Problems of Tort Litigation as a Means of Patient and Consumer Protection in Health Care Systems

By
Michael David Moore

B.S. Mechanical Engineering
Massachusetts Institute of Technology, Cambridge Massachusetts, 1996

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Signature of Author:

Michael David Moore
System Design and Management
August 2009

Certified By:

Nancy G. Leveson
Thesis Supervisor
Professor of the Engineering Systems Division

Pat Hale
Director
System Design and Management Program
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ABSTRACT

The U.S. health care system relies on tort litigation as a means of protecting patients and consumers from medical malpractice. The system of tort litigation has contributed to the U.S. having the highest health care spending per capita of any nation, but it has not resulted in superior quality of care.

This work argues that tort litigation in health care is actually detrimental to patient safety and that the deterrent effect that it is meant to provide is circumvented by elements inherent in tort law. The possibility of settlement without admission of guilt creates a mechanism by which litigation is encouraged by economic incentives, but actual malpractice is not effectively discouraged. Furthermore, the system limits the operational knowledge gained through adverse events by removing these events and the actions that created them from the public discourse. Various proposed and enacted reforms to medical tort litigation are considered and it is found that dysfunctional interactions between professionals of different disciplines constitute a major obstacle to effective system reform. Finally, a modular view of the health care system is presented as a step toward identifying and reforming these interactions.
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1 Introduction

The goal of this thesis is to show that the tort liability system is detrimental to safety in health care. This is accomplished in two ways. First, a conceptual system dynamics model of tort liability is constructed which shows that the system fails to act effectively as a constraint on physician behavior, as well as showing that operational knowledge is effectively lost through the reliance on tort liability. Second, a partial decomposition of the health care system is used to show that tort liability has far-reaching negative effects through the way in which it influences the rest of the health care system.

1.1 Motivation

The health care system of the United States is chronically and unsustainably inefficient. In 2007, total spending on health care was $2.4 trillion ($7900 per person), the most by any nation (Keehan 2008). Health care spending represented 17 percent of the gross national product for that year. Furthermore, health care spending is increasing at greater than 9% (9.9% in 2008, 9.2% in 2009 and a projected 9.0% for 2010), far outpacing inflation (Washington Business Journal 2009). These costs have not translated into superior health care (Kohn, Corrigan and Donaldson 2000). It has even been suggested that health care quality may actually deteriorate as more is spent for its improvement (Gawande 2009).

Historically, the primary means of ensuring quality in health care in the United States has been the tort liability system. While other regulatory measures have been adopted, the safety and quality of care for patients is still primarily enforced through the system of tort law. This system is widely regarded as extremely inefficient and somewhat arbitrary (Brennan, Sox and Burstin 1996), and many initiatives have aimed at reforming the system to improve its efficiency and the justness of its verdicts.
However, if the principles of the tort system are fundamentally at odds with greater quality of health care, it may alter the way in which the reform of the system is attempted, including whether it should be replaced with some other method or system of patient protection.

1.2 Background

The dynamics of the health care ecosystem have their roots in the marketplace professionalism of the 1800s, a system unique to the United States at that time (Mohr 2009). European professional systems had been developed over centuries, often in parallel with the professional discipline itself and by the sanction of the ruling classes. The United States lacked the organizations and traditions to impose the sort of structure on the professions that existed in Europe. Perhaps more importantly, the citizens of the United States held a sentiment of anti-elitism that rejected the precedent of professionals selected through the favor of a ruling class. For whatever reason, no US governments of the time were willing to sanction one group of potential professionals over another. As a result, anyone who wished to try their hand at medicine, law or the like was welcome to do so (DeVille 1990).

The result of this policy was a proliferation of both healers and lawyers, all trying to get business in a competitive environment. Malpractice litigation, previously an obscure legal possibility, quickly became a major source of business for lawyers and the primary recourse for patients who believed they had been mistreated. However, malpractice litigation was not a discriminating tool. Capable and well-trained physicians soon found that legal action would be applied to them as readily as it was to quacks (often more readily, since alternative healers were less definite about the benefits that could be expected from proper procedure, and were therefore less exposed to risks of a bad result or improper procedure) (Mohr 2009). As physicians grew to view litigation as a constant and unavoidable threat, the animosity between the medical and legal professions began to take form.

Meanwhile, physicians seeking to raise their profession out of this egalitarian mire worked to marginalize health practitioners who did not meet their professional standards. The American Medical Association was founded in 1847 and defined its own members and potential members
as physicians, specially qualified to study, diagnose and treat disease or injury (to the exclusion of other practitioners). These efforts, coupled with the advent of scientific medicine around the turn of the century, created the professional designation of a physician that is familiar today: a highly educated and accomplished professional who has been selected for their aptitude and undergone rigorous training. The legal profession underwent a similar transformation with the creation of the American Bar Association in 1878.

Initially, the prevailing business model of health care was “fee-for-service”. That is, a consumer would pay the fee of a health care provider directly in exchange for medical services. Employers soon saw the benefits of a healthy work force and began offering health care to their employees as a benefit (Blumenthal 2006). Unions established “sick funds” to support members in case of illness. Medical expense insurance as we know it did not exist during this period, but accident and disability insurance was available and sometimes provided by employers. In the 1920s, hospitals began offering services to individuals on a pre-paid basis, eventually leading to the development of the Blue Cross organizations. The combination of employer-offered health services, pre-paid health care organizations, worker organized support funds and accident and disability insurance evolved into employer-provided health benefits as we know them over several decades. With the addition of government programs to cover the poor, elderly and disabled introduced in the 1960s and 1970s, the major pieces of today’s multi-payer system were in place.

Insurance had also played a role in the evolution of malpractice litigation. A series of malpractice crises in the 1800s made physicians wary of the risks of practicing medicine without protection from legal action (Murray 2007). When professional liability insurance appeared in the early 1900s, it was seen as a stabilizing factor that would make the practice of medicine possible for capable physicians (Sloan, Bovbjerg and P.B. 1991). For the first half of the 20th century, this image seemed well founded. Professional liability insurance was cheap and easy to obtain with simple (and generally flat) rates. However, the 1970s and 1980s saw a surge of malpractice suits. The response of the insurance companies was to increase the cost of professional liability insurance, differentiate the cost by actuarial techniques, or in some cases stop offering coverage. Since the 1960s, the instability in cost and availability of liability
insurance for medical professionals has been widely described as a crisis of malpractice insurance (Olsen 1996) (M. M. Mello 2006).
2 Effects of Tort Litigation on the System

The primary local goal of tort litigation is to provide relief for a party who has been injured by the negligence of a medical professional. In the context of the system of health care, the goal is to make medicine safer by encouraging medical professionals to be diligent in performing their duty, through the threat of legal action.

