

**Medical Group Management Association**  
**Electronic Health Records: Perspectives from the Adopters**

**Research Objectives**

During the summer of 2007, MGMA conducted a research study to investigate the experiences of medical practices that have adopted electronic health records (EHR).

The study had the following objectives:

1. Identify the benefits of EHR implementation
2. Assess satisfaction levels with EHR products and services
3. Identify problems experienced during implementation
4. Identify bad outcomes due to EHR adoption
5. Identify reasons for the bad outcomes

By making these research results available to practices that have not yet adopted EHR, MGMA hopes to:

1. Encourage those practices to adopt EHR technology
2. Assist practices in avoiding mistakes of the earlier adopters

**Key Findings**

1. The study identified 285 practices where EHR implementation is in process or is fully implemented. Over 76% of the adopters report that they are satisfied or extremely satisfied with their EHR system and over 66% report that they are satisfied or extremely satisfied with their EHR vendor support. This indicates that adopters are more satisfied with their actual systems than with their vendor support of those systems.
2. Much hard work and planning is required to enhance the probability of a successful EHR implementation.
3. Most practices should expect increased operating costs, reduced productivity, and other assorted surprises and challenges during the first 6 to 24 months of the implementation.
4. After the first 6 to 24 months, the benefits of EHR adoption should increasingly exceed the costs, and most practices will wonder how they ever conducted business without an EHR.

**Medical Group Management Association**  
**Electronic Health Records: Perspectives from the Adopters**

**Potential EHR Benefits**

The following list summarizes the variety of EHR benefits that can be expected after 6 to 24 months as reported by the study respondents who have adopted an EHR. Not all benefits will be experienced by every practice. The probability of achieving many of these benefits seems to be a function of the ability and willingness of the practice to critically review all the old work flows during the EHR implementation planning process. The more willing a practice is to be flexible and modify work processes to take advantage of the EHR technology, the higher the probability that these potential benefits will be achieved. There is reason to believe that the critical analysis of work flow is a more important success factor than the selection of a particular EHR product.

1. Patient health record availability
  - a. Simultaneous 24/7 availability to all providers and staff
  - b. Available at all practice locations, the physician's home, and anywhere there is a high speed internet connection
  - c. Available to referring, consulting, and emergency physicians
  
2. Reduction in practice costs
  - a. Reduced time spent searching for, transporting, and filing paper records
  - b. Reduced time spent on registration, dictating and transcribing
  - c. Reduction in costs for off-site paper storage
  
3. Increased practice productivity
  - a. Automatic generation of prescriptions, lab reports, and letters
  - b. More efficient phone triage due to immediate access to patient record
  - c. Critical review and revision of work flow leads to increased efficiency.
  - d. Increased provider productivity due to increased staff productivity
  
4. Elimination of paper files frees up space for other uses
  - a. Space can be used for new examination rooms, improving patient flow
  - b. Space can be used for new revenue generating ancillary services
  
5. Increased practice revenue
  - a. Better E and M documentation enhances provider confidence to code and bill appropriately for services rendered
  - b. Improved charge capture
  - c. Reduction in delays in billing activities
  - d. Reduction in payer denials

**Medical Group Management Association**  
**Electronic Health Records: Perspectives from the Adopters**

**Potential EHR Benefits (continued)**

6. Increased quality of patient care
  - a. Improved continuity of care and preventive care
  - b. Improved chronic disease management
  
7. Increased patient safety
  - a. Patient record available 24/7 in order to respond to emergencies
  - b. Ease of accessing patient prescription information in case of drug recall
  - c. Increased safety in prescribing due to drug interaction and allergy alerts
  
8. Increased patient satisfaction
  - a. More rapid processing of prescription orders and refills
  - b. More rapid reporting of lab results to patients
  - c. More rapid response to patient phone calls and questions
  - d. Reduction in cost to patient by reducing need for duplicating radiology and lab tests
  
9. Increased staff job satisfaction
  - a. Reduced staff stress related to failed searches for paper records
  - b. Process of EHR implementation creates team environment
  - c. Improved communication among staff
  
