WHAT DRIVES HEALTH CARE SPENDING? CAN WE KNOW WHETHER POPULATION AGING IS A 'RED HERRING'?

BY HENRY J. AARON

For more than a decade, analysts have debated just why health care spending rises with age. At first blush, the answer is obvious—illness becomes more frequent with age and health care spending increases accordingly. A newer view holds that health care spending depends not on age since birth but on proximity to death. On this view, health care spending increases little, or not at all, with calendar age once remaining life expectancy is taken into account.

Of course, both calendar age and imminence of death could be at work. Numerous additional factors make it difficult to pinpoint whether, why, and how much population aging boosts health care spending:

- age-specific health care spending has risen because of scientific advance, increased insurance coverage, and other factors. But the impact of each of these factors across age groups need not be uniform;

- the age-specific incidence of various diseases depends on environmental conditions, which change over time;

- the evolving ability of health care to forestall death influences the likelihood that people of various ages will sicken and hence changes relative age-specific health care spending;

- norms for what constitutes satisfactory treatment vary with the age of the patient; and these norms can change over time;

- prices of health care services used by various age groups change in different ways.

Numerous empirical studies, applying progressively more sophisticated econometric methods, have estimated the separate effects of age and proximity to death on health care spending. Most have concluded that controlling for proximity to death eliminates or greatly reduces the estimated impact of population aging on health care spending. From this finding, they have inferred that population aging will have a much smaller impact on health care spending than would be anticipated if age-specific, relative health care spending were unchanged.

Currently available studies have not recognized that reverse causality—the fact that health care spending defers death—means that coefficients in regressions relating health care spending to 'time-to-death' and age are therefore biased and that it is impossible in practice to determine the size of the bias. Furthermore, the relative importance of health care undertaken explicitly to extend life rather than in response to illnesses leading to death likely varies across age groups and over time and, in practice, is impossible to distinguish. I present three numerical examples constructed to embody recognized 'stylized facts' that a) average health care spending by 'age cohort' rises with age; b) spending rises independently as death approaches; and c) for people with given 'natural' life-expectancy, more is spent on the young than on the old that generate regression coefficients relating health care spending to age that are variously negative, zero, and positive. The literature that has tried to find structural relationship has displayed enormous ingenuity. The objective, alas, is just not achievable. More pointedly, there is no basis for assuming that the curve relating average health care spending to age will, or will not, flatten with increases in longevity.

Using data from the ten panels of the Medical Expenditure Panel Survey, I show that there has been no detectable shift over time in the curve relating health care spending to age (after controlling for other demographic variables). In addition, health care spending remains strongly influenced by age even if one eliminates from the sample those people who die within one year, are institutionalized, or have limitations on activities of daily living.

I conclude that there is no good reason for assuming any change in age-specific relative health care spending. Which age groups will be the principal beneficiaries of new medical technology, the principal driver of health care spending, is unknown and unknowable. Furthermore, both age-specific relative health care spending and overall average growth of health care spending depend sensitively on health care payment policies. It is not possible to predict reliably the impact of advancing technology on either average total health care spending or on age-specific relative spending. To be sure, advances in medical technology have in recent decades been the major contributor to increases in average health care spending. The vibrancy of biomedical science strongly suggests that this impetus to higher spending will persist and could even strengthen in the near future. It is prudent, therefore, to assume that continuing scientific advances will boost overall health care spending two or so decades into the future. But there is no good reason, based on historical trends to assume that age-specific relative health care spending will decline with increasing longevity. The best projection approach, until better evidence is available, would be to assume that average age-specific health care spending will rise at the historic average.

Because it is impossible to accurately predict how scientific advance will affect either overall health care spending in the distant future or relative spending by various age groups at any time and because projections are intended to reflect spending under current policy, which is likely to change, it makes little sense to make projections stretching as much as 75 years into the future. Deciding how far into the future to project health care spending is a matter of judgment, but projections beyond 25 years are no better than guesswork and should not materially influence current policy.

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