

Off to a slow start ...

High costs and lack of physician support hinder medical groups' EHR adoption, says new study by MGMA and University of Minnesota

reader take-away

- Learn how practice size affects the implementation rate of electronic health records (EHR)
- Find out what types of practices are most and least likely to have EHR
- Understand the costs and barriers to EHR
- Evaluate EHR costs by size of practice
- Learn about the research that produced these results

By David N. Gans, MSHA, FACMPE

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About the study

With funding from the Agency for Healthcare Research and Quality (AHRQ), researchers with the Medical Group Management Association Center for Research (David N. Gans, MSHA, FACMPE, and Terry Hammons, MD) and the University of Minnesota Division of Health Services Research and Policy (John Kralewski, PhD, and Bryan Dowd, PhD) surveyed a nationally representative sample of medical group practices to assess their current use of information technology. Findings of the research are also highlighted in the Sept./Oct. *Health Affairs* in "Medical Groups' Adoption of Electronic Health Records and Information Systems," written by Gans, Hammons, Kralewski and Dowd.

Challenging many earlier estimates on the use of electronic health records (EHR) by medical group practices, a new comprehensive study by the Medical Group Management Association (MGMA) Center for Research and the University of Minnesota Division of Health Services Research and Policy has found that just 14.1 percent of medical group practices are currently using EHR.¹ The study was conducted with funding from the Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ) and is published in the latest edition of *Health Affairs*.²

While relatively few medical groups indicate that they have adopted EHR, the study found that growth in EHR use over the next two years could be dramatic. According to projections provided by the national sample of more than 3,300 practices that participated in the study, 58.2 percent of all medical group practices expect to have EHR by 2007.

Practices without EHR cite cost — an average of almost \$33,000 per physician — as the top barrier; whereas practices that have already purchased EHR cite lack of physician support as a major hindrance to implementation. The data also suggest that implementing EHR catapults practices across the digital divide and into rapid adoption of related technologies, such as electronic prescription writing and refills (see chart at top, page 43).

Adoption rates

Not surprisingly, the data show that the larger the practice, the more likely it is to have EHR. Examining the adoption rate by size of practice shows EHR use as:

- 19.5 percent for practices of 21 or more physicians;
- 18.9 percent for practices of 11-20 physicians;
- 15.2 percent for practices of six to 10 physicians; and
- 12.5 percent for practices of five or fewer physicians.

Examining who could potentially have an EHR within the next two years, the spread is even greater among different-sized practices. Aggregating responses from practices that have fully implemented, are implementing or plan to have EHR shows that EHR could be in use within two years by:

- 79.8 percent of practices of 21 or more physicians;
- 73.0 percent of practices of 11-20 physicians;
- 62.7 percent of practices of six to 10 physicians; and
- 52.2 percent of practices of five or fewer physicians.

The disparity between the EHR haves and have-nots has serious repercussions considering potential federal policies that could link increased levels of Medicare payment to the physician practice's ability to provide patient-level information that cannot be easily extracted from a paper medical record (see "Policy implications of EHR research," page 26).

Specialty vs. primary care

Radiology is the specialty most likely to use electronic technologies and not have paper medical records. Less than half of single-specialty radiology practices reported use of paper medical records. Thirty-six percent of surveyed radiology practices already have fully implemented EHR; another 44 percent are implementing it or plan to do so in the next two years. Only 20 percent say they won't be wired for at least two years (see chart below).

Of the survey participants with sizable responses, cardiovascular surgery single-specialty practices appear least likely to be wired two years from now. While 19.0 percent of the cardiovascular surgery practices indicated that they currently have an EHR, these are the "early adopters" that are the first to use new technologies. Relatively few other cardiovascular surgery practices indicated plans for EHR implementation. In two years, 61.9 percent of responding cardiovascular surgery practices indicated they would still be using paper medical records.

