

Potential Benefits of Electronic Medical Records

Electronic medical records (EMRs) are often touted as a great way to lower the spiraling costs of health care in the United States. This paper looks broadly and briefly at where potential savings could occur, who could realize these savings, and whether EMRs can improve quality of care.

The use of information technology in health care fields is often touted as a way to transform medicine. People often refer to the potential benefits in cost savings and in quality of care but how much of a benefit will actually be realized? The costs of implementing and maintaining an electronic medical record (EMR) system are high, productivity will probably drop for a period immediately following implementation,¹ and incentives for paying for these systems are skewed: benefits are likely to go to consumers and insurance agencies, with providers expected to foot the bill.² However, studies have examined the net potential benefits and found that there are savings to be had from EMRs, as well as potential increases in quality of care.

Financial Savings

Some of the benefits identified by a study in *The American Journal of Medicine* include a reduced number of chart pulls and reduced transcription costs. Chart pulls are often time consuming, as an office employee often has to locate the chart and later re-file it. One approximation is that an average chart pull costs an office \$5.³ In addition, the study estimates that transcription costs could be reduced by 28 percent since much dictation would no longer be necessary.⁴ Another potential for savings is a reduction of billing error and therefore increased “billing capture.”⁵ In addition, there are potential savings from reducing “adverse drug events;” *The American Journal of Medicine* study noted that system reminders of possible alternative drugs could reduce drug costs by 15 percent per year.⁶ Overall, with a five-year cost benefit analysis, this study estimated a potential net benefit of \$86,000 per provider.⁷ The net benefit changed when a sensitivity analysis was included, but overall, most providers who implement EMR systems will receive net benefits.

Total Savings

A study by RAND in *Health Affairs* took a much broader view of potential savings from electronic medical records. Overall, this study estimates a potential net savings over fifteen years of about \$142 billion to \$371 billion.⁸ This study focused on efficiency savings and safety benefits but noted that there are potential health savings from the use of EMRs related to disease prevention based on system suggestions or reminders of possible preventative measures and also chronic disease management (for example, systems could screen for people potentially at risk for a disease such as diabetes).⁹

The RAND study estimates that if the country could reach 90 percent adoption, efficiency savings (from things such as decreased hospital stays, less administrative work for nurses, and less unnecessary drug and radiology use in both hospitals and outpatient clinics) could be dramatic.¹⁰ In addition, it is likely productivity would increase simply because several authorized users could access a chart at the same time both within the office and across locations.¹¹

The potential safety benefits the RAND study examined relate to drug usage and the capability of EMRs to alert physicians to potential problems (like adverse reactions of one drug to other drugs being taken). The potential benefits of this could be realized in both inpatient and ambulatory (outpatient) settings.¹²

Conclusions

The possibility for savings from increased and widespread use of EMRs is huge. However, as has been noted, there is a misalignment of incentives. Something has to be done to encourage individual practitioners to adopt these systems. In addition, one article notes that even if savings are realized, “The U.S. health system will find ways to reallocate the money.”¹³ So although savings are possible in all of these areas, it is likely the system will instead reallocate to improve services in other areas (getting more bang for your buck). Health care costs may not decrease but quality of service almost certainly will rise.

¹ Samuel Wang, MD, PhD, Blackford Middleton, MD, MPH, MSC, Lisa A. Prosser, PhD, Christiana G. Bardon, MD, Cynthia D. Spurr, RN, MBA, Patricia J. Carchidi, RN, MSN, Anne F. Kittler, Robert C. Goldszer, MD, MBA, David G. Fairchild, MD, MPH, Andrew J. Sussman, MD, MBA, Gilad J. Kuperman, MD, PhD, David W. Bates, MD, MSc, “A Cost-Benefit Analysis of Electronic Medical Records in Primary Care,” *American Journal of Medicine*, vol. 114 (April 1, 2003), p. 398

² Richard Hillestad, James Bigelow, Anthony Bower, Federico Girosi, Robin Meili, Richard Scoville, Roger Taylor, “Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, And Costs,” *Health Affairs*, vol. 24, no. 5 (September/October 2005), p. 1115.

³ Wang, et al. p. 398.

⁴ *Ibid.*, p. 399.

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Ibid.*, p. 400.

⁸ Hillestad, et al. p. 1103.

⁹ *Ibid.*, p. 1109-11.

¹⁰ *Ibid.*, p. 1107

¹¹ Steven M. Ornstein, MD, “Electronic Medical Records in Family Practice: The Time Is Now,” *Journal of Family Practice*, vol. 44, no. 1 (January 1997), p. 45.

¹² Hillestad, et al. p. 1109.

¹³ Clifford Goodman, “Savings in Electronic Medical Record Systems? Do It For The Quality,” *Health Affairs*, vol. 24, no. 5 (September/October 2005), p. 1126.