There are many ways in which a patient may be injured in the course of medical care. Errors by the manufacturers of medical equipment, pharmaceutical companies, hospital administration or many other parties could result in harm, and would likely be addressed in a lawsuit. Analysis of all possible sources of injury to a patient is outside the scope of this paper. A relatively limited case, that of a physician acting in a hospital setting, will serve to demonstrate the effect that tort litigation is meant to have on the system in general.

2.1 Tort Litigation as a Constraint on the Physician

In health care, an event where injury or death is caused in the course of treatment is referred to as an “adverse event”. Adverse events are not limited to physical injuries (unexpected pain and suffering and misuse of privileged information are examples of non-physical injuries). Not all adverse events are avoidable.

**System Hazard: Poor practice by a physician leads to an avoidable adverse event**

Avoiding this hazard requires the satisfaction of system-level requirements. These are presented below.

2.1.1 System Safety Requirements

The following requirements must be met in order to avoid the system hazard. (Moore 2008-2009)
1. Patient well-being must be first and foremost among considerations in all diagnosis and treatment
   a. Physicians must highly value the well-being of patients
   b. Clear standards for the treatment of patients must be established and maintained. Adherence to these standards must be monitored.
   c. Independent oversight of physician diagnosis and recommendations for treatment must exist.
   d. Physicians must be free from conflicts of interest

2. Physicians must be qualified
   a. Physicians must have a broad and comprehensive understanding of fundamental medical principles
   b. Physicians must have detailed and deep understanding of their specialty
   c. The medical knowledge of physicians must be up to date

3. Physicians must be unimpaired
   a. Physicians must not be physically impaired in any way the interferes with the performance of their duties
   b. Physicians must not be dependent on substances that could affect their ability to perform their duties
   c. Physician should not be permitted to practice in situations of high personal stress.

4. Physicians must be well-informed of the patient case-history

5. Privileged information must not be misused

2.1.2 Control Structure Representation of Constraints on a Physician

The system can be considered as a control structure, where constraints exist to attempt to satisfy the system requirements above (Leveson 2004).
Figure 1: Hierarchical structure of controls on a physician in a hospital setting

In this representation, elements impose constraints (represented by blue lines) and provide feedback (represented by green lines). Each of the constraints shown tries to ensure that one or more of the safety requirements will be met.

2.1.3 Mapping System Requirements to Component Responsibilities

The system requirements can now be checked against the structure with its roles and responsibilities to see what constraints are relied upon for each requirement.

1a. Physicians must highly value the well-being of patients

   Medical Schools:
   - Train medical students in medical ethics

   Hospitals:
Define the culture and values of physicians through residencies and ongoing incentives/discipline.

Accreditation Council for Graduate Medical Education:
Ensure that hospitals are promoting a culture that places high value on patient well-being and safety

Personal Injury Attorney:
Encourage proper physician priorities through the threat of legal action

The culture and values of practicing physicians is extremely important to the safety and effectiveness of the health care system. These values are taught (both formally and informally) in medical school. Following this, the residency period that all physicians must undergo builds and solidifies the norms that physicians will use for their careers. This socialization of physicians is much more rigorous than that of other health professionals, and might best be compared to the training of the armed forces. After residency, the culture of the hospital continues to shape the values of practicing physicians. The threat of lawsuits is a deterrent to failure to put patient well-being foremost among the physician’s values. However, the threat of lawsuits (or any threat of discipline) can also result in defensive medicine (Kessler and McClellan 1996). Defensive medicine can be defined as practice by a physician that places more importance on avoiding liability than on the well-being of a patient.

1b. Clear standards for the treatment of patients must be established and maintained.
Adherence to the standards must be monitored.

AMA:
Defines professional standards for physicians

Hospitals:
Sets rules for physician use of facilities

Patient Safety Organizations:
Sets standards for health care and gives hospital accreditation based on the meeting of these standards

Judiciary:
Sets the legal standard for patient treatment through precedents
Each of the high level components sets its own standards for the treatment of patients. While these standards are not independent of one another, they cannot be expected to correspond perfectly

1c. Independent oversight of physician diagnosis and recommendations for treatment must exist.

   Consumer Advisory:
   Provides medical information to consumers

   Personal Injury Attorney:
   Provides expert witnesses for legal cases

   Consumer:
   Makes all decisions related to care (including seeking second opinions or revisiting physician decisions through legal action)

The United States practices marketplace professionalism, which means that the consumer has the ultimate responsibility for oversight of physician diagnosis and treatment recommendations. This is the only independent oversight that exists in the system. Oversight of physicians by other medical staff within the hospital (e.g. in the case of residents practicing under attending physicians) is an important element for system safety, but does not constitute independent oversight.

1d. Physicians must be free from conflicts of interest

I know of no formal controls to keep physicians free from conflicts of interest. On the contrary, relationships with medical suppliers are widespread and accepted as unavoidable. However, if the requirement were to be made less stringent (for example, “Physicians must avoid being guided by external considerations in patient related decisions”), there are some constraints that apply.

   Hospitals:
   Set guidelines for dealing with conflicts of interest in standards of conduct.

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Personal Injury Attorney:
   Encourage proper consideration of patient interest through the threat of legal action

2a. Physicians must have a broad and comprehensive understanding of fundamental medical principles
Medical Schools:
   Teach physicians the basic principles of medical science
LCME:
   Ensure that medical schools provide a sound education in fundamental medical principles
State Medical Board:
   Ensure that all physicians licensed have understanding of fundamental medical principles
Personal Injury Attorney:
   Discourage practice by incompetent physicians through threat of legal action

2b. Physicians must have detailed and deep understanding of their specialty
Certification Boards:
   Certify only those physicians who demonstrate deep understanding of a specialty to practice in that specialty.
Personal Injury Attorney:
   Discourage practice by incompetent physicians through threat of legal action

2c. The medical knowledge of physicians must be up to date
Continuing Education:
   Certify physicians as having up to date medical knowledge
Accreditation Council for Continuing Medical Education:
   Accredit Continuing Education programs as up to date
State Medical Board:
   Set the amount and quality of continuing education necessary for physicians to continue to practice
Personal Injury Attorney:
   Discourage obsolete practice through threat of legal action
3a. Physicians must not be physically impaired in any way that interferes with the performance of their duties

Hospital:
Deny privileges to physicians that are not physically able to perform their duties

Personal Injury Attorney:
Discourage irresponsible practice by physicians through threat of legal action

3b. Physicians must not be dependent on substances that could affect their ability to perform their duties

Hospital:
Deny privileges to physicians who show signs of substance abuse

Personal Injury Attorney:
Discourage irresponsible practice by physicians through threat of legal action

3c. Physician should not be permitted to practice in situations of high personal stress.

