VIEWPOINT

Critiquing US Health Care

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Critics of US health care usually begin by noting that this country spends a much greater share of its gross domestic product (GDP) on health care than any other country but lags in life expectancy at birth. This critique implicitly (and sometimes explicitly) assumes that there should be a positive correlation between health care expenditures and life expectancy. Such an assumption is fully justified for low-income countries with minimal health care; additional care and financial resources usually have substantial favorable effects on life expectancy.

In theory, this positive relationship should continue at all levels of income, albeit with possible diminishing returns. In practice, however, many nonmedical determinants of health can vary across developed countries, possibly confounding a simple 1-to-1 relationship between health care expenditures and life expectancy. As an empirical matter, the assumption of a positive correlation is not supported by comparisons across developed countries or within the United States across states.

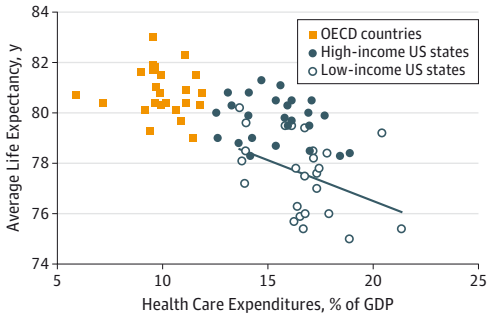
For instance, the scatter plot of 24 Organization for Economic Co-operation and Development (OECD) countries and higher- and lower-income US states shows life expectancy and health care spending as a percentage of GDP in 2009 (**Figure**). The coefficient of rank correlation (Spearman ρ) is −0.15, which is not statistically significantly different from zero. This indicates that among developed countries, there is no positive association between health care expenditures and life expectancy. For the 25 higher-income US states, the coefficient is −0.24, also not statistically significantly different from zero. However, there is a statistically significant correlation (−0.40) for the 25 lower-income US states, but in the direction opposite to the usual assumption ($P < .05$) (ie, higher expenditures are correlated with lower life expectancy). The negative relationship may reflect greater morbidity associated with lower life expectancy, and more health care expenditure in US states where there is more morbidity.

The Figure also reveals some interesting comparisons between the United States and the other OECD countries and within the United States among the states. For example, even the US state with the lowest health care expenditure as a percentage of GDP (Colorado, 12.6) outspends the OECD country with the highest spending rate (the Netherlands, 11.9). The 25 lower-income US states tend to spend a larger share of their GDP on health than the higher-income US states (16.7% vs 15.4%, respectively) and have appreciably lower life expectancy (77.2 years vs 79.2 years). On average, even the higher-income US states have lower life expectancy than the OECD countries (79.2 years vs 81.4 years, respectively), but several US states have higher life expectancy than several OECD countries. For example, California, Connecticut, Hawaii, and Minnesota all had life expectancies of 80.8 years or older. There are 12 OECD countries with life expectancies shorter than 80.8 years, including Belgium, Denmark, Germany, and the United Kingdom.

Although many critiques of US health care rely on the false assumption that life expectancy should be positively correlated with health care spending, there is no reason to abandon close examination of these 2 important variables. Instead of assuming a particular relationship, the higher spending and the lower life expectancy deserve careful study on their own. It is undeniable that US health care spending is far greater than in other countries.

For example, if the United States spent the same percentage of GDP on health care in 2014 as the next highest spending country, the United States would have an extra trillion dollars to spend on private and public consumption and investment.[1] It is also true that US life expectancy is lower than in most other high-income countries. If individuals in the United States lived as long as residents in other developed democracies, average length of life would be increased by 2 years, an increase

Figure. Average Life Expectancy vs Health Care Expenditures



The data points are health care expenditures as a percentage of gross domestic product (GDP) in 2009 for Organization for Economic Co-operation and Development (OECD) countries and higher- and lower-income US states. The GDP for each US state was calculated by dividing the US state's health care expenditures as a percentage of the US state's personal income by 1.16, which is the US ratio of GDP to personal income. Using personal income as the base preserves more accurately the variation across US states in economic well-being. Adjusting the level by the ratio of GDP to personal income makes the US state data more comparable with the OECD data. The OECD countries with at least $2400 per capita in health care expenditures are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom. The diagonal line indicates the linear relationship between life expectancy and health care expenditures as a percentage of GDP as calculated by a linear regression fitted to the 25 observations for the low-income US states.

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larger than that realized in a decade of medical progress. The excess spending and the deficit in life expectancy each require study and explanations.

Definitive studies of the US shortfall in life expectancy are not available, but epidemiologists have identified a dozen or more socioeconomic and behavioral differences between the United States and other high-income countries that are probably adverse to health.[2] For example, a much higher proportion of the US population lives in poverty, obesity rates are high, and there is more stress in daily life. Some sense of the relative quantitative importance of these explanations could provide valuable input to health policy.

It is also possible that other countries have a more effective allocation of medical resources. Perhaps US life expectancy might come closer to the life expectancy of other developed democracies, if, as they do, some resources were shifted from mammography and magnetic resonance imaging to primary care. Also, the fact that almost all the other countries have universal health insurance, whereas tens of millions of people in the United States are without such coverage may account for part of the gap in average life expectancy.

A balanced critique of US health care and health policy should also include considerations of other goals in addition to extending life expectancy or reducing health care expenditures. Although difficult to do, it is important to account for quality of life, an appropriate balance between personal and social responsibility, and possible trade-offs among efficiency, freedom of choice, and generational, ethnic, and social equity. Health policy should reflect such considerations as well as more easily measured outcomes.

Most health care problems are complex, and easy answers are usually wrong or incomplete. What is clearly not useful is a comparison of life expectancy and health care expenditures as if these 2 variables are always positively related to each other. Across developed countries or across US states, they are not.

ARTICLE INFORMATION

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