Insights on Telemedicine: How Big Is the Market?

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Interest in telemedicine must be growing. I have recently experienced an increase in calls from investors and business writers who want to know the size of the market and its projected growth. In spite of the well-publicized crash in markets for high-tech stocks, people with money still seem interested in possibilities for financing companies in the business of telemedicine.

My callers expect that I will be able to give them facts and figures because I am a medical economist and health futurist who has written extensively about telemedicine, based on more than a decade of experience in the field. They are disappointed when I am unable to give them the facts and figures they seek. I know the business well enough to realize that available data do not provide an accurate measure of telemedicine.

The problem begins with the historical definition of telemedicine. Until recently, telemedicine was defined as interactive video systems that linked rural patients with urban specialists. It required bulky television equipment with cameras and monitors at both ends of a real-time encounter. Due to the high expense of this technology and related telecommunications bandwidth — fiber optic cable or bundled telephone lines — most telemedicine was funded by federal grants. The total amount of these grants was often used as an economic measure of the size of the market for telemedicine. Figures commonly added an estimate of spending on teleradiology, the other widespread application of telemedicine.

However, telemedicine began to expand in very different directions in the late 1990s. The concurrent development of digital diagnostic peripherals (e.g., electronic stethoscopes, digital cameras, vital signs monitors) and the “discovery” of store-and-forward applications led to a quiet explosion in the number of ways that patients and doctors could interact, not only over a distance, but at different times as well.

For example, several companies have developed home health units that allow patients and their nurses or doctors to have face-to-face interactions over plain old telephone service (POTS), even though the people involved are separated by many miles.

The depth and breadth of telemedicine grew much faster over the past few years than the government’s ability to give it an industrial classification and measure it as a business sector. Consequently, economic estimates based on government reports fail to capture the full size of the market. Some polling organizations have attempted to develop more inclusive estimates, but their efforts have also suffered from the lack of an up-to-date definition of telemedicine.

The solution might seem to be development of an inclusive measure of telemedicine, but I seriously doubt this task can be accomplished in a meaningful way. The scope of telemedicine will continue to grow faster than our ability to measure it. In addition, the true measure of telemedicine should also include the value of expenditures on telecommunications, human capital, and other resources consumed in the process of delivering health care over the barriers of time and distance.

We are probably doomed to underestimates based on numbers that flow through federal agencies like the Department of Commerce or the Department of Health and Human Services. We need to be equally circumspect about economic data derived from surveys. Accuracy of survey-based estimates has been cast in doubt for a variety of methodological reasons. Initially, almost any estimate of the size of the telemedicine business should be interpreted with a big grain of salt. Customized models need to be created to provide meaningful estimates reflecting the evolution of technology for a specific application of telemedicine.

Market growth over time, separate from market size at a point in time, is equally hard to predict with an acceptable level of confidence. The time lag between data collection and data reporting is almost always a year or two. The definition of telemedicine is expanding at a much faster rate, exacerbating the problem of underestimates. Telemedicine is a moving target, one that is very difficult to measure.

The good news is that the market is obviously growing. One proxy measure, the number of trade show exhibitors at the annual meeting of the American Telemedicine Association, is doubling every year. An accelerating number of telemedicine applications reported in published literature is also evident to anyone who reads it. Creative physicians, nurses, and health systems are constantly finding new ways to deliver medical care over the Internet. Last but not least, reimbursement for telemedicine is becoming relatively common. Many health plans now pay for telemedical services, and a complete set of CPT codes for telemedicine has recently been published. These are signs of growth, not stagnation or decline.
Although these signs lead me to conclude that the telemedicine business is big and getting bigger, some commentators advance the recent demise of so many “dot-coms” as evidence to the contrary. This position confuses the stock market with the business itself. Sure, lots of health technology companies are now worth a few pennies on the dollar of their 1999 or 2000 market valuations, but many had developed sustainable technologies that are being bought by investors who know how to manage for long-term value — something very different than managing for short-term capital gains and stock options. I think these are the investors who call me in hopes of getting numbers that are not available. I also believe they understand that disruptive technology will outlive bad management. After all, Johannes Gutenberg went bankrupt — twice — but the printing press with moveable type still changed the world and made lots of money for other entrepreneurs just a few years after he invented it.

About the Author

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