The Digital Medical Office of the Future

EHR Pricing – What can you afford?

White Paper

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Before you go out and purchase a new EHR software application, you need to understand what type of EHR you really "need" and then determine the actual initial costs for the application, the on-going costs for the application, and these hidden costs that practices have experienced during the last 24 months. To help understand the issues, the AC Group has created this white paper on the real cost of EHR applications. To view other white papers on subjects like the potential Return on your EHR Investment (ROI), go to http://acgroup.org/research/whitepapers.html.

Introduction:

Spending on technology by physicians has tripled since the 1990's and is expected to triple again in the next six years. [1] The majority of this increase will incur in the upper three levels of the IT maturity levels – basically the levels that require physician interaction. It is anticipated that the average physician will be spending up to $14,000 for an Electron Health Record (EHR) software application and an additional $3,000 for other related 3rd party software. Additional hardware, networks, and mobile devices could raise the level of spending for the average physician to $15,000 per year on technology. Although some of these additional costs may be offset by reductions in transcription, medical record storage, improved coding and charge capture, this still represents a significant additional initial and recurrent cost, particularly for small office practices.

When choosing a system, one should focus on the system itself, its features, feel, and perhaps most importantly, the track record of the software vendor. When comparing prices between vendors, one must make sure that each vendor is offering comparable features and options. This task is one of the hardest for most physicians since there are almost 400 vendors stating that they sell the "best" product in the marketplace.

Probably the single largest cost is the investment in the system hardware. Most systems require the same type of workstations but differ in the main server or servers that they require. Does the system force both small and large facilities to run the same server and database? This is important because not all physician offices require the same data storage capabilities. The higher-end databases that many EHR systems come with, are excellent for physician offices that have the system administration resources to operate them, but they are probably not appropriate for smaller practices.

EHR pricing models, like everything else, varies based on the services that are provided. In most cases, a physician can contract for a flat monthly fee of between $30 and $700 per month for the EHR software application. So what do you get for only $30.00 per month compared to $700.00 per month? The answer may surprise you. One reason for lower costs is that the application may be subsidized by a clearing house company, a pharmaceutical company, a healthcare plan or a local hospital.

However, the price varies for installation, training, and initial configuration. Some vendors require "consultative" fees upfront, instead of building those into the monthly contract. Of course you still have all of the hardware and networking requirements. These are traditionally included in the monthly software costs, but can be added as a monthly lease cost. In all cases, physicians must look at a 3-year total-cost-of-ownership model when considering either a purchase or an ASP model. During our study we compared pricing for a 10 and a 5 doctor practices.

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1 - AC Group, Inc. study of technology spending trends for small to mid-size physician practices

How much does an EHR system cost?

There are a broad range of costs associated with the purchase and implementation of a system. These include:

- Software licenses which are typically sold on a per-provider or a per-workstation basis
- Hardware consisting of both individual personal computers for office and exam rooms, as well as central database servers, network hardware, and modems
- Training and implementation, which involves pre-installation planning as well as on-site training of individual users
- Software support, represented as an annual contract typically sold as a percentage of the total sale, providing both help desk functions (technical support) and software updates.
- Third party software for external knowledge bases and clinical decision support
- Hardware and network support which is primarily on-site or telephone support for hardware-specific issues and problems
- Software costs alone, per physician, vary by company and are not necessary related to functionality.
- Based on a sampling of 142 contracts, we determined that the software (SIT) is usually about 36% of the entire 3-year project cost. Infrastructure cost runs around 30% and support costs run around 34%.
- Therefore, when considering overall costs, providers should multiply the software costs times 3 to estimate the total cost over a three year period**.**

Total Cost of Ownership:

Software
S = Software
I = Interfaces
T = 3rd Party Software
Infrastructure
H = Hardware/Servers
N = Networks
C = Communications
S = Security
W = Workstations
P = Printers/Scanners
Support
W = Workflow Review
I = Installation
C = Configuration
T = Training
P = Post Audit Review
S = Support
U = Product Upgrades

Does software functionality affect the cost of an EHR?

There has been a number of debates over the real cost of an EHR. Companies like Med Alley's offer an integrated PMS and EHR for only $29.95 monthly compared to the average 2007 CCHIT certified product that costs $12,000 to $25,000 plus 18% maintenance cost per year. With almost 400 EHR products in the marketplace today, physicians are asking, "how much do I need to pay for an EHR?" The answer is clear, determine what you "need" and then match your needs to the suite of vendors by EHR category.

