

# The Impact on Healthcare Costs For American Companies

Because U.S. healthcare challenges have created a competitive gap for American companies, many are calling for the transformation of the healthcare industry.

[ Jeffery Rideout, Cisco Systems ]

Nearly 100,000 Americans lose their lives each year to preventable medical errors.[1] More than 45 million Americans - about 15 percent of the total population - are uninsured.[2] Getting evidence-based care in many situations is not much better than a coin flip[3], and medical costs are now the country's second leading cause of personal bankruptcy.[4]

None of these trends is improving. In fact, most are getting worse. At current rates, it is estimated that 28 percent of the American workforce will be uninsured by 2013.[5] Unfortunately, the shock value of these numbers seems to be wearing off without any change in sight.

Healthcare's impact on national productivity is equally alarming. In June 2005, General Motors announced it was laying off 25,000 employees to reduce costs, specifically citing surging healthcare expenses.[6] Ford spent \$3.2 billion on healthcare in 2003 for 560,000 employees, retirees and their dependents. This cost added \$1,000 to the price of every Ford car and truck built in the United States - up from \$700 in 2000.[7]

The rising healthcare tab means Ford has less money to invest in new products. "Our foreign competitors don't share these problems," Ford Motor Co. Vice Chairman Allan Gilmour said in a speech in July 2004. "These healthcare challenges have created a competitive gap that, if unchecked, will drive investment decisions away from the United States." [8]

## High U.S. Healthcare Costs, But a Care Shortfall

The United States spends more on healthcare than any other industrialized country - as much as 44 percent more than Switzerland, the country with the next highest per-capita expenditure. In 2000, U.S. per capita healthcare spending was 83 percent higher than that of neighboring Canada and 134 percent more than the median of \$1,983 for the 30 industrialized

countries in the Organization for Economic Cooperation and Development.[9]

Despite this spending, Americans are not necessarily getting better care. In a national study on quality of care published in 2005, RAND Corporation found that American adults were receiving about one-half of recommended medical services - that is, services shown in scientific literature to be effective in specific circumstances and agreed upon by medical experts.[10]

RAND's study found quality deficits across chronic, preventive and acute care. Recommended care for managing chronic conditions (such as diabetes and hypertension) was provided 56 percent of the time. Preventive care (such as flu shots, mammograms, and smoking-cessation counseling) met quality standards 55 percent of the time. Recommended care for acute health problems (such as pneumonia and urinary tract infections) was provided 54 percent of the time.[11]

These deficits in care pose serious threats to the health of the American public and translate into thousands of preventable complications and deaths each year. According to one estimate from the Agency for Healthcare Research and Quality, 1.12 million problems with patient safety occurred in 1.07 million hospitalizations, about one per hospitalization.[12]

## Industry Comparison Shows Low U.S. Healthcare IT Investment

While there are many contributing factors to the healthcare dilemma Americans now face, it is undeniable that investment in healthcare information technology (HIT) has been lacking relative to nearly every other U.S. industry. In a 2000 McKinsey report on annual U.S. IT spending per employee, healthcare ranked in the bottom five of 59 industries surveyed, at just \$1,156.[13] The average U.S. IT investment per capita in all U.S. industries is seven

---

Jeffrey Rideout, M.D., M.A., F.A.C.P., is vice president of Internet business solutions group, healthcare practice, for Cisco Systems. He is also the company's corporate medical director. Dr. Rideout, a board certified internist, previously was chief medical officer and SVP for Blue Shield of California. A former Rhodes Scholar, Dr. Rideout graduated from Harvard Medical School.

	Cumulative Implementation years 1-10 (in billions)	Annual steady state, starting year 11 (in billions)
<b>Stage 2</b>		
Benefit	\$141	\$21
Cost	0	0
Net value	\$141	\$21
<b>Stage 3</b>		
Benefit	\$286	\$44
Cost	\$320	\$20
Net value	-\$34	\$23
<b>Stage 4</b>		
Benefit	\$613	\$94
Cost	\$276	\$16
Net value	\$337	\$77

**Figure 1** Net Value of Healthcare Information Exchange and Interoperability

times higher than that invested in healthcare. Banking, for example, invests nearly 10 times as much as healthcare per employee. While getting cash from an ATM in Moscow might be important, getting the right medication can be a matter of life or death at home in the United States.

