THE RISK OF OVERLOOKING THE REWARDS OF HEALTHCARE TECHNOLOGY INVESTMENTS

A Guest Editorial by Srini Seshadri

I read an interesting fact recently. More than one quarter of all the venture capital that changed hands in 2003 was invested in the life-sciences sector, directed toward opportunities in biotechnology and medical devices.[1]

Most venture capitalists are exceptionally business-savvy people who are intolerant of pie-in-the-sky promises. They'll accept risk only if it's served up with very real potential for reward. In short, they are much like every prudent healthcare CEO that I've met: willing to commit to a long-term investment as long as that MRI or PET/CT scanner can be shown to help their organization provide better care, control costs, increase revenue, improve efficiency, and become more competitive.

This risk/reward duality inherent in *any* investment is an important consideration in the national debate over the causes and cures of spiraling healthcare costs. There's no question that today's technologies are expensive investments. But these investments in continued innovation and development of advanced medical technology is ultimately providing overwhelming ROI in key line items on our nation's "healthcare balance sheet," including more efficient diagnosis and treatment, extended life expectancy, enhanced patient quality of life, and increased worker productivity.

According to a recent study, every dollar spent on healthcare services over the past 20 years has produced $2–$3 in tangible gains that directly touch lives and budgets. In the absence of that investment, say the researchers, the United States would have tallied 470,000 more deaths, 2.3 million more people with disabilities, and 206 million more hospital days. And that's just for the year 2000.[2]

While not all of these salutary effects can be traced to medical imaging and information technologies, there is compelling evidence that these technologies are playing a significant role in improving efficiency and actually reducing healthcare costs. Consider these trends:

- PET and PET/CT scans now help to eliminate half of the unnecessary surgeries for lung cancer.
- Exploratory surgery is declining as image-guided, minimally invasive procedures are shown to reduce complications, hospital stays, and recovery times.
- Patients who used to need multiple tests now have "one-stop" exams that provide more diagnostic information in a fraction of the time and cost.
- More stroke victims today receive drug therapies in time to avoid disability and institutionalization due to widespread use of CT, MRI, and other imaging techniques.
- Digital imaging systems guided by CAD algorithms are helping doctors detect smaller lesions at earlier, more treatable stages of disease.
- Telemedicine is bringing healthcare to people in remote and medically underserved regions, and in our busiest medical centers, other digital advances—like computerized physician order entry and electronic medical records—are reducing medical errors and increasing productivity.

All of these benefits are tied to technologies in use today. When we start to consider what will be possible in the future, the risk/reward profile looks even better.

The industry is moving toward a "predict and prevent" patient-care model. Medical imaging at the molecular and cellular levels will enable diagnosis before symptoms even appear. It's not unrealistic to suggest that we will be able to predict heart attacks years before they occur or to identify the cellular calling card of Alzheimer's disease before it begins dismantling the brain.

Imaging also will serve as the guide and conduit for targeted, individualized therapies that will be delivered directly to disease targets, leaving healthy areas of the body intact. By significantly improving both the quality and quantity of life for millions of people, advances like these will further increase the return on our nation's investment in healthcare.

Looking ahead to the future of healthcare brings us back to the current debate over the value of incremental advancements in medical technology. In other words, when is enough enough? If you have a 16-slice CT scanner, is it worth upgrading to a 64-slice CT scanner from a cost-benefit standpoint? Ultimately, the decision is one that every healthcare provider needs to wrestle with, based on the goals and needs of his/her institution and the patients it serves.

However, the current capabilities in medicine cannot and should not ever be enough for any of us. What if someone had told Christopher Columbus, "Hey, just go 100 miles out. That's far enough"; or convinced Lewis and Clark to stop at Omaha; or counseled Einstein to leave Newtonian mechanics alone?

We will not arrive at a future in which our children's children will be able to avoid deadly, debilitating, and costly diseases without being exactly where we are today—in research, engineering, and test labs around the world, pushing the limits of what we know and what we can do.

As our venture capitalist friends would say: nothing ventured, nothing gained.

Srini Seshadri is the chief marketing officer of GE Healthcare (Waukesha, Wis).

1 Benesh, P. A baby boom for medical devices. *Investor's Business Daily.* March 1, 2004. Industry Snapshot.
2 The Value Group. The value of investment in health care: better care, better lives. January 28, 2004. Available at: http://www.medtap.com/Products/HP_FullReport.pdf. Accessed June 7, 2004.