMR vendor approaches these changes will have an important impact on the future of your clinic.

EMR Demos

Now that you know about some of the most important features of an EMR, let us take a look at the way to get the most out of the demos of your short list of EMR vendors. Every EMR vendor will be more than willing to offer you a demo of their software. The demos come in a variety of formats. Some vendors have a video online that you can watch that demos their EMR software. This is a nice way for you to see a quick overview of their best features and to get a feel of their user interface without the pressure of a salesperson. Although, most EMR vendors will require you submit your contact information to see the video demo. Be ready for a sales call if you put in your actual information. Other EMR vendors provide screen shots of their EMR software. While this isn't a true demo of the software, these screenshots can still give you some initial impressions about what the EMR software can do.

The goal of an EMR demo should be to identify how you will implement and use that EMR in your office. You should make notes of the features that will differentiate the various EMR vendors. A pre-prepared excel file listing the EMR features you believe are most important is a good way to keep and compare notes across your various EMR demos.

Configuration Demos

One of the advantages of a web based or SaaS EMR is that they can often easily provide you a login to a test system where you can test drive the EMR software yourself. Even some client server EMR software companies will do this as well. There is at least one EMR vendor that will literally install their EMR system in your work environment for free to allow you to test out their EMR in your actual environment. The ability to test drive an EMR like this can be incredibly valuable. Just be careful to understand what type of demo access they provide you. Let me explain.

An EMR vendor who lets you test drive their EMR could provide you the EMR software in two different formats. The first is a demo system that's been updated, modified and pre-configured with some of the most common settings. This is a valuable demo, because it can illustrate the potential of the EMR software fully configured. However, it can also give you a false impression of the work required to get to a fully configured EMR.

In order to avoid this problem, you should ask to test drive the unconfigured EMR software that you'll receive if you purchase their EMR. This will be an incredibly valuable demo of their EMR software because it will help you quickly understand how much time and effort will be required to configure that EMR vendor's software from scratch. If an EMR vendor tells you that there is no configuration needed for their EMR, some really large red flags should appear. If nothing else, you will need to configure your hours, providers' names, clinic details, and usernames. Although, by test driving an unconfigured piece of EMR software, you will quickly understand the vast number of parameters you will have to configure to adjust the EMR to how you work.

If an EMR vendor does not offer this type of test drive, you can ask the EMR vendor to do what I term a "configuration demo." In a configuration demo, you ask them to show you the out of the box EMR software that you will receive. Then, you can ask them to demonstrate all of the setup that will be required for you to do to make the out of the box EMR software look like the full demo system they use.

The best EMR software will have a nice balance between pre-configured defaults and the user defined settings. Plus, you want to make sure the EMR has a simple user interface for

changing the default settings and configuring the new settings you will need to define. Be aware that many of these configuration options can be set by an EMR consultant if you choose to use one during your EMR implementation.

EMR Sales Demos
The most common type of demo done by EMR vendors is the EMR sales demo. This demo of their EMR software is often done in person. However, the latest trend in EMR demos is to demonstrate the EMR software remotely. In this situation, you usually will connect by phone and then the EMR vendor will provide you a link where you will be able to see the EMR vendor's desktop across the internet. This technology is quite simple and just requires you to have a phone line and decent internet connection.

Many doctors have a mild to strong disdain for these EMR sales demos. However, if done right you can glean a nice general understanding of the EMR software. You will still want to test drive the EMR (where possible) and do an EMR site visit, but these sales demos will give you a baseline of understanding about the EMR software that will make the test drive and site visit much more valuable.

One word of caution, do not be naive during the demo. Understand that the person demoing you the software has one goal in mind: you purchasing the EMR software. Keep this in mind and be reasonably skeptical about what is being told you by the sales person. Do not be afraid to ask a lot of questions to make sure you understand what they are trying to say. One of the biggest problems with EMR demos is that those watching the demo assume something which is not correct. Those incorrect assumptions will come back to haunt you if you are not careful.