10. Increased physician satisfaction and quality of life
  - a. Ability to complete charts before going home or in comfort of home
  - b. Reduced need to do dictation after seeing a patient
  - c. EHR can be a benefit in recruiting new physicians
  
11. Increased referring and consulting physician satisfaction
  - a. Enhanced ability to quickly generate letters to physicians
  - b. Enhanced ability to share radiology and lab results with physicians
  
12. Increased quality of the health record
  - a. Record is legible and timely
  - b. Record is more consistent across different providers
  - c. Record is more defensible from billing perspective
  
13. Integration with other systems and facilities
  - a. Interfaces with lab and imaging equipment automatically incorporate data into the health record
  - b. Interfaces with hospitals and surgery centers enable health record data to be shared by authorized providers

**Medical Group Management Association  
Electronic Health Records: Perspectives from the Adopters**

**Potential EHR Benefits (continued)**

14. Increased ability to query the data base and conduct data mining activities
  - a. Ability to track outcomes and participate in pay for performance programs
  - b. Ability to monitor and benchmark quality of care
  - c. Government and public health reporting is easier
  - d. Diagnosis registries easier to maintain.

**Potential Unsatisfactory Outcomes from EHR Adoption**

Many of these adverse outcomes were reported during the implementation phase. Although some practices have yet to find solutions to some of these problems, a general theme from the adopters is that it simply takes a year or two to learn how to rectify the adverse outcomes, particularly in practices that did not conduct critical work flow analysis prior to implementation.

1. The EHR does not live up to the practice's expectations.
  - a. Practice has difficulty in setting up the EHR system, data capture methods, and data input templates to fit the needs of different provider and specialty work styles and patient conditions. This leads to inconsistent use of the system by providers and inconsistent data in the EHR.
  - b. Specialists in multispecialty settings often want features that are not available.
  - c. Practice does not recognize need for certain features until after implementation begins.
  - d. EHR creates new work flows that are hard to implement.
  - e. Practice is unable to eliminate paper records.
  - f. Long time period is required to get up to speed.
  - g. Expectations were that EHR would be easier to use.
  - h. Physicians are unable to reduce dictation and effectively use features of the EHR.
  - i. The EHR software has an unacceptable level of flaws and bugs.
2. Practice staff and physicians experience increased frustration and stress.
  - a. Some physicians (often older physicians) have difficulty in learning how to use the system.
  - b. Some physicians and staff are intransigent and refuse to use the system.
  - c. EHR use has adverse impact on staff interaction and communication.
  - d. Physician satisfaction decreases due to extra time spent learning and using the EHR.

**Medical Group Management Association**  
**Electronic Health Records: Perspectives from the Adopters**

**Potential Unsatisfactory Outcomes from EHR Adoption (continued)**

3. Practice productivity decreases.
  - a. Physicians devote more time to using the EHR system after the patient visit.
  - b. Additional workload and documentation is shifted to physicians.
  - c. Too many template screens are required to document a visit.
  - d. Software updates require new things to learn on continual basis.
  - e. Unanticipated time and cost are required to scan old medical records.
  - f. Too much time is devoted to abstracting old records to the new database when a scanned image will suffice.
  - g. Staff is unable to effectively search for scanned information.
  - h. Practice sees fewer patients during initial implementation.
  - i. Productivity drops when system goes down.
  - j. Practice unable to find temps and subs who know how to use the EHR.
  
4. Practice costs increase.
  - a. Information technology staffing, salaries, and oversight costs increase.
  - b. Staff overtime costs increase.
  - c. Practice adopted too early, before some hardware costs had decreased.
  - d. Practice underestimated costs of continual software and hardware upgrades, malware protection, and security protocols.

**Potential Causes of Unsatisfactory Implementations**

Even when a practice purchases a certified, well-designed EHR that is suitable for the needs of the practice or a hospital partner, the implementation might be unsatisfactory. Possible explanations for unsatisfactory implementations include the following factors reported by the adopters.

1. Practice inappropriately cut costs.
  - a. Practice purchased and installed inadequate hardware.
  - b. Practice purchased insufficient training.
  - c. Practice purchased insufficient technical support services.
  - d. Practice purchased low cost EHR, not really suited to practice needs, from a hospital partner.

