

## WHY DO DOCTORS PRACTICE DEFENSIVE MEDICINE? THE SIDE-EFFECTS OF MEDICAL LITIGATION.

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### ABSTRACT

Defensive medicine takes place when doctors prescribe unnecessary tests, procedures or specialist visits (*positive defensive medicine*), or avoid high risk patients or procedures (*negative defensive medicine*). Doctors practice defensive medicine in order to reduce their exposure to medical malpractice litigation. This paper reports the results of two studies - one national and one conducted at a regional hospital - on the type, extent, and motivations of defensive behaviours adopted by doctors in Italy. Findings suggest that about 4/5 of the doctors admit having practiced defensive medicine at least once in the previous month. This paper discusses the factors - such as the blame culture and the increase in medical malpractice litigation - that prompt defensive behaviours, thus increasing patient risks, and the cost of healthcare system.

### 1. INTRODUCTION

Defensive medicine takes place when hospital staff performs unnecessary treatments, or avoids high-risk procedures to reduce its exposure to malpractice litigation. Doctors in particular prescribe tests, procedures or specialist visits (positive defensive medicine), or, alternatively, avoid high-risk patients or procedures (negative defensive medicine). Defensive medicine is a damaging effect of medical litigation. It increases the cost of the healthcare system and exposes patients to unnecessary risks. The number of negligence claims against doctors is continuously increasing (by +4,1% between 2006 and 2007 in Italy; ANIA, 2009). A large number of legal initiatives taken by patients have induced many doctors to adopt a defensive “strategy” to avoid jeopardizing their careers. The threat of medical malpractice litigation constitutes a serious obstacle to improving the reliability of healthcare organizations and patient safety.

This paper presents (a) the findings of two Italian surveys about defensive medicine; (b) the analysis of the perverse effects of “blame culture” in health care organizations. The blame culture is a managerial and organizational mindset focused primarily on identifying people who have provoked an accident in order to punish them. However, this approach to accidents systematically overlooks the contextual and organizational factors that might contribute to their occurrence. A cultural context and sanctioning institutions that are exclusively oriented to determine individual responsibilities constitute one of the principal causes of defensive behaviours on the part of doctors. This has the consequence of inhibiting organizational learning, undermining the quality of the healthcare services, and increasing their cost. It is important to stress that the opposite of a ‘blame culture’ is not a blame-free organization, but a ‘just culture’ organization. In a just culture, staff can differentiate between acceptable and unacceptable acts (Reason 1997; Ferguson and Fakelmann 2005; Dekker 2007). Equating blame-free systems with an absence of personal accountability is erroneous.

## 2. DEFENSIVE MEDICINE

Defensive medicine takes place when doctors, motivated by the necessity to reduce their exposure to medical malpractice litigation, prescribe unnecessary tests, procedures or specialist visits, or, alternatively, avoid high risk patients and procedures. When doctors engage in the excessive use of tests and procedures, they practice *positive defensive medicine*. When they avoid certain patients or high risk procedures, they practice *negative defensive medicine* (US Congress 1994). Both practices are becoming the prevailing professional behavior for clinical practice (Studdert et al 2005), thus increasing the cost of healthcare and, sometimes, lowering the quality of the service provided. Unnecessary and invasive diagnostic procedures (e.g., biopsies) constitute additional, and unneeded risks for patients. Some estimates indicate that in the US the practice of defensive medicine annually increases the healthcare costs by an additional \$100 billion dollars, and accounts for up to 12% of the entire expenditure (Tillinghast-Tower Perrin 2003).

