Chapter 3
The economics of medical malpractice
Laws requiring childhood vaccinations

The economics of medical malpractice

An issue of the *Journal of Legal Studies* was entirely devoted to the economics of medical malpractice liability (Volume 36 (2), June 2007). Some of the key findings of the various studies are as follows.

Based on a review of malpractice insurance claims, one study found that about 30 percent of cases resulted in payments to plaintiffs when there was no evidence of physician negligence, and 30 percent resulted in zero payments in cases where there was evidence of physician negligence. This suggests a substantial error rate in the litigation process for malpractice claims, which dilutes its ability to deter physician negligence.

Another study examined the impact of liability on the procedures used by obstetricians. This addresses the question of whether physicians practice defensive medicine by resorting to costlier procedures as a shield against liability. Consistent with other studies, the author found that a higher number of claims did not appear to affect practice. Specifically, cesarean section rates did not increase with liability claims or premiums.

A related question is whether tort liability adversely affects the supply of physicians. While there is some conflicting evidence, the current study found that state-imposed damage caps increase physician supply in high-risk specialties by 3.9-6.6 percent.

Another paper asked how different tort reform measures affected the size and frequency of malpractice settlement payments. Theory suggests an offsetting effect: on one hand, caps should reduce settlements and hence lower the litigation rate, but on the other, the lower cost of liability will reduce its deterrent effect, thereby increasing the accident rate. The current paper found that caps on pain and suffering reduced both the frequency and amount of settlements, while limits on other reforms had mixed or no effect.

Two other papers discussed possible reforms of the malpractice system. One proposed that if a physician makes a prompt and reasonable offer of damages and attorney's fees and the plaintiff turns it down, the plaintiff will have to prove "gross" rather than "mere" negligence in court. A second proposed that physicians be allowed to turn their suits entirely over (or subrogate them) to their insurer. Both papers argue that these reforms will lower litigation costs.

Laws requiring childhood vaccinations

Children in the United States are required by law (with some allowed exceptions) to be vaccinated against certain diseases. Although this has become somewhat controversial, there is a sound economic reason for such laws. The argument is that immunity from a contagious disease is a public good in the sense that the public benefits exceed the benefits to the individual. In particular, by becoming immune, an individual not only protects herself from disease, she also protects others whom she may have infected. Because of the public good feature of vaccines, however, individuals will underinvest in becoming immune. This justifies laws coercing vaccination in the same way that people are forced to contribute to the provision of public goods.

To see this formally, let p be the probability that an unvaccinated individual will contract a disease, in which case she will incur a cost of C. Also, let n be the number of others whom she will infect, imposing a similar cost on them. Thus, the social cost of not being vaccinated is

$$p(C + nC) = p(1+n)C. \qquad (1)$$

If the individual is vaccinated, assume that she is immune from the disease with certainty, but she must incur the cost of the vaccine, k, plus the cost of any expected side effects, s. The condition for the vaccine to be socially desirable is therefore

$$k + s < p(1+n)C. \qquad (2)$$

Since the individual does not account for the possibility of infecting others, she will choose to get the vaccine voluntarily if

$$k + s < pC, \qquad (3)$$

which clearly results in underutilization. Further, the larger are n and C, the greater will be the underutilization. Thus, for very infectious diseases, or those that impose especially high costs (like death), laws requiring vaccination make good economic sense.