Asking Good Questions
In order to get the most out of your EMR demo, you need to ask the right questions. An EMR salespersons goal is to answer your questions in the most flattering light possible. Your goal should be to ask questions that will help you truly understand the strengths, weaknesses and capabilities of the EMR software. A simple suggestion will dramatically improve the questions you ask. **Do not ask any questions that can be answered with a simple Yes or No.**

For example, during an EMR demo you might ask a vendor, "Do you have any cardiology specific templates?" 99% of EMR sales people can quickly answer this question with a resounding "Yes" and then keep moving on with the demo. The problem is that while an EMR vendor might have cardiology specific templates, they might only have two of them and those couple that they do have might not be any good. Plus, how would an EMR salesperson have any idea how good the specialty templates really are? If instead of asking the Yes/No question above you asked, "Can you show me the cardiology templates you have available?" you will receive a much more valuable response to your question.

EMR Sales Miscommunication
After reading my above commentary, many might think that I consider all EMR salespeople as liars that cannot be trusted. While I know there are some EMR salespeople that are unethical liars, my experience has been that the majority are good people just trying to sell a product. The problem is that as salespeople they do not often give you all the information. Sometimes this is purposeful and other times it is just a misunderstanding. Regardless of why, you have to guard against what I call *EMR sales miscommunication*.

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This is best illustrated by some examples. Let's say you ask an EMR salesperson if they have a lab interface. No doubt their answer will be in the affirmative. The salesperson did not lie in their response. They do have a lab interface. The problem is that when you ask the question, you might be assuming that a lab interface is bi-directional and will both send lab orders to your lab and then receive the results to the labs. The reality might be that the EMR vendor only supports a uni directional interface that receives results but doesn't actually send the orders. You might also assume that lab interfaces are standard across all labs, but then might later find out that your specific lab is not supported. You will quickly remember that you asked if they supported a lab interface, which they do, just not with your lab. A simple EMR sales miscommunication thanks to an assumption made.

Other times you might assume a relationship between two questions you ask. For example, you might ask an EMR salesperson if they support Insurance Company A. Then, you might ask them if they support electronic claims processing. Both of these questions might be true on their own. However, if we put them together, it doesn't necessarily mean that the EMR supports "electronic claim processing" for "Insurance Company A."

Do not get too caught up in these specific examples. Instead, focus on the concept that it is very dangerous to assume things in an EMR demo. Assumptions lead to EMR sales miscommunication which can lead you to select the wrong EMR software.

Personalized Demo
One of the biggest complaints about EMR sales demos is that they are canned presentations that the person demoing has done hundreds of times on a system that was designed perfectly for those specific features. In fact, in many cases the person demoing does not know how to use the software much more than the specific features they demo to everyone. Basically, you are getting a polished presentation on a system that was setup to work perfectly for that presentation.

As we all know, medicine just does not work like that. How often does a patient come in with an ear infection and after you have finished evaluating the ear infection they start to tell you about their knee pain? In order to see a demo of this type of situation ask the person demoing the EMR to allow you to act as patient. Then, you as patient can provide a real life example of what the patients actually do in the exam room. You will learn a lot about the EMR software when you see how it is used in real life scenarios and not just canned demonstrations.

Another option to personalize the demo is to provide a set of "use-cases." In this, you provide the EMR vendors a set of typical scenarios that are played out in your office. Then, you can compare how each EMR vendor addresses the "use-cases."

Entire Flow of Patient
In an EMR demo, make sure that the EMR vendor goes through the entire natural flow of a patient through the EMR system. How will the patient get checked in? How will the nursing staff know the patients are ready? How will the doctors know the nurses are finished? Ideally you would provide the exact same scenarios and workflows to each EMR vendor so that you can more easily compare the various EMR vendors' software.

Hard Questions

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Don't be afraid to ask them hard questions. For example, you might want to ask them company details about the stability of the company or whether it is a private or public company and its plans for the future. You might want to ask them what would happen if the EMR vendor disappears. Is the data stored in the EMR portable to another EMR? Some people are afraid to ask these types of probing questions. No one really wants to think about what if you have to switch EMR companies for some reason. However, it is perfectly alright and encouraged to ask them hard questions. Selection of an EMR is something that will become a major part of your clinic and so these questions are not only necessary but important.

Multiple Demos
There is no reason that you should not do a second or third demo with your top EMR providers. These second and third demos can be incredibly valuable after you have had a chance to test drive the system or done a site visit for that EMR. Not only will you be able to ask better questions the second time, but you are also likely to see new things that you might have missed during the first demo.