Accreditation Council for Graduate Medical Education:
Accredit only those hospitals which do not encourage a culture that puts personal stress on physicians.

Patient Safety Organizations:
Accredit only those hospitals which do not encourage a culture that puts personal stress on physicians.

Hospital:
Ensure that schedule avoids putting high personal stress on physicians

Personal Injury Attorney:
Discourage irresponsible practice by physicians through threat of legal action

This seems like a simple requirement, yet physicians and residents are still permitted and expected to work unreasonably long hours (even when they are not allowed to log them) (Collier 2009). Further, many physicians make it a point of pride that they can continue to function under personal duress.

4. Physicians must be well-informed of the patient case-history
Personal Injury Attorney:
Encourage physician diligence through threat of legal action

Physicians are responsible to thoroughly understand the case history of their patients. Patients are responsible to give all relevant information to physicians. Hospitals provide tools and processes to help ensure that a physician gets as much information as they can. However, I know of no constraint that keeps a physician who is not well-informed of a patient’s case-history from diagnosing and treating that patient, other than the threat of legal action. Whether such a constraint is possible is an open question.

5. Privileged information must not be misused

Legislature:
Pass laws on how privileged information can be used and shared (e.g. HIPA)

Personal Injury Attorney:
Encourage physician compliance with legal standard through threat of legal action

CMS:
Withhold certification for Medicare reimbursement from organizations that do not meet legal standards on health information privacy

Legal action from a personal injury attorney (i.e. tort litigation) is relied on heavily for the satisfaction of most of these requirements and is a factor in addressing all of them. However, evidence suggests that these requirements for safety are not being satisfied (Kohn, Corrigan and Donaldson 2000).

2.2 System Dynamics of Tort Litigation

In order to examine the impact of legal action through tort law (that is, legal action brought by a personal injury attorney), system dynamics is used to construct a model of the social dynamics
(figures 2 and 3).

Figure 2: Dynamic behavior of malpractice tort law
This model shows the factors that determine how cases proceed in a tort law environment as well as some of the effects of that process. At the core of the model is the intended enforcement of constraints through the threat of legal action (Figure 4). This consists of two loops. The balancing loop involving the successful prosecution of lawsuits brings the system into equilibrium where the fear of prosecution keeps malpractice at a certain level. The reinforcing loop involving the dismissal of cases will remove fear of prosecution for malpractice if all lawsuits are dismissed as spurious. The related phenomenon of defensive medicine which may be created by spurious lawsuits is ignored for simplicity here, as its relation to the incidence of malpractice is complex and controversial. An important feature is the latency of potential lawsuits. Suits often take several years to move from potential lawsuits to active lawsuits. This "long tail" makes forecasting both the number of active lawsuits and their cost very difficult.
The first elaboration of the tort system that needs to be added is the element of consumer self interest represented as the expected value of a suit. The effect is that consumers will not prosecute cases where it is not in their interest to do so, regardless of the merit of the case. Many personal injury attorneys believe that it is irresponsible to take cases that they do not believe will be profitable to their clients, and most consumers do not have the resources to spend defending a lost cause. The expected value of a suit therefore controls how many potential lawsuits become active lawsuits. The addition of the expected value of a suit creates two new loops similar to those affecting the fear of prosecution (see figure 5).
At this point, the dynamics reflect a system that is not obviously dysfunctional. When suits are judged as having merit, their successful prosecution increases the fear of prosecution thereby decreasing malpractice. Successful prosecution encourages further suits, while unsuccessful lawsuits discourage them, balancing the number of lawsuits brought at a certain level. It is to be hoped that the level at which balance is reached would encourage the prosecution of cases of merit, and discourage those without merit. However, as shall be seen, this balance is sabotaged by other elements of the dynamics.

There is another outcome in tort law aside from successful prosecution or case dismissal. If both parties agree to a contract that avoids further prosecution, the case may be “settled”. Generally when a case is settled, the physician does not admit guilt and further public discussion of the case is prohibited in order to avoid damage to the physician’s reputation. Adding this element to the model creates a reinforcing loop (see figure 6) with no accompanying balancing loop. The possibility of a settlement increases the expected value of the suit. However, since the settlement of a suit neither condemns nor exonerates the physician, it has no effect on fear of prosecution for malpractice (again, the effect on the proliferation of defensive medicine is not modeled).
There is an additional effect of the introduction of settlements to the overall system. Since public discussion of the case is prohibited, the operational knowledge that could have been derived from the details of the case is not available to the medical community outside of those directly involved (see figure 7). As a result, operational risks that are not well known may persist and recur many times in different locations without being recognized. Therefore, the practice of settling cases without admission of guilt effectively increases both the number of adverse events and the conversion of potential lawsuits into active lawsuits.

Figure 6: Settlements as a response to tort suits
Despite these chronic long-term problems, settlement remains a compelling local, short-term solution (see figure 8). Since the costs of defending a lawsuit are considerable, a defendant may be compelled to settle a lawsuit profitably for the plaintiff regardless of the merit of the case. The "settle defend gap" element represents this issue. For example, many states have enacted a form of non-binding mediation to estimate the merit of a case before a formal trial begins. A plaintiff who is told that their case is groundless by the mediation panel may offer to settle at a fraction of the cost for which a lawsuit could be defended. Without industry-wide agreement on how such offers should be handled, it makes sense for the defense to accept the offer, even if they are reasonably sure that they would win in verdict by trial. The balancing loops in figure 8 represent this tacit agreement for defense to settle for an amount that is less than that for which they could defend.
It can be tempting to discount this practice of offering to settle a case that has been found without merit by non-binding mediation as being perpetrated solely by dishonest or unscrupulous legal professionals. This would be an error. It is important to keep in mind that the process of mediation takes considerable time and effort, that the decision of the mediation council is usually based on specific considerations by domain experts (considerations that the legal professional should not be expected to value or understand, and with which other medical professionals may not agree) and above all that the defendant has undergone some hardship or misfortune for which their attorney is professionally obligated to seek remuneration. In this light, it would be irresponsible for an attorney to do other than seek as high a settlement as could be obtained, while holding open the possibility that the verdict of the mediation council might not coincide with that of a court (McConkie 2008).

