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Comment Jonathan Skinner

A key to solving the problem of runaway growth in the U.S. Medicare program's expenditures (and for health care expenditures more generally) is a better understanding of the dynamic process by which health care costs continue their march upward. Yet little is known about patterns of growth, nor do we know who is actually receiving the additional care. So this study

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is particularly timely in providing a much-needed perspective on patterns of growth and the distribution of Medicare expenditures during the past decade. Their primary result is that the distribution of health care expenditures narrowed between 1997 and 2005, in the sense that Medicare expenditures grew fastest (in percentage terms) for those low in the distribution of health care spending in contrast to those in the top 5 or 10 percent of the spending distribution.

There are several methodological advances used in this chapter. The first is the use of polynomial smoothing methods to impose continuous and differentiable patterns of change in expenditures across age and year. A priori, we would not expect expenditures to jump from one age to the next, and this adjustment is a flexible (if somewhat complex) approach to providing a clearer picture of the relevant distributional trends.

The second is to take seriously the potential for secular changes in the health status of the elderly Medicare population by the use of HCCs (hierarchical conditional categories). These use past evidence of chronic illnesses which can then be used to adjust for subsequent use of medical care. As the authors note, the use of administrative data for clinical information has a somewhat checkered past, and the HCCs represent a step forward by using detailed claims data on previous reasons for having been admitted to the hospital or seen by a physician in previous years. But there is a tension in risk adjustment between using too little or too much information about what was actually done to the patient.

For example, suppose one is trying to ask the question: How much does a "high cost" patient in 1997 actually cost compared to the equivalent "high cost" patient in 2005? Suppose that over this time period, the prevailing standard of care causes the identical patient to be treated for more things. Then one could tend to overcorrect for past "health status" because health status is coded only if one actually is treated. Nonetheless, the HCC approach is clearly the most inclusive approach, and some of the more surprising results in this chapter come from their tabulations of patterns of growth in HCC-measured chronic illnesses.

But adjusting for risk is very unlikely to explain why they find the substantial narrowing of the distribution of Medicare expenditures. Most likely, it has something to do with the year in which their analysis begins, 1997—the last halcyon year of unfettered Medicare spending before the Balanced Budget Act of 1997 (BBA97) clamped down by placing limits on reimbursements, particularly for high-cost users of home health care.

Figure 13C.1 shows the rise and partial fall of the Medicare home health care industry. Home health care billing grew rapidly from under $5 billion in 1990 to more than $20 billion in 1997, before dropping rapidly to under $10 billion by 2000. (These figures are all in constant 2005 dollars.) An important restriction on home health care imposed by the BBA97 was to set upper limits on how often one could bill for an individual patient, and it

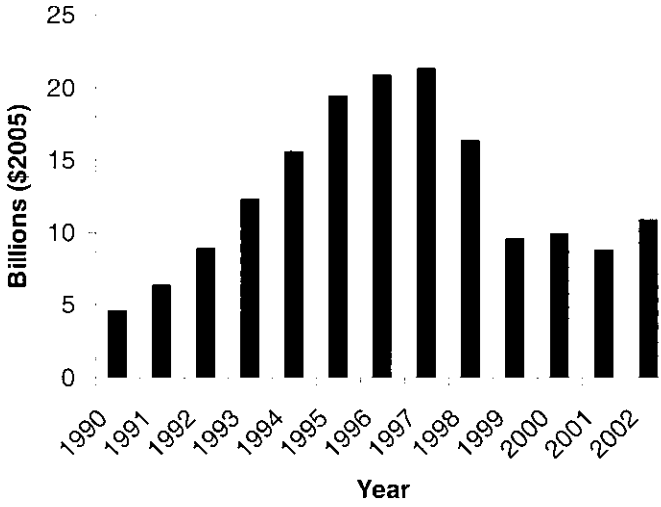

Fig. 13C.1 Medicare home health care expenditures, 1990–2002 (billions of 2005$)
Source: http://www.devicelink.com/mddi/archive/03/12/006.html.

was not difficult prior to 1997 for some patients to be billed for home health care daily for the entire year, for more than $30,000 annually. Thus, the narrowing of the distribution in Medicare expenditures during this period is most likely the direct consequence of the policy change. Starting the time series analysis in an earlier year could help to uncover how much of the tightening in the distribution was simply undoing the former excesses of a program that had become a prime vehicle for fraud—one study by the General Accounting Office suggested that 40 percent of the billings were "inappropriate" (Havemann 1997)—as opposed to secular changes in the distribution of Medicare expenditures.

