My research examines health care providers' behavioral responses to incentives built into payment systems. In particular, my dissertation focuses on the home health care industry, and examines how home health agencies have strategically navigated the Medicare reimbursement system. Through my research, I address how the government and private insurers can design more sophisticated reimbursement systems that promote an efficient health care system.

Chapter 1: Health Care Spending Growth under the Prospective Payment System: Evidence from Medicare Home Health Care (Job Market Paper)

This paper explores the causes of the dramatic rise in total Medicare home health spending under the prospective payment system. In 2000, Medicare home health care introduced the prospective payment system to control the spending growth that had occurred under the fee-for-service payment system. However, total spending under the new system has continued to increase significantly. I examine the underlying forces behind the growth in the three factors that contributed to this spending increase: 1) the number of Medicare home health patients, 2) the number of episodes per patient, and 3) the payment amount per episode. Using the Medicare Claims and Provider of Services File from 1999 to 2009, I find strong empirical support that the prospective payment system provided unintended incentives for home health agencies to adjust their service provision patterns to increase profits. This led to an increase in all three factors, independent of the health needs of patients. In particular, the number of Medicare home health patients contributed the most to the total spending increase. In addition, many profit maximizing behaviors were most evident among for-profit home health agencies. Furthermore, the incentives built into the prospective payment system attracted to the market a substantial number of for-profit agencies. These new agencies pursued profitable home health provision patterns more aggressively than agencies established prior to the prospective payment system. Overall, the increase in the for-profit market share accounts for about one-third of the increase in total Medicare spending between 2001 and 2009.

Chapter 2: Market Ownership Structure and Service Provision Pattern Change over Time: Evidence from Medicare Home Health Care

While many economic studies have addressed the static behavior of for-profit and non-profit health care providers competing with each other in markets, few have looked at how behavior

changes over time. Building on the existing economic theory of for-profit and non-profit behavior in competition, I propose three mechanisms that explain how behavior changes over time. First, health care providers continue to enter the market if they perceive opportunities for high-profit margins, and those new entrants strategically pursue profit-maximizing service provision patterns more aggressively than incumbents. Second, aggressive profit-seeking behaviors among new entrants encourage neighboring incumbents to imitate new entrants' behaviors. Third, existing, chain-affiliated health care providers learn profit-seeking behaviors from others in the chain. In particular, the second and third mechanisms suggest that health care providers learn profit-seeking behaviors from each other over time. I then test these three mechanisms using data on home health agencies that operated under the Medicare prospective payment system and find that the proposed mechanisms explain the changes in behaviors of for-profit and non-profit home health agencies over time.

Chapter 3: The Effects of Medicare Home Health Outlier Payment Policy Changes on Older Adults with Type 1 Diabetes

There have been struggles to find a reimbursement system that achieves a seemingly self-contradictory goal: providing high quality care while minimizing costs. This is exemplified by Medicare home health care's introduction of the 10 percent per-agency cap on outlier payments in 2010. This policy restricts total outlier payments for each home health agency to no more than 10 percent of that agency's total prospective payments from Medicare each year. While the intention of this cap is to control excessively increasing outlier payments, it can ultimately produce undesirable incentives. In essence, the 10 percent cap could penalize agencies that accepted and treated clinically complex, and thus costly patients. To address this issue, using the Medicare Claims and Provider of Services File from 2008 to 2010, this study focuses on Medicare home health patients with type 1 diabetes and examines how these patients were affected by the 10 percent cap. This study finds that the 10 percent cap decreased the intensity of home health service visits for type 1 diabetes patients dramatically. However, the 10 percent cap did not change type 1 diabetes patient's likelihood of being dropped from home health care, hospitalized, transferred to another agency, or admitted to a nursing home. These findings seem to suggest that the 10 percent cap encouraged agencies to provide more efficient care because the reduction in the amount of care did not translate to a worse health outcome among type 1

diabetes patients. However, due to the limited availability of the data, I was able to examine only the first year after the implementation of the 10 percent cap. Thus, these findings are not conclusive given that it might take a relatively long time for a patient's health status to be affected by a change in the amount of care.