

Cost and Benefits of EHR Implementation

Q: What are the typical costs and benefits to a doctor of implementing and maintaining an Electronic Health Record (EHR)?

A: Costs can vary considerably according to the model of EHR, its functionality, the level of support and other factors. These can include:

- Software (annual license)
- Implementation (one-time)
- Training (upfront and ongoing)
- Support and maintenance (ongoing)
- Hardware (computers + network) (upfront and ongoing)
- Temporary productivity loss (one-time)

Other costs might include:

- Contracting and legal fees
- Strategic planning
- Post-implementation support
- Integration with a local RHIO

Q: What are the benefits of implementing an EHR?

A: There are several benefits in implementing an EHR, though they can vary according to the functionality of the EHR, the extent of a doctor's use of the EHR's tools, payor mix, and the doctor's ability to organize workflow of the office to make the best use of the EHR and other factors. Savings for a medical practice can include the following:

- Reduction in chart pulls and chart storage
- Reduction in transcription costs
- More effective allocation of staff resources
- Prevention of adverse drug events
- Drug savings
- Laboratory and radiology savings
- More efficient and accurate capture of billing information
- Potential malpractice insurance premium discounts

Typical costs have been estimated to range from \$10,000 to \$15,000 per doctor⁵, though this depends on the type of functionality of the EHR, the needs of the doctor, the market environment and other variables. An assessment of the cost of an EHR should be available from the EHR vendor.

⁵ "Information Technology Comes to Medicine," Blumenthal, D; Glaser, JP, *New England Journal of Medicine*, Volume 356:2527-2534, Number 24

Several studies in the past have investigated the costs and benefits of implementing EHRs. Below are some examples. Please note that the potential costs or benefits of EHRs might have changed since the years in which these papers were published.

Miller RH, West C, Brown TM. (2005) The Value of Electronic Health Records In Solo Or Small Group Practices, <i>Health Affairs</i> , 24 (5) 1127-1137	
Description	Estimated Cost
Initial Costs	
- Software training, installation	\$22,038
- Hardware	\$12,749
- Lost revenues from reduced productivity	\$7,473
- Other	\$1,145
Ongoing Costs Per Provider Per Year	
- Software maintenance and support	\$2,439
- Hardware replacement	\$3,187
- Internal IS staffing/external IS contractors	\$2,047
Benefit to Implementing	Estimated Savings/Provider/Year
Increased coding levels	\$16,929
Personnel savings	\$6,759
Transaction savings	\$5,334
Paper supplies savings	\$1,051
Efficiency revenue gains from increased visits	\$2,664
Wang et al. (2003). A Cost-Benefit Analysis of Electronic Medical Records in Primary Care. <i>The American Journal of Medicine</i> , 114, 397-403.	
Description	Estimated Cost
Software (annual license)/physician	\$1,600
Implementation/physician (one-time)	\$3,400
Support and maintenance/physician (annual)	\$1,500
Hardware (computers+network)/physician (every 3 yrs)	\$6,600
Temporary Productivity Loss/physician (one-time)	\$11,200
Benefit to Implementing	Estimated Savings/Provider/Year (Effective Year)
Improved charge capture	\$7,700 (Year 4)
Chart pull savings (efficiency)	\$3,000 (Year 1)
Transcription savings	\$2,700 (Year 1)
Prevention of adverse drug events	\$2,200 (Year 2)
Drug savings	\$16,400 (Year 2)

Laboratory savings	\$2,400 (Year 4)
Radiology savings	\$8,300 (Year 4)
Billing error decrease	\$7,600 (Year 4)

To access the entire studies, please click on the links below:

- [The Value of Electronic Health Records in Solo or Small Group Practices - Miller RH et al. \(9/1/2005\)](#)
- [A Cost-Benefit Analysis of Electronic Medical Records in Primary Care - Wang SJ et al., \(4/1/2003\)](#)
- [The Economic Effect of Implementing an EMR in an Outpatient Clinical Setting - Barlow S et al. \(1/1/2003\)](#)

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