Tancredi and Barondess found that, back in 1978, about 70% of doctors were engaging in defensive medicine practices out of fear of malpractice litigation (Tancredi and Barondess 1978). In the 1980s and 1990s, 47 studies were conducted by research teams or single scholars in the United States (Baldwin 1995). A number of these studies sought to estimate the cost of defensive medicine, the most significant of which were led by Reynolds and Lewin-VHI (1997). They estimated that, in 1987, the total cost of defensive medicine was 12 billion dollars, while, five years later, in 1993, this figure was doubled. A study conducted by the Department of Health Policy and Management of the Harvard Medical School demonstrated that most physicians across various specialities tend to adopt a “defensive” professional strategy (Studdert et al. 2005). The analysis was based on a group of doctors operating in specialities characterised by high levels of litigation (emergency medicine, general surgery, orthopaedic surgery, neurosurgery, obstetrics and gynaecology, and radiology). Out of a total of 824 doctors operating in 6 healthcare structures in Pennsylvania, 93% declared that they practised defensive medicine. In particular, 92% stated that they prescribed tests and procedures and made referrals readily, while 43% stated that they prescribed diagnostic procedures that were clinically unnecessary. Avoiding procedures and patients that are perceived as “dangerous” from a legal perspective is another very widespread practice: 42% of the interviewees admitted that they had deliberately limited the scope of their professional activity so as to avoid the possibility of litigation.

Study	Year	Country	Result (% of defensive behaviours)
Tancredi and Barondess	1978	US	70%
Studdert et al.	2005	US	93%
Summerton	2000	UK	90%
Hymaia	2006	Japan	98%
Massachusetts Medical Society	2008	US	83%

**Table 1** - Summary of the most important surveys.

In 2006, Pricewaterhouse Coopers issued a report about waste in the American healthcare system, estimating a loss of almost 1.2 trillion dollars per annum (Pricewaterhouse Coopers, 2006). Using NAMCS (National Ambulatory Medical Care Survey) data, Merenstein and collaborators (Merenstein et al. 2006) assessed the appropriateness of a sample of medical prescriptions by comparing the recorded justifications with the standards established by USPSTF (United States Preventive Services Task Force). Referring to a number of different types of prescriptions, they reported that the percentage of unnecessary prescriptions in the various categories ranged from 5% to 37%, and estimated that the annual cost of these instances of waste varied from 47 to 194 million dollars. In a study of doctors operating in emergency departments in California between 2001 and 2005, Rodriguez (Rodriguez et al. 2007) reported that about 50% of them declared they were concerned with the issue of malpractice litigation.

Similar results emerged from a study conducted in Japan in 2006 with a group of 131 gastroenterologists (Hiyama et al. 2006): 98% of the interviewees declared having practised defensive medicine and this was attributed to the increase in litigations. According to the researchers, doctors’ tendency to make an excessive number of tests and to avoid risky procedures is due to the concern generated by the overexposure of the problem of medical malpractice in the media, from which patients have derived their suspicious attitude toward doctors. Furthermore, the Massachusetts Medical Society conducted a statewide survey of 838 practicing physicians in eight speciality areas (anesthesiology, emergency medicine, family medicine, general surgery, internal medicine, neurological surgery, obstetrics and gynecology, and orthopedic surgery) from November 2007 to April 2008

(Massachusetts Medical Society 2008). The results showed that about 83% of the respondents reported practicing defensive medicine. The researchers estimated the costs of additional tests to be \$281 million for the eight specialties surveyed, based on Medicare reimbursements rates in Massachusetts for 2005-2006. In addition, the cost of unnecessary hospital admissions was estimated to be \$1.1 billion. In December 2008, Frances Lee Lucas and his colleagues led a study about 598 cardiologists in Portland (Oregon). They found that 24% of physicians had prescribed medically unnecessary cardiac catheterization because they felt threatened by the risk of malpractice litigation in case of refusal (Lucas et al., 2010). Between October 2009 and March 2010, Jackson Healthcare (Georgia) conducted a series of national surveys to quantify and account for physicians' attitudes, perceptions and recommendations regarding healthcare reform and defensive medicine practices. Researchers estimated that between \$650 and \$850 billion are spent every year on medically unnecessary tests and treatments in an effort to avoid lawsuits. Furthermore, in March 2010, Jackson Healthcare conducted its third national physician online survey to quantify, beyond the mere cost, the impact of defensive medicine. 72% of the respondents reported that the practice of defensive medicine negatively impacts patient care; 57% of them reported that defensive medicine hampers their decision-making ability; 53% reported delaying adoption of new techniques/procedures/treatments due to fear of a lawsuit; and 83% of physicians ages 25 to 34 reported being taught in medical school or residency (by an attending physician or mentor) to avoid lawsuits.