**Medical Group Management Association**  
**Electronic Health Records: Perspectives from the Adopters**

**Potential Causes of Unsatisfactory Implementations (continued)**

2. Practice did not properly prepare for EHR implementation.
  - a. Practice did not critically analyze work flows and decide how those work flows would be modified during implementation in order to achieve the potential benefits from EHR implementation.
  - b. Practice did not develop an effective plan for migrating the paper health records to the new EHR.
  - c. Practice did not involve all EHR system users in the planning process.
  - d. Practice did not set up all the practice departments including ancillary services to use the EHR.
  - e. Practice did not institute policies and business rules necessary to maintain EHR system data integrity.
  
3. Practice did not provide sufficient or effective training.
  - a. All people that use the EHR system were not properly trained.
  - b. The practice did not adequately train new employees after the initial round of training.
  
4. EHR vendor sales tactics are not always in the best interest of the practice.
  - a. Practice purchased software from a vendor or reseller more concerned about closing the sale than the success of the implementation.
  - b. EHR sales staff did not emphasize the planning commitment required by practice or implied that the EHR vendor would manage most planning tasks for the practice.
  
5. Implementation leadership is weak or absent from the practice.
  - a. The practice does not have a physician leader or physician commitment.
  - b. The practice does not have a dedicated implementation project manager.
  
6. Interfaces, system integration, and networking create technical challenges.
  - a. Interfaces with PMS, lab, and imaging systems do not exist or are difficult to implement.
  - b. Interfaces with hospitals, surgery centers, and referring and consulting physicians do not exist or are difficult to implement.
  - c. Wireless networks can be difficult to set up properly.
  
7. Problems exist with the EHR vendor.
  - a. Vendor installation support is poor.
  - b. Vendor is not prepared for size of group.
  - c. Vendor technical support is poor.
  - d. Vendor is unresponsive to practice requests to fix bugs or add new features.
  - e. Vendor unexpectedly raises prices for service and support.

## **Medical Group Management Association Electronic Health Records: Perspectives from the Adopters**

### **Words of Wisdom from the Adopters On the EHR Experience**

353, The implementation of EHR is not an event but a process over a significant period of time.  
389, Decrease patient loads, bite the bullet and go for it!  
359, After a time period of trial and error, our experience with an EHR has been very positive. We are totally paperless at this time and the benefits of doing this are very evident.  
463, The amount of information now available is incredible and useful.  
83, We have been using an EHR system for the last 7 years and it is and was the best thing we did for the practice.

### **On Going Back to Paper**

190, Absolutely the way of the future - cannot imagine going back to manual mode.  
302, The staff loves it and won't go back to a manual system hands down!  
442, Implementation was challenging, but would never go back to paper charts.  
452, I would never go back to the old paper chart system. Our EHR has greatly improved efficiency.  
209, Used EHR since 1999 and would never go back. Cannot understand why other clinics do not have one!  
282, After three years on EHR, I would NEVER go back to paper charts. It's a big and daunting project, but well worth the time and effort.  
106, While implementing an EHR takes time and planning, it was well worth the effort. We have minimized overhead and are more efficient (both staff and doctors). We would NEVER go back to a practice that uses paper.

### **On Challenge**

479, It is difficult to ask physicians to slow down long enough to learn the system. Once implemented, the benefits are many, but asking a physician to take a pay cut (see less patients in a production based salary) is not easy to do. This was one of the biggest hurdles and remains the largest in dealing with the physicians that have not yet converted.  
560, Choosing a good system is difficult. Implementation is even more difficult. Planning the implementation is critical. Just letting things happen builds in failure and more costs.  
73, It's a difficult transition for both the staff and the providers, which takes

**Medical Group Management Association**  
**Electronic Health Records: Perspectives from the Adopters**

**Words of Wisdom from the Adopters (continued)**

**On Training**

183, Do not let employees who do not know what they're doing touch the EMR system.

134, Practices implementing EHR need to make sure they invest enough resources and capital for training in addition to the actual software and hardware costs. Without sufficient commitment to training the implementation success will be limited

141, The key is a carefully planned, well-staged implementation plan that allows adequate time to train all staff departments well and gradually. It is best to have staff well-trained before implementing with MDs.