So where do I begin?

First, with almost 400 EHR vendors in the marketplace, you need to decide what "type" of EHR you are looking for. Start by determining what level of functionality you really "need". Then determine how you want the product to interact with the administrative functions of your practice. Let's start with functionality. The following pages describe 5 different levels of EHR functionality.

- *__Level 1__* – An EHR that allows the provider to scan documents into a file or a series of sub-folders by patient name and/or number. The software also comes with the ability to record patient-related clinical information via voice dictation, typing, and hand writing following either a template design or a blank e-form by clinical category. No data integration with outside laboratories. No provider order entry and no auto results reporting. Software allows recording of E & M codes, but the E & M code is not suggested based on the data entered. Patient prescriptions can

be printed, but there is no knowledge base for drug alerts and formulary compliance. The software does not provide point of care clinical decision support.

- *Level 2* – An EHR that meets all of the requirements of level 1 plus the ability to capture patient family, social, and medical history using a defined format that can be shared with other practices as we move to common standards such as CCR and CCD. Software provides base-line tracking of orders and health maintenance alerts. Software provides lab ordering and results plus 2-way orders and results reporting with specific laboratories. Product checks for medical necessity, checks healthcare plan for ABN requirements and prints ABN if required. Ability to view lab results in a flow sheet over time and the ability to graph labs results over a period of time. Software provides base line eRX charting of prior medication ordered by the health service provider, ability to order new medications, ability to print prescription in the office. No drug alerts are provided. Software provides base line alerts and clinical support based on the EHR vendor's clinical databases

- *Level 3* – An EHR that meets all of the requirements of level 1 and 2 plus the software provides base line charting with practice specific clinical alerts. No national alerts or guidelines are required. Simple documentation following templates that can be modified by the practice and by the individual provider. Base-line orders and results reporting capability. Software provides Patient Summary page including the ability to review prior visit reasons, active medications, active lab results, next appointments, etc. Software provides advanced eRX documentation, drug alerts that are updated by the EHR vendor (no national standard alerts), ability to electronically send prescriptions to specific pharmacies. Includes the medication history of client ordered by service provider AND other medical providers outside the clinic. Software provides advanced clinical orders capability based on national guidelines and follows medical necessity checking. System tracks all orders and indicates when an order result is past due. Software provides alerts and CDS plus advanced features based on user specific customizable guidelines. Software provides advanced E & M, coding guidelines designed to insure that the actual charges match the clinical charting.

- *Level 4* – An EHR that meets all of the requirements of levels 1 through 3 plus software provides advanced pre-built templates that can be customized by either the vendor or the practice based on specific practice requirements. Documentation follows national guidelines like CCD, SNOMED, and CCHIT. Software provides advanced Patient Summary page plus strong health maintenance alerts, prior vitals, patient messages, chronic diseases and other patient specific information. Software provides advanced, practice customized 2-way laboratory interfaces with companies like Lab Corp and Quest along with order guidelines based on practice preference lists and patient condition. Results are automatically posting in patient chart and a note/message is sent to the provider/nurse based on practice alerts guidelines. Software tracks all ordered tests and alerts the practice if tests are not back within a specific timeline. Software provides advanced eRX with nationally updated drug alerts based on multi parameters, insurance specific formulary compliance following companies like RXHub, pre-authorization alerts, and personalized eRX preference lists by provider. Ability to transmit eRX via SureScripts to the patient's preferred pharmacy. Software provides advanced orders and results based on practice guidelines and national best practices based on the patient's condition. Health Maintenance alerts are automatically provided based on patient conditions and orders are pre-identified based on national guidelines. Software provides advanced alerts and CDS based on national recognized sources that are updated on a routine basis. The alerts must include drug alerts, clinical best practices, health maintenance alerts, and disease management guidelines. Software provides advanced charge capture for both nurses and physicians following the 1997 E & M coding requirements. System tracks the number of points per E & M coding category and provides the provider with a one page summary of the appropriate E & M code.

