



The Digital Medical Office of the Future

Market Assessment

**How will the EMR/EHR revolution affect
Billing Company Owners/Practices**

White paper



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HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

Members of the Healthcare Billing & Management Association (HBMA) process medical billing, physician billing, insurance billing, and other claims integral within a healthcare billing delivery system. HBMA members frequently perform all of the physician's practice management functions, accounts receivable management, medical billing consulting, and **proactive** management services. The key word here is **Proactive**.

As the **Trusted Advisor** to over 200,000 physicians, HBMA members must be proactive when it comes to providing trusted knowledge relating to the Electronic Health Record (EHR) marketplace to their physician clients. A **proactive** HBMA member can help maintain their client base and actually grow revenues. A **reactive** HBMA member will experience decreases in client base and an overall reduction in annual revenues.

EMR or EHR?

Before we begin, let's start by reviewing the differences between an Electronic Medical Record (EMR) solution and an Electronic Health Record (EHR) solution. Many individuals in the healthcare marketplace assume that both terms are the same. In reality, if they were the same, we would not need different names. Let's start my reviewing functionality of an EMR solution. Typically, an **EMR solution** provides full charting and Document Imaging Management, along with e-Rx with formulary tracking by healthplans, automated E&M coding and verification, medical necessity checking by CPT and Diagnostic codes, comprehensive orders and results reporting, with integrated workflow routing and tracking. An **EHR solution** traditionally provides full EMR capability (see above), plus clinical tracking of the patient's "health" related indicators. These indicators include health maintenance alerts and tracking based on national, regional, and local guidelines, proven interoperability with other EMR vendors, national clinical standard couplers, and clinical decision support with nationally recognized decision support alerts at the point of care. In many cases, the EHR solution also includes a internet-based Personal Health Records allowing the patient, and/or family access to important clinical information, education and clinical guidelines designed to improve the patient's health.,

National EMR/EHR Trends

Over the past two years, the number of physicians who have indicated that they plan on implementing an EMR/EHR application in the next 18 months has increased from 18% in 2005 to 67% in 2007 (1). With the increase in EMR/EHR interest, we have also determined

that 87% of the practices, considering an EMR/EHR application, are also considering replacing their current Practice Management Systems (PMS). With the increased interest, many healthcare organizations are now offering EMR/EHR applications to community-based physicians. The largest groups are:

- **Hospital:** With the relaxation in the Stark Laws, hospitals are now offering subsidized EMR/EHR applications with a bundled practice management system. In numerous cases, the hospital is also offering a complete **revenue cycle management (RCM)** program. Under these programs, the hospital is offering either a stand alone EMR/EHR or a combined PMS and EMR/EHR at a reduced or subsidized rate, if the practice also allows the hospital to handle their billing activities. We have seen financial models of 5% to 9% of revenues plus the cost of EMR/EHR product installation and training.
- **MSO, PHO, and IPA:** Physician groups, (Management Service Organizations, Physician/Hospital Organizations, and Independent Physician Associations) are starting to be developed or expanded to create buying groups for the purchase and implementation of EMR/EHR applications, often with bundled practice management system. In numerous cases, these groups are also offering a complete RCM program. In the case of IPAs, the Federal Trade Commission (FTC) has ruled that IPAs must either follow a financial or clinical integration program or face loss of their license. Since 78% of IPAs are not "financial based", this means that 78% of IPAs must show "clinical integration" to survive. Of course, the best way to show clinical integration is to implement a community-

1 AC Group annual survey of physician buying patterns, based on 4,757 physicians.

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

based EMR/EHR Under these programs, the hospital is offering either a stand alone EMR/EHR or a combined PMS and EMR/EHR at a reduced or subsidized rate, if the practice also allows the hospital to handle their billing activities. We have seen financial models of 5% to 9% of revenues plus the cost of EMR/EHR product installation and training.

- **EMR/EHR Vendors:** In the past two years, a number of the integrated PMS/EMR/EHR vendors have started offering RCM programs at rates below many HBMA members. Companies like Athenahealth, Greenway Medical, McKesson, eClinicalworks, and NextGen are now offering combined PMS and EMR/EHR applications along with RCM program, similar to programs offered by HBMA members. In many cases, the complete software and service program is offered at a rate ranging from 6% to 8% of revenues. This indicates that software vendors could become major competitors to HBMA members.

Given the market interest, HBMA members should start re-evaluating their own long-range business plans and determine how EMR/EHR applications could affect future growth and how not having an EMR/EHR plan could negatively affect current client retention.

Where do you start?

Each HBMA member should start by looking towards their current PMS vendor to determine what their future goals are for EMR/EHR consolidation. Based on a survey conducted by AC Group in October of 2007, 47% of the PMS vendors has already interfaced or integrated their PMS with their own EMR/EHR application.



An additional 23% have exclusive relationships with a 3rd party EMR/EHR vendor. The remaining 30% of PMS vendors have no relationship with an EMR/EHR vendor. The Proactive HBMA member will analyze their current client profiles to determine the risk of not providing an EMR/EHR application in the next 12 months along with an operational and financial review of potential new revenue streams if the HBMA member decides to offer an EMR/EHR application. However before rushing out to determine your plan, HBMA members should become knowledgeable about the market.

Let's start by reviewing the healthcare technology marketplace:

Today, HBMA members provide trusted services to 10,000s of physician organizations including Radiologists, Pathologists, Anesthesiologists, Emergency Room Physicians, and hospital employed clinic based physicians, community-based independent physicians, and others. The majority of these clients have determined that they need and require an outsourced third-party trusted advisor when it comes to their coding, billing, and accounts receivable services. These organizations have evaluated the suite of billing service providers and have selected your firm as the organization that provides the best service level at the best price. Proactive HBMA members understand billing services only represents 33% of a physician organization's daily life. The remaining 67% relates to the clinical record that is generated by the clinical encounter. This white paper will explore President Bush's goal of automating all clinical records by 2014 and how HBMA members can turn this goal into "gold".

According to an article in the New York Times (April 30, 2003) entitled "Health Care Limps Up Political Ladder" by Robin Toner, the number one pocketbook issue in the country is health care costs. We have seen numerous initiatives in Congress trying to stretch Medicare coverage and States are struggling with their Medicaid burdens. "There is an incongruity here, as Bob Blendon, a Harvard University expert on public opinion and health, put it: (Presidential) Candidates are proposing bold visions to expand coverage in the future, 'and we don't have enough money to pay for the present.'"

