Taking Account...

BEA study compares disease-based indexes

Recasting traditional health care spending indexes in terms of disease-based indexes has garnered rising attention lately as a way to develop better metrics to assess the role of health care in the economy and to guide policy.

Several studies have developed experimental disease-based expenditure indexes. However, these studies used different data sets on different populations and different methods for splitting up health care expenditure by disease, making it difficult to analyze why the studies' results varied significantly.

Adding to the growing literature in this area, a study by Bureau of Economic Analysis (BEA) economists Anne E. Hall and Tina Highfill used two data sources and two methods for calculating expenditure indexes for the Medicare population. The study compared the indexes and established results that offer key insights in choosing appropriate indexes for this important population.

Medicare plays a critical role in the U.S. health care system: it covered 50.8 million people in calendar year 2012 and accounted for 22.9 percent of the total federal budget and 12.6 percent of total national healthcare spending.

Specifically, the study compared two major data sources on Medicare beneficiaries: the Medicare Current Beneficiary Survey (MCBS) and the Medical Expenditure Panel Survey (MEPS). Both surveys are conducted by the U.S. Department of Health and Human Services. The MCBS surveys Medicare beneficiaries exclusively. The MEPS surveys U.S. residents living in selected communities about health care and spending.

The study also compared two methods for calculating medical expenditure indexes: the primary diagnosis method and a regression-based method.

The primary diagnosis method simply assigns spending to the illness associated with the diagnosis code (or first diagnosis code in the case of multiple diagnosis codes) of each claim or survey-collected medical event. The regression-based method regresses individual annual health care spending on dummy variables for medical conditions that each beneficiary is diagnosed with and divides up each beneficiary's health care spending on that basis. The study found that the resulting expenditure indexes generally indicate the same average annual growth rate of about 3 percent no matter what data set or method is used.

While the primary diagnosis method remains the most transparent, it carries the stringent requirement that every claim or event has a diagnosis attached to it, a requirement met only by the MEPS. However, the MCBS remains a generally preferable data set for studying Medicare beneficiaries, as the MEPS has a smaller sample size, does not include nursing home residents, and appears to have a fair amount of underreporting of spending relative to the MCBS.

In the comparison of methods when applied to the two data sets, the authors found that both produce about the same average annual growth rate. This result suggests that the regression-based method may be applied to the MCBS without too great a loss of accuracy.

The study also compared indexes calculated from the MCBS and the MEPS using the same method. Using the regression-based method and including drug spending, the two data sets produced about the same results in aggregate. When drug spending is dropped, expenditure indexes created from the MEPS grow about a percentage point faster than the indexes based on the MCBS. This difference may be related to the way MEPS treats chronic illnesses.

The authors' belief going into the research was that the primary diagnosis method was the best method for dividing up health care expenditure by disease and that the MCBS was the best data set for analyzing Medicare beneficiaries, given its wide coverage. However, the results suggest that a regression-based index is an acceptable substitute for the primary diagnosis method and can be used on the MCBS to produce a viable medical care expenditure index.