

# Population health plays a bigger role in geographic differences in Medicare spending

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In a study conducted by researchers from George Mason University and the Urban Institute, it was determined that variations in Medicare beneficiaries' health across geographic areas accounts for a significant share of Medicare costs that vary widely by region. The study of geographical differences in Medicare spending was published today in the *New England Journal of Medicine*.

"A substantial body of prior research has identified variation across geographic areas in how much Medicare spends per beneficiary—in the highest cost areas Medicare spends about 50 percent more per beneficiary than in the lowest cost areas, even after adjusting for basic demographics such as age, gender and race, and differences in medical care practices," says Jack Hadley, professor in the College of Health and Human Services' Department of Health Administration and Policy at Mason and senior author of the study.

The researchers analyzed data on Medicare spending by 6,725 elderly [Medicare patients](#) collected by the Medicare Current Beneficiary Survey from 2000-2002. They estimated the differences in Medicare spending between high and low cost geographic areas and examined the role of beneficiaries' health in explaining these variations. They measured health using an expanded set of criteria that included both pre-existing conditions and changes in health throughout the year, and also controlled for patients' demographic characteristics, family income, supplemental insurance coverage, and area-level measures of health care supply.

"Geographic differences in Medicare spending are not necessarily evidence of inefficiency in health care. Our study shows that an individual's health explains almost one-third of the difference in Medicare spending per beneficiary between the highest and lowest cost areas, while previous studies have assigned a smaller role to health measures," says Stephen Zuckerman, a senior fellow in the Urban Institute's Health Policy Center and the lead author of the study.

"Our findings indicate that the conventional wisdom about the magnitude of unexplained geographic differences in Medicare spending may be overstated and that policies based on these misperceptions may reward or penalize areas inappropriately."

Mean Medicare spending per beneficiary ranged 52 percent from \$4,721 in the least expensive regions to \$7,183 in the most expensive regions. By expanding the set of health measures in their analysis, the researchers found that 29 percent of the difference was based on health and only 33 percent remained unexplained. These results suggest that much of the observed geographic differences found in previous research were due to patients' demographic characteristics and health status rather than to inefficiencies in health care treatment.

"Medicare spending was \$484 billion in 2009. We all have a stake in providing medical care as efficiently as possible in order to free up resources for other pressing social and personal needs," says Hadley. "By suggesting that geographic differences in Medicare spending may not be the best indicators of where inefficiency lies, this study may help redirect the search for improved efficiency to studies of the comparative effectiveness of alternative treatments for specific diseases and conditions."

**More information:** The full findings can be viewed online at [content.nejm.org/cgi/content/full/NEJMsa0909253](http://content.nejm.org/cgi/content/full/NEJMsa0909253)

Provided by George Mason University

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