Among primary care organizations, family practice leads internal medicine and pediatrics in adopting EHR. Almost 17 percent of family practice groups have fully implemented EHR, and another 47.8 percent are implementing it or plan to do so in the next two years. Only 5.1 percent of internal medicine groups have fully implemented EHR, and just 40.2 percent are applying it or plan to do so in the next two years. Similarly, 11.7 percent of pediatric groups have fully implemented EHR, and just 31.8 percent are employing it or plan to do so in the next two years.

In the final tally, 35.5 percent of family practice groups, 54.7 percent of internal medicine groups and 56.4 percent of pediatric groups do not now have and don't plan to implement EHR in the next 24 months.

Practices using EHR also abandon paper elsewhere

Percent of practices that use manual (paper) versions of these tools

	Percent of Practices that have fully implemented EHR for all physicians and locations	Practices that have not implemented EHR and have no planned implementation in the next 24 months
Prescription-writing system	11.4 %	92.7 %
Drug interaction warning system	13.3 %	69.3 %
Clinical laboratory results system	17.0 %	53.7 %
Prescription refill system	23.1 %	92.9 %
Referral authorization system	22.0 %	46.3 %
Referral tracking system	23.9 %	47.3 %
Clinical laboratory order-entry system	29.4 %	70.8 %
Radiology/imaging results system	30.0 %	63.7 %
Radiology/imaging order entry system	38.7 %	85.0 %

Source: MGMA and University of Minnesota, "The adoption of electronic health records and associated information systems by medical group practices," 2005

Costs and barriers

The study confirmed that the cost of adopting EHR is not trivial. As shown in the table on page 44, the average purchase and installation cost per full-time-equivalent (FTE) physician for an EHR was \$32,606, with larger practices spreading the cost of the technology over many doctors and paying less per FTE physician, while smaller practices have a much higher per-doctor installation cost. Practices with 21 and more FTE physicians reported an average cost of \$24,988 per FTE physician, while the smallest practices paid an average of \$37,204 per FTE physician. In addition to the implementation costs, monthly maintenance costs

see **Slow start**, page 44

Most and least wired specialties

	Percent of practices that have fully implemented EHR for all physicians and locations	Practices that have not implemented EHR and have no planned implementation in the next 24 months
Radiology	36.0 %	20.0 %
Cardiology	14.7 %	28.3 %
Orthopedic surgery	9.9 %	31.4 %
Otorhinolaryngology	28.3 %	34.0 %
Family practice	16.7 %	35.5 %
Dermatology	7.5 %	57.5 %
Nephrology	3.1 %	59.4 %
Allergy/Immunology	3.8 %	61.5 %
Surgery: Cardiovascular	19.0 %	61.9 %

Source: MGMA and University of Minnesota, "The adoption of electronic health records and associated information systems by medical group practices," 2005

EHR costs by size of practice

Size of practice	Implementation cost per physician	Maintenance cost per physician/month	Cost overrun above vendor initial estimate
21 or more physicians	\$24,988	\$1,371	36.6 %
11-20 physicians	\$32,700	\$1,496	25.5 %
6-10 physicians	\$29,846	\$1,267	22.2 %
5 or fewer physicians	\$37,204	\$896	23.4 %
Overall	\$32,606	\$1,177	24.8 %

Source: MGMA and University of Minnesota, "The adoption of electronic health records and associated information systems by medical group practices," 2005

averaged \$1,177 per FTE physician, with larger practices paying more than smaller medical groups, most likely due to the added complexity of EHR systems designed for multiple locations and clinical modalities.

The study also examined how the vendor's initial estimate compared to the actual implementation cost. The average cost overrun was 25 percent more than the initial vendor estimate, with the largest medical groups reporting the highest difference. For medical groups with 21 or more FTE physicians, the average

cost overrun was almost 37 percent more than the initial vendor estimate (see table, left).

Because most practices do not retain earnings, they fund capital equipment directly from physician income. So it's no surprise that "lack of capital resources to invest in an EHR" was rated as the most serious barrier to adopting an EHR by practices that do not yet have the technology.

At the same time, groups that already have EHR gave their highest score to a completely different type of barrier: "lack of support from practice physicians" — perhaps reflecting that, once the economic justification for an EHR is made, serious operational problems remain.