192, Buy it, but make sure that you plan adequately for training and setup time and expenses. Take the training costs and triple them during the budget process to ensure that you have sufficient resources from the start.

**On Implementation Resource Requirements**

305, Biggest mistake is to think you can do this and do business as usual. I'd hire a special FTE to make it happen. It is worth every penny in getting the thing up and running and producing obvious and subtle ROI as soon as possible.

305, I believe the failure of most implementations is not the software. I think most of these outfits have the rudiments or more of a very viable system for PM/EHR. I really think it is "us", work addicted and over-worked medical practice folks (docs) who don't give this transition the staffing to make it happen well. We will continue to pay for that limited thinking with rotten implementation experiences and less than potential ROI and we'll keep whining that it's those dumb companies who don't provide good service, etc.

380, Planning, preparation, and training are the most crucial elements of implementing an EHR. Physician involvement and input are vital to the success of the project. Even after full implementation, the practice should have a project manager that devotes 100% of their time to on-going physician / clinician needs.

**Medical Group Management Association  
Electronic Health Records: Perspectives from the Adopters**

**Words of Wisdom from the Adopters (continued)**

**On Physician and Staff Buy-In**

264, Physician and staff involvement in the selection process (RFP) made it their system they were installing. While there were many challenges and workflow changes due to EHR, complaints and finger pointing were at a minimum.

314, In order for EHR implementation to be successful, your practice leaders must be 100% committed, enthusiastic and firm in the decision to do so. Building this commitment from all the other staff is the single largest challenge that a practice administration will face. Making professional and support staff part of the process, at all levels, helps decrease the anxiety and uncertainty of how the EHR may affect each person's job responsibilities.

176, You must go into the process with buy-in from the physicians. Also, putting members of your staff on the implementation team is critical. Give them some ownership.

288, Have an implementation plan in place and involve all staff members. Everyone's input and cooperation is key to the success.

**On ROI and Other Outcomes**

275, We are definitely receiving a ROI on our EHR but during the first year it cost us much more than it saved us. Physician productivity is actually higher but they use that to get out of the office earlier (quality of life) versus actually seeing more patients.

427, Expensive to start but ROI should be under three years. About the only way left to significantly impact practice expenses.

122, Keep communication open with the staff and give lots of warm and fuzzies throughout the implementation process. The staff is very proud of what the practice has achieved.

188, Best thing we have done. Over 1M saved in first year alone. Over 10M saved in five years. It has revolutionized the way the physicians practice medicine.

285, A robust EHR, carefully selected and painstakingly implemented can be a huge benefit. It is paid for in ROI in many ways, including reduction in staff, increased billing, faster A/R, better documentation and patient safety and therefore P4P initiatives.

24, We have frustrations, of course, but none of our doctors would go back to a paper chart system if they had the choice. Our doctors made more money after the first year in the system than they had the previous year (6% more).

**Medical Group Management Association**  
**Electronic Health Records: Perspectives from the Adopters**

**Words of Wisdom from the Adopters (continued)**

**On Workflow**

283, It's all about the workflow. Baseline your workflows before you even begin the selection process. It will help tremendously in all aspects of selection and implementation.

438, Our entire organization is passionate about our use of EHR and wouldn't consider a return to paper records. We have found increased efficiencies and now look to solve workflow issues electronically whenever we can. It has revolutionized our ability to provide care to our patients.

**On Pain and Disillusionment and Tribulation**

370, Painful at times, but well worth it.

121, It is a painful process for the first six months but gets better with time. Don't skimp on training!!

163, My staff and I are still trying to reconcile our disillusionment about our EHR software, its lack of purity of programming and reliability, with our grudging appreciation of the undeniable benefits it brings to us and that we now routinely enjoy.

331, We've been on the EHR system long enough we have forgotten the tribulations, shortcomings and costs of our former manual system. We'd never go back.

55, EHR has transformed almost every aspect of our operations. It was a difficult transition yet worth the effort and the dollars.