One limitation of this model is that it deals in generalities, not taking into account the merits of particular cases. However, there are many studies that show that incidence of suits in general has very little to do with case merit (Kohn, Corrigan, & Donaldson, 2000; Harvard Medical Practiced Study, 1990). These studies imply that models need not include a representation of the merit of specific cases in order to accurately represent the decisions of consumers, physicians and other
parties in dealing with the cases. The lack of correlation documented by these studies also justifies a key assumption of this model: that being accused of malpractice would not have the same psychological impact as being convicted of malpractice.

2.3 First-Generation Reforms

Several attempts at reform have been enacted by different states. These “first generation” reforms (summarized in Table 1) attempt to directly reduce the overall costs of malpractice litigation by (1) erecting barriers to bringing suit (statutes of limitation/repose; attorney contingency-fee reform) or reaching trial (pretrial screening panels); (2) limiting the amount plaintiffs may take as an award (caps on damages, collateral-source rule reform); or (3) altering the way damages awards are paid (joint-and-several liability reform, periodic payment) (M. M. Mello 2006).
### Reform | Description
---|---
**Caps on damages** | Caps on damages limit the amount of money that a plaintiff can take as an award in a malpractice suit. The cap may apply to noneconomic damages (“pain and suffering”), total damages (including both noneconomic damages and economic loss such as medical expenses and lost wages), or only punitive damages (damages intended to punish the defendant for particularly wanton conduct; very rare in malpractice cases). The cap may apply to the plaintiff, limiting the amount she may receive, or to each defendant, limiting the total amount for which each may be liable.

**Joint-and-several liability reform** | In cases involving more than one defendant, such as a physician and a hospital, this reform limits the financial liability of each defendant to the percentage fault that the jury allocates to that defendant. Without this reform, the plaintiff may collect the entire amount of the judgment from one defendant if the other(s) default on their obligation to pay, even if the paying defendant bore only a small share of the responsibility for what happened to the plaintiff.

**Statutes of limitations/statutes of repose** | These reforms limit the amount of time a patient has to file a malpractice claim, typically to two or three years. Statutes of limitations bar suits unless they are filed within a specified time after the injury occurs or is discovered. Statutes of repose bar suits unless they are filed within a specified time after the medical encounter occurred, regardless of whether an injury has yet been discovered.

**Attorney contingency-fee reform** | This reform limits the amount of a malpractice award that a plaintiff’s attorney may take in a contingent-fee arrangement. The limitation is typically expressed as a percentage of the award; it may also incorporate a maximum dollar value.

**Collateral-source rule reform** | This reform eliminates a traditional rule that if an injured plaintiff receives compensation for her injury from other sources, such as health insurance, that payment should not be deducted from the amount that a defendant who is found liable for that injury must pay.

**Pretrial screening panels** | Pretrial screening panels review a malpractice case at an early stage and provide an opinion about whether a claim has sufficient merit to proceed to trial. Typically, a negative opinion does not bar a case from going forward, but can be introduced by the defendant as evidence at the trial.

**Periodic payment** | This reform allows or requires insurers to pay out malpractice awards over a long period of time, rather than in a lump sum. This enables insurers to purchase annuities (sometimes called “structured settlements”) from other insurance companies which cost less than paying the whole award up front. Insurers are also able to retain any amounts that the plaintiff does not actually collect during her lifespan.

*Table 1: Tort reforms commonly adopted by states (M. M. Mello 2006)*
2.3.1 Caps on Damages

In the early 1970s, malpractice premiums in California rose to the point that many physicians ceased to practice in protest. The Medical Injury Compensation Reform Act (MICRA) was enacted in response to the crisis, setting an upper limit of $250,000 on non-economic awards. Similar laws have since been passed in many other states, and MICRA has been presented as a possible model for national reform (Nelson, Morrisey and Kilgore 2007).

The assumption behind MICRA is that the instability of the malpractice insurance market is primarily driven by the willingness of the courts to grant awards for subjective qualities that cannot be anticipated for or protected against by physicians or liability insurance providers. It is not difficult to conceive of a society where a high value and sense of entitlement is placed on the absence of personal pain, resulting in such inordinate awards. One can even imagine a vicious cycle where each award makes a higher award seem socially appropriate. However, it is equally possible to imagine a society where pain and suffering are more realistically viewed as unfortunate but necessary parts of life, and where awards for inflicting pain and suffering are based not on a sense of personal entitlement or a vicious cycle of social norms, but on basic principles of the humane. In the first case, a law such as MICRA may be necessary to avoid unrealistic burdens being placed on those for whom the creation of pain and suffering is an unavoidable risk. In the second case such a law may have no effect other than to preclude just awards for egregious cases. This relation to social context may explain why some studies show caps to be effective while others do not (Zuckerman, Bovbjerg and Sloan 1990).

When caps are effective, they reduce the expected value of a suit and therefore the number of suits brought. However, as the feedback structures are not changed, this positive effect will not change the overall tendencies of the system.
2.3.2 Joint and Several Liability Reform

This reform could theoretically affect the expected value of a suit by decreasing the chance that the full award sought will be realized. Any such effect, however, is so slight as to be undetectable.

2.3.3 Statutes of Limitations/Statutes of Repose

This reform decreases the possible latency of potential lawsuits. As such it makes it easier to forecast costs due to malpractice. However, this effect is found to be marginal in practice (M. M. Mello 2006).

2.3.4 Attorney Contingency Fee Reform

As with award capitation, the effectiveness of limits on contingency fees is a contentious issue. The proponents of limits suggest that contingency fees can encourage predatory business practices on the part of attorneys that are not in the best interest of their clients.

Limits on contingency fees might reduce the costs of settlements and successful suits. However, it might also increase the expected value of these suits to a consumer. The model above assumes that attorneys are perfect agents, acting in accordance with the interests of their clients. Reforms attempting to address discord between the attorney’s motives and those of their clients will therefore not address the issues in this thesis.

