12 Medical malpractice

Steve Boccara*

12.1 Introduction
Medical malpractice, according to the Harvard Medical Practice Study (1990), is defined as an adverse event related to an unintended injury caused by medical management. Although most scholars agree with this definition, it is important to point out that an adverse event can be the result of a medical error (a doctor who failed to observe a standard of care) or the result of a medical mishap (an adverse event that occurred even if treatment was properly given). This distinction between medical error and medical mishap will obviously play an important role in the determination of the liability of the parties in the doctor–patient relationship. Indeed, a medical error leads to the liability of a doctor whereas a medical mishap does not. However, in spite of the fundamental aspect of this distinction, it is commonly difficult to identify clearly if the patient was injured by a medical error or by a medical mishap.

In this context, when a patient is injured by a doctor, from a law and economics perspective an externality emerges. In order to correct this externality, the law and economics literature holds a basic idea according to which legal rules can provide sufficient incentives to the doctor to prevent damages. Thus, the choice among the various legal rules will have strong consequences for the doctors’ incentives and, in the end, for the health quality delivered.

From a law and economics perspective, legal rules aim to internalize the externalities stemming from human action. In medical malpractice, legal rules must give appropriate incentives to doctors in order to internalize the risk of medical practice. Consequently, legal rules can be viewed as a price mechanism which informs both parties (doctor and patient) about the division of risk and motivates them to take due care. Obviously, the assumption that the doctor and his patient are well-informed is a strong hypothesis in the law and economics model, especially from the patient’s perspective.

In this chapter we will focus mainly on the medical malpractice literature from both a theoretical and an empirical point of view. We refer to the

* Université Paul Cézanne Aix Marseille III, Centre d’Analyse Economique.

12.2 The development of medical malpractice liability

From a historical point of view, medical malpractice liability first appeared in the fourteenth century in England and since the late eighteenth century in the United States (Danzon, 1985a). In Italy, medical practitioners were supervised by the Protomedicato (Pomata, 1998) which played the role of both price controller and guarantor of the quality of care delivered, from the late sixteenth century to the eighteenth century. However, where doctors were held liable if they did not cure their patients (considering the contract concluded between the parties), lawyers’ focus was on how to penalize illegal practice and not on how to compensate victims of a licensed practitcioner’s misdeeds (Pomata, 1998). Finally, in France, medical practice was for a long time subjected to mockery by Molière (Le médecin malgré lui, 1666; Le malade imaginaire, 1673), who pointed out the limits of an archaic, pretentious, and motionless medicine. In France, and more generally, before the eighteenth century, medical malpractice liability was a rather unimportant field. It is only towards the end of the eighteenth century that medical malpractice liability began to be taken seriously.

Consideration of medical malpractice liability starts with the overhaul of the law and economics movement initiated by the works of Coase (1960), Calabresi (1970), Posner (1972) and Brown (1973). Indeed, during the twentieth century, western countries were faced with a rise in the number of accidents in several areas: workplace, products, marketplace, environment, automobile, and medical practice. In response to these issues, law and economics scholars developed major tools and pointed out especially the efficiency of tort law to correct externalities or damages through the use of liability rules.
Let us remember the context of medical malpractice liability: from the 1960s in the United States, patients began to file more malpractice cases and, as a consequence, physicians’ liability increased (Olsen, 1996). The American Medical Association (AMA, 1963) reported that from 1956 to 1963, claim frequency was about 1.6 claims per 100 physicians, by 1968 claim frequency was about 2.7 claims, an increase of 76 percent with regard to the previous period. Averaging over the decade 1975–84, the number of claims per physician has increased at roughly 10 percent a year (Danzon, 1987, 1991). This situation has had several consequences: first, damage awards increased in response to the growth of claims frequency. Secondly, insurance carriers sought an increase in premiums of up to 500 percent in some states. Surgeons in southern California, for example, saw their rates jump from $12,000 to $36,000 a year (Danzon, 1985a). Finally, as a third consequence, which is a continuation of the second one, physicians had difficulties finding an insurer insofar as medical practice is perceived to be a risky activity.

In this context, the first law and economics contribution to the medical malpractice debate was provided by Epstein (1976). According to him, it would be more efficient for both the physician and patient to contract over liability directly together rather than rely on tort law. Epstein supposes that private agreements lead to an optimal solution because the different parties are able to contract in their own interests. From this perspective, contract law would be superior to tort law. Next, Feldman (1979) used an econometric model of medical malpractice incidents by examining an expected utility model of a plaintiff’s decision making. He showed, among other things, that high income, exposure to surgical operations and a favorable legal system encourage incidents. In the same way, according to Mueller (1976), claims per capita depend positively on average awards, exposure to injury, propensity to litigate and legal doctrines favoring the plaintiff. Lastly, Danzon (1985a) draws up a particularly complete inventory of medical malpractice issues.

In conclusion, we can say that medical malpractice arises, first of all, with increasing expectations by citizens regarding medical progress throughout the twentieth century, and evidently, that seems to be a reaction towards a real requirement vis-à-vis medicine in general and their doctor in particular, shown by a refusal to accept medical errors.

12.3 The economic analysis of medical malpractice liability

12.3.1 The nature of the doctor–patient relationship

There are various legal features of the doctor–patient relationship. If they vary according to countries, we can say that in most of them the basic commitment of the parties is characterized by an obligation of means and not
by an obligation of result. In France, this relationship is of a contractual nature, led by the arrêt Mercier of 1936. According this judgment, the terms of this contract impose a duty of care upon the doctor, and impose an obligation for payment on the patient. But although this relationship is contractual, the liability is not qualified as such; indeed, and paradoxically, the physician bears a delictual liability and not a contractual liability with respect to the negligence criteria. In Germany, there is a ‘service contract’ between the parties, in Italy we speak about a ‘contract of intellectual performance’, and in Switzerland there is a ‘contract of mandate’. Finally, in England, if the patient is cured by the National Health Service (NHS) we speak about a delictual liability, and in contrast, if he is cured by a private health care provider, we refer to a contractual liability.

Furthermore, what can we say about the physician–patient relationship? In other words, must this relationship be seen as a relationship between a health care provider and his customer, or as a relationship between an injurer and a victim? Obviously, and most of the time in the doctor–patient relationship, if an accident occurs, it occurs after a first meeting between the parties. That means that both the doctor and patient have together established a cure agreement, in contrast to the case of an automobile accident, for example, where the injurer and the victim are strangers to each other before the accident. Nevertheless, the fact that the parties have already seen each other before the accident does not have consequences for the determination of the physician’s liability. Indeed, the liability of the doctor is not a function of an ex ante or an ex post perspective, but rather of the two issues in medical malpractice: the question of the standard of care and the question of causation.

Moreover, from an economic point of view, the doctor–patient relationship was for a long time explained by the agency theory, in which the patient and doctor played respectively the role of the principal and the role of the agent. According to this theory, the doctor behaves in order to cure the patient without giving him any information on his work. Today, changes in the patient mentality lead us to point out that the doctor–patient relationship overcomes basic agency theory and moves between an archaic paternalism and a patient’s decision maker/consumer of health services.

