

# 17.3 TECHNOLOGY HAS BEEN AN IMPORTANT DRIVER OF HEALTH SPENDING\*

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## Abstract

Technology has been an important driver of health spending. However, measuring its precise role has been difficult.

Technology accounts for as much as 25 percent to 60 percent of the rise in real per capita health spending from 1960 to 2007. It is impossible to be more precise about technology's role because it is not feasible to measure price changes accurately enough to distinguish between pure price changes and changes in the quality of the health care good or service being sold. This makes it difficult to determine how much of rising health costs is due to actual changes in output versus higher prices. Economists have resorted to trying to bound this uncertainty using different assumptions. For example, if there are zero changes in productivity, then it is easy to calculate changes in output based on measuring changes in inputs.

Another important factor driving health spending is that as incomes increase, the inclination to use health care appears to increase. This greater demand occurs not only in terms of the use of health services but also in terms of the quality of care. Experts disagree on how much increase in demand for medical services can be expected for every \$1,000 increase in per capita income.

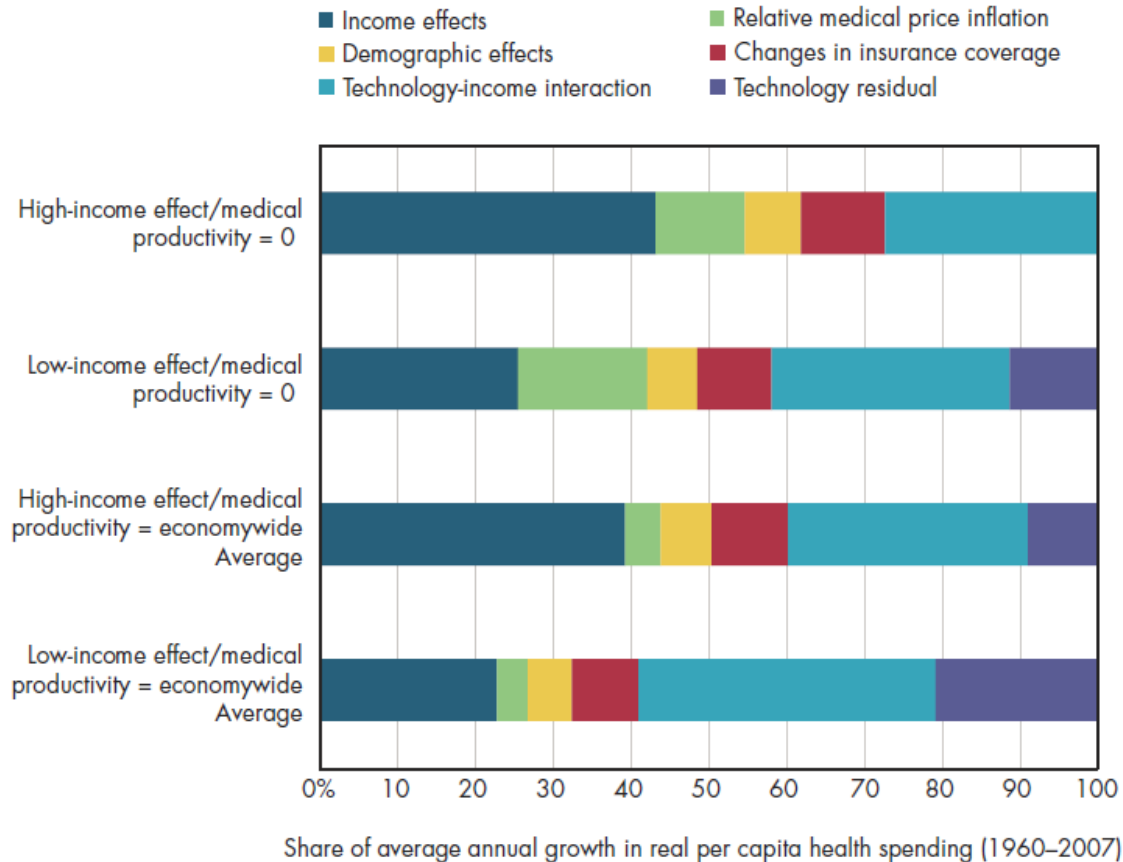
Figure 17.3 shows the impact of various assumptions about these issues. Using high-impact assumptions about rising incomes and demand for health care and conservative assumptions about productivity growth, that is, zero, the estimated magnitude of the role of technology in driving health spending is the smallest. Using the opposite assumptions about income and productivity growth (that is, that productivity grows in step with productivity trends in the general economy), the role of technology appears much larger.

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### 17.3 Technology and other factors might account for 25 to 60 percent of the increase in real per capita health spending from 1960–2007



Under any of these assumptions, rising medical prices account for only approximately 3 percent to 15 percent of rising real per capita health spending. Despite the aging of the U.S. population, demographic factors likewise account for only 3 to 6 percent of rising health costs. In contrast, expanded insurance coverage accounts for a relatively larger share of the change in real per capita health spending than either of these other two factors. Some experts assign a far larger role to health insurance due to ample evidence that it drives decisions to acquire and use new technology.

## 1 Downloads

Download PowerPoint versions of figure.

- Figure 17.3 Image Slide (as it appears above)<sup>1</sup>
- Figure 17.3 Editable Slide (can be formatted as desired)<sup>2</sup>

## 2 References

- A. Smith S, JP Newhouse and MS Freeland. Income, Insurance, And Technology: Why Does Health Spending Outpace Economic Growth? *Health Affairs* 2009; 28(5):1276-84.

<sup>1</sup><http://https://hub.mili.csom.umn.edu/content/m10080/latest/17.3IMG.ppt>

<sup>2</sup><http://https://hub.mili.csom.umn.edu/content/m10080/latest/17.3DATA.ppt>