2.3.5 Collateral Source Rule Reform

The collateral source rule prevents defendants from presenting evidence that the plaintiff will receive reimbursement from some other source (such as personal injury insurance) for the damages presented in the case. The modification of the rule would seek to prevent the possibility of plaintiffs receiving double compensation for their injury.
Modification of the collateral source rule might alter the perceived merit of suits, resulting in a lower expected value of suits and fewer suits brought. However, any such effect is so slight as to be undetectable.

2.3.6 Pre-trial Screening Panels

The effect of non-binding pre-trial mediation or screening is discussed in section 2.2. Since a pre-trial screening that finds no merit does not prevent the case proceeding to trial, such a verdict often results in a settlement. The ability to test the merits of a case without bringing it to trial, and to resolve a case of questionable merit without great loss (and perhaps sometimes with some profit) could potentially encourage such “feeling out” of a case by plaintiffs, even though the intended effect is to reduce the number of cases that go to trial and therefore the total costs. It is therefore difficult to determine what the overall effect of pre-trial screening is on the system.

2.3.7 Periodic Payment

Periodic payments have no effect on this model of tort liability.

2.4 Second-Generation Reforms

Aside from caps on damages, the first generation of tort reforms has had little impact. This has resulted in a second generation of reform proposals that attempt to move beyond limiting the direct costs of malpractice litigation. The second generation of reform proposals includes the patient safety movement, replacing the tort system with an administrative system of discipline and compensation, and proactive disclosure of medical error.

2.4.1 The Patient Safety Movement

The most obvious way to decrease tort litigation for malpractice is to decrease malpractice itself. The patient safety movement takes this approach, inspired by reports that showed that
malpractice is far more common than previously supposed (Harvard Medical Practiced Study 1990) (Kohn, Corrigan and Donaldson 2000).

The benefit of increased safety for patients is obvious. However, the effect of increased safety on the levels of tort litigation and the negative effects it has are not so clear. Epidemiological studies of medical injury show poor correspondence between adverse events and malpractice claims (Mello and Hemenway, Medical malpractice as an epidemiological problem 2003). Even discounting the possibility of baseless lawsuits, inherent risks of medical practice result in adverse events. These events are indistinguishable from actual malpractice to most if not all observers who are not medical professionals. If the ratio of adverse events due to malpractice over adverse events due to operational risks of proper medical practice is low, the behavior of the system will not be altered by greater patient safety. This is not to suggest that the measures advocated by the patient safety movement should not be adopted, but only that they may not address the problems introduced by tort litigation.

2.4.2 Administrative Discipline and Compensation

The United States’ reliance on tort litigation results from a history of marketplace professionalism that is peculiar to this country. Many other countries take a different approach to the satisfaction of the safety requirements of the system (Lens and Van Der Wal 1997). Administrative systems of medical discipline and compensation have an administrative body of medical professionals who respond to instances of malpractice with disciplinary action and compensate the victims of adverse events. Such systems (sometimes called “no-fault” systems because the medical professional is not prosecuted) are used in several countries including Denmark, Sweden, Finland and New Zealand. Such systems are far simpler and more efficient than the tort liability system. They are expected to be more equitable as well, compensating a larger group of patients under an expanded liability standard. The expanded compensation might make the system as or more expensive than the current system initially, but it would not suffer from the dynamics of tort litigation and could be expected to reduce adverse events and therefore costs over time.
2.4.3 Proactive Disclosure of Medical Error

Unlike reforms that attempt to modify the incentives associated with tort liability, the Medical Error Disclosure movement attempts to address the problem of settlement incentive directly. This is an approach adopted by some physicians in recent years who, rather than settling with no admission of wrongdoing in response to a lawsuit, proactively admit that malpractice has occurred and that the patient is therefore due to be compensated. It has been coupled with “Early offer” programs that offer a settlement up front as part of an agreement that further damages will not be sought.

This avoids a prolonged period of legal maneuvering and associated legal costs. Operational knowledge is increased, the necessity of admission of malpractice maintains the psychological aversion which settlement without guilt may short-circuit, and the perceived merit of suits against physicians who are known to proactively admit to wrongdoing when it occurs might be expected to drop. These positive effects make medical error disclosure appear to be a very promising approach.

However, the positive effects of this approach rely on a coordination of privileged knowledge held by professionals who have a traditional animosity. This privileged knowledge and the obstacle that it incurs are described in the next section.
3 Professionals and Privileged Knowledge

Privileged knowledge denotes an understanding of an issue which is not easily shared. Patients have privileged knowledge in that they know their experience, preferences and history. Physicians often need to try to partially understand the experience and preferences of their patients in order to effectively treat them. Professionals also have privileged knowledge, accumulated through study and devotion to their particular field (Freidson 1970).

For example, it is not reasonable to expect a lawyer with no medical training to ascertain whether a medical procedure was performed correctly. Judging the performance of medical procedures must be done by medical professionals, and legal professionals rely on expert witnesses for this reason. Similarly, although physicians often spend considerable time dealing with legal and financial matters, there is a degree of privileged knowledge that is the sole province of legal or financial professionals. Many of the interactions that take place in health care involve coordination between different parties with privileged knowledge.

The consumer is nominally in control in a market system. In medicine, the consumer decides what physicians to see, whether to take their recommendations, how to pay for their treatment, whether to seek legal action for mistreatment and so forth. However, the consumer must rely on the knowledge of professionals at every turn. The adage “Knowledge is power” is realized here. Each profession has agenda control when the consumer is consulting them in the domain of their expertise.

3.1 Agenda Control

In game theory, agenda control refers to the ability of a party to control the order of the choices that another party or body makes (Osborne 2004). A common example is the case of a committee making recommendations to a legislative body where the committee does not have the ability to choose the outcome outright, but the members of the legislative body can only vote on the recommendation (they cannot vote on alternatives until an up or down vote on the current
recommendation is resolved). In such a case, the power to set the agenda can be as important to the outcome of the vote as the preferences of the legislative body. For example, suppose that there are three options: x, y and z. One of the options must be chosen, but the legislative body is split evenly in three parts, each of which prefers a different option as their top choice, with the other two options in order as their second and third choices (i.e. xyz, yzx and zxy). The result is that any option will be opposed by 2/3 of the legislative body. In this situation, sophisticated voting will result in the first option that is presented being accepted (because the second option is doomed to failure and 2/3 of the body prefer the first option to the third).

![Diagram](image)

*Figure 9: Illustration of agenda setting power*

The situation in medicine in much more complex than this simple example. Most obviously, only the consumer knows what their own preferences are (though they are likely to broadcast these preferences). Because of this, each party has a type of privileged information and these interactions would have to be treated as games of imperfect information. Even so, the importance of agenda control is clear. The consumer makes all decisions, but the professional that they are consulting presents them with options and recommendations.