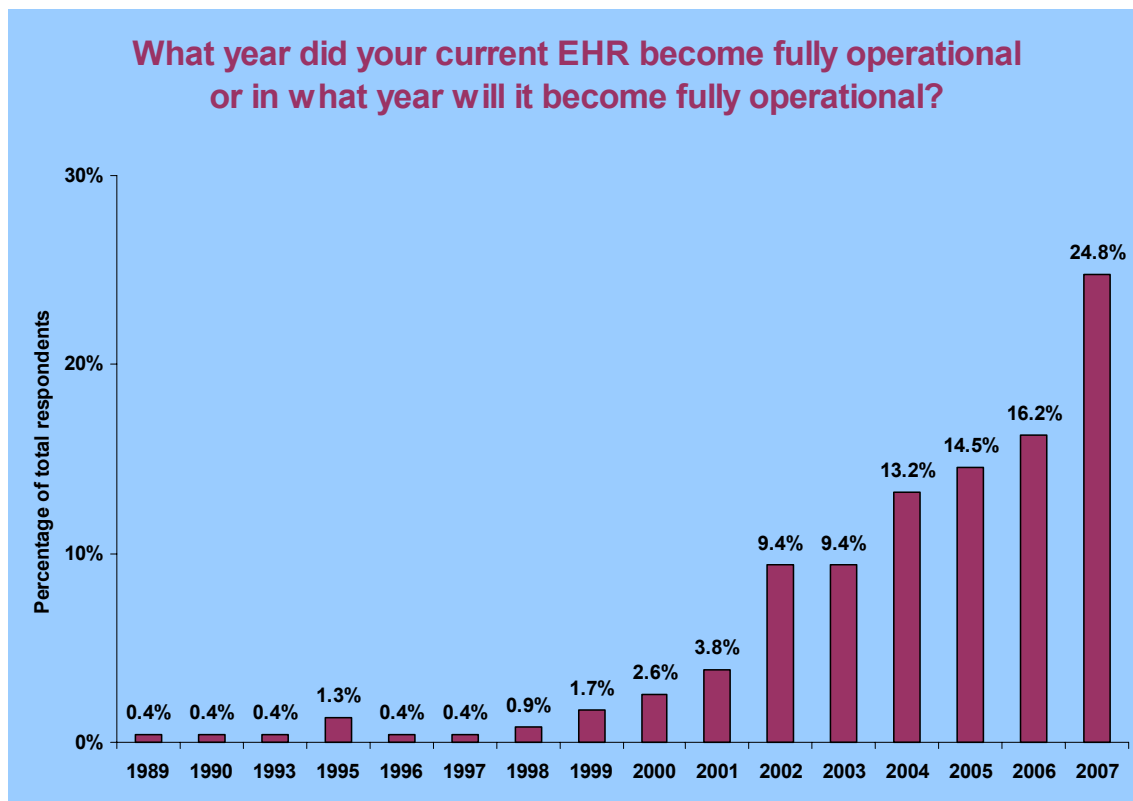
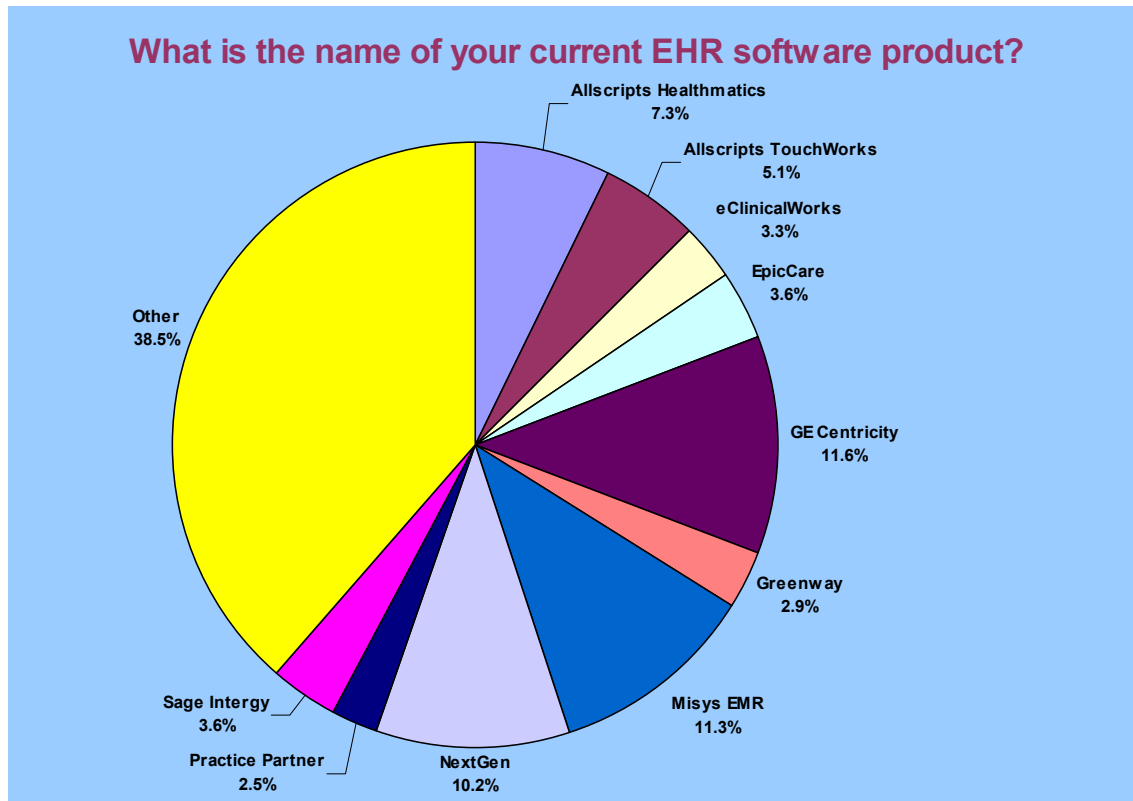
**On Life and Love**

