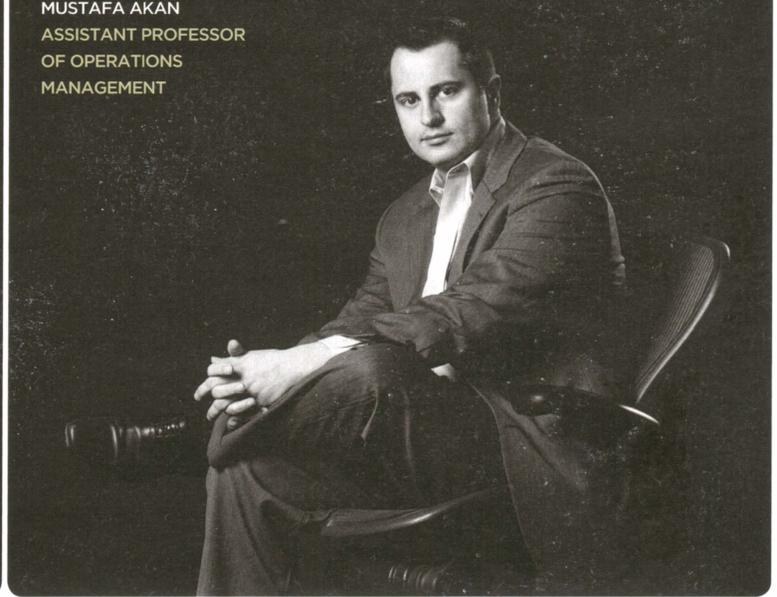


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## The Economics Behind Physicians' Test Ordering



Reviewed by R. Ravi,  
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Did you ever wonder whether the battery of tests you went through in the last visit to your doctor's office had some impact on your health insurance premium in the long run? Did going through an extensive set of tests make you feel more assured you were getting complete attention and hence better care? Have you ever wondered why you have to spend so long in the waiting room for tests? Did the doctor believe that all the tests were warranted to more accurately diagnose your condition, or were the tests mainly to protect the doctor's practice and hospital from any future litigation?

A complex web of incentives from patients, doctors, insurance companies and hospitals underlies these questions of medical "overtesting." Despite its significant monetary impact on health care spending, they have not been modeled holistically until the work of Professors **SRIDHAR TAYUR** and **MUSTAFA AKAN** and graduate student **TINGLONG DAI**. Their work carefully examines the effects of insurance structure, misdiagnosis risk and informational asymmetry of the patient about the doctor's skill level in medical overtesting.

One finding is that lowering the reimbursement ceiling from the insurance company alone will not eliminate overtesting. They also find that misdiagnosis risks and the

information asymmetry mentioned earlier drives some overtesting. A non-intuitive conclusion from their work is that different components in the health plans drive the number of tests differently: Higher co-payments might lead physicians to order more tests while higher co-insurance has the opposite effect.

Another interesting insight from their work is that physicians' concerns about misdiagnosis risks, in conjunction with insurance coverage, can lead to "undertesting," which is also undesirable for society. They further argue that as technological changes flatten out the skill level differences among physicians, overtesting becomes even more salient. Their work was carried out in close collaboration with the local UPMC Eye Center physicians using real-life data collected from videotaping the imaging rooms, fueling their modeling effort.

Tayur is an internationally renowned expert on managing uncertainty and complexity in supply chains. His recent research has focused on projects that bring operational and incentive modeling and analysis to bear on important problems in health care, clean energy and digital media.

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