

Medical Malpractice and Contract Disclosure:  
The Effects of  
Mandatory Contract Disclosure Rules  
on Behavior in Health Care Markets

Kathryn Zeiler\*

May 2003

---

\*Associate Professor of Law, Georgetown University Law Center. email: [kmz3@law.georgetown.edu](mailto:kmz3@law.georgetown.edu). web: [www.georgetown.edu/faculty/kmz3/](http://www.georgetown.edu/faculty/kmz3/). The financial support of the Division of Humanities and Social Sciences at Caltech, The Law School at the University of Southern California, and the Olin Foundation is gratefully acknowledged. In addition, this research was supported by a fellowship from the Social Science Research Council Program in Applied Economics with funds provided by the John D. and Catherine T. MacArthur Foundation. I thank Matthew Jackson for many invaluable comments and discussions. Thanks also to Scott Altman, Jennifer Arlen, Edward McCaffery, Charles Plott, Matthew Spitzer and Eric Talley for useful comments and suggestions.

# Project Summary

## Theoretical Foundations

The purpose of this project is to investigate how mandatory contract disclosure rules affect behavior in health care markets. Specifically, a game theoretic model is developed to provide insight into how disclosure rules affect contracting between physicians and managed care organizations (MCOs), physician treatment choices and litigation decisions by injured patients. In the first stage of the model, the MCO considers the cost of compliant treatment<sup>1</sup> and expected damages from a medical malpractice lawsuit and chooses a contract to obtain medical services for its insured patient (in need of medical treatment). Knowing the contract terms selected by the MCO, the physician then determines whether he will provide compliant treatment to the insured patient. Compliant treatment is assumed to be more costly than non-compliant treatment, but results in a positive outcome for the patient more often than non-compliant treatment. Given the physician's action, Nature chooses whether the patient will enjoy a positive outcome or suffer a negative outcome. If a positive outcome is realized, the game ends. If a negative outcome occurs, the patient, not able to ascertain whether the physician provided appropriate medical care, decides whether to file a costly negligence suit for medical malpractice. If a suit is filed, the court hears the case and rules on the issue of liability.

As of 2001, 21 states have mandated that MCOs must disclose to their insured members (or prospective members) the types of contracts they use to compensate physicians for providing medical services to their members. Although mandatory contract disclosure is intended to provide prospective enrollees with information when choosing health plans, it also affects MCO contract choices, physician treatment decisions and litigation decisions by injured patients. Therefore, the analysis is performed assuming patients can observe the contract terms and again assuming they cannot. The results provide insights into the effects of disclosure rules on the behavior of health care market actors.

By analyzing a model of the interactions among actors in health care markets, I find that the relationship between the cost of compliant treatment and expected damages determines the MCO's contract choice. Also,

---

<sup>1</sup>Compliant treatment is treatment that meets the legal standard of care. For those not familiar with legal terminology, "standard of care" refers to the level of effort such that if an actor's effort level is equal to or above the specified level, the court does not assign liability to that actor for any related injuries.

the contract disclosure rule (i.e., whether the patient can observe the contract terms) affects the contract chosen by the MCO. Assuming damage awards exceed litigation costs, when contracts are observable and expected damages are high relative to the expected cost of compliant treatment, the MCO employs a standard fee-for-service contract with full reimbursement for cost and no fixed payment. The physician will compliantly treat with a probability high enough so that the patient will never sue, and the patient never sues. If damages are low relative to the expected cost of compliant treatment, the MCO prefers a capitated contract with no reimbursement for cost and a positive fixed payment to compensate the physician for exposure to liability. The physician will not provide compliant treatment and the patient will sue with certainty if a negative outcome is realized.

Actors behave somewhat differently when the patient is unable to observe the contract terms. In this case, when the court sets damages high relative to the cost of compliant treatment, the MCO prefers a fee-for-service contract with partial reimbursement and a positive fixed payment to cover the physician's exposure to liability. The physician will compliantly treat at a probability high enough so that the patient does not sue with certainty. Unlike in the observable contract case, the patient will sue with some positive probability. Injured patients sue with a strictly positive probability because the patient is unable to observe the contract terms and so must use the threat of a lawsuit to ensure that the MCO encourages the physician to compliantly treat with some positive probability. When the court sets damages low relative to the cost of compliant treatment, however, actors behave as they would in the observable contract case. That is, the MCO employs a capitated contract with no reimbursement for the cost of treatment but a positive fixed payment to compensate the physician for exposure to liability. The physician never provides compliant treatment and the patient sues with certainty.