For example, the process of deciding how a given ailment is to be treated can be considered as a “game” involving the consumer and the medical profession. Any given physician will present options to the consumer, which the consumer can choose from or decline in favor of a further opinion. Professional standards or regulatory bodies (such as the AMA or the government) will cause the options that professionals offer to converge.
The consumer cannot simply select their ideal option for two reasons. First, the consumer has no way of knowing all of the options unless they possess the specialized knowledge of medical professionals. Second, the physician and the consumer are usually not the only players in the game. The financiers of the consumer’s health care (e.g. medical insurance providers) are also part of this decision-making process, and may not be willing to pay for certain procedures, or may prefer some procedures to others. The financial professionals are therefore likely to be using their own agenda control power in order to manipulate the outcome. A three player agenda-setting game of imperfect information is a fairly difficult problem, but tort litigation is probably even more complex.

3.2 Privileged Knowledge in Tort Litigation

There are areas in the model of tort litigation which can be said to “belong” to one or another profession (see figure below). For example, medical professionals must be consulted in order to determine whether proper medical procedure was followed. Legal professionals will be able to determine how a case may be pursued based on legal procedure, and are therefore capable of ascertaining the perceived merit of a case and whether a case should be pursued.
Figure 10: Professional influence in system dynamics model

It has been suggested that medical error disclosure by physicians may break the vicious cycle of settlement without admission of guilt. However, the effectiveness of this approach relies on a shared understanding which may not be possible. For example, in order for the perceived merit of a case to decrease for a physician who is proactive in admitting culpability for malpractice, the difference between the case where they admitted culpability and that which went to trial must be clear. But this is precisely the privileged knowledge which cannot be easily shared with the layman (or between professionals of differing disciplines). The interpretation of how diligent the physician has been in the admission of wrongdoing is more in the legal sphere than the medical, and the actions of the physician may gravitate to the perception.
There is also the matter of settlement as a financial consideration. Proactive admission of wrongdoing may prove more expensive than settling without admission of guilt. Financial professionals (in the form of professional liability insurers) cannot weight the value of operational experience against the extra expense and will have to make the decision based on financial principles. Physicians generally agree to a “cooperation” clause as part of their professional liability insurance that requires insureds to cooperate with the insurer’s efforts to defend the insured against a claim. This would forbid the admission of liability without the concordance of the insurer (Banja 2005).

Medical error disclosure therefore requires the coordination of several different types of professionals in order to be effective. Such coordination is very difficult, since by the nature of privileged knowledge the members of different disciplines will have difficulty empathizing with, or even understanding one another. The way in which this system came into being through the pressures of the professional marketplace is historically comprehensible, but managing such a system is a daunting task.
4 The Health Care Ecosystem

Health care can be defined in such a way that it includes nearly any part of the economy or society. Water, food, sanitation, and living conditions in general can all be legitimately termed aspects of a system of health. However, such breadth of scope is impractical for the current purpose of understanding the effects of professionals of varying disciplines in the practice of medicine. The table below lists elements of health care that influence the practice of curative medicine.

<table>
<thead>
<tr>
<th>American Medical Association (AMA)</th>
<th>Promotes standards of medical practice.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification Boards (ABMS, AOABS, ABPS)</td>
<td>Sets educational and professional standards for the evaluation and certification of physician specialists</td>
</tr>
<tr>
<td>Centers for Medicare and Medicaid Services (CMS)</td>
<td>Administers the Medicare program, works in partnership with state governments to administer Medicaid.</td>
</tr>
<tr>
<td>Consumer Advisory Organizations</td>
<td>Provide information to consumers to help them make decisions about treatment.</td>
</tr>
<tr>
<td>Consumers</td>
<td>In a system of marketplace professionalism, consumers determine the treatments of disease and injury and decide who will administer the treatment. Physicians are consulted in a professional capacity, but the consumer decides whether to take a physicians recommendation or seek another opinion. The role of consumer and patient are often, but not always, held by the same person. This distinction is important in cases involving the care of children and other dependents.</td>
</tr>
<tr>
<td>Continuing Medical Education Providers</td>
<td>Provide continuing education and training for physicians.</td>
</tr>
<tr>
<td>Employers</td>
<td>Act as sponsors in the multi-payer system, influencing what health insurance will be adopted by their workers</td>
</tr>
<tr>
<td>Food and Drug Administration (FDA)</td>
<td>Regulate medical devices and supplies, as well as pharmaceuticals. FDA approval is required for a physician to use a medical device or drug.</td>
</tr>
<tr>
<td>Government (Congress, National and State)</td>
<td>Allocates funding for and oversees the operation of government agencies. Passes legislation affecting the</td>
</tr>
<tr>
<td>Operation</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hospital Management</td>
<td>Oversees government health initiatives</td>
</tr>
<tr>
<td>Provides an environment for the administration of health care. Contracts physicians to provide treatment and employs other medical professionals to provide treatment and support the physicians. Oversees the operation at the hospital.</td>
<td></td>
</tr>
<tr>
<td>Judiciary</td>
<td>Rules on cases alleging malpractice, establishing legal precedent for behavior of physicians and other medical professionals</td>
</tr>
<tr>
<td>Medical Insurance Providers</td>
<td>Acts as the third party payer in the multi-payer system. Determines what procedures and treatments will be covered, thereby influencing consumer decisions.</td>
</tr>
<tr>
<td>Medical Professionals - Nurses</td>
<td>May perform all medical treatments and procedures that do not require the expertise of a physician. Supports physicians.</td>
</tr>
<tr>
<td>Medical Professionals - Physicians</td>
<td>Diagnose and treat injury or disease, usually within a specialty. Make recommendations for treatment to consumers based on diagnosis.</td>
</tr>
<tr>
<td>Medical Providers</td>
<td>Build coalitions of physicians, hospital management, insurers and consumers to provide treatment at a lower cost than would otherwise be possible. This involves the creation of agreements between the parties regarding what treatments will be available and how much will be charged for them.</td>
</tr>
<tr>
<td>Medical Publications</td>
<td>Disseminate information to physicians, influencing their competence and decisions.</td>
</tr>
<tr>
<td>Medical Suppliers (including pharmaceutical companies)</td>
<td>Provide medical supplies to physicians. By necessity, they provide and promote guidelines for the use their products. By extension, they promote procedures for medical practice.</td>
</tr>
<tr>
<td>National Association of Insurance Commissioners (NAIC)</td>
<td>Develops model laws and regulations for the application and administration of medical insurance.</td>
</tr>
<tr>
<td>National Institute of Health (NIH)</td>
<td>Oversees the national government's involvement in health related research</td>
</tr>
<tr>
<td>Patient</td>
<td>Manages the knowledge of the medical history, experience, compliance and preferences related to their own medical case.</td>
</tr>
<tr>
<td>Patient Safety Organizations (JCAHO)</td>
<td>Collect and analyze data relating to patient safety. Certify or deny certification to organizations based on this data.</td>
</tr>
<tr>
<td>Personal Injury Attorneys</td>
<td>Pursue legal claims on the behalf of consumers.</td>
</tr>
<tr>
<td>Private Practice</td>
<td>Manage the medical practices of one or more physicians.</td>
</tr>
</tbody>
</table>
### Table 2: Elements influencing the practice of curative medicine