501, We love our EHR. Life is much better with the EHR. Every practice should have the goal to transition to an EHR.

Note: The numbers in this section are the ID numbers for the research participants.

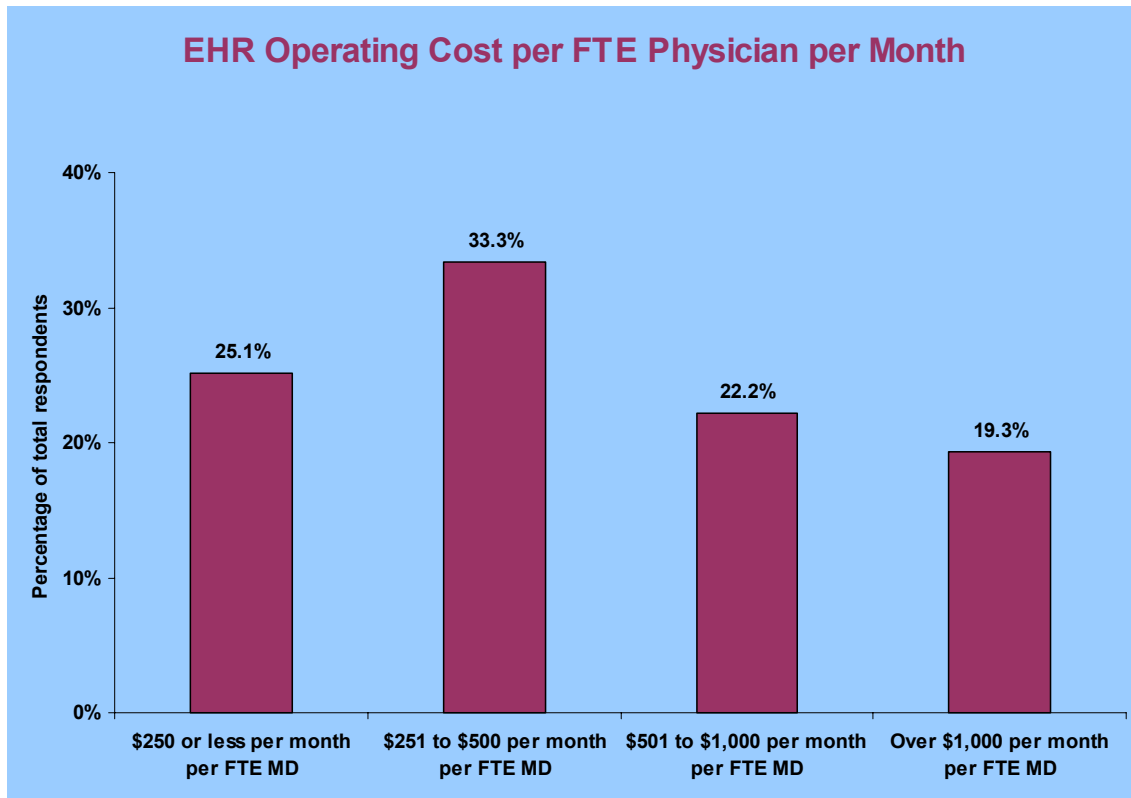
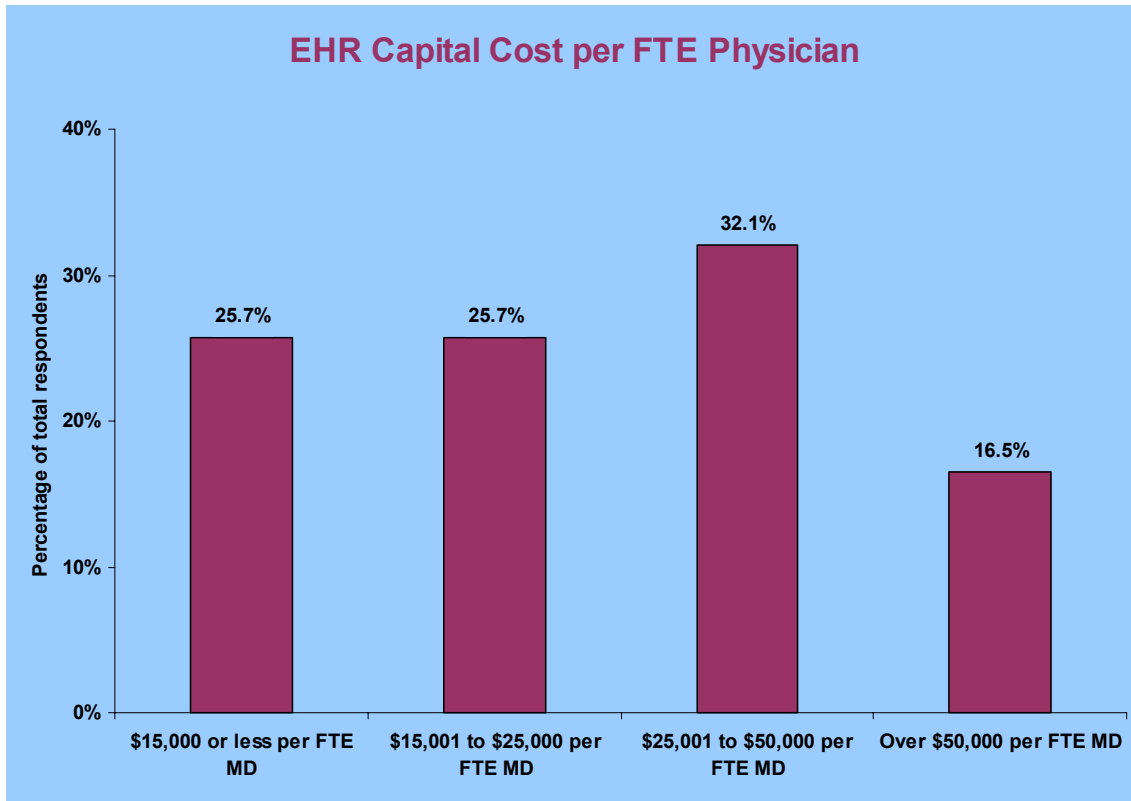
**Medical Group Management Association  
Electronic Health Records: Perspectives from the Adopters**

**Charts**



**Medical Group Management Association  
Electronic Health Records: Perspectives from the Adopters**

**Charts (continued)**



**Medical Group Management Association  
Electronic Health Records: Perspectives from the Adopters**

**Charts (continued)**