Four years later, we face the same problem. The healthcare industry has traditionally lagged 10 years behind other U.S. industries in the effective utilization of information technology to improve the quality, cost and delivery of its services. Business and manufacturing have aggressively pursued a strategy of improving communications and information flow in order to improve operational efficiencies. Now, beset by government mandates for security and by consumer concerns about soaring costs, healthcare has firmly set its sights on developing information technology (IT) solutions that can streamline operations and reduce costs.

An annual study conducted by AC Group indicated that the number of physicians that have purchased EMR/EHRs ranges by size of the practice. Based on the information obtained in the study, less than 10% of practices with the number of providers with less than 10 have adopted EMR/EHRs while 33% of practices with more than 250 physicians have adopted EMR/EHRs.

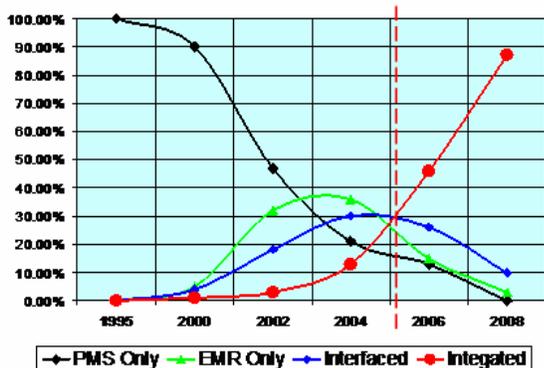
HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

Until 2006, the majority of new technology sales were for EMR/EHR applications. However, in 2006 we saw a major change in the belief that a practice's current practice management system would indeed meet the practice's future needs. In 2003, less than 9% of practices were looking to replace their older PMS application. In 2006 the ratio increased to 29%. Additionally, 60% of the healthcare EMR/EHR vendors have reported major increases in combined EMR/EHR and PMS sales in 2006, a 72% increase over 2004.

Our surveys have also shown a change in physician preference in technology. In 2004, only 12% of our clients were interested in a combined PMS and EMR/EHR application. In 2006, the ratio increased to over 90%.

What are Practices Purchasing?



Source: AC Group annual survey of buying patterns

So what created the change in physician preference? A study of 2,312 physician² showed that 58% of physicians were interested in investing in a comprehensive EMR/EHR within the next 24 months – although many barrier to adoption were indicated. Of that 58% of the physicians, 83% indicated that they wanted to replace their current PMS for the following reasons:

- 59% indicated that they believed the product no longer met their needs
- 74% wanted to have a combined PMS/EMR/EHR from the same vendor to reduce the risk of ineffective interfaces
- 63% wanted to have a fully integrated PMS/EMR/EHR with one combined database to insure maximum efficiency
- 37% indicated that their current PMS product was no longer being supported by any vendor

² - 2007 AC Group Study of Physician buying patterns.

CMS and Medicare – a major driving force

Financial pressures combined with expanding benefits are pushing Medicare into a new age where quality and payments will be more closely linked, with great attention being paid to health information technology. At the same time, Medicare officials and members of Congress are wrestling with the current payment system and must make a decision on the 2007 update soon. To prepare for these impending changes, practices will consider the following:

- Practices in many states have an opportunity to participate in demonstration projects that offer financial or other benefits. These typically involve disease management programs and other strategies to better care for patients with chronic illness, such as diabetes and congestive heart failure.
- Medicare officials predict that within five years (by 2012) or less, pay-for-performance initiatives are likely to be a common part of medical practice.
- The Department of Health and Human Services (HHS) is also launching projects to help physicians adopt EMR/EHR systems.
- Under the current reimbursement system, physician payments fluctuate based on a formula that includes a sustainable growth rate (SGR) calculation, and on the projections of the trustees of the Social Security and Medicare Trust Funds concerning the solvency of the programs. The trustees have projected that Medicare payments will decline by about 5 percent each year for seven years, beginning in 2007.
- Medical groups are lobbying Congress and HHS to alter the SGR to drop the cost of physician-administered medications from the current payment calculation. This would reduce the level of automatic cuts that are projected to occur over the next seven years.

Problems, Obstacles and Opportunities

The largest competitor in the marketplace is base-line physician apathy for the adoption of EMR/EHRs. It appears that most physicians have not determined that an EMR/EHR creates enough value compared to the cost and the perceived amount of time it takes to learn how to use the new technologies. With an EMR/EHR adoption rate of less than 9% for large physician practices, most physicians have not developed the appetite to bite off the cost and operational change required to successfully implement a new

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

EMR/EHR offering. The industry needs to stop selling software and start creating a “solution” to the problems that physicians want to solve – **“show me how to make more money while saving time and improving quality”**.

To increase the level of EMR/EHR adoption we have to find a way of overcoming the initial cost shock that each physician faces when they first see the financial proposals from the various vendors. Although an average “charting system” product (Soapware, Amazing charts, etc.) may only cost the practice an average of \$7,000 for software, hardware, and implementation services (installation, training, and configuration), a true EMR/EHR will cost the average physician around \$40,000 over a three year period³. Most large practices believe that they cannot afford this level of costs.

Another obstacle is the perceived legal issues relating to patient confidentiality, data retention, and clinical data exchange between healthcare organizations. Today there are not many fiscally-aligned incentives to exchange data between multi organizations. If clinical data can be exchanged between multi providers, as much as 18% of healthcare costs could be saved.⁴ However, the savings goes to the healthcare plan, not to the physicians. There have also been numerous legal challenges to sharing of clinical data between practices. In the state of New York, the ability to exchange electronic clinical lab results between multi providers was challenged because the local lab company (Quest) claimed that their patient results were designated only for the ordering physician and could not be shared with another physician unless the patient provided a written request to share the results. One of the off-the-cuff comments from one of the participants indicated if the second physician needed to see the results, then the second physician should order the test again – of course creating more revenue for Quest and increasing the overall cost of healthcare. However legally, the exchange of clinical data should not be an issue if the right governance structure is established up front.

Healthcare in the United States is at the beginning of a technology revolution as previously paper based processes moves online. The challenge for now is to find new delivery technologies that will enable the physician, hospital, or Integrated Delivery Network, to build a complete solution that enables the Digital Medical Office of the Future to become reality. The foundation is likely a clinical information management tool that serves as the connecting point or collection device for all of the technology deployed within the healthcare delivery

3 - 2007 AC Group Vendor Product Cost analysis on 92 EHR vendors

4 - IOM report

marketplace. Today, we call this technology “Electronic Medical Records (EHR).” This repository of information will enable the care provider access to information that flows into, or out of, a community. Healthcare end users need to ask themselves whether all of this patient information could reside in one system.