Academic interest in defensive medicine in Europe is more recent, and the literature is not so extensive. Summerton reported a series of findings on the practice of defensive medicine in England (Summerton, 1995; 2000): 90% of doctors declared that because of a concern for medical litigation they dedicated to the drafting of patients' records a greater amount of time than they otherwise would; 86% stated that they furnished patients with explanations about procedures that were more detailed than would otherwise have been the case; and 40% indicated that they had prescribed a greater number of screening tests than actually needed.

### 3. THE RESEARCH

The purpose of this study is to investigate whether and in which forms doctors practice defensive medicine in Italy. Following similar studies conducted in the United States, Canada, Japan, and Great Britain (Studdert et al., 2005; Summerton 1995, 2000; Hiyama, 2006; Passmore and Leung, 2002), I identified a series of specific practices, distinguishing between positive and negative defensive medicine, and attempted an estimate of their frequency. To carry out the study, I developed a structured questionnaire which included nine questions concerning:

1. The most common defensive behaviours;
2. The motivations that induce doctors to resort to defensive medicine.

The study analyzes different forms of defensive medicine (drug prescription, referral to specialists, diagnostic tests and hospitalization) and investigates *why* do doctors chose to practice it. The national study (NS) was conducted between July and November 2008. The questionnaire was sent via e-mail to 1,000 general practitioners who were members of the *Italian Society of Surgeons (Società Italiana di Chirurgia)*. About 37% of them (307 doctors) completed the questionnaire. The local study (LS)<sup>1</sup> was conducted between October 2008 and January 2009 and involved 124 specialists, 60 anaesthetists, and 64 surgeons. In this case, the questionnaire was delivered by hand. 82.2% of recipients completed the questionnaire.

#### 3.1 Results

According to our respondents, the problem of defensive medicine is widespread and pervasive. Italian doctors admit to frequently prescribe unnecessary tests, treatments and specialist visits, or alternatively, avoid high risk patients or procedures out of the fear of facing malpractice litigations, receiving claims for compensation, as well as compromising their reputation and jeopardizing their career.

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<sup>1</sup> Catino, M. and Celotti, S. (2009).

### 3.1.1 Behavior

#### National Study (NS)

77.9% of the surgeons in the NS admit having practiced defensive medicine at least once in the month prior to the interview. However, this number varies significantly by age (Table 2). Young doctors are most inclined to adopt defensive medicine behaviours. 92.3% of the interviewees in the 32-42 age bracket declared that they had practised at least one form of defensive medicine in the month prior to the interview. This percentage goes down to 67.4% among doctors in their sixties or early seventies.

Frequency of defensive medicine behaviours in the previous month			
Age	Never	At least once	Total
32-42	7.7	92.3	100.0
43-52	16.7	83.3	100.0
53-62	24.8	75.2	100.0
63-72	32.6	67.4	100.0
All	22.1	77.9	100.0

**Table 2** – Percentage of surgeons who have adopted defensive medicine behaviors at least once in the previous month by age (NS).

Table 3 reports different types of defensive medicine actions, and the frequency with which each of them is practiced. The most diffused form of *positive defensive medicine* the insertion of superfluous notes into the patient’s record, which is commonly adopted by the 82.8% of doctors. This is followed by the admission to the hospital of patients who could have been treated on an outpatient basis (68.8%). Moving forward, the majority of doctors report having prescribed unnecessary diagnostic tests (61.3%), consultation of specialists (58.6%) and drugs (51,5%) at least once in the previous month. Considering the practice of *negative defensive medicine*, 26.2% of our respondents declared having excluded ‘risky’ patients from treatment, while 14.0% of them admit having avoided risky procedures on patients who could have derived benefit from them. We have reasons to believe that these last two figures underestimate the actual volume of negative defensive medicine practices. In particular, our respondents might be more reluctant in reporting behaviours that might be subject of medical litigations.

