

# **The Welfare Effects of Provider Reimbursement Rates:**

## **Evidence from the Nursing Home Industry**

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### **Introduction:**

Reductions in provider reimbursement rates for Medicare and Medicaid beneficiaries are frequently used to contain public health care spending both at the national and the state level. However, reimbursement cuts also lower the profitability of providing services to beneficiaries, which may lead providers to cut back on doctors, nurses, and other key inputs for the production of health care quality. This introduces a tradeoff between benefits from lower public health expenditures on the one hand and costs from a reduction in consumer surplus and provider profits on the other. In my paper, I investigate this tradeoff for Medicaid reimbursement rates in the nursing home industry.

Nationally, Medicaid covers about two thirds of the 1.5 million nursing home residents and spends about \$69 billion annually on nursing home care (about 17% of total Medicaid spending). Understanding the effects of Medicaid reimbursement rate changes on quality of care and social welfare is critical for the design of reimbursement policies and of growing importance as the US population ages.

To disentangle the effects of Medicaid reimbursement rate changes on the quality of care, provider profits, and consumer surplus, I estimate a model of demand and supply in this industry. The supply side model describes providers' optimal nurse staffing decisions as well as the optimal private rates charged to consumers who pay out-of-pocket. Both depend on the regulated Medicaid reimbursement rates. The demand model describes consumer preferences for proximity and staffing levels, as well as the role of private rates for consumers who pay out-of-pocket.

Applying the model to detailed provider and administrative resident micro data from Pennsylvania delivers two main results. First, I find that nursing homes increase the number of skilled nurses per resident by 2-3% in response to a universal 1% increase in the daily Medicaid reimbursement rate. Second, I find that current staffing levels are on average inefficiently low. The demand estimates suggest that the joint willingness to pay of all residents in a given nursing home equals \$109,000 per year for an additional skilled nurse. On the other hand, detailed information on wages and fringe benefits from cost reports indicates that it costs providers only \$82,000 per year to employ another skilled nurse. Based on a social planner's problem, I conclude that current staffing levels fall short of optimal staffing levels by about 29%.

These findings also indicate that an increase in Medicaid reimbursement rates can enhance social welfare. Specifically, I calculate the welfare effects of a universal increase in Medicaid reimbursement rates of 5%. I use the empirical industry model to predict how each nursing home adjusts its pricing and staffing decisions in response to the increase in the reimbursement rates and allow consumers to relocate to their preferred nursing home based on the updated staffing and pricing decisions. My estimates suggest that a 5% rate increase raises Medicaid spending annually by \$114 million dollars in Pennsylvania. However, the rate increase also raises consumer welfare and provider profits annually by \$142 million. This suggests an annual welfare gain of \$27 million in this industry, about 24% of the additional Medicaid spending.