12.3.2 Incentive and compensation

Where economists believe in the deterrent function of tort law, lawyers, on the other hand, seem to accord more importance to the compensatory function of tort law (Faure and Ogus, 2002; Laroque, 2001). Economists and lawyers thus have a different perception about the role the liability system plays. On the one hand, economists look at the tort problem from an ex ante perspective, whereas, on the other hand, lawyers look at the
tort problem from an *ex post* perspective. Looking at the tort problem from an *ex ante* perspective means establishing incentives for doctors in order to prevent damages, while looking at the tort problem in an *ex post* perspective means determining to what extent a victim can be indemnified. The dichotomy *ex ante–ex post* leads to the two main functions of civil liability: the deterrent function and the compensatory function. But which of the two functions does civil liability have to serve? The first? The second, or both at the same time?

When a patient is injured by a physician, he bears a welfare loss. The situation of the patient is characterized by a welfare imbalance between the new situation (after the accident) and the past situation (before the accident). The compensation theory thus mainly aims to restore the patient’s welfare as it was before the medical accident, that is, to correct the patient’s welfare imbalance. In this view, the compensation function can be understood through the corrective justice approach of Aristotle insofar as a wrong event has to be made right when the patient has been wrongfully hurt by the physician and, as a consequence, it is assumed that the patient must be compensated according to legal arguments.

Nevertheless, if the only goal of tort law is to compensate victims, a victim’s first-party insurance is to be preferred over tort liability. Insurance is much cheaper and quicker than tort law (Shavell, 1987). Moreover, as Danzon (1991) reported, if the sole function of liability is to provide compensation, it is extremely inefficient and, to quote Veljanovski (2006, p. 45), ‘the law is seen as a method of reallocating losses to provide incentives to people to reduce harm and use resources more efficiently’.

From a law and economics perspective, the major goal of liability rules is to provide incentives for the physician to adopt optimal care (Danzon, 1985a) through preventive measures (Faure, 2004). Incentives are important in the medical malpractice debate insofar as they influence the quality of care delivered by the health care providers (Hyman and Silver, 2005, 2006). Physicians have to adopt in this case a standard of care which guarantees this quality of care.

Hence, for economists, both incentives and compensation are established to play a preventive role against the negligent physician. In this way, compensation is seen as an instrument to provide incentives to the doctor, in contrast to lawyers, who see compensation solely as a way to restore the patient’s wealth. In medical malpractice, an optimal liability rule would of course at the same moment succeed in indemnifying the victim and motivating the injurer, but the problem is that a compensation system may negatively affect the incentives for prevention (Trebilcock, 1987) as for example in the case of a no-fault compensation scheme (discussed below in Section 12.6.2).
12.3.3 Medical malpractice and the law and economics approach
The medical malpractice debate aims to emphasize to what extent the quality of care can be improved. The response is widely accepted: by minimizing medical errors. To this end, the law and economics literature adopts precious tools like legal rules as an instrument for promoting efficiency (Posner, 1972; Shavell, 1987). According to the literature, six major liability rules exist:

- No liability
- Strict liability
- Strict liability with a defense of contributory negligence
- Simple negligence
- Negligence with a defense of contributory negligence
- Comparative negligence

Thus, legal rules must promote efficiency, that is, maximizing social welfare, by minimizing the social cost of accidents (Calabresi, 1970) and in the context of this chapter, by minimizing the social cost of medical accidents (the cost of accidents consists in precaution costs and damage costs). Generally, economists use a cost/benefit analysis to determine the level of care which will lead to this normative objective. The aim is to find a level of care at which the marginal costs of care-taking equal the marginal benefit of accident reduction (Shavell, 1987). Through tort liability, the physician must internalize the benefits of his precaution (the reduction in expected liability) insofar as tort rules are designed to incite the injurer (the doctor) to internalize the external costs of his activity, and to adopt an optimal level of precaution as the standard of care.

Let us remember that, according to Shavell’s classification (1987), four main situations exist in tort law: unilateral accidents with or without consideration of the level of activity and bilateral accidents with or without consideration of the level of activity. In the medical malpractice literature, only unilateral accidents are considered (with or without consideration of the level of activity) because it is assumed that only the doctor can influence the risk; the victim is supposed to be ‘passive’. As a consequence, both the simple negligence and strict liability rules are retained in economic analysis. Furthermore, the law and economics literature assumes that both the doctor and the patient are risk neutral.

In addition, a liability rule appears to remedy a lack of or imperfect information. Indeed, such imperfect information could create distortions in physicians’ incentives and thus could call into question the quality of care. As a result, the use of a legal rule is legitimate insofar as it corrects such distortions (Danzon, 1985a). Tort law is viewed in the literature as
a system meant to deter behavior that could lead to accidents, because it provides sufficient information to the physician to avoid medical errors.

As a matter of fact, tort rules are also an answer to the Coase theorem. Let us remember that according to the Coase theorem, in the absence of transactions costs, the legal position does not affect the efficiency of resources allocation. This means that when parties (doctor and patient) are fully informed, the liability rule will have no effect on the preventive measures to be taken (Faure, 2004). In other words, the content of liability rules does not affect the level of prevention. In the medical malpractice case, it is unrealistic to suppose that both the doctor and patient are fully informed. On the one hand, medicine is not a perfect science and on the other hand, the patient is not well-informed about the various risks and cannot alone evaluate these risks. Thus, liability rules appear to be necessary in order to provide some information to the doctor and to the patient but, in any case, two main problems emerge: first, liability rules, made by the judiciary, can award too much protection to the patient (victim) or to the doctor (injurer), and secondly, the parties cannot freely negotiate on price to pass on the tort rules because the prices of health care services are regulated by the social security department in many countries.

12.3.4 Tort law, regulation and insurance

Tort law operating via the use of liability rules is not the only way to provide incentives. We might also add regulation and insurance.

Let us examine first to what extent ex ante regulation (public or private) can promote incentives and lead to appropriate care in health care. According to Shavell (1984a), the choice between regulation and tort law can be influenced by four main factors: information asymmetry, insolvency risk, threat of a liability suit and administrative costs. The author underlines the fact that in some situations regulation is preferred to tort law. This is the case for insolvency risk and the threat of a liability suit. In the medical malpractice area, a health care provider can cause losses with a magnitude that can be higher than their own assets (insolvency risk) and the causal link between the damage and the fault is very hard to prove (threat of a liability suit). On the other hand, tort law would be preferred to regulation for reasons of information asymmetry and administrative costs. Indeed, it is supposed that doctors have better information about the accident risk than the regulatory body – information about costs and benefits of their medical activity and the optimal way to prevent accidents (information asymmetry) and finally, the liability system seems cheaper than regulation because the administrative costs of the liability system are incurred only if a medical malpractice happens while the costs of regulation are continuous, independently of an accident’s occurrence.
We can also speak of self-regulation. Self-regulation is carried out by physicians and based on the idea that they hold better information than the governmental regulations in order to provide incentives and due care. Doctors establish their own optimal standard of care through disciplinary rules, for example. Unfortunately, here there is a major problem of moral hazard. Indeed, self-regulation can lead to inefficiency because physicians can be attracted to protect themselves by determining a standard of care that facilitates their profession, for example, by keeping a low standard of care.