EMR Site Visits

Once you have seen the demo of the various EMR vendors, you should be able to rule out a number of the EMR software you demoed. With this narrowed list, you now want to consider which EMR vendors on your list you want to learn more about. One of the best ways to really learn about EMR software is to do a site visit to someone who is using the EMR software day in and day out. If one of your colleagues recommended this EMR vendor, now is a good time to go and visit their office to see the EMR being used in an actual practice. If you don't know anyone who uses that EMR, your EMR vendor can provide a list of clients who use their EMR. Ask for their full list of clients and not just a few users that the EMR vendor wants you to see. Most EMR vendors are proud of their local EMR users and they can become an invaluable resource to you once you start implementing your EMR.

During your site visit, you want to focus both on seeing the EMR system in motion and asking good questions of the end users. Certainly you'll have to be careful about patient confidentiality, but most EMR users have a test patient they can use to show you how the EMR system works. Even if they do not have a test patient, you can still make note of their computer setup and workflow. How do they handle patient check in? How many computers do they have to facilitate the use of an EMR? A site visit can tell you a lot about the workflow with that EMR and will allow you to compare it to your desired workflow.

Other questions you will want to ask during a site visit might include questions about an EMR vendor's support. How often do they have to call for support of their EMR and what type of response do they get when they call? What type of EMR training did they receive when they implemented the EMR? Which training was useful and what might they have done different with training? How much effort was required to configure the EMR when they first started?

There are also more general questions to consider asking. For example, you might ask what the best and worst features of that EMR are. What things would they do differently if they were to implement this EMR again? Which things went really well during the EMR implementation? It is also important to get feedback from multiple areas of the clinic. The front office may love the scheduling features, but the doctors may hate it. The billing people might love the billing features, but the nursing staff might be annoyed by its lack of usability. Make no doubt about it, implementation of an EMR will affect every part of your office and you need to be aware of any challenges you will face so that you can prepare for them appropriately.

One word of caution during an EMR site visit, when listening to a users experience be careful to differentiate between issues related to a specific clinic versus EMR specific issues. Just because a clinic has a certain problem with an EMR does not mean that every clinic will have that problem. For example, one clinic might hate that the doctor has to participate in the coding done for the visit. However, another office might have always had the doctor participate in the coding. At an EMR site visit, you are sure to hear about problems that are specific to that clinic. It is important to recognize which of those problems will affect you and which ones will not. Plus, some problems can be addressed by the EMR vendor so it is worth making note of the issues you find and talk about them with the EMR vendor.

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EMR Vendor Background Check

If the EMR vendor is your only source of information in selecting an EMR, then there is definitely a problem. An EMR site visit is a good step in the right direction for getting outside information on an EMR vendor. You will definitely want to take it a step further and do a sort of "background check" on that EMR vendor. You may not do this with every vendor you demo, but should definitely do it for those you are considering purchasing.

A search online will turn up a lot of information. You can also do searches on EMR specific forums like EMRUpdate.com. They are full of reviews and information on all sorts of EMR vendors. Read the reviews with some skepticism, but use the information as another point of reference and discussion with your EMR vendor. Plus, you can validate other people's comments as you test drive the EMR yourself.

A number of EMR vendors also have online user groups. People participating on these online forums can provide you a wealth of information about that EMR vendor as well. You might also consider searching for any past legal action against the company. Other organizations like KLAS or physician organizations have resources and reviews of EMR vendors that can be another source of information on an EMR vendor.

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Once you have gone through the demo process, an onsite visit, and a test drive of the EMR software, it will often be clear which EMR is the most usable. With that said, I encourage you to go back and review the goals for your EMR implementation. Be very systematic as you review the EMR vendors you have demoed. Compare how each EMR vendor meets those goals and you will likely see a strong difference between the various vendors.

During this comparison, you are very likely to see mirrored strengths and weaknesses in two different vendors. To evaluate the two vendors, instead of comparing the strengths of each, you might consider comparing how you would overcome the weaknesses of that EMR. Basically, which workflow changes, process changes, etc will be easier for your clinic to deal with going forward?

Be sure to involve the entire clinic in the entire selection process. If you do not, then you will end up paying the price during the EMR implementation. All areas of your clinic want to feel that they are involved in the EMR selection process and that their opinion mattered. Doing so will be essential to you taking the next step of implementing the EMR.