The answer is yes.

Determine your client base:

However, before you rush out and select your “future” EHR application, you need to evaluate the needs of your current clients. Let’s look at how an EHR would affect different types of physicians.

- **Office-based providers** represent over 600,000 employed providers and community-based independent providers. These providers represent 87% of all care delivered to patients each year. On average, each provider sees over 4,000 patients each year which in turn generates over 10M pages of clinical information. This clinical information includes the patient’s medical and social history, ROS, HPI, SOAP Notes, orders, and numerous test results of which 82% is still believed to be generated and maintained in a paper hand-written format. The Institute of Medicine (IOM) has also found that numerous errors occur because of the poor quality of handwriting and the lack of automated clinical alerts based on national guidelines. Because the majority of the information is in paper form, the providers spend an average of 28% of their day looking for information. Many times the information the physician needs has not been placed in the patient’s chart or the chart is not available when the provider needs the clinical information. An EMR/EHR resolves many of the perceived inefficiencies and provides automated E & M coding based on actual work following the 1995/97 CMS guidelines. When it comes to billing services, an EMR enabled provider can help reduce over 87% of the work required to generate an electronic 1500 or UB92 claim.
- **Radiologists** are traditionally hospital based or reside in a free-standing radiology center. The majority of the 38,000+ Radiologists’ activities revolve around reviewing radiology film and dictating their impressions. The majority of the work (87%) is not affected by the patient’s history of the present illness (HPI), past medical history, reviewing if symptoms (ROS), vitals signs, Medications, etc. The Radiologist is reimbursed based on the number of films reviewed.

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

Therefore, having access to a wealth of clinical data about the patient is not imperative. However, when conducting invasive procedures, 92% of Radiologists indicate that they would like to know more about the patient. Overall, access to an EMR/EHR application will not affect the way Radiologist deliver care, and most radiologist indicate that their number one priority is the establishment of a Picture Archive Communication system (PACS).

- **Pathologists** are similar to radiologist except that they need more information about hospital based patients. When it comes to an ambulatory EMR/EHR, like radiologist, the 35,000+ pathologists need for patient specific clinical data is not imperative. Additionally, since 63% of laboratory procedures are now directed to regional laboratories like Quest and Lab Corp, the majority of non-hospital based laboratory procedures are not reviewed by traditional Pathologists. When they are involved in ambulatory laboratory test, 78% of pathologists indicate a desire to receive laboratory orders in the form of CPT codes along with appropriate ICD-9 codes electronically so they can reduce the cost of data entry and the cost of storing paper. Additionally with an electronic order, the laboratory can streamline the process of transmitting lab results back to the ordering provider.



- **Anesthesiologists** must understand the prior medical history of a patient before they can provide services. The 41,000+ Anesthesiologists want to know the patient's medical history, recent review of systems, the history of the present illness, all active and prior medications, current and prior vital signs, health maintenance testing, results, chronic diagnoses and the list continues. So how can an EHR help the anesthesiologists? Basically, if the Anesthesiologists had access to patient specific EHR data, they can retrieve all necessary patient specific clinical data, the Anesthesiologist could reduce their paper work by 68% while also reducing the risk of poor clinical outcomes by having access to current clinical information at the point of care. This can be accomplished via a simple "Physician Portal" that is available in around 38% of current EHR applications. Additionally,

more powerful EHRs have added new Anesthesiology productivity and clinical alerts that improve an Anesthesiologist ability to participate in Pay-for-Performance (P4P) initiatives.

- **Emergency Room Physicians**, like Anesthesiologist, need to know the medical history of the patient so that they can provide quick and efficient care to the patient. However, based on 2006 statistics, the approximate 30,000 Emergency Room physicians treated 72% of the emergency room patients without having any reliable and physician verified information about the patient's clinical history except for the brief information that is conveyed by the patient or conveyed by family members. One recent study conducted in California determined that 28% of Emergency Room costs could be eliminated if the physician had access to the patient's clinical history at the point of care. Not just the hospital's inpatient data, but the clinical data that is found in community-based physician offices. Thus, a community-based EHR could improve the level of care, could reduce unnecessary costs, and could help reduce the time required to treat Emergency Room patients. Given that 32% of all emergency room patients never paid their bills in 2006, if we can help reduce costs, the overall bottom line of the Emergency Room Physician practice could improve.



How do I determine if an EMR/EHR would benefit my Billing Company?

Now that you understand how an EMR/EHR could affect your current clients, let's determine the overall "EMR/EHR value" to your current client base. As we know, the percentage of revenues by type of client varies by HBMA member. Also, the overall EMR/EHR relative value unit (RVU) varies by type of practice/client. As stated earlier, Radiologists and Pathologies do not receive much value from an EMR/EHR. Therefore, we have established an EMR/EHR RVU of 1.1 (assuming that an EMR/EHR with no value is equal to 1.0, a value of 1.1 indicates that the client's EMR/EHR value is 10%). On the other hand, a community-based physician receives an RVU of 5.0, almost 5 times the RVU compared to Radiologists and Pathologists.

We will start by looking at two different HBMA members. The first example is more of a traditional hospital based HBMA practice with a

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

small percentage of revenues coming from EMR/EHR affected providers. In this case, the EMR/EHR value is less than 2, and thus, an EMR/EHR offering would not benefit the HBMA member.

Example 1

Type of client revenues	% of billable charges or revenues generated by client's practice	EMR/EHR RVU factor	Overall value to your clients
Radiologists	30%	1.10	0.33
Pathologies	20%	1.10	0.22
Anesthesiologists	20%	2.00	0.40
Emergency Room Physicians	20%	3.00	0.60
Hospital-Based Providers	10%	5.00	0.50
Community-based providers	0%	5.00	-
Total	100%		2.05

In our second example, the HBMA member has a mix of hospital based clients and practice based physician clients. The overall EMR/EHR value score is almost 4.0 and therefore, providing an EMR/EHR does create a great value proposition.