Next, an insurance mechanism can promote incentives for doctors to take care. According to insurance principles, the injurer (physician) will purchase an insurance liability policy in order to obtain a financial security if an accident occurs because he is assumed to be risk averse. Thereby, the insurer charges a premium which depends on the probability that an accident occurs multiplied by its magnitude. We assume that the insurer has perfect information for the premium calculation. Therefore, the premium will play an incitative role for the doctor. Indeed, the premium has a positive effect on the doctor as far as it reflects a signal about due care. The premium leads the doctor to adopt an optimal care level in order to prevent a medical accident.

Nevertheless, two problems emerge in the insurance area: adverse selection and moral hazard. Adverse selection concerns the average premium calculated by the insurer in the risk pool. This premium must correspond with the risk of most of the insured in the pool and if this is not the case, two situations arise: the premium is too low and high risks (bad doctors) enter the pool or the premium is too high and low risks (good doctors) leave the pool. These factors explain why a phenomenon of adverse selection could emerge. Next, moral hazard deals with the monitoring of the insured. When the doctor subscribes to a liability insurance policy, there is a major risk that he cannot take sufficient care to avoid a medical accident. Hence, in order to provide incentives to the injurer, insurance has developed insurance excess, coinsurance and bonus-malus principles. Insurance excess aims at charging to the injurer the first portion of the cost of the damage, but in the medical malpractice area this idea is not applied. Coinsurance consists of a risk-sharing mechanism between both doctor and patient. The doctor takes on the cost of the damage up to the point of a cap on damage fixed in the insurance contract. Beyond this cap, it is the victim who takes on the cost. There is coinsurance only if the cost of damage exceeds the cap on damage. Lastly, the bonus-malus mechanism aims to reward or punish a doctor according to his behavior. The bonus-malus principle directly acts upon the premium, so if the doctor adopts due care the premium will decrease (bonus) and if he is negligent the premium will increase (malus). This mechanism provides incentives to the doctor to take care.
Nevertheless, it is important to point out that insurance mechanisms, especially in the medical malpractice area, are relevant only when risk differentiation, such as, for example, an experience rating, is applied. Experience rating is a method for adjusting premium rates to reflect a doctor’s (or a hospital’s) claim history, providing incentives for emphasizing safety and injury prevention in the medical malpractice area. Thus, premiums more accurately reflect a doctor’s accident experience. Hence, doctors may receive discounts off their premium for good claims records or may be surcharged for their poor claims records. According to Sloan (1990), although there is statistical evidence that experience rating reduces claims frequency and injury rates, such a mechanism faces ‘considerable resistance’ in the medical malpractice sector.

12.4 The main topics of medical malpractice

12.4.1 Negligence versus strict liability
In the law and economics literature and particularly in tort law, the negligence versus strict liability debate is as old as it is fascinating. The contributions of Brown (1973), Epstein (1973), Posner (1977) and Polinsky (1980) introduced decades of theoretical confrontations. The starting point, applied to medical malpractice, is that under a negligence rule, the physician is held liable if he spends less than the optimal – or due – care level required by the legal system, whereas under a strict liability regime, the physician must pay for losses whenever he is involved in a medical accident.

Economic analysis of tort law has shown that, in unilateral accidents, both negligence and strict liability rules are efficient (Shavell, 1987). But if we consider the activity level of the injurer, the rule of strict liability is more efficient than the negligence rule (Shavell, 1980). Indeed, according to Shavell (1980), the injurer will choose his level of activity in accordance with the benefits so derived, hence, an increase in his level of activity will raise expected accident losses. Thus, the injurer will choose too high a level of activity and the rule of negligence will not be efficient. By contrast, a strict liability rule is efficient because the injurer must pay for losses regardless of fault. As a result, he will be induced to minimize the social costs of an accident by considering the effect of his level of activity on accident losses; his decision will be efficient.

Thus, Shavell’s normative conclusions do not lead to unanimity (Sher, 2006). For Hylton (2008), the choice between both rules depends on the degree to which there is a reciprocal exchange of risk among the parties and, according to him, strict liability is more efficient than negligence when the risk between the parties is asymmetric. Arlen and McLeod (2003) and
Arlen (2005) are in favor of a negligence rule, whereas Epstein (1973, 1976) insists on the properties of the strict liability rule as a causation theory.

The crucial question is why, to provide incentives, it is better to choose the negligence rule than the strict liability rule or vice versa. Let us first consider the role of information. The negligence rule requires from the judge accurate information about the due care that doctors have to adopt. The judge sets the optimal care standard. Nevertheless, the judiciary can make mistakes by elaborating this, leading doctors to underdeterrence, so this is an argument in favor of strict liability, where the judge will only have to decide on the amount of damages. But, if it is easier for the judge to set the standard of care rather than the amount of damages, the rule of negligence will be preferred to strict liability.

Secondly, we take into account the role of insurance. Without liability insurance, it is commonly accepted that strict liability plays the role of an automatic insurance mechanism for the victim (Epstein, 1973). The victim does not need first-party insurance, and damages are directly paid by the doctor or by the hospital regardless of a medical fault. Automatic insurance thus leads the doctor to take optimal care by minimizing the social cost of accidents. Strict liability is efficient. On the other hand, under the negligence rule, compensation to the victim is guaranteed only if the doctor is held liable. In that case, the physician indemnifies the victim. Conversely, if the doctor is not held liable, the victim does not receive compensation and as a result, she has to suffer the damages alone. But if we assume that a negligence rule works well, it is obvious that the victim will never receive compensation. In sum, without insurance, both the negligence rule and strict liability provide incentives to the doctor, but only strict liability guarantees compensation to the victim.

Let us now consider an insurance mechanism with effective risk differentiation (as discussed in Section 12.3.3). Under a strict liability rule, the doctor may take out a liability insurance in order to protect himself against insolvency risk (liability insurance may be compulsory, as in France for instance). Insurance liability is thus called ‘third-party insurance’ because the doctor’s insurer will have to compensate a third party, the victim, if a medical accident occurs. Therefore, strict liability still provides incentives to the doctor and leads to compensation for the victim. We can also add that the victim may take out first-party insurance, but only if a ‘Designated Compensable Event’ (DCE) exists. Indeed, let us imagine that the doctor is strictly liable for such DCE. If a medical accident occurs and figures in this list of DCE, the victim will be compensated and does not need first-party insurance. If this is not the case, the victim will not be compensated so the victim will have to take out first-party insurance (we assume that from an efficiency perspective, first-party and third-party insurance are
Medical malpractice 351

equivalent). Under a negligence rule, finally, the doctor purchases liability insurance or third-party insurance and the victim subscribes to first-party insurance because compensation is not guaranteed. Thus, the negligence rule provides incentives to the doctor to adopt optimal care (if the judge holds accurate information to set an optimal standard of care), but does not provide compensation to the victim.