Do not rush the EMR selection process, but do not over think it either. This is a very important decision and switching EMR software later is a cumbersome and expensive process. Plus, this EMR will be at the center of your practice, so you want to make sure you choose the right one. Also, if one of the first EMR demos you did doesn't feel like a great match, there is no shame in demoing one of the other 300 EMR vendors out there.

At the end of the day, you know your practice, you know your culture, and if you have done your homework you will make the best decision possible.

Selecting the Right EMR

Contract Negotiation

Once you have made a final decision on an EMR vendor, it is time to start negotiating the contract with the vendor. It is interesting that doctors are use to negotiating contracts for purchases of large medical devices, but for some reason do not often negotiate the details of their EMR contract. The amount of negotiation room you have in a contract will depend on a number of factors. Generally the larger the EMR vendor the less negotiation room you have with the contract. Interestingly, the larger your organization the more negotiating power you will have as well. That is not to say that large EMR vendors and small doctors do not negotiate the contract. They are just less likely to negotiate or there is less room to negotiate.

There is always some room to negotiate with your EMR vendor. The vendor's first proposal or contract is always their first offer. You should never take it since price and contract details can always be negotiated.

Also be aware that negotiating a contract with a SaaS/Hosted/ASP EMR vendor will require more negotiation than with a client server software vendor. Since all of your clinical data is stored on the vendor's servers and you are depending on them for the reliability of your EMR, there are just more points of negotiation and more guarantees that will need to be made in the contract.

Negotiating your EMR contract is one time you might want to consider using an EMR consultant who has experience in EMR contract negotiation. This is even more important if you have a medium to large size practice which has some negotiating power. Often you will find that the money that an EMR consultant can save you in the contract negotiation process will be more than enough to cover the cost of their services. However, there are some people who love the negotiating process and are perfectly capable of handling the contract negotiation themselves.

Many doctors find themselves handing their contract over to their lawyer to handle the negotiation. You will want an lawyer to look over it for final review. However, very few attorneys know much about negotiating tech software contracts. Lawyers usually bill by the hour and you do not want to be paying your lawyer by the hour to negotiate commas and periods that will have little meaning or value to your practice.

Here are a few of the most commonly negotiated parts of an EMR contract (not a comprehensive list):

Costs - All costs need to be clearly defined. Do not just define the services and software costs, but also the cost for things you might need in the future like: consulting, special programming, upgrades, support, etc.

Definition of Provider - Many EMR vendors will charge you based on the number of providers in your office. It is important that the contract clearly states what they define as a "provider." Is it a Doctor with a PA? Is it a doctor with an nurse practitioner? Are mid lever practitioners counted separate from doctors?

Payments - EMR vendors that charge a lump sum payment for their software will often allow you to divide the payments across the EMR implementation. Often you'll pay a third of the

price up front, a third of the price when the EMR system is somewhat usable and the final third once your staff is fully trained on the EMR.

Business Associate - Make sure your contract includes the fact that the EMR vendor is a business associate and that the vendor will follow all of the HIPAA guidelines that are now required to be followed by a business associate. This would also include all of their contractors. Make sure that they have signed the business associate agreement also.

Support - Include specific time frames and response times that you can expect when you submit a support request. What is the Service Level Agreement (SLA) for the help desk and what are its hours of operation? Most large vendors will not have a problem with this since they usually have well established support policies. Define the recourse you have if they do not meet those time frames and response times.

Vendor Warranty - Be sure to include a warranty on the vendor's product. This might include penalties if the vendor is not able to deliver their software or money back.

Define Upgrade - Many vendors will come out with additions to their system which they will call a new product instead of an upgrade to the existing system. Be sure to clearly define what the EMR vendor will consider an upgrade to the EMR (which usually comes free) and what will be considered a new product (which usually means you will have to pay extra). The contract should also specify that upgrades should only be done after notification of the upgrade and consent is received. Although, with a SaaS EMR you can probably get them to notify you of updates, but are unlikely to have consent to upgrade in your contract.

Testing Upgrades - You might want to have your EMR vendor include details on the testing of upgrades to their product and any recourse you have if the testing of their product has problems. For example, the contract might detail what type of response you will receive in the event of a failure.