Type of client revenues	% of billable charges or revenues generated by client's practice	EMR/EHR Value factor	Overall value to your clients
Radiologists	5%	1.10	0.06
Pathologies	5%	1.10	0.06
Anesthesiologists	10%	2.00	0.20
Emergency Room Physicians	22%	3.00	0.66
Hospital-Based Providers	23%	5.00	1.15
Community-based providers	35%	5.00	1.75
Total	100%		3.91

What EMR/EHR functionality is required for your clients?

The requirements today are far less than what will be required in the near term. New state, regional, and national regulations are being

considered. New minimum standards are being discussed at the national level. CMS and healthplans have begun implementing required clinical health status reporting requirements. As seen in Southern California and in the Hudson Valley of New York, healthplans are beginning to provide financial incentives to those practices that can track and report clinical outcomes for a specific population. Finally, malpractice carriers are beginning to provide discounts for those providers with a Validated EMR/EHR application – or in other words – physicians that do not use EMR/EHRs will pay higher for the malpractice rates, starting in 2009/10.

Assuming that a number of your clients are interested in automating their clinical processes, which vendors should you evaluate? With 386 vendors in the marketplace today, the process of evaluating the different choices is overwhelming. It's like telling some one that you are interested in a new form of "transportation". Do you need a jet to quickly transport you overseas, a lean sports car to get you where you need to go, or a mini-van to carry your kids to school? When evaluating clinical applications, first, we need to understand the various types of products

- **EMR/EHR Vendors** – Full EMR (Electronic Medical Records – see below) capability, with internet-based Personal Health Records, health maintenance tracking, proven interoperability with other EMR vendors, national clinical standard couplers, and clinical decision support with nationally recognized alerts, etc. The application must have interfaces to multiple Practice Management Systems. We further divided this category between large multi-specialty clinics and stand-alone practices.
- **EMR Vendors** – Full charting and Document Imaging Management, along with e-Rx with formulary tracking by healthplans, automated E&M coding and verification, medical necessity checking by CPT and Diagnostic codes, comprehensive orders and results reporting, with integrated workflow routing and tracking. The application must have interfaces to multiple Practice Management Systems.
- **EMR Light Vendors:** - Full charting system plus ability to track LOINC compliant lab results and active medications via the sure-script national program. The application must have interfaces to multiple Practice Management Systems.
- **Charting Vendors** – Ability to simplify the charting requirements, as specified by many of the medical societies

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

and the IOM. Advanced functionality must include orders and results reporting, problem list and e-Rx tracking. The product does NOT have to have advanced nationally recognized alerts and clinical decision support. The application must have interfaces to multiple Practice Management Systems.

- **Document Imaging Management (DIM) Vendors** – Ability to scan and store paper documents by patient and by sub-folder, along with the ability to electronically receive and file documents that are received either electronically or by fax, including Lab results, transcribed reports, and hospital ADT information. The DIM must have integrated routing and workflow capabilities and interfaces to multiple Practice Management Systems.
- **Community Health Record (CHR) Vendors** – These vendors may not have a full functioning EMR/EHR but provide the interoperability functions of an EMR/EHR-Light along with the ability to maintain a community health record via a community clinical and demographic data exchange. Advance functionality includes reporting and tracking of orders, results, e-Rx, allergies, and problem lists, among others. The product should maintain a community master patient index, based on numerous inputs, including hospitals, health plans, and numerous physician practice management systems. The Community Health Record vendor must also be working with various EMR/EHR/EMR/EHR vendors, to ensure effective clinical data exchange, following national standards like CCR or other recognized future interoperability standards.

How does an EMR/EHR work with my current billing application?

Once you understand the different product categories, you have to determine how the clinical product will work with your current billing application. Our research has shown that more than 72% of the EMR/EHR selections since 2005 have been for both Practice Management and EMR/EHR applications. This means that many of your current clients will be encouraged to replace your billing system with one fully integrated PMS and EMR/EHR application. If this happens, you will lose clients and lose revenues. Once again, the Proactive HBMA members have already realized this potential risk and have already created a plan to help their members move into the “digital age”. A digital age where the HBMA member provides both PMS and EMR/EHR applications within one integrated or tightly interfaced suite of product solutions.

EMR/EHR Search and Selection Offering:

Since 78% of practices have not purchased any type of EMR/EHR yet, the opportunity to work with small to large practices is still overwhelming. However, the number of competitors is also overwhelming. Since 2003, a number of large consulting firms have established local presences in the western region. Additionally, companies like eClinicalworks, NextGen, Practice Partner, Misys, and GE Healthcare have established Valued Added Reseller (VAR) programs throughout the West. Many of these VARs claim to be independent consultants but in reality, they represent only one or two EMR/EHR vendors – they are truly not independent. According to interviews of the top 10 EMR/EHR vendors, the EMR/EHR vendors indicated that less than 10% of the large practices they have worked with have actually used a third party consultant. Therefore, even though large practices need the help, the majority are not employing consultants during their EMR/EHR search and selection process. The largest competitor will continue to be groups that consolidate buying powers for physicians (Hospitals, IPAs, MSOs, PHOs, and Billing services). In most cases, these organizations will work with local physicians to select one EMR/EHR vendor for their entire community. These organizations can offer subsidized services to their local physicians since they are well positioned to consolidate numbers large practices into one large buying power. Traditionally, we have seen price subsidizes of between 10% to as high as 85%. Groups like Catholic Healthcare West, Sharp Healthcare, Scripps Healthcare, San Diego Medical Society, Providence Healthcare, Sutter Health, UniHealth, and 100's of California IPAs have been working with physicians over the past two years. Therefore, the market opportunity may be closing very fast as these organizations develop their Governance structure.

Implementation, Training, and Configuration:

Based on the 2007 EMR/EHR Vendor survey conducted by AC Group, the top 10 vendors provide less than 13 hours per physician for implementation, training, and configuration. Given the poor utilization rates, we believe the actual number of hours required to insure an effective implementation is much higher. When we look at the practices that have won the numerous Physician of the Year or the Clinic of the Year awards, we found that successful EMR/EHR implementations required between 60 and 80 hours per provider. Therefore, there is a major gap in the number of hours provided by EMR/EHR vendors to large physician practices. Today, only VARs are offering large practices the additional required hours to insure an effective installation. The opportunity to assist practices with

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

Implementation, Training, and Configuration is huge but practices will not pay much for the service. To be successful, you will have to show them the risk of not purchasing enough hours. Quoting the 72% EMR/EHR failure rate after one-year is the best starting point. Once again, the largest competitor will continue to be groups that consolidate buying powers for physicians (Hospitals, IPAs, MSOs, PHOs, and Billing services). We have noticed than many of these organizations are providing up to 30 hours per provider in implementation, training, and configuration support.