Defensive Medicine Behaviors	Never	1 to 6 times	7 or more times	Total
<i>Positive Defensive Medicine</i>				
Prescribed more diagnostic tests than necessary	38.7	53.0	8.3	100.0
Prescribed unnecessary invasive procedures (e.g. biopsies)	85.7	13.8	0.5	100.0
Prescribed unnecessary treatments	75.6	22.0	2.4	100.0
Prescribed not strictly necessary drugs	48.5	44.8	6.7	100.0
Admitted to the hospital/suggested the hospitalisation of a patient even though his/her condition would have allowed for outpatient treatment	31.2	63.3	5.5	100.0
Made an unnecessary referral to a specialist	41.4	53.5	5.1	100.0
Wrote in a patient’s records notes that he/she would not have written if he/she had not been concerned with preventing medical litigation	17.2	63.1	19.7	100.0
<i>Negative Defensive Medicine</i>				
Avoided risky procedures on patients who could have derived benefit from them	86.0	14.0	0.0	100.0
Excluded “risky” patients from a treatment	73.8	25.4	0.8	100.0

**Table 3** – Frequency with which doctors have performed defensive medicine behaviors (Aggregate data, NS).

*Local Study (LS)*

83.3% of the doctors in LS admit having practiced defensive medicine at least once in the month prior to the interview. This number does not vary significantly by age (Table 4).

Frequency of defensive medicine behaviours in the previous month			
Age	Never	At least once	Total
32-42	10.6	89.4	100.0
43-52	27.5	72.5	100.0
53-68	6.6	93.4	100.0
All	16.7	83.3	100.0

**Table 4** - Percentage of doctors who have adopted defensive medicine behaviors at least once in the previous month by age (LS).

Table 5 reports different types of defensive medicine actions, and the frequency with which each of them is practiced. Similarly to what we have found in the NS, the most diffused form of *positive defensive medicine* the insertion of superfluous notes into the patient’s record, which is commonly adopted by the 78.9% of doctors. This is followed by prescribed unnecessary drugs (57.7%), prescribed unnecessary diagnostic tests (53%), and prescribed unnecessary treatment (34.2%). Considering the practice of *negative defensive medicine*, 24.8% of our respondents declared having excluded ‘risky’ patients from treatment, while 26.9% of them admit having avoided risky procedures on patients who could have derived benefit from them. As noted above, we think these last two figures underestimate the actual volume of negative defensive medicine practices.

Defensive Medicine Behaviors	Never	1 to 6 times	7 or more times	Total
<i>Positive Defensive Medicine</i>				
Prescribed more diagnostic tests than necessary	47	44.8	8.2	100.0
Prescribed unnecessary invasive procedures (e.g. biopsies)	95.3	4.7	0	100.0
Prescribed unnecessary treatments	65.8	30.7	3.5	100.0
Prescribed not strictly necessary drugs	42.3	49.5	8.2	100.0
Admitted to the hospital/suggested the hospitalisation of a patient even though his/her condition would have allowed for outpatient treatment	69.5	28.2	2.3	100.0
Made an unnecessary referral to a specialist	51.7	41.3	7	100.0
Wrote in a patient’s records notes that he/she would not have written if he/she had not been concerned with preventing medical litigation	21.1	56.6	22.3	100.0
<i>Negative Defensive Medicine</i>				
Avoided risky procedures on patients who could have derived benefit from them	75.2	22.5	2.3	100.0
Excluded “risky” patients from a treatments	73.1	25.8	1.1	100.0

**Table 5** - Frequency with which doctors have performed defensive medicine behaviors (Aggregate data, LS).

If we break down the findings of *LS* in terms of the two subsets of specialists interviewed – i.e. the surgeons and the anaesthetists – the results are quite different. Overall, anaesthetists revealed a greater tendency to adopt defensive medicine behaviors. 88.3% of the anaesthetists declared that they had practised at least one form of defensive medicine in the previous month, while the figure for surgeons is 76.1%. Among both anaesthetists and surgeons, the most frequent form of defensive medicine is the insertion into patient’s records of superfluous notes, but the practice of prescribing unnecessary drugs is more common among anaesthetists than among surgeons (64.2% against 46.9%).

### 3.1.2 Motivations

I now consider the motivations that induced doctors to resort to defensive medicine. Tables 6 and 7 report responses for NS and LS respectively. In general, doctors' fear of medical litigation is by far the major reason for practicing defensive medicine (80.4% in NS and 88.3% in LS), followed by a colleague's previous experience with medical litigation (65.7% in NS and 68.3% in LS), and the fear of a request for compensation (59.8% in NS and 67.1% in LS).