<table>
<thead>
<tr>
<th>Management</th>
<th>Professional Liability Insurance Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Safeguard physicians against financial risk associated with malpractice or alleged malpractice. Also administrate some aspects of legal procedures involving said risk. Without this support, physicians may be unable to practice medicine (either legally or financially).</td>
</tr>
<tr>
<td>Advocacy Groups</td>
<td>Lobby for or against political decisions related to medical practice.</td>
</tr>
<tr>
<td>Research Labs</td>
<td>Create the knowledge on which medical practice is based</td>
</tr>
<tr>
<td>Teaching Hospitals</td>
<td>Provide training and socialization for aspiring physicians</td>
</tr>
<tr>
<td>Universities</td>
<td>Provide education and socialization for aspiring physicians</td>
</tr>
</tbody>
</table>

This is not an exhaustive list, but it suggests size and complexity of the medical ecosystem. One approach to understanding such a system is to decompose it into modules. There are many methods for decomposition, but broadly speaking they can be categorized as decomposition by form, decomposition by function or decomposition by internal goals (Koopman 1995). It is often the case that a definition of subsystems following a method from one family will correspond with a decomposition following a method from another.

#### 4.1.1 A Note on Consumers and Patients

The system of medical care in the United States is based on the market professionalism of the 1800s, and the powers in a market are vested in suppliers and consumers. In the medical market, the consumer chooses the physicians to consult, the options to exercise and so forth. The patient in a case is the person who may need medical care, the consumer is the person or entity who selects the medical care that patient is to receive.

In this model, the consumer is often but not always the same person as the patient. Some clear cases where the patient and the consumer are different include those when the patient is deemed incompetent to make decisions regarding their own care, as is the case with minors and many invalids.
It is also true that consumer power is more dispersed in the health care system than is indicated in this model. Health plans, hospitals, MCOs and even employers can assume some degree of consumer power, making the “consumer” a construct of many entities. This phenomenon is ignored for simplicity’s sake.

4.2 Functional Decomposition of the Health Care Ecosystem

Curative health care can be considered as consisting of five functional components: Physician Qualification, Patient and Consumer Protection, Health Knowledge Development, Health Care Delivery and the Financing of Health Care Delivery.

4.2.1 Physician Qualification

In health care there are professionals specially qualified to study, diagnose and treat disease or injury. Such professionals are generally termed "Physicians". The processes and controls that determine whether an individual is a physician qualified to practice medicine can be considered together as a subsystem of health care. This includes not only training and education, but legal eligibility. For example, physicians must be licensed in the state in which they wish to practice. Most states also require that a physician be covered by professional liability insurance.

This category could be expanded to encompass the training and qualification of other medical personnel (such as nurses, nurse practitioners and technicians). However, the distinction between medical and non-medical staff working in health care (Hospital administrators, IT professionals, etc.) is not always clear. For example, in some states the requirements for medical technicians are lax enough that non-medical staff might fill in for such a role without comment. By comparison, physician qualification is rigorous, well-understood and relatively standardized.
4.2.2 Patient and Consumer Protection

While measures to promote the general safety and satisfaction of patients and consumers are present in all of the components, a significant amount of activity in the health care system is devoted to the evaluation of specific cases and the legal protection and satisfaction of specific parties. This component is composed of the elements specifically concerned with this activity (e.g., trial lawyers, expert witnesses, consumer advisory groups).

4.2.3 Health Knowledge Development

Understanding of what constitutes good health and how it is best achieved is constantly changing. In a sense, every medical case can be viewed as an exercise of the scientific method where theories are made, tests are conducted and data is collected and correlated with theoretical expectations. However, there are also processes and organizations that have the advancement of health care knowledge as the primary objective through research and scientific study. Elements of the latter type compose this high-level component.

4.2.4 Health Care Delivery

This high-level component consists of the elements of health care that are immediately concerned with the diagnosis or treatment of disease or injury. This segment of health care often is referred to as “treatment services” or “curative medicine”, to distinguish it from preventive services and long-term, or chronic, care.

4.2.5 Financing of Health Delivery

The mechanisms by which the costs of health care delivery are financed. In the United States, the most common financial model is the multi-payer system (shown below).
This system relies on two types of entity beyond those in the single-payer system: a sponsor and a third-party payer. The most common sponsors are employers who provide health insurance for their workers.

Though insurance is used both in the financing of health care and in qualification of physicians, the two instances must remain distinct. Professional liability insurance is not part of the multi-payer system of financing health care. Nor is the financing of health research, consumer protection or medical education part of this component, though the component’s influence on these and other aspects of health care is pervasive. Even with this aggressive limitation of the bounds of this component, in practice it remains one of the most complex and byzantine of the modules. This complexity is not addressed in the current work.

4.3 Comparison of Decomposition to Structure

An examination of the structural characteristics of the system can help validate the functional decomposition reached above. The structure of the system can be considered as the hierarchy of control that exists among elements.
Not all of the elements or functional modules are represented in the control structure used in section 2.1.2. However, the three modules that have elements present (Patient and Consumer Protection, Physician Qualification and Health Care Delivery) seem to show some structural cohesion. A Newman-Girvan clustering analysis reinforces this. The best partition \( Q = 0.360 \) is for 3 clusters and shows division that is very much along the lines of the functional decomposition.