Responding practices listed other barriers to implementation: concern about physicians' ability to enter data into the EHR, concern about loss of productivity during transition to EHR and inability to easily input historic medical record data into EHR. Each of these barriers needs to be addressed when planning an EHR installation.



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Unused capabilities

The report provides significant insight into which EHR capabilities practices actually use, as not every EHR has all functions and not every medical group fully uses the capabilities of its EHR system. More than 97 percent of the respondents with an EHR reported that their systems had functions for patient medications/prescriptions, patient demographics and visit/encounter notes, but less than 65 percent reported that the EHR provided drug formulary information or clinical guidelines and protocols.

Equally important was that only 83.1 percent of respondents said their EHR was integrated with the practice billing system. Integration with the practice billing system facilitates cost savings by eliminating key-entry of billing information, improves charge capture and enhances documentation of billed services in the medical record.

President Bush has described the use of EHR and related technologies as a key

component in the national health care strategy of lowering costs, improving quality and reducing medical errors. However, given the current state of adoption — and even if all the practices with plans to implement EHR during the next two years do so — at least 40 percent of medical group practices will still be using paper records at a critical time in the execution of this national strategy.

The economic case for EHR is still being evaluated. Unless the cost barrier to adoption can be breached, it may be impossible to reach the national goal of providing all Americans access to reasonably priced, quality health services. ❌

notes

1. Hammons T, Kralewski J, Gans D, Dowd B. The adoption of electronic health records and associated information systems by medical group practices. Final report, AHRQ task order No. 5. 15 July, 2005.
2. Gans D, Kralewski J, Hammons T, Dowd B. Medical groups' adoption of electronic health records and information systems. *Health Aff* 2005; 24: 1323-1333.

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- In the *MGMA Knowledge Center* in the member area, choose *Article Archive* and search under “electronic medical records”; choose *Tools* and try the “Electronic health record practice readiness assessment”
- In the *Store*, enter 6266 in the *Search* box for the book *Electronic Health Records: Transforming Your Medical Practice*

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Are you planning to implement EHR? What barriers are holding you back? Tell us at connexion@mgma.com

Policy implications of EHR research

The implications for Congress and the administration of the recent research on use of electronic health records (EHR) by medical group practices are significant. As federal health policymakers design proposals to create a national health information infrastructure, they will have to take into account the still-low rates of adoption in group practices (see “Off to a slow start ...” page 42).

Equally important to policymakers is their desire to see health information technology used to improve clinical quality and reporting for clinicians who provide services to beneficiaries of publicly funded health programs. The promised improvement cannot take place with the current low rates of adoption. The Medical Group Management Association (MGMA), which conducted the research with the University of Minnesota, has widely shared this survey with lawmakers, administration officials and medical specialty societies.

Besides concerns over the lack of return on investment and initial cost barriers to purchasing health information technology, MGMA also has delivered these messages to policymakers through this survey:

- **Smaller practices slower to adopt** — As expected, larger practices have implemented EHR at a higher rate than smaller practices. In addition, medical specialty practices tended to implement EHR at a higher rate than primary care offices.
- **Complicated implementation/reduced productivity** — Survey respondents indicated that medical practices found it significantly more difficult to implement EHR than they had anticipated. In addition to the high initial purchase cost, respondents experienced a significant reduction in productivity, at least through the implementation

and acclimation period. Medical practices reported decreases in physician productivity of up to 15 percent, usually lasting a year or more.

Despite a widespread belief that EHR will increase productivity and reduce costs for practices, the evidence from the research demonstrates that productivity is reduced substantially during the implementation of and transition to EHR. Medical practices report that the high initial purchase amount and reduced productivity, combined with a lack of reliable financial cost/benefit studies of EHR implementation, makes it difficult to establish a business case for EHR adoption. The study reported that medical groups that have implemented EHR assessed the clinical benefits such as improved access to medical record information, improved work flow and improved patient communications as far more important than economic benefits.