Factors that influenced the adoption of defensive medicine behaviours	Agree	Disagree	Total
1. Fear of medical litigation	80.4	19.6	100.0
2. Personal knowledge of a colleague being subject to medical litigation	65.7	34.3	100.0
3. Fear of a request for compensation	59.8	40.2	100.0
4. Previous personal experience with medical litigation	51.8	48.2	100.0
5. Fear of negative publicity, and reputational loss	43.5	56.5	100.0
6. Fear of disciplinary sanctions	15.0	85.0	100.0

**Table 6** - Motivations for defensive medicine behaviors (Aggregate data, NS)

Factors that influenced the adoption of defensive medicine behaviours	Agree	Disagree	Total
1. Fear of medical litigation	88.3	11.7	100.0
2. Personal knowledge of a colleague being subject to medical litigation	68.3	31.7	100.0
3. Fear of a request for compensation	67.1	32.9	100.0
4. Previous personal experience of medical litigation	41.2	58.8	100.0
5. Fear of disciplinary sanctions	31.8	68.2	100.0
6. Fear of negative publicity, and reputational loss	29.5	70.5	100.0

**Table 7** - Motivations for defensive medicine behaviors (Aggregate data, LS).

It is important to notice that surgeons are considerably more apprehensive than anaesthetists. The 90.7% of surgeons admit practicing defensive medicine out of a fear of medical litigations, compared to the 86.8% of anaesthetists. The 75% of surgeons were afraid of receiving a request of compensation, compared to the 62.3% of anaesthetists. Moreover, while 46.9% of the surgeons were afraid of negative publicity and a reputational loss, only 18.9% of anaesthetists reported this as a motivation for practicing defensive medicine. My findings indicate that the surgeons have significantly more direct contact with actual cases of litigation. The 62.5% of them stated that they have had personal experience of litigation, while the figure for anaesthetists was 28.4%. Interestingly, however, a similar percentage of surgeons and anaesthetists declared that they know a colleague who has been victim of medical litigation.

### Discussion

We draw three major conclusions from this study. First, the practice of defensive medicine is greatly diffused among doctors. Between  $\frac{3}{4}$  and  $\frac{4}{5}$  of the doctors (depending on the survey) declare having practiced some form of defensive medicine in the month previous to the interview. Anaesthetists are generally more inclined to practice defensive medicine than surgeon, although surgeons are more inclined to resort to hospitalization of patients that could be treated on an outpatient basis and to make referrals to other specialists. Second, the major driver of defensive medicine is the fear of medical litigation.  $\frac{4}{5}$  of general practitioners who adopted a defensive approach indicated that they were afraid of becoming involved in a legal dispute, while  $\frac{3}{5}$  declared to be afraid of damage claims. Surgeons appear more concerned with compensation requests and medical litigation than anaesthetists. Third, doctors are also afraid by the threat of negative publicity and reputational loss. Almost half of the doctors interviewed in NS expressed concern with the accusatory approach usually adopted by the media. Similarly, the surgeons interviewed in LS revealed an evident fear of negative publicity and reputational loss. The results of the two studies indicate that Italian doctors – both general practitioners and surgeons – practice defensive medicine to reduce the risk of being involved in litigation. In fact, Italian doctors frequently prescribe tests, treatments and specialist visits or, alternatively, avoid risky patients or procedures. Their major goal is to reduce their exposure to malpractice litigations. The findings reported here are comparable with the empirical

evidence that is available for other countries. In Italy a large majority of doctors adapt their professional behaviour so as to protect their career (Studdert et al., 2005; Hiyama et al., 2006; Passmore and Leung, 2002).

While in some countries the adoption of some of the medical practices discussed here might be due to strategic behaviors that is not connected with defensive medicine, such as, for instance, the intention to procure greater financial gains to the hospital, this is not the case for Italy. In Italy, the hospitals are mostly public (as it is the local case analyzed), and the expenses are usually covered by the national and local government. In this context, there are virtually no incentives for either doctors or hospitals to prescribe unneeded treatments, and procedures, beside those we connected to the practice of defensive medicine. In addition, recent governmental norms have established strict expenditure limitations that regulate tests and treatments that can be covered using taxpayers money.

