

Geographic Care Disparities Defy Explanation

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A patient's medical costs may depend not only on the person's state of health but also on where he or she lives in the United States, according to two studies showing regional differences in Medicare spending that couldn't be fully explained by demographic variables or overall health status.

So strong was the finding of regionalized spending differences that, in one study, patients who moved from the lowest-spending region to a higher-spending region experienced a 100% increase in their number of diagnoses, a 66% increase in imaging services, and a 74% increase in lab testing. The increase did not buy any additional years of life, however. "At 3 years, there was no evidence of a survival benefit," wrote Yunjie Song, Ph.D., and colleagues (NEJM 2010 May 12 [doi:10.1056/NEJMsa0910881]).

The second study, by Stephen Zuckerman, Ph.D., of the Urban Institute, Washington, and colleagues, found that unadjusted Medicare spending was 52% higher in the highest-spending region than in the lowest-spending region. Even after adjusting for more than a dozen variables, the investigators could not account for up to 63% of the health-spending difference.

"In the absence of better information about the sources, causes, and consequences of geographic differences in Medicare spending, policy makers should resist the appeal of simple solutions for limiting expenditures in high-cost areas," they said.

Dr. Song of Dartmouth College, Lebanon, N.H., and coauthors examined Medicare claims data from 1999 to 2006 among 52,000 beneficiaries who moved their homes during that time and almost 3 million who did not. More than 300 hospital referral regions were sorted into quintiles according to the intensity of practice within them.

Overall, residents of higher-intensity regions had more office visits, more diagnostic tests, more medical diagnoses, and higher risk scores than did residents of lower-intensity regions. There was a strong trend toward increasing rates of diagnostic testing and diagnosed conditions, but this increase varied significantly among the quintile groups.

The findings have implications for health reform, Dr. Song's team said, since studies to determine variations in health care effectiveness—and how compensation should be structured—are probably biased from the start because of the regional differences in diagnostic intensity.

The study by Dr. Zuckerman used Medicare claims data from 2000 to 2002 to examine spending in U.S. hospital referral regions (NEJM 2010 May 12 [doi:10.1056/NEJMsa0909253]).

The investigators conducted six multivariate regression analyses, each building on the other. The final model controlled for almost two dozen variables.

Medicare spending varied significantly

between quintiles, with beneficiaries in quintile 1 accounting for a mean of \$4,721, while those in quintile 5 accounting for \$7,183—a 52% difference.

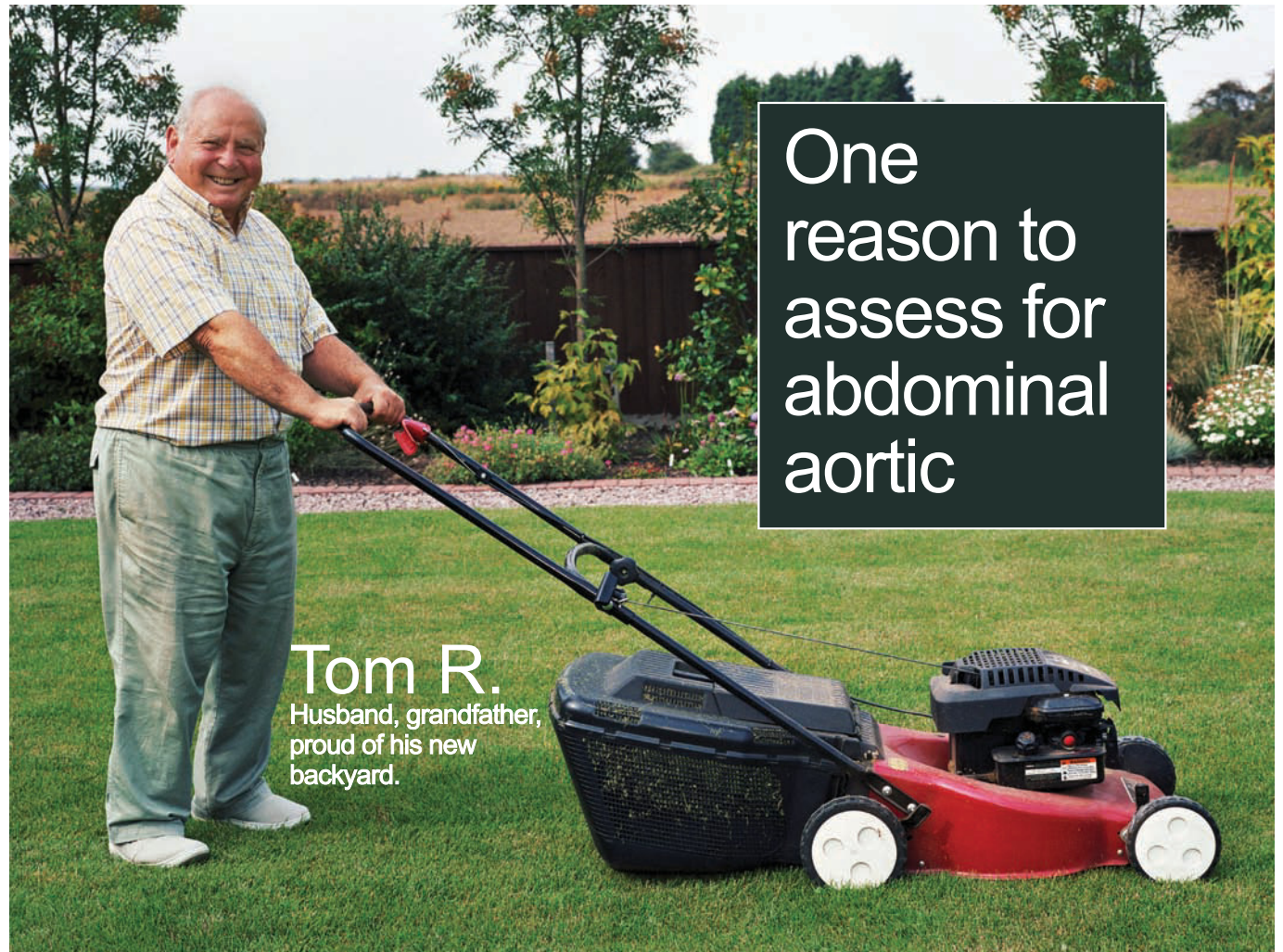
Adjusting for only demographic characteristics reduced the difference to 40%, leaving most of the gap between quintiles 1 and 5 unexplained. Factoring in general health data further reduced the unexplained difference among some quintiles but not others (reductions of 21%-33%).

The team identified death during the study as the most important variable in spending. Death rates ranged from 2% in quintile 1 to 3% in quintile 5. "Although this is not a large absolute difference ... approximately 8% of the \$2,462 difference in per-beneficiary spending between quintiles 1 and 5 was accounted for by this variable alone," they wrote.

"Policies that focus on area-level spending without adequate adjustment for dif-

ferences in beneficiaries' health status could inappropriately reward or penalize certain geographic areas," they said. ■

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Reference: 1. Reardon RF, Cook T, Plummer D. Abdominal aortic aneurysm. In: Ma OJ, Mateer JR, Blaivas M, eds. *Emergency Ultrasound*. 2nd ed. New York, NY: McGraw-Hill; 2008: 149-168. AortaScan, the AortaScan symbol, Verathon, and the Verathon Torch symbol are trademarks of Verathon Inc. © 2010 Verathon Inc. 1001FPN-Ad 0900-3121-00-86



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