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**Defensive medicine: It is time to finally slow down an epidemic**

Vento s *et al.* Defensive medicine

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**Abstract**

Defensive medicine is widespread and practiced the world over, with serious consequences for patients, doctors and healthcare costs. Even students and residents are exposed to defensive medicine practices and taught to take malpractice liability into consideration when taking clinical decisions. Defensive medicine is generally thought to stem from physicians’ perception that they can easily be sued by patients or their relatives who seek compensation for presumed medical errors. However in our view the growth of defensive medicine should be seen in the context of larger changes in the conception of medicine that have taken place in the last few decades, undermining the patient–physician trust which has traditionally been the main source of professional satisfaction for physicians. These changes include the following: time directly spent with patients has been overtaken by time devoted to electronic health records and desk work; family doctors have played a progressively less central role; clinical reasoning is being replaced by guidelines and algorithms; the public at large and a number of young physicians tend to believe that medicine is a perfect science rather than an imperfect art, as it continues to be; modern societies do not tolerate the inevitable morbidity and mortality. To finally reduce the increasing defensive behavior of doctors around the world, the decriminalization of medical errors and the assurance that they can be dealt with in civil courts or by medical organizations in all countries could help but it would not suffice. Physicians and surgeons should be allowed to spend the time they need with their patients and should give clinical reasoning the importance it deserves. The institutions should support the doctors who have experienced adverse patient events, and the media should stop to report with excessive evidence presumed medical errors and subject physicians to “public trials” before they are eventually judged in court.

**Key words:** Adverse event; Clinical reasoning; Defensive medicine; Doctor-patient relation; Healthcare cost; Medical education; Medical error

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**Core tip:** The widespread practice of defensive medicine has negative consequences for patients, doctors and healthcare costs. The growth of defensive medicine must be seen in the context of the changes in the conception of medicine which have occurred in the last few decades and have undermined the patient–physician trust. To reduce the practice of defensive medicine, decriminalization of medical errors, increase in time directly spent with patients, reaffirmation of the importance of clinical reasoning, institutional support to doctors who have experienced adverse patient events are essential.

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**Introduction**

Defensive medicine has been practiced for decades[1] and spread to countries the world over to become an epidemic[2-5], causing unnecessary hospitalizations, tests, invasive procedures, drug prescriptions, consultations with other physicians; avoidance of most at risk patients; congested waiting lists. Consequences can be serious not only for the individual patient; for example, prolonging antibiotic duration, prescribing unnecessarily broad-spectrum antibiotics or combinations of agents, or prescribing unnecessary antibiotic treatments[6,7] may contribute to the alarming spread of antibiotic resistance. Even students and residents frequently encounter defensive medicine practices and are in various instances taught to take malpractice liability into consideration when taking clinical decisions[8].Medicolegal systems tend to censure alleged errors of omission much more often than any other type of fault[9],thus incentivizing a continuously increasing and excessive number of diagnostic investigations as a strategy for reducing legal risk[10]. Indeed it was observed that the United States had created the “perfect storm” for overutilization of healthcare[11], and that there is “an unjustified enthusiasm for treatment on the part of both doctors and patients”[12,13]. Hence the financial burden related to defensive medicine is considerable; the US medical liability system costs $55.6bn annually, and the contribution of defensive medicine is over 82% ($45bn)[14] andin Italy the cost of defensive medicine has been estimated to be around 10–12 billion/euro/year[15].Indeed, higher resource use by physicians is associated with fewer malpractice claims[16].

Does defensive medicine solely derive from physicians’ perception that they can easily be sued either by patients or their relatives seeking compensation for presumed medical errors, or is there more to it? We argue that a “defensive” attitude is part of a huge change in the conception of medicine that has taken place in the last decades and needs to be acted upon if we wish young people to continue to have an interest in, and the society at large to have trust in the profession.

Clinical medicine has always been based on patient–physician trust, and this has traditionally been by far the main source of professional satisfaction for physicians. Indeed, factor such as “prestige of medicine,” “intellectual stimulation,” “interaction with colleagues,” “financial rewards” are much less important[17].

Unfortunately, this fundamental trust has been progressively eroded by lack of patient face-time, increasing lack of clinical autonomy, and liability concerns. A national Survey of America’s Physicians (completed by 17,236 physicians, 10,170 of whom wrote additional comments) gave a dismaying picture of the medical profession: just 14% of physicians surveyed have the necessary time to provide the highest levels of care, 60% have been detracted from patient interaction by electronic health records, 54% have a negative morale, 49% suffers from feelings of burn-out, 49% would not recommend medicine as a profession to their children, 48% intend to reduce hours, retire, get a non-clinical job, or limit patient access to their practices, and only 37% have positive feelings about the future of the medical profession[17].This is not a picture limited to one country; on the contrary, these feelings are increasingly shared by doctors in many other countries.

Physicians cannot increasingly spend more time at inserting data into a computer than at directly caring for their patients (in US ambulatory practice, for each hour doctors give direct clinical face time to patients, approximately two further hours are spent on electronic health records and desk work in the clinic day)[18]. And caring is obviously not only about examining patients and prescribing investigations or drugs; it is about spending time with patients, being at their side, talking to them without hurrying, showing a sincere interest in their condition and in its social implications, answering their questions and addressing their concerns. If this relation is lost or diminished to unacceptable levels, then defensive medicine is the logical consequence.