*Figure 12: Newman-Girvan partitioning of control structure \( (Q=0.360) \)*
4.4 Comparison of Decomposition to Local Goals

The health care system has several goals which are shared by all of its elements. However, the priority placed on the goals varies widely from element to elements, and most elements have local objectives which are not goals of the system as a whole (for example, profitability). A functional decomposition could be expected to group elements whose local goals are aligned.

The local goals (related to function) of each module is listed below:

**Physician Qualification:**
Ensure the reliability of medicine practiced by physicians.

**Patient and Consumer Protection:**
Ensure that the practice of medicine is equitable among patients and consumers.
Pursue just outcomes for patients and consumers.

**Health Knowledge Development:**
Advance scientific understanding related to medicine.

**Health Care Delivery:**
Maintain the health of a particular community.

**Financing of Health Care:**
Promote medicine as a sustainable economic system.

Many of these goals could come into conflict with one another. For example, the goals of health knowledge development would generally be advanced by the means of experimentation on human subjects, but this could conflict with the objectives of the physician qualification, patient and consumer protection and health care delivery components. This potential conflict is resolved through specific regulation that defines the procedures that medical research must follow (for example, the necessity of the informed consent of subjects and review of the Institutional Review Board).
It is beyond the scope of this thesis to investigate whether psychological shifts are experienced by individuals as they act on behalf of different components, but cursory evidence suggests that this may be the case. For example, physicians to act as expert witnesses in legal proceedings are generally sought from out of state by attorneys. The reason given is to avoid potentially damaging the relationship between physicians who are likely to work together, but an additional effect would be to remove the physician from the context of health care delivery which is more community (less individual) oriented.

4.5 Module Interaction

Unlike the individual elements that compose them, the modules identified do not exercise hierarchal control on one another. However, the way in which each module tries to accomplish its own local goals influences the other modules (see the figure below).

Figure 13: Influence between modules in decomposition
The influences between modules can be constructive or dysfunctional. For example, the influence of the Patient and Consumer Protection module on Health Care Delivery can be the adoption of patient-centered health care (where patient preferences are studied and given weight alongside technical correctness in medical care) or the adoption of defensive medicine (where medical care is driven by prosecution and rulings, rather than the needs of the patient), among other possibilities. The effect of a module’s interactions can vary widely, and is largely determined by the internal model of the module.

4.6 Inter-Module Influence of Tort Litigation

In the United States, tort litigation dominates the patient and consumer protection module. This is not generally the case in other countries, where penal or administrative discipline plays a more prominent role (Lens and Van Der Wal 1997). This may prefigure changes in the United States system, where cases of malpractice being prosecuted in criminal rather than civil trials are becoming less rare (though still dwarfed by the number of civil actions). The AMA sees this as a cause for concern, (American Medical Association 1995) but the difference in the effects of penal law rather than civil law in the interactions between modules (summarized in the table below) seem largely positive for physicians.

Obviously, there are many impacts of such a dramatic change in health care regulation that are not captured by this limited comparison. However, the effects that could be expected from such a change show the degree to which a patient and consumer protection module dominated by tort litigation creates dysfunctional interactions with the other components of the system. Some of these dysfunctional interactions are directly related to patient safety. Specifically, the inhibition of the development of health knowledge by limiting opportunities to learn from cases and the creation of uncontrollable incentives and disincentives related to medical care that encourages defensive medicine.
<table>
<thead>
<tr>
<th>Module</th>
<th>Influence of Patient and Consumer Protection</th>
<th>Expected impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician Qualification</td>
<td>Perception of risk affects specialization of medical students</td>
<td>Transparency of verdicts would make mitigation possible for operational risks (unlike the financial risks accompanying a specialization with high litigation in a tort system)</td>
</tr>
<tr>
<td>Health Care Delivery</td>
<td>Prosecution and rulings affect the way in which medicine is practiced</td>
<td>The effect on defensive medicine is uncertain, but would be largely determined by the administration of the penal code. This may make it easier to create effective incentives and disincentives in the delivery of health care.</td>
</tr>
<tr>
<td>Finance</td>
<td>Scrutiny affects which procedures are deemed fundable</td>
<td>Emphasis on questionable procedures would likely shift from consumer preference toward effectiveness in cost-benefit, leading to a reduction in the number of fundable procedures.</td>
</tr>
<tr>
<td>Health Knowledge Development</td>
<td>Procedures that are found to be inadequate necessitate study</td>
<td>Many tort cases are put into non-disclosure as part of a settlement arrangement. This would not be the case in a penal case, leading to better information on what procedures need to be examined for improvement</td>
</tr>
</tbody>
</table>

*Table 3: Expected impact of a change from tort to penal law*
5 Conclusion

The tort liability system is often criticized for being inefficient, ineffective at preventing medical malpractice and arbitrary in attempts to punish the incidence of medical negligence. Attempts at reform (first-generation) have been directed at limiting the direct costs of the system; by reducing waste and limiting of profit by those who make their livelihood through the system.

However, tort liability has tendencies that are far worse than inefficiency. The practice of settlement without admission of guilt, an inherent feature of civil law, sabotages the ability of the system to promote patient safety. It does this by creating a dynamic that encourages suits based on a profitability analysis that has little to do with the merits of cases. Furthermore settlement without guilt removes an important learning element from the system in that operational knowledge is frozen in non-disclosure agreements. This stops the experience of adverse events from being used to prevent the recurrence of mistakes and bad practices. Nevertheless, settlement remains an attractive local option to both parties in civil cases, as it forestalls court costs, provides remuneration and prevents damage to the reputation of the physician. Breaking this cycle locally must therefore be driven by an enlightened desire for real reform.

However, such attempts at real reform are made difficult by the prominence of different professions in the system. The specialized and privileged knowledge of these professions gives them control over different aspects of the system and prevents any of them from changing the dynamic without coordination with the others. Long history of mutual distrust and animosity, along with the lack of mutual understanding inherent from the difference of disciplines makes such coordination difficult. Second generation reforms must address these problems of coordination in order to be effective.

The system can be decomposed into several modules, each of which has its own function, character and internal goals. These modules influence the behavior of one another, and again it
is seen that a patient and consumer protection module that is dominated by tort liability has a predominately negative effect in its interactions with the other functional modules of the system.

However, this view of the system also provides hope. By understanding the far-reaching influence that the patient and consumer protection module exercises, it is possible to aim for reform that improves those interactions, either by regulating the actions that influence other modules or by changing the character of the module in a fundamental way. Such reform could be much more effective than the tort reform measures attempted in the past, and may provide an escape from the vicious cycles of the current system.
6 Bibliography