We believe that there is a large opportunity to work with numerous EMR/EHR vendors as their 3rd party installation, training, configuration, and 1st level support. We have noticed that the majority of the top selling vendors now have a 3-month backlog of product sales. Therefore, if a practice buys a system on August 1st, the top selling vendor products cannot be installed until November 1st. Most practices do not want to wait three months just to get started with their implementation. If HBMA members could create a relationship with a few of the top selling EMR/EHR vendors, HBMA members could develop a team to help take over the installation, training, configuration and initial support of the product from the vendor. Under this model, the vendor would continue to sell their product, but would outsource the on-site installation, configuration, and training work to a local company like HBMA members.

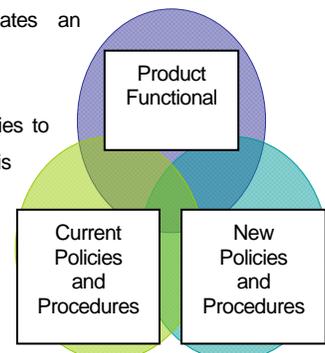
One potential service offering is to provide large practices with the ability to host an EMR/EHR product via a Hosting offering. In the case of the Taconic IPA, they selected three EMR/EHR vendors and offered EMR/EHR hosting to their 2,200 providers. HBMA members could offer one to three EMR/EHR vendors in a remote hosting option. Once again, many of the EMR/EHR vendors are already providing remote hosting options (GE VARs, eClinicalworks, NextGen, iMedica, McKesson Practice Partner, Cerner, Allscripts, Misys, etc.). However, rarely do you find a vendor that offers remote hosting options for more than one vendor. There are a few hosting companies like TechSol, Tellurian Networks, and GSI Hosting that offer multi EMR/EHR hosting options. In many cases, the largest competitor will continue to be groups that consolidate buying powers for physicians (Hospitals, IPAs, MSOs, PHOs, and billing services). Many of these organizations will host the EMR/EHR product locally for their physician members. But once again, these organization usually only offer one EMR/EHR, and we all know that there is no one solution for all providers. Providers want a choice! They want choices in their cars, their homes, their vacations. The EMR/EHR will change the way they deliver healthcare – and therefore, you know that they will want to select the best “value” for them. And as we all

know, one solution does not create the same “value” for each provider.

One trend that HBMA members have going in their favor is that the vendor community has realized for years that selling to small physician groups (less than 9 providers) was not as profitable as selling to mid-size and large practices. The overall cost of “sales” is relatively the same for a \$40,000 sale as a \$500,000 sale. The only real difference is the sales commission, and thus, the sales team would prefer to sell to large practices with over 100 providers in order to maximize their sales commission. The challenge: which vendors will survive since the healthcare industry only requires between 5 and 10 vendors in each of the market segments, not the 50 to 150 we have today. Therefore, we believe the market will create winners and the market will crush vendors who have weak functionality, limited marketing funds, and vendors that cannot prove long term financial viability. But how do you determine if a vendor will survive? There is no easy answer, but there are 3rd party reports that help quantify a vendor’s long term viability (see www.acgroup.org).

One major opportunity for HBMA members is to work with practices around a term we coined called “Clinical and Operational Transformation” (COT). An EMR/EHR utilization survey completed by AC Group in May of 2007 ⁵ showed that the actual adoption rate of purchased EMR/EHRs was very low. The survey found that 72% of physicians that purchased an EMR/EHR were not using the EMR/EHR for clinical charting (ROS, HPI, Orders, eRX, E & M coding, clinical decision support, etc.) on at least 80% of their patients one year after buying the EMR/EHR. The results indicate that although physicians have purchased an EMR/EHR, they are not utilizing the EMR/EHR for the majority of their patients after an entire year. Therefore, the perceived operational and clinical benefits have not been realized. This creates an opportunity for improvement.

As mentioned earlier, opportunities to assist practices COT activities is huge, but once again, many small practices do not understand the need for clinical and operational change. Therefore obtaining funding from small practices will be very hard. In this case, your largest



5 - AC Group EHR Utilization survey of 2,112 physicians that have purchased EHRs

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

competitor will be the lack of knowledge that COT is required. The concept of clinical and operational change has always been around, but physicians do not understand the COT is required to insure effective use of the EMR/EHR. We do believe that the groups that consolidate buying powers for physicians (Hospitals, IPAs, MSOs, PHOs, and billing services) will start offering COT services once they realize that utilization is not what they expected. The only EMR/EHR vendors that provide COT services appear to be EPIC, Allscripts, and NextGen. The remaining vendors provide installation and training, but really do not provide COT services.

Before beginning the adoption of new technologies, an organization should review and establish new operating policies and procedures designed to maximize the benefits of newer technology while reducing the negative affect of "Change". Each organization must consider "clinical and operational transformation". Clinical and Operational transformation processes have been around for years, but not until recently have organizations embraced the concept for ambulatory physician offices.

Deciding to adopt an EMR/EHR is one of the most important decisions made by any practice. The transition to an EMR/EHR from a paper system can be challenging due to the fact that it will change the way everyone works. EMR/EHR's can change current documentation method(s), workflows, billing practices, scheduling, patient follow-up methods, communication, and messaging, etc. EMR/EHR adoption usually requires reengineering current systems and can dramatically change the way practice's runs. Considering the vast changes that have to occur to adopt an EMR/EHR, extensive planning must occur for a successful implementation. In this case, HBMA members could create a COT offering for small physician practices. Consulting firms like AC Group, The Cooker Group, and GlobalWorks have already developed COT offers but traditionally they market their COT services to large practices.

Another potential offering HBMA members might consider is the development of a locally hosted clinical data exchange, also known as a LHIO (Local Healthcare Information Organization). Although there are numerous vendors offering clinical data exchange software, there are not many competitors offering clinical data exchange for multi-EMR/EHR products. The large EMR/EHR vendors only offer their own product within their data exchange. The physician consolidators only offer the one EMR/EHR that they have selected. Most VARS provide local software assistance and are not set up for clinical data exchange. Most hosting companies only host the software and do not provide data exchanges. In this case, your largest competitors would be state and regional projects like CA

RHIO, San Diego Medical Society, Utah Data Exchange, etc. One advantage - or maybe a disadvantage - is that outside of Utah, most of the state or regional RHIO projects have not been successful in exchanging clinical data between multi EMR/EHRs. The problem is not technical, but rather funding and governance. The CA RHIO project has received millions of dollars in funding, but according to Lori Hack, former head of CA RHIO, the governance structure was not designed to affect true change and adoption. After 5 years, their main goal appears to be connecting Emergency Room Visit data from local hospitals with no ability to capture ambulatory office clinical data.

