LETTERS TO THE EDITOR

Do New Drugs Save Lives?

To the Editors:—Dean Baker and Adriane Fugh-Berman have published a critique of a study I performed in 2007 entitled “Why has longevity increased more in some states than in others?”¹. One of the conclusions I drew from that study was that medical innovation accounts for a substantial portion of recent increases in U.S. life expectancy. Baker and Fugh-Berman claim that my study was subject to a number of major methodological flaws. Many of their claims pertain to the role of infant mortality; the definition of drug vintage; the issue of age adjustment; and the appropriateness of controlling for AIDS, obesity, and smoking in the analysis of longevity.

Baker and Fugh-Berman’s claims about my study are largely incorrect. A detailed rebuttal to their assertions (including econometric sensitivity analyses) can be found at this website: <http://ssrn.com/abstract=1431576>. Below I will briefly summarize the major points.

I show that infant mortality was not an important determinant of the growth in U.S. life expectancy during the period that I studied: only 11% of the increase in life expectancy at birth between 1989–1991 and 2002 was due to a reduction in infant mortality. Moreover, my estimates are completely insensitive to the inclusion or exclusion of infant mortality.

I also show that controlling for the age distribution of the population also has essentially no effect on the longevity equation estimates.

I argue that my definition of drug vintage, based on the initial FDA approval year of a drug’s active ingredient, is quite reasonable, and it is consistent with the FDA’s evaluation of the therapeutic potential of new drugs. Data on new drug approvals during the period 1990–2004 reveal that new

molecular entities were three times as likely, according to the FDA, to provide significant improvements compared to marketed products in the treatment, diagnosis, or prevention of a disease as new formulations.

I argue that controlling for AIDS, obesity, and smoking in longevity analysis is entirely appropriate and consistent with the epidemiological literature. HIV was the fourth largest cause of years of potential life lost before age 65 in 1995. The CDC has performed studies to estimate mortality attributable to both obesity and smoking.

Baker and Fugh-Berman express deep skepticism about my study’s conclusion that medical innovation has played a very important role in recent U.S. longevity growth, but they offer no explanation of why life expectancy increased by almost a year during 2000–2006, a period of increasing poverty and obesity and declining health insurance coverage.

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REFERENCES

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J Gen Intern Med 24(12):1356

DOI: 10.1007/s11606-009-1101-y

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Published online September 16, 2009