Medicine has moved from a family, “personal” doctor to a hospitalist/hospital employee model. Even in the USA, family doctors largely do not take care of their patients in a hospital close to home anymore. Patients feel that the doctor/doctors who has/have not spent enough time to talk to them could well have missed or anyway overlooked important aspects of their illness; and those surgeons who have not had time to listen to their patients’ fears and concerns, will have acted superficially and made mistakes.

So, doctors must be allowed to spend the necessary time with their patients, a privilege that even residents/registrars in the hospitals no longer have. In fact published studies indicate the predominance of activities indirectly related to patients; residents spend much more time using a computer than they do with patients[19-21]. Even though hiring more personnel and spending more funds will be necessary to allow doctors to spend more time with patients, this needs to be done; it won’t mean increased healthcare expenditure but perhaps less, if defensive medicine is reduced.

Another issue is the fact that even nowadays patients, who are well informed and surf internet to look for healthcare information, ultimately are in search of experienced physicians who they can trust and who will look after “them” and not only after an “illness”. Are patients looking for doctors who rigidly follow algorithms and guidelines? They don’t. Algorithms that transform patient care into a sequence of yes/no decisions do not consider the complexity of medicine and the reasoning inherent in clinical judgment. Young clinicians must abandon the idea that not adhering strictly to guidelines implies being sentenced in court, and should not think that guidelines are a “magic bullet” for all healthcare issues. The best evidence is helpful if used in the setting of a particular patient in a certain environment, interpreted and utilized on the basis of clinical experience. As much as a recipe book does not guarantee success in cooking, so clinical guidelines cannot guarantee success in diagnosis or treatment. In fact a standardized evidence-based practice, based on protocols and guidelines, is aimed at improving population rather than individual health.

Clinical reasoning is indeed extremely important and needs to be devoted all necessary time also in medical school curricula; contrary to popular belief, mistakes are caused much more often by errors in cognitive function (failure to elicit, synthesize or act on available information) than lack of knowledge.

Medicine cannot be, and is not black-and-white as protocols and checklists seem to emphasize. Physicians and surgeons must decide on the basis of imperfect data, and face unpredictable patient responses to treatment and outcomes that are not black-and-white[22].It is time to stop disproportionate ordering of tests (carrying risks of false positive results or even iatrogenic harm)[23] in an attempt to achieve an unobtainable diagnostic certainty[24].

Hence the public at large and the physicians themselves need to be educated to the idea that medicine is not a perfect science but rather an imperfect art, as it has always been. It is a huge mistake to expect perfection and totally predictable results in medicine, that no one can guarantee even in the most technologically advanced environment. Complications are difficult to avoid and play an important role in medical malpractice suing; in one highly cited study in New York, adverse events were reported in 3.7% of all hospitalizations, and negligence was present in less than 30% of these cases[25]. The culture of discredit and culpability, which induces physicians to hide and deny mistakes, makes any mistake, or adverse outcome, an intolerable failure[9].Coupled with the modern societies’ lack of tolerance for inevitable morbidity and mortality (whereby even death is no longer considered a possible consequence of a disease, but rather a preventable complication), a poor outcome is then presumed to indicate a wrong process[9],and a medical treatment that does not lead to the anticipated, positive outcome is regarded by patient or relatives as a mistake, while it may just be unachievable even in the most advanced healthcare setting.

A defensive attitude may also contribute to the huge reduction in the number of requests for autopsies worldwide[26,27]. Even though many other factors have contributed to such impressive reduction over the last few decades, one reason is the fear of some doctors that they could be sued should the findings prove a wrong diagnosis or a clinically missed pathology[28].

Defensive medicine is reinforced by the experience of adverse patient events and being sued by patients or relatives further increases this practice. Indeed a vicious circle starts when doctors are involved in an unexpected adverse event, mistake and/or patient related harm; the (sometimes huge) trauma related to the event leads to physical, cognitive and behavioral symptoms, including the practice of defensive medicine[29,30]. Support obtained by these physicians in their institutions is poor and inefficient[31].Adequate support is necessary to help and interrupt this negative series of events.

In conclusion, defensive medicine is the consequence of a deep crisis in the relationship between doctors and society which has led people to consider modern medicine as able to treat any disease, and doctors to behave opportunistically rather than doing what they think is really in the best interest of their patients. The increasing pressure to examine more and more patients in a short period of time, and to get patients out of the hospital faster and faster needs to be arrested; doctors would then be able to consider again their patients’ clinical and psychosocial history and no longer instantly prescribe investigations and drugs to diminish their legal responsibility should they be charged with imprudence, inexperience or negligence. While decriminalizing medical mistakes and making sure that they can be handled in civil courts or by medical organizations in all countries can help, this must be associated with changes in the health systems from a punitive attitude to one that favors identification and correction of structural errors. And physicians must of course know the best and most current evidence in their fields but always consider the evidence in the context of their experience and of the individual case they have in front of them. Finally, continuing efforts must be made to educate the public that “information” acquired from online sources outside of an appropriate clinical context is generally inappropriate, and to make the media understand that reporting with great evidence a number of presumed medical errors and subjecting physicians to “public trials” through newspapers, radios, television or websites before they are eventually judged in court[32] is extremely wrong and damaging for health systems. We exhort colleagues not to succumb to pressure deriving from the system, the patients, and their peers[33], and we urge healthcare administrators, policymakers, patients’ organizations and journalists to cooperate and make healthcare systems better and safer.

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