Case Studies:

Case Study #1 (Billing Service provides EMR to existing client)

PracticeMax, an Arizona based medium sized billing company and HBMA member, has this success story to share:

PracticeMax was asked by an existing client in 2005 to assist with implementation of a chosen EMR application. The client is an urgent care group with three locations and two under development. A hosting company named ASPenLink was selected to provide ASP (remote, software on demand) access to servers and the EMR. PracticeMax worked with the client to implement the system one location at a time. By choosing ASPenLink, PracticeMax was able to deliver the application over the Internet from a secure data center using DSL, cable or T-1 lines. The ASPenLink platform is scalable and able to service geographically dispersed practices with minimal "downtime" or service interruptions. Training and support is provided via online conference session, email, and telephone. This is an advantage that reduces or eliminates travel, and improves scheduling. The ASP model also eliminated the need for PracticeMax and the client to develop a technical infrastructure and enabled set-up, delivery, and maintenance with minimal initial cost and low monthly fees. The set-up was performed remotely by ASPenLink, and PracticeMax provided on-site assistance (mostly for computer set-up). All sites use desktops, laptops, or tablet PCs (as desired). PracticeMax developed an interface for their existing practice management system and the EMR. Six months after implementation, the client completed a post conversion study indicating increased collections, based on location, from 11 to 16 percent. The monthly economic return to the client (collection improvement divided by EMR costs) exceeds 500 percent. As a result of this experience, PracticeMax began offering EMR to other clients but determined that interfacing an EMR and a practice management system is problematic. Consequently, they have selected another software platform available from ASPenLink with an

HBMA White paper

How will the EMR/EHR revolution affect Billing Company Owners/Presidents?

integrated EMR and practice management application (one vendor application; ranked number one by the AC Group). The urgent care client has now chosen to switch to the new platform.

Case Study #2 (EMR enables Billing Service to win new client)

Medical Management Corporation of America (MMCOA), a New York based billing company and HBMA member, has this success story to share:

A 10 physician orthopedic group solicited a billing proposal from MMCOA in 2007. They had heard about MMCOA from another orthopedic surgery client. The prospect was skeptical about outsourcing and was close to signing an agreement to purchase an EMR. MMCOA arranged for an online demo of integrated EMR and practice management applications from ASPenLink, the application service provider (ASP) from whom MMCOA receives software. MMCOA gained the group's trust as a result of MMCOA's EMR knowledge, along with a new found understanding of the importance and impact it could have on the group if implemented thoughtfully and carefully. As a result, MMCOA signed an agreement to provide billing services and stands ready to assist the group for implementation of a completely integrated EMR and practice management solution.

Conclusion:

HBMA members are well positioned to enter the healthcare EMR/EHR marketplace based on the skill sets obtained during the CMS funded Doctors Office Quality IT (DOQ-IT) process. HBMA members have already established themselves as a trusted advisor to numerous small practices. Therefore expanding services should be easy, assuming effective planning. You have the basic tool sets to thrive. You just need to determine if you really want to be in the

EMR/EHR business going forward. As stated throughout the report, you must first decide on the suite of services you want to offer directly or services that you would like to offer via a strategic partner, like AC Group. The suite of services could include:

- EMR/EHR Search and selection along with contract negotiations
- Installation, configuration, and training
- Clinical and Operational Transformation (COT)
- EMR/EHR sales and support
- Hosting of one or more EMR/EHRs

The risk factor for developing a new solution set is still very high. Physician apathy for change continues to slow the market. We need the right financial incentives and/or financial penalties enacted before we will see real change and real EMR/EHR adoption. Don't get me wrong, physicians are looking into EMR/EHR and many are buying, but very few physicians are actually using the EMR/EHR for more than 80% of their patients. There are numerous competitors in the marketplace including EMR/EHR vendors, consultants, hospitals, hosting companies, etc. However, these competitors can also become partners if you can create the right incentives.

Luckily the market is still very immature and there is a lot of room for growth for a suite of new innovative services. However, the sales cycle is long - much longer than most individuals can handle. There are a number of great vendors out there that have not been able to survive because of cash flow issues.

If you elect to expand your suite of services, you must create a plan to "THRIVE", not just survive.

HBMA White paper

How will the EHR revolution affect Billing Company Owners/Presidents?

Glossary of Terms

ADSL:

A type of DSL that uses copper telephone lines to transmit data faster than a traditional modem. ADSL only works within short distances because it uses high frequencies with short signals.

Ambulatory care:

Any medical care delivered on an outpatient basis.

ASP:

(Applications Service Provider) A business that provides computer based services to customers over a network.

ASP:

(Active Server Page) A dynamically generated web page with ActiveX scripting, which executes on the server instead of on the Web browser (HTML). The Server executes the file and generates an HTML formatted page for Search Engine Spiders or Web Browsers for proper display.

BMI charts:

Charts within EMR systems, which can manipulate data, perform calculations, and adapt to user preferences and patient characteristics; users may expect greater functionality from electronic BMI charts.

Capitated payments:

Payment for healthcare services based on the number of patients who are covered for specific services over a specified period of time rather than the cost or number of services that are actually provided.

CCHIT:

Certification Commission for Healthcare Information Technology, the recognized certification authority for electronic health records and their networks, and an independent, voluntary, private-sector initiative.

Citrix Server:

A server solution, similar to Microsoft Terminal Services that provides remote access to clients via the web or to dummy terminals in a network.

Clearinghouse:

A company that provides clearing and settlement services for medical financial transactions. Some of the more popular clearinghouses include Emdeon/WebMD, McKesson and THIN.

Client-Server:

A network architecture which separates the client (often an application that uses a graphical user interface) from the server.

Computerized Patient Record (CPR):

Also known as an EMR or EMR/EHR - a patient's past, present, and future clinical data stored on a server.