## **4. DEFENSIVE MEDICINE: MEDICAL ERROR AND BLAME CULTURE**

### **4.1 Medical error: consequences and costs**

The concept of defensive medicine is closely related to the issue of medical errors (Maeve and Vincent, 1994). Interest about medical errors increased with the Institute of Medicine's report *To Err is Human* (Kohn, Corrigan and Donaldson, 2000). In a detailed analysis of a number of studies, this report denounced the malpractice and preventable deaths that occurred in many American hospitals. Relying on two previous studies conducted in three states (Colorado, Utah and New York), the commission responsible for writing the report pointed out that for every 100 hospitalized patients, between 2.9 and 3.7 encountered some form of malfunctioning, and in some cases, they died. Moreover they found that 53% of such accidents could have been avoided. Projected onto a national figure of 33.6 million hospitalisations per annum, these figures suggested that between 44,000 and 98,000 patients died as a result of some form of accident. According to this research, then, medical error constitutes the eighth most significant cause of death in the United States, resulting in an economic loss of about 29 billion dollars per year. After that American report, a number of other studies were conducted in various countries in the Western world. These studies confirmed the American findings in relation to the risks involved in medical error, and, in some cases they even suggest that the report mentioned above might have underestimated the size of the phenomenon.

A recent study conducted on 74,485 patients in different countries (United States, Australia, England, New Zealand and Canada) demonstrated that 9.2% of hospitalised patients incur iatrogenous damages: 43% of those are preventable and over half (56.3%) without serious consequences (De Vries et al., 2008). It has been estimated that medical liability premiums in the United States have reached \$26 billion per annum, representing a 2,000% increase since 1975 (Tillinghast-Towers Perrin, 2003). Italy seems to be facing a similar situation: scholars have estimated that medical liability payments had reached 7-800 million Euros per annum (since 2004). From 1994 to 2007 the number of medical accident claims rose from a little over 9,500 to about 30,000 (+200%) (ANIA, 2009). In particular, accident claims in respect of the insurance policies of individual doctors rose from 3,222 in 1994 to 13,415 in 2007. While accident claims in respect of the policies of healthcare institutions rose from 6,345 to 16,128.

The economic repercussions are particularly significant. Several studies showed that many doctors believe that being victim of litigation damages their professional reputation and reduces demands for their services. The psychological repercussions of litigation and, in particular, the loss of self-esteem are also very important. The anxiety state that is provoked by their attendance in court endures long after the conclusion of the sentence (Charles et al, 1984; Fileni et al, 2007). The patient becomes like a potential antagonist and the doctor-patient relationship is compromised by an excess of prudence (Law, 1986; Elmore, et. al. 1986).

### **4.2 Individual Blame Logic**

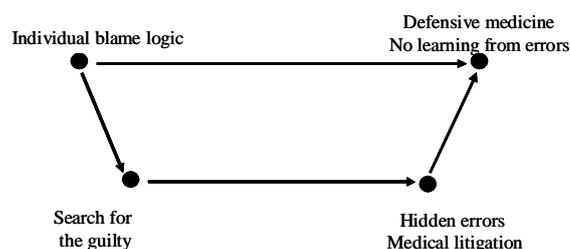
When an accident occurs there is a tendency to immediately identify the individuals who have caused it and to blame them (Catino, 2008). Within this approach, solutions are mainly punitive and the organisational context is overlooked. This is a distinctive characteristic of criminal law, but it is also prevalent in organisations based on a punitive culture (Avery and Ivancevich, 1980). The underlying assumption of this *Individual Blame Logic* (IBL) is that people make mistakes because they do not care about their tasks and activities. It adopts a linear causal model, underestimating the organizational context. Efforts to identify blame are only oriented towards people in front line. If a guilty person is found, he or she is held responsible for the accident. In practice, that means that a 'bad apple' is removed or punished. According to Reason (1997), being concerned over individual responsibility - an IBL habit - is based on the following beliefs:

1. Voluntariness of actions. People are considered free agents that are able to choose between safe and unsafe behaviours. Several studies demonstrate that 80-90% of accidents involve human actions. Because such actions are perceived as subject to voluntary control, it is assumed that accidents are caused by negligence, inattention, inaccuracy, incompetence, etc.
2. Responsibility is personal. The personal model is founded on individual responsibility. Its goal is to find the individual who made a mistake.
3. The sense of justice is strengthened. IBL is emotionally satisfying; after a serious accident, or worse, a disaster, the identification of blame tends to satisfy every person involved, as well as the general public.
4. Convenience. Conceiving of individual responsibility has many advantages for organizations, both in legal and economic points of view. It keeps the organizational structure unaltered, the same power system and rules. The goal of IBL is to identify an individual responsible and fix an adequate punishment. People who directly provoke an accident are often the front line operators. It is clearly easier to identify a person who is in close contact with the system (pilot, doctor, nurse, control panel operator, train conductor, etc.) as responsible of the event.

On the other hand, *Individual Blame Logic* arises a number of “perverse” or unwanted effects. First of all, the identification of a guilty individual does not change the prevailing situation and does not improve the organisation. Secondly, that approach is focused on the past and makes people scared about legal disputes and sanctions, discouraging incident reporting and organizational learning. Finally, IBL is characterized by two

particular forms of bias: *hindsight bias*<sup>2</sup> (Fischhoff, 1975) and *fundamental attribution bias*<sup>3</sup> (Fiske and Taylor, 1984; Gilbert and Malone, 1995). Thus, IBL does not eliminate risk factors and does not guarantee that an analogous event will not reoccur with other actors. It also makes difficult discuss and spread information about errors. In reference to healthcare systems, Merry and Smith (2001) declare that working under the threat of legal prosecution promotes a climate of fear. For these reasons doctors tend to hide their errors and to engage in defensive medicine practices. The persistence of a blame culture, reinforced by a certain type of judicial action, becomes the main obstacle to the creation of an effective culture of patient safety and favors defensive medicine.

*Individual Blame Logic*, that is oriented towards the identification of an individual responsibility, could be considered one of the most important factors that have led the spreading of defensive medical practices. According to Benn Healey and Hollnagel (2008), “to improve patient safety, healthcare organizations must move from a retrospective focus upon adverse events to more proactive improvement processes that actively anticipate and mitigate vulnerabilities inherent in the system”. The healthcare system must develop its capacity to learn from errors and failures. It needs to become more resilient and reliable. A resilient organization (Hollnagel et al., 2006) successfully detects dangerous conditions and adapts itself to absorb variations before that serious harmful consequence arises (Patterson et al., 2005). To achieve this, a profound cultural transformation is required. In fact, finding a guilty individual discourages an error reporting system, an organizational learning and promotes the spreading of defensive behaviours.



**Figure 1.** The mechanism that produces defensive medicine (Catino, 2008)

<sup>2</sup> *Hindsight bias* has two distinguishing characteristics: 1) the “it was well known” notion, on account of which analysts emphasize what individuals ought to have known and prevented; 2) the lack of awareness of the influence that the knowledge of results exerts on the perception of past events. Thus, the facts appear straightforward and clear as opposed to ambiguous, contradictory and ill-defined, which is how they probably appeared to the actors at the time of the events themselves. Labeling a past action as erroneous is very often a judgment based on a distinct body of information available only after the event has taken place.

<sup>3</sup> *Fundamental attribution bias* is understood as the tendency that involves attributing blame for negative results to incompetence and inadequacy on the part of the actor in question as opposed to considering them as the product of a specific situation or as the result of situational factors beyond the control of the said actor.

### 4.3 Learning from errors or punishing people

Learning from errors is significantly influenced by the institutional dilemma of blame (Catino 2008; Gherardi 2004; Reason 1997; Turner and Pidgeon 1997). Individuals in organizations may be reluctant to report negative information, especially when this can lead to disciplinary sanctions, or result in being blamed or ridiculed because of an error (Edmondson 1999). For example, it can be very difficult for doctors to report errors because of concerns regarding legal consequences (e.g. insurance liabilities) as well as fear of losing face vis-a-vis their colleagues. Moreover, following Rochilin (1999), I argue that there is a cultural dimension to how organizations deal with errors. As Hutter (2005: 91) has pointed out, “different views of organizations lead to various ways of seeing risk an different ways of apportioning responsibility and blame”. Dekker (2007: 99) observes that “Judicial proceedings, or their possibility, can create a climate of fear, making people reluctant to share information. It can hamper an organization’s potential to learn from its incidents. People may even begin to tamper with safety recording devices, switching them off”. The politics of blame (Sagan, 1993) can therefore discourage operators from reporting problems and errors. This lack of incentives may reduce the validity of available information about threats and risks (Dekker, 2007).