12.4.2 Standard of care
The way in which the standard of care is determined represents another major topic in medical malpractice. It is usually admitted that the standard of care is described in terms of medical custom, locality rule and informed consent (Danzon, 1985a). In other words, the standard of care appears to be an accepted practice in a given specialty (Miller, 2003; Peeples, Harris and Metzloff, 2003). It is thus referred to as a behavioral norm which induces physicians to provide due care.

The standard of care is the heart of the negligence theory. Let us remember that according to this theory, the physician is negligent if the loss caused by the medical accident, multiplied by the probability of the medical accident’s occurring, exceeds the cost of preventing this medical accident. This is Judge Learned Hand’s formula.

The standard, also called *bonus pater familias*, is viewed as a criterion which retains the fault principle in order to bound the liability of the parties, and particularly the liability of the physician. As a result, in the law and economics model, the standard of care, generally denoted \( y^* \), has important consequences.

Indeed, in negligence theory, the standard of care only has an effect on the incentive function. In the French Civil Code, for example, article 1382 defines the liability between the parties in an accident setting from a negligence perspective. If the doctor is held liable, he must compensate the patient and on the other hand, if he is not held liable, the victim will receive no compensation. The standard of care in the fault system and from an economic perspective aims first at influencing the behavior of the doctor and not at providing compensation. It is finally important to know how the standard of care must be determined: if too low, it will favour the physician; if too high, it will favour the victim.

12.4.3 Is the tort system relevant?
Considering that medical malpractice liability can be dealt with via tort law leads us to reflect on a major question: does the malpractice system deter medical negligence and provide appropriate compensation to injured patients? Let us first examine the data concerning adverse events. The first contribution was provided by the California Medical Association and
the California Hospital Association study (1977), which examined 21,000 records of patients who stayed in 23 California hospitals in 1974 (see also White, 1994). This study concluded that 4.65 percent of these patients were injured as a result of medical care and 0.79 percent from negligence. Similar results were found by the Harvard Medical Practice Study – HMPS (1990), which indicates that approximately 4 percent of all hospitalizations result in adverse events, of which 25 percent involve substandard care. Dewees, Duff and Trebilcock (1996) underlined a 1981 report in the New England Journal of Medicine, which identified a 36 percent rate of iatrogenic injury among 815 consecutive patients of a general medical service in a university hospital; 9 percent of them reported suffering ‘major complications’. Overall, it is admitted that nearly 1 percent of all hospital patients in the United States suffer harm because of substandard care, and according to White (1994), 25 percent (84,000) of these die and 6 percent (20,000) suffer permanent disability every year; a result supported by the HMPS study. Indeed, the researchers found that in New York state, nearly 99,000 patients suffered disabling injuries, of which nearly 13,000 resulted in death. Alongside the findings of Dewees, Duff, and Trebilcock (1996), extrapolating these results as a whole suggests that 1.5 million patients suffer some kind of disabling injury. Of these, 180,000 die as a result of medical treatment and over a half of these deaths (90,000) are due to negligence. From this, we can add that in the United States, in comparison with both motor vehicle accidents (40,000) and workplace accidents (6,000), mortality from medical injury (180,000) is far more important. Hyman and Silver (2005) reported that in the United Kingdom, the Chief Medical Office of the National Health Service estimated, for the year 2000, that 850,000 ‘serious adverse health care events’ occur in NHS hospitals each year and that half of these are thought to be preventable. The situation in France appears to be similar, with 600,000 adverse events each year, of which 200,000 are thought to be preventable according to the Etude nationale sur les évènements indésirables graves liés au processus de soins (2006). Finally, it is also worth pointing out that between 80 and 90 percent of all malpractice claims in the United States originate from a hospital setting.

Nevertheless, although adverse events are numerous, it seems that few patients sue. Indeed, the HMPS stresses that only one malpractice claim was filed for every eight negligent injuries – that is, approximately 2 percent of patients who were negligently injured filed a claim (Hyman and Silver, 2006), while Danzon estimated that one malpractice was filed for every ten potentially valid claims (Danzon, 1985a; Dewees, Trebilcock, and Coyte, 1991) – let us clarify that the growth of claims will be discussed in Section 12.5. As a result, various studies show that more than 90 percent of all malpractice claims are settled out of court (Avraham, 2006b; Dewees, Duff,
and Trebilcock, 1996) because the tort system is seen as being random, providing ‘jackpot justice’ and ‘lawsuit lottery’. It is also costly and slow (we do not discuss either malpractice settlements or the cost of the malpractice system in this chapter). All these features, and particularly the weakness of the suits, remind us that the malpractice system fails to deter negligent injuries.

However, several studies were seen to prove the effectiveness of the tort system in the malpractice area when patients sue. The aim of these studies was to underline that a strong correlation exists between the likelihood of receiving payment and the merits of malpractice claims. As major contributions, we can refer to the works of Ogburn et al. (1988), Cheney et al. (1989), Rosenblatt and Hurst (1989), Farber and White (1990, 1994), the Harvard Medical Practice Study (1990), Sloan and Hsieh (1991), Taragin et al. (1992), Sloan et al. (1993), Peeples, Harris and Metzloff (2003) and Studdert et al. (2006). We can also refer to Baker (2005a) and to Hyman and Silver (2006).

In sum, Ogburn et al. found that the plaintiff receives payment when the physician is judged to be negligent, in 91 percent of the cases, Cheney et al., 82 percent, Rosenblatt and Hurst, 95 percent, Farber and White, 89 percent, Taragin et al., 91 percent, Peeples, Harris and Metzloff, 86 percent, and Studdert et al., 77 percent. The Harvard Medical Practice Study found a different result: according to the researchers, the plaintiff receives payment when the physician is negligent in 56 percent of the cases. All these results are so-called ‘true positives’ (that is, when patients entitled to payments receive them). We can also add that Cheney et al. found that the median damage payment for a disabling injury was $469,000 when care was negligent. Hence, these results lead the researchers to conclude that the malpractice system works well and that the negligence rule leads to patients being compensated. But the conclusions are mixed.

Indeed, it is also important to focus on the ‘false positives’ events (that is, when patients not entitled to payments receive them). Ogburn et al. found that the victim receives payment without negligence on the part of the physician in 55 percent of cases, Cheney et al., 42 percent, Rosenblatt and Hurst, 0 percent, Farber and White, 25 percent, Taragin et al., 21 percent, Peeples, Harris and Metzloff, 11 percent, Studdert et al., 34 percent, and the Harvard Medical Practice Study, 43 percent. If the malpractice system worked really well, such results would never occur.