In addition, the model shows that, for any damage rule, regimes in which contracts are observable by patients will enjoy a lower rate of claims filed and a higher rate of compliant treatment than regimes in which contracts are not observable by patients. These results follow directly from the reasoning provided previously. First, consider the likelihood of claims. When contracts are observable, the patient can infer the physician's strategy based on the outcome and the contract terms. Therefore, upon realizing a negative outcome, the patient will never file a claim if the contract is fee-for-service and will file a claim with certainty if the contract is capi-

tated. On the other hand, if the patient is unable to observe the contract, she cannot discover whether the MCO induced compliant treatment. When the cost of compliant treatment is low relative to expected damages, the patient finds it necessary to sue with some positive probability so that the MCO has an incentive to induce compliant treatment. Without the threat of a lawsuit, the MCO simply would never provide the physician with an incentive to meet the legal standard of care when making the treatment decision. For these reasons, the claims rate is higher in a regime in which contracts are not observable compared to a regime in which patients are able to observe them.

Next, consider the likelihood of compliant treatment under each regime. When the patient is able to observe the contract terms and the cost of compliant treatment is low relative to damages, the patient will never sue. Therefore, if the MCO induces compliant treatment, it will incur costs for the provision of treatment only. In contrast, if contracts are not observable, the patient always sues with some positive probability. This implies that if the MCO induces compliant treatment it incurs costs related to liability exposure in addition to the provision of compliant treatment. Therefore, the total expected costs incurred if the MCO induces compliant treatment are higher in a regime in which contracts are not observable. For this reason the MCO induces compliant treatment less often when patients are unable to observe the contract terms.

Given the analysis of behavior in observable and unobservable contract regimes, it is possible to characterize how adjusting damages (while holding constant all other variables not affected by behavior) affects behavior in each regime. Variations in treatment and litigation decisions resulting from changes in expected damages are examined both in observable contract regimes and in unobservable contract regimes. The observability of the contract significantly affects how treatment and litigation decisions react to changes in expected damages. In addition, when contracts are observable, patterns of behavior strongly depend on the cost of compliant treatment. These results display the danger in assuming that decreasing damages will lead to a decrease in medical malpractice claims. In addition, it might not be the case that increasing damages will lead to a subsequent increase in compliant treatment levels. The model's results suggest that changes in damages affect behavior in much more complex ways.

The results also suggest an efficient damage rule. When compliant treatment is socially efficient (i.e., the cost of compliant treatment is low rel-

ative to its expected benefit), the court should set damages high so that the physician will (almost) always compliantly treat and the patient will (almost) never sue. The results show that, in this case, the MCO chooses a fee-for-service contract to compensate the physician. On the other hand, when compliant treatment is socially inefficient (i.e., the cost of compliant treatment is high relative to its expected benefits), the court should set damages equal to zero so that the physician will never provide compliant treatment and the patient will never sue. In this case, the MCO will pay the physician nothing. Interestingly, the court can obtain this (approximate) first-best outcome regardless of the observability of the contract terms. In addition, under the assumptions of the model, outcomes under the efficient damage rule do not depend on which parties an injured patient is allowed to sue.

The efficient damage rule is used as a benchmark to assess the efficiency of two commonly used damage rules: the all-or-nothing rule and the loss-of-a-chance rule. The analysis shows that both rules are inefficient because they merely attempt to compensate the patient for her loss in the event the physician does not meet the standard of care. For this reason, the rules provide inefficient incentives for the physician and the MCO to provide compliant treatment when it is socially optimal. The resulting inefficiencies depend on various parameters of the model and are summarized according to these parameters.

Finally, the model provides insight into the effects of allowing the patient to sue certain parties. Treatment choices and litigation decisions do not depend on whether the court allows the patient to sue the physician only, the MCO only or both. The expected costs of lawsuits effectively are built into the contract between the MCO and the physician. This result holds for any damage rule. Rules establishing potential defendants, however, might affect the type of contract the MCO prefers.

## Empirical Investigation

The theoretical results described in the previous section can be extended to make predictions about how mandatory disclosure rules affect ex ante expected damages arising from medical malpractice litigation. Specifically, the theoretical results predict that ex ante expected damages in states forcing contract disclosure will be (weakly) lower than in states not forcing disclosure. An empirical study is designed to test this theoretical predic-

tion. The study uses data on medical malpractice insurance premiums per physician in the 50 U.S. states for the period 1991–2001 as a proxy for ex ante expected damages arising from medical malpractice claims. The data support the prediction that mandatory disclosure laws (weakly) decrease ex ante expected damages.