SaaS EMR Downtime - A Service Level Agreement (SLA) should be established with a SaaS EMR vendor as far as how long it will take the vendor to restore the service in the event of an outage.

Buy Out Clauses - Details around the support you will receive if an EMR vendor gets bought out should be included in a contract. Your contract with them should remain effective 5-7 years after they are bought out.

Out of Business - EMR contracts should include details on what will happen in the event the EMR vendor goes out of business. This will likely include access to the source code in an escrow account. For SaaS EMR in particular, it will also include access to your EMR data.

Access to Database Schema - The database schema is essentially a roadmap of how the data is stored in your EMR software. Your contract should specify the EMR vendor's requirement to provide you the database schema along with updates to the database schema as newer versions of their software is released. The database schema will be essential to you exporting your EMR data in the event you want or need to switch EMR vendors.

Ownership of Data - ALWAYS specify that you own the data stored in the EMR.

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License Transfer - In the event that you should want to sell your practice, your EMR contract should specify that the software license to your EMR is transferable to the new owner.

Product Feature Guarantees - During an EMR demo you will often request a feature that is essential to your selection of that EMR. EMR vendors will often agree to include that feature in their next product release. Guarantees or rebates should be provided in the contract if the vendor does not provide the promised feature or functionality.

Product Defect - The EMR contract should include that the vendor will indemnify you in the case of a defect in their product. For example, you ePrescribe one drug, but a different drug is transmitted to the pharmacy.

Vendor Insurance - Vendor must be required to supply an insurance binder showing the amount of coverage and type of coverage. This should be required to be sent to you every year.

EMR Interfaces - If your EMR is being interfaced with a PM, Lab, Pharmacy, Radiology, etc, then you will want to consider a warrant that the interface will work and if it stops working that they will provide a fix. This is especially important when upgrades are made to the various software systems on both sides of the interface.

HIPAA Compliance - Make sure the contract includes a warranty that the software is HIPAA compliant.

State and Federal Law Compliance - The vendor's software will need to be compliant with all applicable state and federal laws and they will pay fines in the event of a cause of action.

The most important part of the contract negotiation is to make sure that it clearly defines who does what. It should be clearly stated the roles and responsibilities for the EMR vendor and the users. Negotiating the contract is not a time to be shy or timid. It is a time to work through the worst case scenarios to ensure that your clinic is in a good position if heaven forbid those scenarios play out in your office.

Selecting the Right EMR

Managing Expectations

One problem most people face is managing their expectations when selecting an EMR. I can say without hesitation that **there is no Perfect EMR**. Implementing an EMR can provide a number of really tremendous benefits. However, you will not find an EMR that matches every one of your needs. Even those doctors who develop their own EMR have long lists of features that they would like to add to their EMR.

One of the most valuable things you can do is set reasonable expectations for yourself and your clinic. Decide which EMR benefits you most want to achieve and work towards those. Do not expect to solve every problem in your clinic by implementing an EMR. In fact, if you are not careful an EMR will just accentuate the problems you are experiencing in your clinic. Solve those problems before implementing an EMR. Expect that your EMR will provide you some amazing benefits, but that there will be issues that you will have to overcome. EMR selection is not about finding the perfect EMR, but identifying one that will provide your clinic the most benefit.

References and Resources:

EMR Consultant (http://www.emrconsultant.com) - Free website that has helped over 10,000 practices with free EMR advice. Analyzes 200+ EMR vendors against a clinical profile to make EMR vendor recommendations. Run by a doctor who really wants to help doctors select the right EMR. Not perfect, but a good tool for narrowing down your EMR selection.

EMR Update Forum (http://www.emrupdate.com) - The most active EMR forum on the web. An incredible repository of information about EMR software. Definitely a forum of many different opinions. Best used as a point of reference for more research and understanding on a specific EMR or the various EMR features and not as the end all be all. Great place to meet other people passionate about EMR software.

EMR and HIPAA (http://www.emrandhipaa.com) - One of the most popular EMR blogs with over 700 different posts about EMR related topics over the past 4+ years. The most up to date and practical EMR blog on the internet. This e-Book is essentially the cliff notes version of what was originally posted on EMR and HIPAA. Ok, so I am a bit biased since this is my website. You can also find my EMR work on http://www.emrandehr.com