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Thesis Abstract

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## **Dynamic Moral Hazard in Nonlinear Health Insurance Contracts (Job Market Paper)**

*(winner of the Honorable Mention Award for Best Paper presented at the IAAE Conference 2021)*

Standard health insurance contracts generate nonlinear pricing through the presence of deductibles and caps on out-of-pocket spending, in which the out-of-pocket price paid by consumers decreases as the cumulative use of health care increases. This nonlinear benefit structure, coupled with the uncertainty intrinsic to future health care demand, provides dynamic incentives for consumers' choices: health care utilization today reduces future expected prices. Standard analyses of insurance contracts study the trade-off between the welfare gains from risk protection and the welfare losses from moral hazard, which I relabel as static moral hazard. In this paper, I study a new source of moral hazard, *dynamic moral hazard*, which I define as the additional health care utilization when individuals internalize that current utilization lowers future expected prices via the nonlinearities of the contract. By leveraging the random assignment of families to health plans from the RAND Health Insurance Experiment, I am able to focus specifically on moral hazard, avoiding the typically confounding adverse selection present in insurance markets. I develop and estimate a dynamic, stochastic model of weekly health care utilization at the family level that incorporates the dynamic pricing effects. My estimation framework allows for flexibly-correlated multidimensional unobserved heterogeneity related to family health risk, preferences for visiting a doctor, and price sensitivity. I document that 40 percent of total moral hazard is attributed to dynamic moral hazard. Using my model and estimates, I study the welfare implications of dynamic moral hazard in the setting of employer-sponsored health insurance. My results show that the presence of dynamic moral hazard severely dampens the welfare gains associated with higher cost-sharing and plays a crucial role, distinctive from static moral hazard, in determining optimal insurance contract design.

## **The Dynamics of Preventive versus Curative Care**

Although historically health insurance plans covered preventive and curative care on equal terms, there has been a trend toward increasing coverage for preventive care over the last decade. Additional preventive care decreases future curative care costs by lowering the probability of developing an illness and/or decreasing its severity. In this paper, I study the implications of dental insurance design for both preventive and curative dental care demand and the consequences for oral health. I focus on dental care because it offers a clean environment to distinguish preventive versus curative treatments and their differential impact on oral health. Using detailed dental claim data grouped into episodes of care from the RAND Health Insurance Experiment, I build and estimate a dynamic dental health capital model where individuals can consume three types of dental care: primary preventive care, which prevents the development of oral disease (e.g., cleanings); secondary preventive care, which include activities taking place before disease is recognized (e.g., examinations); and curative care, which includes the treatment of diseases (e.g., fillings). The model incorporates both the possibility that preventive care triggers a short-run surge in curative care demand through the detection of oral diseases and, simultaneously, a long-run reduction in future dental care costs through endogenous oral disease development and severity. I also study how nonlinear dental insurance contracts affect the relative level of preventive and curative dental care demand and subsequent oral health.

## **Cash Transfers, Maternal Health and Children's Birth Outcomes (with Timothy Conley)**

Timely prenatal care and maternal health are important determinants of birth and child outcomes. Many developing countries implement conditional cash transfer (CCT) programs to unemployed pregnant women, which typically condition the transfer on obtaining timely prenatal care and participating in meetings about proper nutrition. Existing literature on the evaluation of maternity CCTs finds contradicting results. Moreover, there is evidence that more than 50 percent of eligible women do not claim the benefits. In this paper we study the impact of a maternity CCT program in Argentina on maternal health and children's birth outcomes and investigate the reasons for the low enrolment rates. We build a unique dataset that links multiple sources of hospital records with administrative micro-data spanning seven years of individual women's pregnancy and birth outcomes. To isolate the story of lack of information about the program from other explanations for low participation rates such as stigma, we exploit the difference in launching time of this program and an already established CCT program implemented by the same government agency that targeted unemployed women with children under the age of 18. Specifically, eligible pregnant women who receive this latter program face significantly lower information costs to apply for our program of interest.