In addition, the Ogburn et al. study found for example (this remark is also valid for the other studies) that victims do not receive compensation in spite of the negligence of the physician. Indeed, they do not receive payment in 9 percent of cases, a so-called ‘false negative’ result. As a result, Dewees, Duff and Trebilcock (1996, p. 100) pointed out the ‘considerable overdeterrence’
of the malpractice system. According to them, ‘42 percent of nonnegligently injured plaintiffs recovered some damages while 10 percent of negligently injured patients who initiated malpractice claims recovered nothing’. Last, but not least, only 2 percent of injured patients receive any compensation through the tort system, and, according to the Insurance Information Institute study, provider-defendants won in trials approximately 81 percent of the time (Hyman and Silver, 1996).

To conclude, although some authors, such as Farber and White (1994), believe that the malpractice system creates a financial incentive for health care providers to provide nonnegligent medical care, others, such as Sage (2004b), emphasize that the malpractice system fails both to deter negligent medical injuries and to provide appropriate compensation to patients. The major problems in the malpractice liability system are that few patients sue, ‘false positive’ and ‘false negative’ events occur, which point to juries’ mistakes, and the system is expensive (program administration accounts for 60 percent of total malpractice costs).

12.4.4 Defensive medicine

Most doctors try to protect themselves from liability by practicing defensive medicine. A major issue in medical malpractice consists in defining this concept. Hence, according to the Congressional Office of Technology Assessment (OTA), quoted by Sclar and Housman (2003):

Defensive medicine occurs when doctors order tests, procedures or visits, or avoid high-risk patients or procedures, primarily (but not necessarily solely) to reduce their exposure to malpractice liability. (Sclar and Housman, 2003, p. 76)

Moreover, Hershey (1972), reported by Danzon (1985a), says:

Defensive medicine has been defined as deviation from what the physician believes is sound practice, and is generally so regarded, induced by a threat of liability . . . Not all practices motivated for liability considerations result in poor-quality care. It is, therefore, difficult to draw the line between where good medicine stops and defensive medicine practice begins. (Danzon, 1985a, p. 146)

As a result, defensive medicine can be separated into two entities: good and bad. Good (or positive) defensive medicine refers to acts like spending more time with patients, carrying out additional tests or procedures, whereas bad (or negative) defensive medicine refers to omissions, such as refusing to treat patients who pose a high risk of suit, or using x-rays excessively and unnecessary hospitalization (Danzon, 1985a).

Although it is commonly admitted that the costs of defensive medicine are difficult to quantify, Baicker and Chandra (2004) point out that 5
percent of the $1.5 trillion that the United States spends on health care may be attributed to defensive medicine.

Consequently, the defensive medicine debate aims to underline to what extent the fear of lawsuits can influence the practice of physicians. One of the first studies undertaken by the American Medical Association (AMA, 1983) relates to a survey of 1,240 physicians and is summarized by Danzon (1985a). In response to the threat of liability, 41 percent of physicians prescribe additional diagnostic tests, 27 percent provide additional treatment procedures, 36 percent spend more time with patients, 45 percent refer more cases to other physicians, 35 percent do not accept certain types of cases, 57 percent maintain more detailed patient records and 2.6 percent drop their liability insurance (see also Zuckerman, 1984). In the same way, the OTA sponsored a series of clinical scenario surveys in the early 1990s (Baker, 2005a) concerning cardiologists, surgeons, and obstetricians and gynecologists. Scenarios illustrate clinical situations in which physicians would expect the fear of a malpractice suit to have a major influence on their or their colleagues’ clinical decisions. Scenarios included a list of possible responses by physicians in order to avoid a malpractice suit: to do nothing, to order procedures or to order standard tests. The results contradict the forecasts. Indeed, the doctors chose ‘to do nothing’ rather than adopt the possible responses listed in the scenario 95 percent of the time and procedures or tests (5 percent) are decided upon for medical reasons and not in response to medical malpractice. Nevertheless, as Baker stresses, there are some situations where defensive medicine is more important: in cases of risk of heart attack, risk of brain injury and risk of breast cancer. As a consequence, doctors double-check malpractice concerns and, in respective of each risk, cardiologists chose procedures or tests 14 percent of the time, neurosurgeons, 29 percent, and obstetrician-gynecologists, 10 percent. Researchers from the Harvard Medical Practice Study studied cesarian delivery rates in New York (Baker, 2005a). They found some differences between hospitals. Indeed, a woman who entered a hospital with a high medical malpractice risk was about 30 percent more likely to have a cesarian section than a woman who entered hospital with a low malpractice claim risk. Thus, the claim history of the hospital made a ‘significant difference’. The study assumes that factors like risk factors, region or doctor are equal between hospitals. Moreover, Dewees, Duff and Trebilcock (1996) pointed out that two econometric studies (respectively by Greenwald and Mueller in 1978 and by Reynolds et al. in 1987) found significant correlations between increases in malpractice premium levels and the frequency of specific diagnostic procedures. According to the authors, these studies both ‘showed that a 10 percent increase in malpractice premiums was associated with a 3.6 percent increase in a weighted average of lab-tests, x-ray, and consultations’, and pointed to
the existence of ‘an elasticity of 0.073 relating malpractice premiums and the volume of electrocardiogram utilization’.

In addition, Kessler and McClellan (1996) stress a direct link between tort reforms and a reduction of health care expenditures for heart diseases. According to them, direct tort reforms reduce the growth of medical expenditures by approximately 5 to 9 percent. Tort reforms then reduce provider liability pressure. Moreover, Kessler and McClellan (1997) point out that mechanisms such as frequency and severity of claims may play an important role in fostering defensive medical practices. Hence, Baicker and Chandra (2005) note that a 10 percent increase in malpractice cases increases total medical expenditures by 1.3 percent but increases spending on imaging procedures by 2.9 percent. Continuing these observations, Klick and Stratmann (2003, 2007) demonstrate that tort reforms such as caps on non-economic damages or caps on damage awards have important consequences on limiting liability.

Nevertheless, the finding of a systematic improvement of health care in response to a threat of medical malpractice is not shared by Sloan et al. (1995). In this study, the authors examine the variations in claim frequency and payment per exposure year for various indicators of birth outcomes, fetal deaths, low Apgar score, death within five days of birth, infant death, and death or permanent impairment at five years of age, in response to the threat of medical malpractice. The authors conclude that no systematic improvement in birth outcomes in response to an increased threat of medical malpractice litigation was obtained, except for fetal deaths.

12.5 The medical malpractice crisis

12.5.1 The context
The medical malpractice crisis appears in the middle of the 1970s in the United States (most developed countries will also have experienced an equivalent situation with some nuances) and it is characterized by an increase in the number of claims per physician, damage awards and insurance premiums. This crisis is repeated approximately every ten years since the 1970s. Indeed, the 1970s were described as a crisis of availability, the 1980s as a crisis of affordability, the 1990s as a ‘perfect storm’. Since the year 2000, the malpractice crisis has reappeared again.