Moreover, much of the money being spent, unfortunately, is not supporting clinical care. Harvard Medical School researchers reported in early 2005 that the United States spends \$399 billion per year on healthcare bureaucracy - essentially the waste in a fragmented, paperbound uncoordinated system of care.[14] Of the nearly 30 billion healthcare communications that occur each year, more than 90 percent are handled by paper, surface mail, fax or telephone.[15]

### Technology Can Drive Healthcare Savings

Technology-enabled clinical processes have been shown to dramatically reduce medical errors, complications, readmissions and mortality rates when properly implemented, while improving efficiencies. The stakes are huge. E-prescribing applications help automate prescription orders and refills. Assuming a 70- to 75-percent adoption rate, e-prescribing could save the United States \$29 billion a year.[16] If computerized physician order entry (CPOE) and electronic health records (EHR) were added in a standalone environment, the savings would be \$44 billion.[17] The savings climb another \$78 billion if these applications - the full EHR suite - are implemented by your local doctor's office and are interoperable with other doctors' offices.[18] Each technology has also been associated with improvements in patient quality and safety.

In a *Health Affairs* paper, the Center for Information Technology Leadership (CITL) divided EHR into four deployment

stages and forecasted savings over the next 10 years (see Figure 1). The first stage relies on telephone and traditional mail communication, providing the foundation for future deployments. The second stage adds faxes and scanning. According to the CITL study, the implementation cost of stage-two capability is nothing. The cumulative net value benefit over 10 years would be \$141 billion, with a steady state annual benefit of \$21.6 billion starting in year 11.[19]

The third stage allows for the sharing of non-standardized data. At this level, additional complications often arise due to incompatible vocabulary and proprietary file formats. As a result, analysis indicates that the net value of implementing stage three EHR would be negative \$34 billion over 10 years. It would cost \$320 billion to deploy, only partially offset by a benefit of \$286 billion. Starting in year 11, however, the steady-state annual benefit would be nearly \$24 billion.[20]

Stage four is where business and government need to be to take full advantage of potential savings. At this level, all messages are standardized and coded for complete sharing of information through the system. In effect, this would mean having a universal translator for healthcare information; different segments of the healthcare industry, ideally on a global scale, would need to agree on terms and how they related to each other. Analysis indicates that deployment over 10 years would cost \$276 billion. The benefit to the United States, however, would be \$613 billion, for a net value benefit of \$337 billion. The steady-state annual benefit would be \$94 billion starting from year 11.[21]

### Technologies Being Deployed Now

A key function of EHR is CPOE. According to CITL, the typical physician using an advanced ambulatory computerized physician order entry (ACPOE) system would save close to \$28,000 per year. Advanced systems cost nearly five times as much as basic ACPOE, but produce more than 12 times greater financial returns.[22] (See Figure 2.)

Another key feature of most EHRs, also available in more "stand-alone" applications, is e-prescribing. Solutions from companies such as Allscripts Healthcare Solutions allow physicians to order a drug and route the prescription to a pharmacy directly from the exam room with a personal computer or hand-held device such as a personal digital assistant. Most e-prescribing includes drug reference information, drug alerts, automated prescription refills and electronic prescription transmission.

Medco Health Solutions, Inc., TPI Health Systems and Cardiovascular Associates conducted a study in 2003 to demonstrate the efficiency of e-prescribing. At the start of the study, 29 percent of prescriptions resulted in pharmacy callbacks, with 86 percent of those pertaining to refill or renewal questions. These calls were costing more than \$175,000 in medical assistant time and lost revenue opportunities.[23]

## The Impact on Healthcare Costs For American Companies

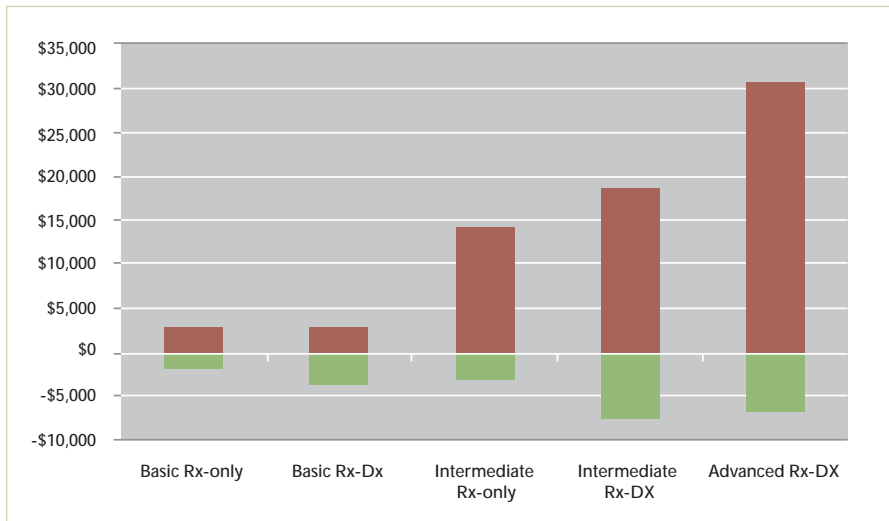


Figure 2 Annual Cost Benefit of ACPOE in the First Five Years

Within three months of implementing a new e-prescribing platform and improved training procedures, inbound pharmacy calls fell 36 percent and the number of outbound calls to manage renewals declined 50 percent. Financial savings equated to approximately \$3,000 per physician per year, or about \$66,000. The return on Cardiovascular Associates' investment in the technology and training was positive, with a payback period of less than six months.[24]

While EHRs are used largely in the background, patient-physician messaging could change how care is given. Since the days of Hippocrates, doctors have asked patients questions and prescribed care based on those answers and their own findings. While physician-patient messaging does not change the dynamics of this interaction, it does allow the two to be in different rooms or different states.

