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Navigating Incentive Challenges in Capitation Payment Models: A Novel Retrospective Payment Model

Abstract: Healthcare systems such as Medicare are increasingly embracing capitation payments in pursuit of cost reduction for beneficiaries. In the conventional capitation payment model, insurance companies receive predetermined, risk-adjusted sums for each patient to provide care over fixed time periods, often on an annual basis. These sums are allocated to cover designated healthcare services, regardless of individual patient healthcare utilization. Theoretically, this model encourages insurers to enhance cost efficiency, by prioritizing preventative and coordinated care, as the payment amount is not tied to the volume of services provided. Nevertheless, the actual outcomes have not always aligned with this expectation, as evidenced by the increased healthcare costs since the introduction of Centers for Medicare & Medicaid Services' Medicare Advantage Plans. Motivated by this observation, we demonstrate, using a simple model, that the conventional capitation model may not effectively incentivize cost reduction, even within competitive insurance markets and when patients can enroll in any available plan. This is due to insurance companies competing to cherry-pick profitable patients by manipulating insurance plan design, particularly when patients are given the option to enroll in alternative plans, such as the fee-for-service-based traditional Medicare Plan. Additionally, we show that even with perfect information about patient types, which eliminates patient selection, the conventional capitation model may not yield socially optimal outcomes due to externalities stemming from patient choice. Building on these insights, we introduce an innovative retrospective capitation payment model that leverages actual healthcare costs associated with each patient. This approach eliminates the need for risk-adjustment procedures and the requirement to predict future medical expenses, all while still incentivizing providers to enhance cost efficiency. Using a general model, we demonstrate that this approach removes incentives for cherry-picking profitable patients and achieves identical outcomes to the conventional capitation model with perfect patient type information in a competitive equilibrium.

Biography: Tolga Tezcan is a Professor of Operations Management in Jones Graduate School of Business at Rice University. His research focuses on how to design and manage service systems under uncertainty with applications in customer service and healthcare systems. His recent research focuses innovative reimbursement methods in health care. He has worked with customer call centres, customer service chat systems, emergency departments, and hospitals. He was awarded the NSF Career Award in 2010 for his research and serves on the editorial boards of the journals *Management Science*, *Operations Research*, and *Stochastic Systems*.