- **_Level 5_** – An EHR that meets all of the requirements of levels 1 through 4 plus software provides advanced documentation; nationally recognize templates based on best practices, clinical guidelines, customizable to physicians practicing patterns. Product provides hyperlinks to outside clinical knowledge databases; problems are linked to orders. Ability to view summary information regarding the patient's conditions on one customizable screen. Documentation follows national guidelines like CCR, SNOMED, and CCHIT. Ability for patient to enter data via a kiosk or via on-line web-based personal health record. Patient Summary page plus the ability to customize the page based on the physician's and practice unique needs. Lab orders based on best practices and national guidelines. Receives lab orders electronically, ability to have the data automatically posted in a flow sheet, ability to graph data results over time. Can visually compare labs results to eRX. Ability to combine results from different labs using the same format. Software provides advanced, nationally recognized, practice customized eRX with the ability to create customized preference lists based on the clinical findings of the patient. Ability for the patient to request eRX refills via secured web site. Ability to track when a patient does NOT pick up their medication from the pharmacy. Software provides advanced, nationally recognized, practice customized advanced clinical orders and results reporting that are based on national best practices and national accepted standards. Orders are driven off of patient's condition, personal preference lists, and advance features. Software provides advanced, nationally recognized, practice customized alerts and CDS that can meet all current and future guidelines via simplified advanced reporting or building of a new alert template. Software provides advanced, nationally recognized, practice customized E & M coding tied to the patient's specific healthcare plan for maximizing charge capture via pre-authorization alerts and guidelines. System provides advice in charge capture based on best practices, practice guidelines and reports variances from guidelines. Software provides advanced, nationally recognized, practice customized clinical reference content with clear labeling of the levels of evidence for facts/assertions and grades of recommendation for recommendations made, and these levels and grades are clearly and transparently based on the quality of the underlying evidence using reproducible processes.

Second, determine what type of integration you "need" with the administrative side of your practice (registration, scheduling, and billing).

- Do you want to replace your current registration, scheduling, and billing system (aka PMS) with one fully integrated PMS/EHR applications?   If yes, go to Figure 1, line item 1.
- Do you want to replace your current registration, scheduling, and billing system (aka PMS) with one PMS and EHR application from the same vendor, even if the two products are not fully integrated?   If yes, go to Figure 1, line item 2.
- If you want to maintain your current PMS application and you only want to add a new EHR that can be interfaced with your current PMS application, go to Figure 1, line item 3.

Figure 1 3 – Year Total Average Cost per Physicians - Software & 3rd Party KBS						
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**2007 CCHIT**
1. **Integrated PMS/EHR**	$ 11,525	$ 16,464	$ 23,520	$ 33,600	$48,000	$43,000
2. **Interfaced PMS/EHR**	$ 9,604	$ 13,720	$ 19,600	$ 28,000	$40,000	$38,500
3. **Stand Alone EHR**	$ 3,621	$ 6,244	$ 10,765	$ 18,560	$32,000	$29,400

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Cost Assumptions:

Note: Cost includes Initial Software costs, 3rd party KBS software, interface costs to local labs, cost to connect to Practice Management System (PMS) software.

KBS = Knowledge based systems including Patient Education materials, drug databases, eRX processes, CPT and ICD-9 codes, CDS, Health Maintenance Alerts,

The average cost is based on information gathered from actual cost proposals from 114 different EHR vendors and the functional ratings (Level 1 – 5) that is calculated based on the AC Group's 2007 PMS and EHR Functional rating survey (www.acgroup.org). Additional costs will include hardware (servers, workstations, printers, etc.) and networking equipment.

When we look at the 3-year costs for software support and maintenance, we determined that the average vendor charges between 15% and 20% of the "List Price". However, if you compare the actual annual support fees to the "initial purchase price", you will find that the support fee is between 18% and 35% per year. The difference is that some vendors provide a discount for their software, but no discount on their annual support fees. For example, if you purchase a Level 5 EHR for $25,000 (not including 3rd party software or interfaces), your annual support fee could vary from $4,500 to $8,000 per provider per year. For a 10 provider practices, the annual fees could be $35,000 more than expected.

When we look at total "service" fees we also see a cost variation based on the functional level of the EHR product. A Level 1 functional EHR software product does not require as much initial training cost as a more sophisticated Level 5 CCHIT-certified EHR application. The costs below include average costs for software installation, configuration, and training plus annual software support over a 3 year time frame.