Computerized Physician Order Entry (CPOE):

A system used by physicians to electronically order lab tests, imaging and prescriptions

Continuity of Care Record (CCR):

A new XML standard being developed for EMR software vendors to follow which will theoretically allow patient data to be easily moved from one EMR vendor to the next in a structured database format.

Continuity of Care Document (CCD):

The CCD includes the best of HL7 technologies, the rich experience of (ASTM's) CCR with clinical data representation, and does not disrupt the existing data flows in payer, provider or pharmacy organizations. The CCD is a particular type

HBMA White paper

How will the EHR revolution affect Billing Company Owners/Presidents?

Glossary of Terms

of CDA document, a summary record of care as originally defined by ASTM as CCR and then jointly approved by ASTM and HL7 as CCD. Much of the CCD is reused in other types of documents defined by HITSP and IHE.

CDA

Clinical Document Architecture - The CDA provides an exchange model for clinical documents (such as discharge summaries and progress notes) - and brings the healthcare industry closer to the realization of an electronic medical record. By leveraging the use of XML, the HL7 Reference Information Model (RIM) and coded vocabularies, the CDA makes documents both machine-readable - ;so they are easily parsed and processed electronically - and human-readable - so they can be easily retrieved and used by the people who need them. CDA documents can be displayed using XML-aware Web browsers or wireless applications such as cell phones. CDA provides a clear definition of clinical documents and it provides state-of-the-art interoperability for machine-readable coded semantics.

CPT Code:

A nationally recognizable five-digit number used to represent a service provided by a healthcare provider.

Digital Imaging and Communications in Medicine (DICOM):

A standard to define the connectivity and communication between medical imaging devices.

Drug Formulary Database:

Used for electronic prescribing, electronic medical record (EMR), and computerized physician order entry (CPOE) systems to present formulary status to the provider while during the prescribing decision.

E/M level coding:

Evaluation and Management level coding –documentation of each visit which identifies each service provided during an office visit.

EDI:

Electronic Data Interchange. Electronic communication between two parties, generally for the filing of electronic claims to payers.

Electronic Medical Records (EMR):

Electronic Medical Records. A computerized record of a patient's clinical, demographic and administrative data. Also known as a computer-based patient record (CPR) or electronic health record (EMR/EHR).

Electronic Eligibility:

An EMR feature which gives a payer access to deliver up-to-date insurance benefits eligibility information on patients.

Electronic Health Records (EMR/EHR):

Electronic Medical Records (EMR) plus patient specific health related information including clinical decision support, health maintenance alerts, health quality improvement alerts.

Explanation of Benefits (EOB):

A statement from the patient's insurance company that breaks down services rendered at time of doctor or hospital visit and amounts covered by insurance provider.

EMR/EHRVA –

Electronic Health Record Vendors Association (EMR/EHRVA) at <http://www.himssEMR/EHRva.org>

Fee Schedule:

A set maximum fee that an insurance company will pay a healthcare provider.

Fee-for-service:

HBMA White paper
How will the EHR revolution affect Billing Company Owners/Presidents?
Glossary of Terms

A health insurance plan that allows policyholders to pay for any provider service; submit a claim to the insurance company; and get reimbursed if the service is covered by the insurance provider.

Fee Schedule:

A set maximum fee that an insurance company will pay a healthcare provider.

First Data Bank:

The leading provider of drug information. Provides context and integration information for healthcare of every type at every level.

Growth Chart:

A feature designed for Primary Care or an EMR that can be used for pediatric patients. Age, height, weight, and head measurements can be entered over the patient's lifetime and charted on a line graph.

HCFA (CMS-1500 Form):

The insurance claim form that a healthcare provider turns in to an insurance company.

HIPAA:

The Health Insurance Portability and Accountability Act of 1996 provides a set of federal regulations, which establish national standards for health care information.

HL7 (Health Level 7):

Part of the American National Standards Institute's accredited Standard Developing Organization (SDO); the Health Level 7 domain is the standard for electronic interchange of clinical, financial and administrative info among healthcare oriented computer systems. A not-for-profit volunteer organization, it develops specifications, the most widely used of which is the messaging standard that enables disparate health care applications to exchange key sets of clinical and administrative data. HL7 promotes the use of standards within and among healthcare organizations to increase the effectiveness and efficiency of healthcare delivery. HL7's international community of healthcare subject matter experts and information scientists are dedicated to the creation of a standard architecture for the exchange and transmission of clinical data.

Hybrid Record:

Describes a provider using a combination of paper and electronic medical records during the transition phase to EMR.

ICD-9:

Internationally recognizable 3 to 5-digit code representing a medical diagnosis. Currently being replaced by the ICD-10 code.

IEEE:

the Institute of Electrical and Electronics Engineers.

Inpatient:

Term used when a person is a patient who is confined in a hospital setting .

IPA:

Independent Physician Association or Independent Practice Association.

Legacy System:

Term used to describe an outdated system (usually hardware and software), ie. old medical billing software system.

MEDCIN:

Clinical documentation nomenclature designed to provide E&M level coding assistance to providers through the use of a extensive database for documenting patient encounters.

HBMA White paper
How will the EHR revolution affect Billing Company Owners/Presidents?
Glossary of Terms

Multum:

A popular drug formulary and alerts database.

National Provider Identifier (NPI):

A unique number assigned to healthcare providers. Currently required for insurance billing.

Outpatient:

Term used for a patient visiting a medical organization where the patient will not be required to stay for 1 or more nights under care .

Picture Archive Communication System (PACS):

Used by radiology and diagnostic imaging organizations to electronically manage information and images.

Patient Portal:

A secure web-based system that allows a patient to register for an appointment, schedule appointments, request prescription refills, send and receive secure patient-physician messages, view lab results, pay bills, and access physician directories.

Physician Practice Organization (PPO):

An arrangement between insurers and healthcare providers in which providers agree to a discounted fee-for-service in exchange for more patients.

RAID (Redundant Array of Independent Disks):

A way of storing the same data in different places on multiple hard disks. Often used on servers to provide redundancy in the event of a hard drive failure.

Remote Access:

The ability to access a network or computer via a protected passage from a remote location, e.g. from home or another practice location which allows an EMR vendor to perform off-site system maintenance.

