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**Entry Decisions and Incumbents' Responses:
Evidence from the Outpatient Surgery Market
(Job Market Paper)**

What is the impact of competition on access to care, patients' welfare and hospitals' quality when prices are regulated? While most of the existing literature focuses on inpatient care, I investigate this question in the fast-growing outpatient surgery market. To do that, I exploit a payment schedule change that leads to exogenous changes in competition levels.

Hospitals and ambulatory surgery centers (ASCs) are the major providers of outpatient surgery. In 2008, the Centers for Medicare and Medicaid Services implemented a new reimbursement system that significantly changed the profitability of performing different surgeries in ASCs, and thereby encouraged ASCs to enter the surgery markets that had become more profitable. The resulting incentives for hospitals to invest in quality changed differentially across surgeries based on the competition they faced in the market.

I build a structural model to show how each patient chooses a facility, how each hospital selects surgery quality levels, and how each ASC makes entry decisions for each surgery. Facing potential ASC entrants, incumbent hospitals commit a fixed investment to quality, which increases its revenue through two channels. First, higher quality attracts more patients to choose the hospital over other facilities (effect of direct competition). Second, it could potentially deter ASCs from entering the market and allow the hospital to enjoy a larger market share (effect of entry deterrence). The second channel is more salient in markets facing a median level of entry threat.

To estimate the model, I use the outpatient discharge and facility certificate data from Florida for 2006 and 2008. I employ a Markov Chain Monte Carlo (MCMC) method to estimate the model. The results suggest that, on average, a one-standard-deviation increase in the reimbursement rate (\$18.2) leads to a 12.5 percent increase in the entry probability of an ASC, which intensifies the level of competition. Hospitals respond by spending \$2,551 more annually on surgery quality. The effect of entry deterrence explains 47 percent of the increase, and the rest is explained by the effect of direct competition. This demonstrates how ignoring strategic entry deterrence investments may lead to an underestimation of the effect of competition induced by the reimbursement change. Patients benefit from the intensified competition by having more surgery location choices and receiving care with higher quality. Counterfactual analyses are conducted to evaluate the impact of policy changes on welfare, accounting for ASCs' endogenous entry decisions, which change the market structure and the level of competition.

JEL Codes: I11, I18, L11, L51

Key Words: Outpatient Surgery Market, Access to Health Care Service, Entry Deterrence, Patient Welfare, MCMC Estimation