As a result, claims frequency and severity increased sharply. In the United States, the number of claims filed per 100 physicians increased from 4.5 in 1970 to 17.8 in 1985. Prior to 1978, the annual rate of claims filed was 3.3 per 100 physicians, then 8.0 per 100 physicians between 1978 and 1983. The annual mean cases per state has increased from about 258 cases a year in 1991 to about 264 in 1998, a 2.3 percent growth. Moreover,
Dewees, Duff and Trebilcock (1996) found that between 1970 and 1985 the coverage value of paid malpractice claims in the United States tripled from $37,000 to $110,000. According to Avraham (2006b), the annual mean settlement payment between 1991 and 1998 increased from about $210,000 to about $280,000, an overall increase of 33 percent and a 4 percent annual increase. In addition, the annual mean total settlement payments per state have increased from about $46 million in 1991 to $64 million in 1998, an increase of about 39 percent. Thorpe (2004) reported that, according to the Physicians Insurers Association of America (PIAA), nearly 8 percent of all awards now exceed $1 million. Data from Illinois reveal that the average indemnity of paid claims for adults with grave permanent injuries has risen from $960,000 in 1990–1994 to nearly $1.6 million in 1995–99. Thorpe (2004), again, stresses that median malpractice awards per paid claim have doubled in real terms between 1990 and 2001. In Canada, claims filed per 100 physicians increased from 0.55 in 1970 to 1.7 in 1990. During this period, the average compound annual growth rate in claims filed per 100 physicians was 6.1 percent. The average value of paid malpractice claims increased from $25,700 in 1971 to $145,700 in 1990. According to Dewees, Trebilcock and Coyte (1991), the number of claims paid per 100 physicians grew at an average compound annual growth rate of 4.9 percent between 1971 and 1990. These results represent a 150 percent increase over the period, and according to the researchers, it is five times greater in the United States than in Canada. Dewees, Trebilcock and Coyte also found that the mean paid claim for all closed claims cases, between 1976 and 1987 was $102,450. They underline a ‘considerable variation’ across six specialties; the mean period claim involving anesthesists is over 60 percent greater than that for all Canadian Medical Protective Association (CMPA) members, while obstetricians and gynecologists record a mean severity that is 34 percent less than for all members. Finally, in the United Kingdom, the number of claims filed per 100 physicians rose by 17.2 percent between 1978 and 1988.

Next, insurance premiums also grew, but at spectacular rates. In the United States, Dewees, Duff and Trebilcock (1996) found that the average annual real cost of malpractice coverage for physicians tripled from $6,350 in 1974 to $17,000 in 1988. Viscusi et al. (1993) speak of medical malpractice premiums increasing by 56 percent from 1984 to 1985, and an additional 26 percent from 1985 to 1986. According to them, this two-year period accounted for 62 percent of the total growth in medical malpractice premiums from 1981 to 1990. For Danzon et al. (2004), the median premium increase for internists, general surgeons, and obstetrician-gynecologists increased from 0–2 percent in 1996–97 to 17–18 percent in 2003, ‘climbing’ to 60 percent in some states in 2001–02. In
1994, the median annual premium rates were $6,075 for internal medicine, $22,269 for general surgery and $39,122 obstetrician-gynecologists. The situation radically changed in 2003, where the median premium rates were $9,000 for internal medicine, $33,297 for general surgery and $53,630 for obstetrician-gynecologists. That represents respectively a 52, 47 and 35 percent growth. Thorpe (2004) also illustrates this evolution, underlining that depending on the specialty and the state, the median increase in malpractice premiums ranged from 15 to 30 percent. Pennsylvania recorded for instance a premium increase from 26 to 73 percent in 2003. Moreover, Thorpe (2004) reported that according to the National Association of Insurance Commissioners (NAIC), total medical malpractice premiums earned increased by 23 percent in 2002. More exactly, for internists, medical malpractice premiums earned increased by 50 percent in Florida, 60 percent in Ohio, while California records small premium increases. In Canada, the results showed the same trend. The average real cost of malpractice coverage for physicians increased from $400 in 1971 to $2100 in 1990. Dewees, Trebilcock and Coyte (1991) reveal that the annual rate of growth of insurance fees per physician between 1976 and 1990 was 12.6 percent, with the bulk of the increase between 1982 and 1988 (40 percent in 1987).

Therefore, the medical malpractice crisis can be summarized in the following way: the increasing number of claims entail increasing damage awards which entail increased malpractice premiums. Thereby, according to Dewees, Trebilcock and Coyte (1991), a substantial portion of the 1971–90 crisis in claims (one third) in Canada is attributable to a change in legal doctrine; the researchers focused on the importance of the compensation rules in order to explain the claims increases. In the same way, Zuckerman (1984) tries to understand the regional variation in the United States concerning claims and according to her, ‘the low rate of claims in the southern states is partially due to a preponderance of state legal systems which makes plaintiff recovery more difficult’. Danzon has shown that pro-plaintiff laws contributed significantly to the growth in both the frequency and severity of malpractice claims (Dewees, Trebilcock and Coyte, 1991). Finally, according to Dewees, Trebilcock and Coyte (1991), informed consent, which was an important legal change in Canada in 1980, has significantly increased the claims frequency. Liability law seems therefore to play an important role in both the frequency and the severity of malpractice claims.

Hence, it is crucial to identify whether the increases in malpractice premiums are also related to the contents of the liability law. Sloan (1985), for instance, found no effect or perverse effects of legislative changes in premiums. As a consequence, if malpractice premiums have grown sharply and in
Medical malpractice

a spectacular way since the middle of the 1970s, maybe this situation results from the framework and the features of the malpractice insurance system.

12.5.2 Malpractice insurance and the underwriting cycle

The medical malpractice crisis presented above underlines the skyrocketing of malpractice premiums through various periods. As a fatal consequence, several insurance companies took the decision to leave the market. Indeed, one of the largest malpractice insurers in the United States, the St-Paul Travelers Companies, announced its decision to withdraw from the medical malpractice market in December 2001, followed by two other companies, Frontier Insurance Group (FIG) and PHICO, which were ordered into liquidation in November 2001, and in February 2002 respectively. Thereby, the withdrawal of several insurance companies entailed a rise in market concentration which has contributed to higher medical malpractice premiums. Hence, physicians had difficulty obtaining insurance coverage. Therefore, they chose to retire from certain high-litigation specialties like obstetrics or left high-litigation geographic areas. Indeed, according to Miller (2003), a direct link can be found between malpractice insurance costs and the number of practicing physicians. In other words, at the state level, higher premiums for instance reduce the number of physicians and can, as a consequence, have a negative impact on the quality of care.

Nevertheless, as Baker showed (2005b), the insurance premium increases are not significantly related to litigation. To understand this, let us consider three periods: 1970–75, 1981–86 and 1996–2001. According to Baker, both litigation and malpractice claim payments did not change in a significant way during these periods, whereas insurance premiums grew sharply in the years 1975, 1986 and 2001. The author explains these situations by the fact that ‘insurers that had offered low prices based on rosy scenarios in 1970, 1981, and 1996 switched to high prices based on pessimistic scenarios in 1975, 1986, and 2001’. These situations underline the major roles of insurance market conditions and the investment climate that can strongly influence premium increases, as for instance the post-oil-shock recession (1973) or terrorist attacks (2001). See also Sage (2004b).