Using secure messaging, patients are able to get treatment for common ailments such as a sore throat or follow up on an acute condition. When interoperable EHR and e-prescribing are already in place, the doctor is able to view the patient's complete medical file and order prescriptions which complement rather than conflict with medication she is already taking. The patient does not need to leave her office to visit the doctor and can pick up her prescription on the way home from work.

Blue Cross and Blue Shield plans in California, New York, Florida, Massachusetts, New Hampshire, Colorado and Tennessee are now paying \$24 to \$30, including any co-payment, for online consultations. Blue Cross of California has made the program available to 160,000 of its 6 million health plan members. In February 2005, Empire Blue Cross and Blue Shield began testing the payment system with New York doctors at the Columbia University and Weill Cornell Medical Centers. Kaiser Permanente,

the nation's largest nonprofit managed care company, has tested physician-patient messaging in the Pacific Northwest and is starting the program this year in Hawaii and Colorado as part of Kaiser's \$3 billion information technology program.[25]

### Pushing Pay-for-Performance

Large employers are also encouraging the adoption of healthcare IT. Cisco Systems provides healthcare benefits for more than 60,000 employees and dependents worldwide. An analysis of claims histories highlighted that fourteen physician groups in the San Francisco Bay Area accounted for roughly 10 percent of the company's ambulatory care visits. One group, the Palo Alto Medical Foundation (PAMF), is a recognized leader in using

technology to improve care delivery, having already implemented EHR with CPOE, e-prescribing, and a physician-patient messaging service called PAMFonline.

To encourage employee usage, Cisco committed to paying the \$60-per-person subscription fee for the PAMFonline service for one year, starting in February 2005. As a condition of this payment, employees and their dependents are providing feedback on their usage of the system, including satisfaction, use of services and "presenteeism" in the workplace.

Cisco is using feedback from this pilot to design and deploy more pay-for-performance programs at other medical groups and clinics that serve a high number of Cisco employees and dependents. Though hospital visits are less frequent, parallel pay-for-performance plans for hospitals are also being considered, as an analysis of 2003 data showed that five hospitals in the San Francisco Bay Area accounted for 64 percent of all Cisco regional hospital visits.

### Government Should Play an Active Role

While Ford, Cisco and most other American corporations are calling for the transformation of the U.S. healthcare industry, no company or group of companies can do this on its own. Government leadership in the form of shaping standards and righting the economic equation is needed to implement the necessary changes.

Current studies show that the adoption of technology in healthcare primarily benefits private payers and government, not the physicians or hospitals that pay for implementation. This needs to change quickly. With 45 percent of all U.S. healthcare spending coming from government sources,[26] the federal government has the weight to promote the adoption of healthcare IT.

In the first nine months of a Medicare pay-for-performance demonstration pilot, quality at more than 270 hospitals rose about 6 percent, as measured by hospitals' rate of compliance with a series of medical best practices. On the heels of these findings, Senators Charles E. Grassley (R-Iowa) and Max S. Baucus (D-Mont.) introduced a bill in June 2005 that would authorize Medicare to expand the pay-for-performance concept nationwide.[27]

The U.S. government also needs to implement a national standards certification process that will reduce the adoption risk for physicians and hospitals. Currently there are more than 200 different EHRs from which to choose, with no guarantees regarding their functionality, longevity, or interoperability.[28] Imagine making a purchase decision if you are a one-person physician's office with no reserves, no IT expertise or staff, and an expected pay-back window of two to three years. It is not surprising that adoption rates are low.

The federal government must be encouraged to do even more about certifying standards, relaxing Stark provisions, providing meaningful financial relief and incentives for clinicians adopting healthcare IT, and clarifying state vs. federal issues in current HIPAA regulations. By creating a strategic partnership between the public and private sectors, the United States can begin to take full advantage of exciting technologies such as EHRs, e-prescribing and patient-physician messaging.

Other sectors of the economy have long seen that information technology, when viewed comprehensively and deployed effectively, can replace old problems with new possibilities.