SNOMED:

(SNOMED CT) Systemized Nomenclature of Medicine Clinical Terms. The medical language standard which details health care terminology, providing comprehensive coverage for procedures, diseases, and clinical data. SNOMED CT helps to structure and computerize the medical record while allowing for a consistent means of indexing, storing, retrieving and aggregating clinical data across sites of care (i.e. hospitals, doctors offices) and specialties. Snomed CT, in standardizing clinical vocabulary reduces the disparity resulting from the way data is captured, encoded and used for clinical care of patients and research. It allows for more accurate reporting of data and is currently available in English, Spanish and German.

SQL:

Structured Query Language: A computer language aimed to store, manipulate and retrieve data stored in relational databases.

Stark Law:

Part of the Omnibus Budget Reconciliation Act of 1989 the Stark Law prevents hospitals from purchasing EMR software and other equipment for private practice physicians in an effort to attract referrals.

SureScripts:

Electronic exchange that links pharmacies and healthcare providers. Founded in 2001 by NACDS to make the prescribing process safer and more efficient.

T1, T3 line:

A high-speed internet connection provided via telephone lines often used by businesses needing internet connection

HBMA White paper
How will the EHR revolution affect Billing Company Owners/Presidents?

Glossary of Terms

speeds greater than DSL/Cable.

Terminal Services:

Microsoft's method for remote administration tasks that delivers the Windows desktop and Windows-based applications to nearly any personal computing device, even devices that can't run Windows.

Thin Client:

Also known as a "Dummy Terminal"; a network computer without a hard-drive which requires a constant connection to a server for operation.

UB-92 Form:

Form designed for hospitals to file a medical claim with the patient's insurance carrier.

UNIX:

A network capable, multi-user operating system used for workstations and servers. Many old practice management, medical billing and EMR software were originally designed under the UNIX operating system.

UPIN (Unique Physician Identification Number):

Unique Identification number given to each healthcare provider. Frequently used in insurance billing and is currently being replaced by the NPI number.

Web-based EMR:

See *ASP (Application Service Provider)*

XML (Extensible Markup Language):

Used for defining data elements on a Web page and communication between two business systems. Example: Standard messaging system for and EMR to integrate with other software such as a practice management or drug formulary database.

DRAFT

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Mr. Anderson is one of the nation's premier IT research futurists dedicated to health care. He is one of the leading national speakers on healthcare and physician practices and has spoken at more than 350 conferences and meetings since 2000. He has spent the last 30+ years focusing on Healthcare – not just technology questions, but strategic, policy, and organizational considerations. He tracks industry trends, conducts member surveys and case studies, assesses best practices, and performs benchmarking studies.

Besides serving at the CEO of AC Group, Mr. Anderson served as the interim CIO for the Taconic IPA in 2004-05 (a 500 practice, 2,300+ physician IPA located in upper New York). Prior to joining AC Group, Inc. in February of 2000, Mr. Anderson was the worldwide head and VP of healthcare for META Group, Inc., the Chief Information Officer (CIO) with West Tennessee Healthcare, the Corporate CIO for the Sisters of Charity of Nazareth Health System, the Corporate Internal IT Consultant with the Sisters of Providence (SOP) Hospitals, and the Executive Director for Management Services for Denver Health and Hospitals and Harris County Hospital District.

His experience includes **32+ years working with Healthcare organizations, 20+ years working with physician offices, 7 years in the development of physician-based MSOs, 17 years with multi-facility Health Care organizations, 15 years Administrative Executive Team experience, 6 years** as a member of the Corporate Executive Team, and 9 years in healthcare turnaround consulting. Mr. Anderson received his BS in Business, is completing his MBA in Health Care Administration, and is a Fellow with HIMSS. Additionally, he serves on numerous healthcare advisory positions and has developed programs including:

- ❖ Developer of the Six-levels of Healthcare IT for Hospitals and the Physician Office
- ❖ Researcher and producer of the 2002-06 EMR Functional rating system
- ❖ Advisory Board and Content Chairman - Healthcare IT Outsourcing Summit, 2002, 2003, 2004, 2005
- ❖ Advisory Board and Content Chairman - Patient Safety and CPOE Summit, 2002, 2003, 2004, 2005
- ❖ Advisory Board and Content Chairman – Consumer Driven Healthcare Conference, 2003, 2004
- ❖ Advisory Board and CPOE Chairman - Reducing Medication Errors, 2003, 2004, 2005
- ❖ Advisory Board of TETHIC 2003, 2004, 2005
- ❖ Advisory Board of NMHCC 2000, 2001, 2002, 2003, 2004, 2005
- ❖ Advisory Board of TCBI Healthcare Conference 2000, 2001, 2002, 2003, 2004, 2005
- ❖ Advisory Board of TEPR and MRI, 2000, 2001, 2002, 2003, 2004, 2005
- ❖ Past President of Local HIMSS Boards – Houston, Tennessee, Southwest TX
- ❖ Editorial Board of Healthcare Informatics 2001, 2002, 2003, 2004, 2005
- ❖ Judge, MSHUG ISA, 1999-2005, TEPR Awards, 2001-2002, TETHIE 2003-05, HDSC 2003-05
- ❖ National HIMSS Chapters Committee 2001, 2002, 2003, 2004
- ❖ National HIMSS Fellows Committee 2001, 2002, 2004
- ❖ National HIMSS Programs Workgroup Committee 2001, 2002, 2003, 2004

More about AC Group:

AC Group, Inc. (ACG), formed in 1996, is a healthcare technology advisory and research firm designed to save participants precious time and resources in their technology decision-making. AC Group is one of the leading companies, specializing in the evaluation, selection, and ranking of vendors in the PMS/EMR/EMR/EHR healthcare marketplace. Twice per year, AC Group publishes a detailed report on vendor PMS/EMR/EHR functional, usability, and company viability. This evaluation decision tool has been used by more than 5,000 physicians since 2002. Additionally, AC Group has conducted more than 200 PMS/EMR/EHR searches, selections, and contract negotiations for small physician offices to large IPA since 2003.

More than 500 healthcare organizations worldwide have approached their most critical IT challenges with the help of trusted advisors from ACG. Since 1972, ACG advisors have been helping healthcare professionals make better strategic and tactical decisions. This unmatched combination of market research and real-world healthcare assessment gives clients the tools they need to eliminate wasteful technology spending, avoid the inefficiency of trial and error, and discover a superior alternative to "guess" decisions. For our healthcare physician clients, ACG provides independent advisory and consultative services designed to assist physicians in evaluating and selecting technology to enable the creation of the "The Digital Medical Office of the Future".

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How will the EHR revolution affect HBMA Members?

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