Hence, the successive malpractice insurance crises are presented as the result of alternating periods of ‘soft market’ and ‘hard market’, commonly called the underwriting cycles. Soft markets are characterized by intense competition and low premiums, while hard markets are characterized by insurer withdrawals and high premiums (Danzon et al., 2004). The succession of soft market and hard market is thus typical of insurance cycles. Moreover, investment returns are also important in the underwriting cycle. Indeed, higher investment returns, for instance, offset the need for
an insurer to raise premiums. As Thorpe (2004) reported, a 1-percentage-point increase in expected returns is associated with a reduction in premiums of 2 to 4 percentage points.

To understand the functioning of the malpractice insurance underwriting cycle, Baker (2005b, p. 422) provides several suggestions: first of all, according to him, the insurance underwriting cycle is influenced as a whole by:

1. Interest rate cycles
2. The length of the liability insurance tail
3. Others factors affecting loss expense uncertainty
4. Moral hazard
5. Capacity constraint
6. Greed and fear
7. Institutional incentives
8. The winner’s curse and herd behavior

Applied to medical malpractice, Baker found that elements 2, 3 (such as injury development risk, injury cost development risk, standard of care development risk, legal development risk and claiming development risk), 4, 5, 6, and 7 played an important role in the underwriting cycle whereas elements 1 and 8 did not affect medical malpractice insurance.

Next, Danzon et al. (2004) also found some relevant explanations concerning the malpractice insurance underwriting cycle. According to them, the malpractice insurance crisis (the hard market) originated in the prior soft market period. Indeed, they found that ‘state-specific premium rate increases are not significantly related to prior increases in state-specific losses paid’. On the contrary, the researchers found that ‘premium increases were positively related to upward revisions of reserves following initial under-reserving and that firms with large prior forecast errors were likely to exit the market’. Their thesis consists therefore in pointing out that the malpractice insurance crisis is the consequence of under-reserving during a soft market period.

In sum, as Sage reported (2004b, p. 10), ‘the malpractice crisis seems to be first and foremost an insurance crisis’.

12.6 Some proposals to end the medical malpractice crisis

12.6.1 Tort reforms

The first idea is to end the medical malpractice crisis via the principles of the tort law. Indeed, proponents of the tort system proclaim that tort law, and particularly the negligence rule, have to be the object of some refinements.
As a result, several studies considered tort reform measures and examined their effects on the frequency, average size and total payments of malpractice claims and insurance premiums. On the whole, since the first medical malpractice crisis in the 1970s, the following tort reforms were adopted or enacted:

- caps on non-economic damages (pain and suffering)
- caps on punitive damages
- limitation on joint-and-several liability
- limitation on the collateral source rule
- allowing periodic payments of awards
- shrinking the limitation period following the negligent event or its discovery limiting legal fees.

First of all, let us examine the effects of these reforms on claims. Dewees, Trebilcock and Coyte (1991) reported that Danzon found that reductions in awards reduced in a significant way both the frequency and severity of malpractice claims. Frequency decreased by 14 percent and severity decreased by 11–18 percent. Danzon also found that caps on awards have reduced the severity of malpractice claims by 23 percent on average (see also Danzon, 1985a; Sharkey, 2005) and Sloan et al. (1989) found that damages caps reduce the plaintiff's recovery by 31 percent. Moreover, Viscusi et al. (1993) examined the influence of joint and several liability, limits in liability coverage, limits on non-economic damages, and limits on punitive damages for the years 1985, 1986 and 1987 in the United States. The researchers found that joint and several liability was the most prominent measure adopted in 1986. It was adopted by 16 states, comprising more than half of all premiums for general liability and medical malpractice. Still in 1986, limits on liability and on non-economic damages were adopted in at least ten states. In 1987, joint and several liability rules were adopted in an additional 16 states and 15 states that represented two-fifths of all premiums imposed caps on punitive damages ‘in an effort to limit liability costs’. In the same way, Avraham (2006b) presented recent results and found that collateral source was established in 35 states by 2004, periodic payment with a threshold of $200,000 in 23 states, caps on non-economic damages in 23 states, and punitive damages in 27 states. As a consequence, empirical results show that only caps on non-economic damages sometimes decreased the number of payments and the magnitude of the payment. They also reduced the number of cases per doctor as a limitation of joint and several liability. According to Avraham, caps on non-economic damages reduced the number of cases by 13 percent and total payments by 15–20 percent, joint and several liability reduced the number of cases by 8–9 percent and total
payments by 36 percent. Finally, periodic payments reduced the number of cases by 5–7 percent.

Next, tort reforms as caps on non-economic damages seem also to have reduced premiums. Thorpe (2004) found that empirical results reported that premiums were 17 percent lower in states with a cap on awards than in states without such caps. Nevertheless, although some results suggest that capping awards may reduce premiums, prior studies underline that there is no consensus on the impact of tort reform on insurance premiums. Although it is obvious that additional research must be achieved in this domain, the major question is to what extent tort rules provide incentives to deter negligent care and lead to the victim being compensated. As we noted above in Section 12.4.3, tort law fails to achieve these goals.

12.6.2 Shifting toward a no-fault system
One of the main proposals to end the medical malpractice crisis consists in adopting a no-fault system. The major idea of the no-fault theory is that victims are not adequately compensated. As a result, proponents of a no-fault system point out the necessity of changing liability rules such that victims need not prove fault to receive compensation (McEwin, 2000). Thus, in the medical malpractice area, the patient need not prove that the physician was negligent in order to receive an indemnity. The no-fault system is based on the principles of workers’ compensation and automobile accidents. In this way, no-fault appears to establish compulsory self-insurance for the parties insofar as the victim receives compensation with or without fault. Let us note that although no-fault appears to save administrative costs (Dewees, Duff and Trebilcock, 1996; Cooter and Ulen, 2000), we will not discuss this topic further here.

In medical malpractice, no-fault schemes were established in the middle of the 1970s, principally in New Zealand (1974) and Sweden (1975). In New Zealand, no-fault systems were global, financed by employers, workers, motor vehicle owners, and taxes. They were designed to cover all accidental injuries, including medical ones. Sweden and New Zealand were followed by Finland (1987), Denmark (1991), Iceland (2000) and Norway (2002). Moreover, the United States, and more precisely the states of Florida and Virginia (1989 and 1988), have replaced medical malpractice liability with a no-fault system, but only for children who suffer neurological trauma during birth. France, with the Act of 4 March 2002, established a scheme of compensation of the ‘aléa thérapeutique,’ which adopted a more restrictive conception of the fault of the physicians.

