

## Taking Account...

### BEA economist's new take on health care demand

U.S. medical care expenditures account for a large and growing share of gross domestic product (GDP), posing challenges for policymakers. In this environment, estimates of the price elasticity of demand will foster a better understanding of patient incentives and inform public policy. Unfortunately, estimating medical care demand has been particularly challenging.

One major issue is that the marginal price of medical care is often determined by consumers through their selection of a health insurance plan. The least healthy individuals may be more likely to choose a plan with the most generous insurance coverage, leading to an overestimate of medical care demand elasticity.

With such issues in mind, a recent paper by Bureau of Economic Analysis economist Abe Dunn takes a new approach to estimating demand, one that relies on negotiated prices between insurers and providers as an instrument. Dunn's paper finds that the price elasticity of demand is around  $-0.20$ , which matches the elasticity found in a groundbreaking RAND health insurance study in the 1970s.

The RAND study remains the gold standard for understanding the responsiveness of consumers to out-of-pocket health care prices.

However, the study has several limitations. Most impor-

tantly, since the RAND study was conducted, the share of GDP devoted to medical care has doubled, and medical technologies have changed substantially, suggesting that the evidence from the RAND study may be relatively dated. In addition, many questions regarding medical care demand were not addressed. Thus, researchers have continued to search for alternative approaches to estimating demand.

To address the plan selection problem, which leads to biased demand estimates, Dunn applies an instrumental variable empirical strategy. In particular, Dunn's paper views negotiated prices between insurers and health care providers as a textbook "cost-shifting" instrument that affects plan offerings but is unobserved by consumers.

The theoretical justification is clear: the package of benefits offered to enrollees will be affected by profit maximizing insurers responding to the negotiated price for medical services in a given geographic area.

At the same time, the negotiated prices are likely uncorrelated with the selection of an insurance plan, since consumers are typically unaware of the negotiated prices with providers. Moreover, medical provider contracts are negotiated prior to setting insurance plan offerings, and the negotiated price is typically the same for both the least generous plans and the most generous plans.

Dunn's demand model was estimated using individual microdata from the MarketScan commercial claims database for the years 2006 and 2007.

The MarketScan data was a sample of enrollees from insurers and large employers. The data included demographic information about individuals, such as age, gender, and type of insurance plan. Most importantly, the data includes information on the medical conditions of the enrollees, utilization of medical care services, and expenditures. The expenditure data indicate both the amount paid out of pocket by the enrollee and the total allowed amount paid to the providers. Data on income, education, and health were also incorporated into the analysis.

Following the RAND study, Dunn's paper looked at price responsiveness at the disease-episode level, investigating the effect of price on the intensive margin (utilization per disease episode) and the extensive margin (number of episodes).

Similar to the RAND study, Dunn's study found that price responsiveness on the intensive margin accounts for only a small fraction of the total elasticity. Most of the individual responsiveness to the out-of-pocket price is on the number of episodes.

Overall, the paper suggests a new way of identifying consumer responsiveness to real-world price movements.