

Essays on Physician-Insurer Interactions and the Consequences for Consumer Health Care

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1. The Hidden Evidence of Defensive Medicine (Job Market Paper)

An important policy question is whether or not the fear of medical malpractice liability induces physicians to over-utilize medical services and/or avoid treating risky patients. Commonly known as defensive medicine, such behaviour, if it occurs, implies that liability costs borne by physicians can adversely affect the cost and quality of health care. Despite widespread reports of defensive medicine in surveys of physicians, empirical investigations have produced conflicting evidence on the extent of its practice. In several countries, the United States in particular, this lack of empirical verification has confounded efforts to formulate, implement, and evaluate tort reforms intended to lower costs and improve access to medical care. This paper develops an innovative model of the interaction between patients, physicians, and health insurers that provides a unified framework within which the existing empirical findings can be understood. The model predicts that 1) there are two types of equilibrium, 2) one type emerges at low levels of malpractice pressure while the other emerges at high levels, and 3) changes in the malpractice environment produce the opposite effects in each type. When the level of malpractice pressure is low, increasing pressure causes increases in both health care quality and expenditure. At higher pressure levels, however, further increases in pressure induce quality and expenditure to decrease. These non-monotonic predictions provide an explanation for the apparent conflicts and inconsistencies in the existing empirical literature. The model also provides policy guidance as the two equilibrium types are fully distinguished by the level of patient access to physicians. Thus, where measures of congestion (waiting times, incidences of late treatment, distance travelled for medical procedures) are at feasibly low levels, decreases in malpractice pressure cause reductions in health care expenditure and some loss of quality, but where these measures are high, the same reductions have the opposite effect. This implies that efforts at tort reform should be informed by data on patient access to physicians' services in order to accurately anticipate effects on quality and expenditure.

2. Physician Mobility and the Differential Effects of Defensive Medicine

The empirical literature on defensive medicine includes studies utilizing data at the state or county level. In comparison to the rest of the literature, these jurisdictional studies typically find the least evidence that rising malpractice liability costs induce cost-increasing or quality-reducing practices by physicians. A key assumption in these studies is that changes in malpractice pressure have no cross-jurisdictional effects on health care spending and quality. If physicians are mobile and malpractice pressure influences their location decisions, these studies neglect an important channel for such cross-jurisdictional effects. This paper constructs a theoretical model where multiple insurers compete to provide consumers with health insurance while facing mobile physicians. Analytical and numerical results show that, through this mobility channel, changes in malpractice pressure unique to one jurisdiction influence health care spending and quality in other jurisdictions. This physician location decision can also be interpreted as one of allocating time over different types of patients or procedures, allowing the model to investigate how defensive medicine differentially affects distinct, contemporaneous patient populations.

3. Mitigating Physician Risk Selection through Dutch Auctions

Both the rise in managed care as well as pressure to reduce health care spending have made prospective payment the dominant method for health insurers to compensate health care providers in the United States. This can be problematic where providers (but not insurers) can observe patient heterogeneity within payment categories. This informational advantage can induce providers to select only those believed to be low-cost patients for treatment, and leave expected high-cost patients without treatment or relegated to expensive and inefficient emergency room care. This problem can be modelled as a game between a principal (health insurer) and multiple agents (providers), an environment where auctions have proven useful at inducing agents to reveal private information. This paper constructs a multi-stage prospective payment system where insured patients without a health care provider can enter a Dutch auction, wherein providers bid for the right to treat them. Accounting for the trade-off between efficiency and limited consumer choice, this paper examines whether auctions affect risk selection and improve access to care among high-cost patient types, without raising the price of health insurance. Preliminary results indicate that auctions increase risk selection in initial patient-provider interactions, but can improve efficiency overall.