Figure 2 3 – Year Total Average Cost per Physician - Installation, Training and Annual Support						
	Level 1	Level 2	Level 3	Level 4	Level 5	2007 CCHIT
1. Integrated PMS/EHR	$9,223	$11,891	$15,701	$21,144	$28,920	$26,220
2. Interfaced PMS/EHR	$7,986	$10,209	$13,384	$17,920	$24,400	$23,590
3. Stand Alone EHR	$3,955	$5,372	$7,813	$12,022	$19,280	$17,876

When we add the costs for software and services, the average 3 year cost for an EHR varies from $7,500 to $70,000 depending on the functional level and your specific need for Practice Management (Figure 3)

Figure 3 3 – Year Total Average Cost per Physician – Software, 3rd Party Software, Interfaces, Installation, Training and Annual Support						
Type of Product	Level 1	Level 2	Level 3	Level 4	Level 5	2007 CCHIT
4. Integrated PMS/EHR	$20,748	$28,355	$39,221	$54,744	$76,920	$69,220
5. Interfaced PMS/EHR	$17,590	$23,929	$32,984	$45,920	$64,400	$62,090
6. Stand Alone EHR	$7,577	$11,615	$18,578	$30,582	$51,280	$47,276

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Conclusion:

Before going out and selecting new technologies, each organization should first determine their needs, and then match those needs to a selected number of vendors that meet those needs. Once you are down to the top 5 to 8 vendors, ask each vendor to provide you with an estimated cost based on your organization. Ask them to provide you with an estimated three-year total cost of ownership (see page 3). Once you receive the cost data, you will probably see a cost variation of 2x to 4x, depending on the selected vendors.

Once you have vendor pricing, you can then spend time with the top vendors determining which vendor best meets you specific needs. If you spend time looking at vendors before understanding the specific vendor's pricing methodology, you may find that you cannot afford a vendor's solution, thus wasting your time and the vendor's time.

Other Articles you should review:

- EHR and PMS Contracting Issues – What you should know.
- Can you afford not to have an EHR – The real ROI Study
- What questions should you ask the vendor regarding the Company's Financial Viability
- PMS and EHR Functionality Ratings
- Clinical and Operational Transformation – a requirement for a successful implementation

To learn more about these related articles, or to learn how AC Group can help you save time and money, contact Mark R. Anderson at 281-413-5572 or by email at mra@acgroup.org.

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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 MSO's**, 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:

 O Developer of the Six-levels of Healthcare IT for Hospitals and the Physician Office
 o Researcher and producer of the 2002-2008 PMS/EHR Functional rating system
 o Advisory Board and Content Chairman – Future Healthcare, 2007-08
 o Advisory Board and Content Chairman – Physician and Hospital Bonding Summit, 2008
 o Advisory Board and Content Chairman - Healthcare IT Outsourcing Summit, 2002-08
 o Advisory Board and Content Chairman - Patient Safety and CPOE Summit, 2002-06
 o Advisory Board and Content Chairman – Consumer Driven Healthcare Conference, 2003, 2004
 o Advisory Board and CPOE Chairman - Reducing Medication Errors, 2003, 2004, 2005
 o Advisory Board of TETHIC 2003, 2004, 2005
 o Advisory Board of NMHCC 2000, 2001, 2002, 2003, 2004, 2005
 o Advisory Board of TCBI Healthcare Conference 2000 - 08
 o Advisory Board of TEPR and MRI, 2000-08
 o Past President of Local HIMSS Boards – Houston, Tennessee, Southwest TX
 o Editorial Board of Healthcare Informatics 2001 - 06
 o Judge, MSHUG ISA, 1999-2005, TEPR Awards, 2001-2002, TETHIE 2003-05, HDSC 2003-05
 o National HIMSS Chapters Committee 2001 - 04
 o National HIMSS Fellows Committee 2001, 2002, 2004
 o National HIMSS Programs Workgroup Committee 2001, 2002, 2003, 2004, 2007
 o Chair HIMSS HIE Education Task Force - 2007-08
 o Member of HIMSS RHIO Best Practices - 2007-08

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/EHR healthcare marketplace. Twice per year, AC Group publishes a detailed report on vendor PMS/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/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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