The authors also provide intriguing results showing changes over time in both the prevalence of chronic illness and spending conditional on having the disease. There were clear differences in growth rates, but I could not think of reasons *why* some diseases, such as osteoporosis or renal disease, should grow so much faster than others. That greater efforts were made to diagnosis these diseases among less severely ill patients is suggested by the much lower than average growth rates in these two diseases—just 3.3 percent for osteoporosis and 0.5 percent for renal disease at the median. Clearly, a topic for future research is accounting, for the extent to which health care costs have risen because of increasing prevalence of chronic disease, increased diagnosis of those diseases, and treatment conditional on having the disease.

A much harder problem is to determine the causes of growth in expenditures. Simply attributing health care costs to "technology growth" begs the

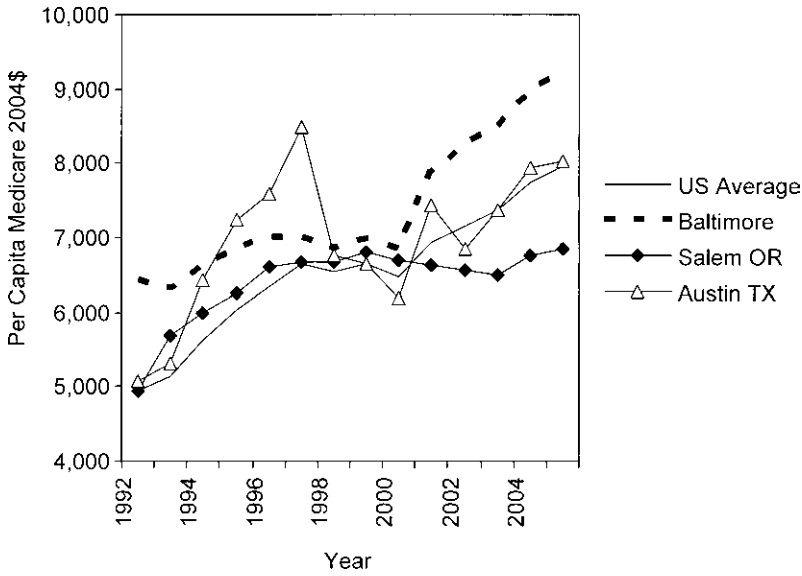

Fig. 13C.2 Medicare per capita growth rates in selection hospital referral regions
Source: www.dartmouthatlas.org and author's calculations.

question of why growth rates in expenditures are so large, or why they are not even larger (Chandra and Skinner 2008). Furthermore, why did some regions seem to adopt cost-increasing technology, or more accurately, why did cost-increasing technology appear to diffuse so rapidly in some regions compared to others?

Figure 13C.2 shows growth rates in per capita real Medicare expenditures (2005$) from the Dartmouth Atlas database. There is one problem with the Continuous Medicare History Survey (CMHS), on which these numbers are based, and that is double-counting of a small fraction of the records during 1998 to 2000, and Centers for Medicare and Medicaid Services (CMS) staff suggested a 10 to 15 percent adjustment downward for these estimates. I used a 10 percent adjustment because it appeared to smooth the aggregate, shown in the solid line. The cost-saving influence of the BBA can be seen in the flattening of growth from about 1997 to 2001, where it resumed its upward trend. But what is interesting is that not all hospital referral regions (HRRs) (see www.dartmouthatlas.org) followed the same growth rates. As shown in figure 13C.2, BBA97 was an inflection point for Salem, OR, growth rates moderated and have not really taken off since then. By contrast, Baltimore has experienced rapid growth in per capita Medicare expenditures, and hence, substantially higher growth rates over the relevant period. Austin, Texas displayed a much different pattern; their expenditures were growing rapidly prior to 1997 (with home health care a prime suspect), but since

then has come down in costs and followed the national trend. Who is getting the marginal spending in Baltimore (relative to Salem)—the patient at the fiftieth percentile or the ninety-fifth percentile? And why have Baltimore hospitals made a conscious decision to expand capacity? Is it possible that the over-sixty-five population in Baltimore was constrained in getting the health care they needed prior to 1997?

Of course, we cannot say much about causality by looking at growth rates, and making inferences about the impact of expenditures on outcomes is problematic. But it is presumably something we would like to know when evaluating health care cost growth. McKnight (2006) used the BBA97 as an exogenous shock to study how the cutbacks in home health care affected actual health outcomes, and did not find significant effects on health. In the longer term, we would also like to know how a change in the distribution of health care spending affects health: is spending more on low-cost patients (relative to high-cost patients) a better use of our health care dollars?

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