Now it's time for healthcare to do the same. ■

## Endnotes

1. "To Err Is Human: Building a Safer Health System." *Institute of Medicine*, 1999. [www4.nationalacademies.org/news.nsf/isbn/0309068371?OpenDocument](http://www4.nationalacademies.org/news.nsf/isbn/0309068371?OpenDocument)
2. DeNavas-Walt, C., B. Proctor, and R. J. Mills. *Income, Poverty, and Health Insurance Coverage in the United States: 2003*. U.S. Census Bureau. Aug. 2004.
3. "The First National Report Card on Quality of Health Care in America." RAND Corp., 2004
4. David U. Himmelstein, Elizabeth Warren, Deborah Thorne, and Steffie Woolhandler. "Illness And Injury As Contributors To Bankruptcy." *Health Affairs*, Feb. 2005; <http://content.healthaffairs.org/cgi/content/full/hlthaffw5.63/DC1>
5. Todd Gilmer, Richard Kronick. "It's The Premiums, Stupid: Projections Of The Uninsured Through 2013." *Health Affairs*, April 2005. <http://content.healthaffairs.org/cgi/content/abstract/hlthaffw5.143?ijkey=C0W5ICDr801o&keytype=ref&siteid=healthaff>
6. "Downsizing at General Motors Comes as No Surprise to Workers." *Jeremy W. Peters*; *New York Times*, June 8, 2005; [www.newratings.com/analyst\\_news/article\\_863999.html](http://www.newratings.com/analyst_news/article_863999.html)
7. *Detroit News*, July 2004. [www.detnews.com/2004/autosinsider/0407/23/c01-216906.htm](http://www.detnews.com/2004/autosinsider/0407/23/c01-216906.htm)
8. *Ibid.*
9. *Health Affairs*, May 2003. [www.healthaffairs.org/press/mayjune0301.htm](http://www.healthaffairs.org/press/mayjune0301.htm)
10. Dana P. Goldman, Elizabeth A. McGlynn. *U.S. Healthcare: Facts About Cost, Access and Quality*. Rand Corp, 2005.
11. *Ibid.*
12. *Ibid.*
13. *McKinsey Global Institute, U.S. Productivity Growth 1995-2000 (1999 data)*
14. David U. Himmelstein, M.D., Steffie Woolhandler, M.D., M.P.H. and Sidney M. Wolfe, M.D. "Administrative Waste in the U.S. Health Care System in 2003: The Cost to the Nation, the States and the District of Columbia, With State-Specific Estimates of Potential Savings." *International Journal of Health Services*, Vol. 34-1, pp. 79-86, 2004. [www.pnhp.org/news/IJHS\\_State\\_Paper.pdf](http://www.pnhp.org/news/IJHS_State_Paper.pdf)
15. Michael Menduno, "apothecary.now." *Hospitals and Health Networks*, July 1999, 35-36. [www.ehealthinitiative.org/initiatives/policy/HouseWaysandMeansTestimony06172004.msp](http://www.ehealthinitiative.org/initiatives/policy/HouseWaysandMeansTestimony06172004.msp)
16. *National Center for Policy Analysis: www.ncpa.org/newdpc/index.php*
17. [www.citl.org/research/ACPOE\\_Executive\\_Preview.pdf](http://www.citl.org/research/ACPOE_Executive_Preview.pdf)
18. [www.ehcca.com/presentations/hitsummit1/middleton.ppt](http://www.ehcca.com/presentations/hitsummit1/middleton.ppt)
19. Jan Walker, Eric Pan, Douglas Johnston, Julia Adler-Milstein, David W. Bates, and Blackford Middleton. "The Value Of Health Care Information Exchange And Interoperability." *Health Affairs*, Jan. 2005.
20. *Ibid.*
21. *Ibid.*
22. "The Value of in Computerized Provider Order Entry Ambulatory Settings," CITL, 2004. [www.citl.org/research/ACPOE\\_Executive\\_Preview.pdf](http://www.citl.org/research/ACPOE_Executive_Preview.pdf); see also [www.ehcca.com/presentations/hitsummit1/middleton.ppt](http://www.ehcca.com/presentations/hitsummit1/middleton.ppt) and [www.healthvision.com/knowledge/resources/CHCFonACPOEvalu](http://www.healthvision.com/knowledge/resources/CHCFonACPOEvalu) e.pdf.
23. "Use of Six-Sigma Techniques in Evaluating Readiness for and Impact of e-Prescribing Technology," *MGMA Connexion*, 2003.
24. *Ibid.*
25. *New York Times*, March 2, 2005
26. *Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group. www.cms.hhs.gov/statistics/nhe/historical/chart.asp*
27. "Cisco: Paging Dr. Info Tech," *Tim Mullaney*; *Businessweek*, July 11, 2005. [www.businessweek.com/magazine/content/05\\_28/b3942108\\_mz063.htm](http://www.businessweek.com/magazine/content/05_28/b3942108_mz063.htm)
28. *EMR Consultant*, 2005, [http://emrconsultant.com/phys\\_start.php](http://emrconsultant.com/phys_start.php)