The above barriers are strongly influenced by the organizational context in which learning from errors takes place, in particular the specific safety culture of an organization and the norms regulating specific professions. This points to the opposition between ‘blame’ and ‘just’ cultures. If errors are considered as an indication of professional incapacity (blame culture), operators will be likely to hide them. Weick and Sutcliffe (2007: 125) point out that “candid reporting of errors takes trust and trustworthiness. Both are hard to develop, easy to destroy, and hard to institutionalize.” People need to feel safe to report errors and incidents or they will ignore them or cover them up. A just culture is about protection of people who are willing to report. Within a just culture, frontline operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training. However, gross negligence, wilful violations and destructive acts are not tolerated (Eurocontrol 2006).

Reason (1997: 195) describes just culture as “an atmosphere of trust in which people are encouraged, even rewarded for providing essential safety-related information – but in which they are clear about where the line must be drawn between acceptable and unacceptable behaviour.” A just culture organization is aware that a culture of safety crucially requires the creation of an open, free, non-punitive environment in which people can feel safe to report adverse events and near misses.

A climate of openness can make people more willing to report and discuss errors, and learn more about the system in the process (Edmondson, 1999). Conversely, a “practice of blaming create an atmosphere that tend to stigmatize people and discourage them from speaking up” (Weick and Sutcliffe, 2007: 132). Morrison and Milliken (2000: 708) believe that “when an organization is characterized by silence, this is less a product of multiple, unconnected individual choices and more a product of forces within the organization – and forces stemming from management – that systematically reinforce silence”. Organizational silence blocks negative feedback and the organization’s ability to detect and correct errors. Organizational silence blocks the capacity for what Argyris and Schön (1996) calls double-looped learning.

## 5. CONCLUSION

The empirical evidence provided in this paper confirm that the phenomenon of defensive medicine is constantly growing in Italy, as it is in other countries. *Why do doctors practice defensive medicine?* The substantial increase in malpractice medical litigation has induced doctors to adopt defensive medicine practices in order to prevent litigations, as well as reputational consequences that might undermine their career and professional respectability. However, the exponential growth in medical litigations has had the effect of increasing the costs of the public and private healthcare systems, without nonetheless leading to a corresponding improvement in healthcare quality or patient safety. This latter aspect is alarming, and need some further reflection.

Findings presented in this paper cast a new light on an additional factor – the blame culture – that seems to be a significant obstacle to organizational learning, and the consequent improvement of patient safety (Reason 1997; Catino 2008). According to Jones (2002) in everyday life of an hospital, certain cultural factors reinforce and expand risks related to adverse events. In general, a punitive approach to errors encourages defensive behaviors and obstacles the process of learning from errors, near misses and unsafe actions. As consequence, the organization stops learning and does not improve reliability and patient safety. To change these conditions, a profound cultural transformation is required. This cultural shift has to start from the top management of the organization in order to create a positive effect on the behaviors of all organization members. It is important to

create “spaces of non-punishability”, where operators feel free to discuss failures, and learn from them. At the same time, it is important to stress the idea that the opposite of blame culture is not a blame-free, but a just culture organization. Equating blame-free systems with an absence of personal accountability is erroneous. In a just culture, staff can differentiate between acceptable and unacceptable acts (Reason, 1997; Ferguson and Fakelmann, 2005; Dekker, 2007). In a just culture front-line operators are not punished for actions, omissions or wrong choices, but rather only for acts of gross negligence, malevolent violations or intolerable destructive actions.

Finally, it is necessary to rethink the use of criminal law, promoting a different civic epistemology (Jasanoff, 2005) in the case of accidents caused by unintentional errors. Penal sanctions are clearly an important instrument for the social control of organizations. But it is questionable – and, in fact, there is very little supporting empirical evidence – whether it constitutes an effective deterrent in case of accidents (Vaughan, 1996; 1998).

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