In sum, in those systems, when a patient is injured by a physician, he will automatically receive compensation regardless of fault. Nevertheless, no-fault must not be confused with a strict liability rule. Both rules are
different. Indeed, strict liability requires a causal relationship, so the physi-
cian is held liable regardless of fault. Under the strict liability rule, the phy-
sician undertakes the precaution costs and the damage costs. What about a
no-fault rule? Since the victim is automatically compensated as in the strict
liability rule, the physician will therefore bear the cost of precaution and no
other cost. Indeed, in most countries, there exists a social insurance system
(as in France and the Nordic countries) or private funds which propose
payments for victims. The physicians do not pay for the damages.

No-fault was established, first of all, in order to restore the imbalance
of the victim between his \textit{ex ante} situation (before the accident) and his
\textit{ex post} situation (after the accident). One can explain this theoretical
conception by understanding the limits of the negligence approach. As we
have seen, the negligence rule is a fault-based system in which the victim
receives compensation (we assume that the negligence system works well,
that is, there is no false negative) if and only if the physician was negligent,
and of course, if there exists a damage and a causal relationship between
the damage and the fault. However, in several cases, a patient injured by
a physician does not receive compensation. Hence, various voices rose to
denounce the unfairness of the negligence rule. In this context, the no-fault
theory emerged as a system which guarantees compensation for the victim
in an automatic way. According to Dewees, Duff and Trebilcock (1996),
the no-fault compensation scheme ‘would be expected to compensate
between 45 and 94 times as many injured patients as does the existing tort
system’. The researchers found that in Sweden, the no-fault compensation
scheme increased the number of patients who obtain compensation, from
100 per year before the scheme to nearly 4,000 per year in 1986.

Furthermore and paradoxically, the no-fault system was lobbied in
some cases by physicians in order to protect themselves from attacks, and
not by families in distress (Van Boom and Pinna, 2007). In fact, although
the no-fault system seems to be a better solution to compensating the
victims than the negligence rule, it is especially a system which procures
immunity for physicians insofar as they are protected if they injure a
patient. This situation also underlines the net difference with a strict liaabil-
ity system in which the physician is held liable whenever he is involved
in a medical accident because he bears all the accident costs. This is not
the case in a no-fault system. In fact, the compensation system negatively
affects incentives to provide due care.

As a result, the major limit of the no-fault rule is clearly identified: there
are no incentives for physicians to adopt careful behavior in order to avoid
medical errors. Moreover, in the case of this liability rule, two other main
limits appear: causation and funding. If the decision to adopt a no-fault
rule is adopted, what kind of adverse events should be compensated,
and what about their financing? Havighurst and Tancredi, reported by Danzon (1985b), have proposed a limited no-fault plan, Medical Adversity Insurance (MAI), in order to compensate victims for a list of Designated Compensable Events (DCE). In France, the Act of 4 March 2002 created a nationwide compensation organism (ONIAM) in order to indemnify victims of medical mishaps with a national funding system and in Sweden, the no-fault compensation plan is financed from general tax revenue.

In any case, the crucial issue in adopting a no-fault system concerns the question of incentives and indemnity. In other words, the relevance of this system depends on whether the victim is compensated or not, and whether the financing is risk related or not. If the financing is risk related, effects on incentives will be positive and the quality of care will improve.

12.7 Conclusions

The medical malpractice debate focuses on the extent to which we can provide optimal incentives for physicians to adopt due care to avoid medical accidents while guaranteeing optimal compensation for victims. As has been seen throughout this work, the incentive–compensation dilemma reflects a central topic in medical malpractice. Hence, economists stress the relevance of the incentive function of tort law in avoiding accidents and protecting patients, while lawyers stress the compensation function as a way of restoring the patient’s welfare to what it was before the medical accident. Therefore, incentives can be provided by tort law and liability rules as negligence or strict liability, by regulation, or by insurance. On the other hand, compensation can be achieved through various mechanisms like no-fault schemes, for instance. Nevertheless, let us note that for economists and from a law and economics perspective, compensation can also have a preventive effect. Indeed, compensation can be considered as a financial penalty for health care providers that results in the deterrence of negligent behavior.

Thus, the law and economics literature underlines to what extent tort rules are relevant to achieving both the incentive and compensation goals of medical malpractice. Considering unilateral accidents, theoretical conclusions revealed that both negligence and strict liability rules provide incentives to physicians to avoid accidents (under some assumptions), while only strict liability provides appropriate compensation if we consider that the negligence rule works well. Nonetheless, empirical evidence demonstrated mixed and nuanced results. Indeed, if we consider trial verdicts, several studies show that the victim receives compensation when the physician is negligent in between 80 and 90 percent of the cases, with a median damage payment of nearly $400,000. But, on the other hand, these studies also revealed several ‘false negative’ and ‘false positive’ results. As
a consequence, the malpractice liability system faces various problems:
few injured patients sue, few injured patients receive compensation, the
malpractice liability system is costly and slow, and, above all, provides
considerable overdeterrence.

In addition, medical malpractice liability has been in crisis since the
1970s, and this crisis is repeated every decade. Although it is characterized
by an increase in claims frequency and severity, this crisis seems to be above
all an insurance crisis, particularly due to insurance cycles that are also
called ‘underwriting cycles’. To resolve the malpractice crisis, two major
proposals were adopted: making tort reforms and establishing a no-fault
compensation scheme. On the one hand, among the various tort reforms
enacted, only capping damages has a positive effect on both the frequency
and severity of claims and insurance premiums, and on the other hand, a no-
fault compensation scheme does not really solve the deterrence problem.

As a consequence, further research was elaborated and must be extended
to provide incentives and compensation, such as, for instance, innovations in risk bearing. First, Baker (2005a) proposed to establish ‘enterprise insurance’; based on enterprise liability, which reflects the idea that the best entity to bear the legal liability for medical injuries is the ‘enterprise’ (hospitals) that employs doctors, enterprise insurance offers many of these benefits but without asking doctors to give up liability as in enterprise liability for instance. In sum, the hospital provides insurance and physicians bear the burden of liability. Physicians, in this context, would not be agents or employees of the hospital but independent and accountable for their errors.

Finally, we refer to the relevance of contract in medical malpractice.
According to Epstein (1976), it would be more efficient for both the physician and the patient to contract over liability directly together rather than to rely on tort law. If this argument appears attractive, two main problems emerge: first, there is an information problem. Indeed, if we suppose that the physician and his patient can contract together, it is obvious that the physician holds more information than the patient. Secondly, if both parties want to contract together, they can do so only through a free price system with free negotiations. Nevertheless, in the majority of countries, the prices of health care services are under the control of a national social security system as Faure reported (2004).

**Bibliography**


Tort law and economics

Ecole Nationale de la Magistrature (1995), La responsabilité médicale: de la faute au risque, Essais et recherches judiciaires AER, session de formations continues, 29 mai–2 juin.


Etude nationale sur les événements indésirables graves liés au processus de soins – ENEIS (2006), Report, DREES and CCECQA.

Ewald, François (1992), Le problème français des accidents thérapeutiques: enjeux et solutions, Ministère de la santé et de l’action humanitaire, September–October.


