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SCIENTIFIC CONTRIBUTION

Defensive practice is indefensible: how defensive medicine runs counter to the ethical and professional obligations of clinicians

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Abstract

Defensive medicine has become pervasive. Defensive medicine is often thought of as a systems issue, the inevitable result of an adversarial malpractice environment, with consequent focus on system-responses and tort reform. But defensive medicine also has ethical and professionalism implications that should be considered beyond the need for tort reform. This article examines defensive medicine from an ethics and professionalism perspective, showing how defensive medicine is deeply problematic. First, a definition of defensive medicine is offered that describes the essence of defensive practice: clinical actions with the goal of protecting the clinician against litigation or some adverse outcome. Ethical arguments against defensive medicine are considered: (1) defensive medicine is deceptive and undermines patient autonomy; (2) defensive medicine subjugates patient interests to physician interests and violate fiduciary obligations; (3) defensive medicine exposes patients to harm without benefit; (4) defensive medicine undermines trust in the profession; and (5) defensive medicine violates obligations of justice. Possible arguments in favor of defensive medicine are considered and refuted. Defensive practice is therefore unethical and unprofessional, and should be viewed as a challenge for medical ethics and professionalism.

Keywords Defensive medicine · Fiduciary obligations · Professionalism · Medical ethics · Clinical ethics

Introduction

Defensive practice has become widespread in medicine (Ortashi et al. 2013; Lyu et al. 2017). Defensive medicine is often approached as if it is largely a systems issue related to the litigious atmosphere within which medicine is practiced (Kessler et al. 2006; Lyu et al. 2017; Mello et al 2010; Studdert et al. 2005; Van Der Steegen et al. 2017). While there has been some consideration of the ethical dimensions of defensive medicine (De Ville 1998), the view that defensive practice is a systems problem seems to predominate. From this perspective, defensive medicine is the result of the malpractice-minded environment of modern medical systems and is problematic because it leads to unnecessary use of resources. Consequently, there are ongoing systems-based efforts to encourage appropriate use of resources, to limit the waste caused by unnecessary tests and procedures, and to address litigation systems (Hermer and Brody 2010; Kachalia and Mello 2014; Pellino and Pellino 2015).

There surely is merit to these ideas. It seems natural that a litigious climate and systems factors may predispose clinicians to a defensive posture. Addressing such systemic factors will naturally be thought to decrease the inducement towards defensive practice.[1] But this is only half of the story.

Doctors have wide discretion when it comes to ordering tests and prescribing treatments. It is ultimately up to an individual doctor to decide whether a specific test will be done or treatment provided. This has long been recognized in regards to overuse and underuse of medical resources; the prescribing and practice patterns of doctors play an important role in overuse and underuse, which is why there are efforts (such as Choosing Wisely) to curtail overuse and underuse by directly addressing the decisions of physicians.

[1] I should point out: while many analyses seem to bear out that defensive medicine adds significant healthcare cost and that systems changes and initiatives can decrease defensive practice and related cost (Hermer and Brody 2010; Lyu et al. 2017; Mello et al. 2010; Van Der Steegen et al. 2017), at least one analysis maintains that while defensive practice is widespread, the cost impact of defensive medicine on overall healthcare spending is actually relatively small, and changes in the malpractice environment does not seem to change defensive practice that much (Thomas, Ziller and Thayer 2010).

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Even if there are systems issues and pressures that may motivate a clinician to practice defensively, the individual clinician eventually has to make the choice whether to engage in a specific defensive act or not. This makes defensive medicine a practice style employed by clinicians in addition to being a systems issue. Furthermore, defensive medicine involves patients and is practiced in the context of the patient-clinician relationship. For these reasons defensive medicine is also an issue of medical professionalism and medical ethics.

Questions naturally arise. If so many clinicians practice defensively, is defensive practice ethically sound? Should the conscientious professional engage in defensive practice? Given the fears surrounding malpractice and the natural desire to protect one's own practice and reputation, is defensive medicine a legitimate response on the part of the clinician?

In this article I show that defensive medicine as practice style is deeply problematic. I will present and consider possible arguments for and against defensive medicine and ultimately conclude that defensive practice is unprofessional, unethical, and undermines the goals and values of medicine. It is an indefensible way of practice to which no practitioner should resort regardless of the inducement they feel to protect themselves. Instead of practicing defensively, clinicians should strive to practice in ways that do right by their patients and that further the goals and values of medicine.

What is defensive medicine?

An initial challenge is to define defensive medicine in a way that captures the essence of defensive practice. In this section I will offer a definition of defensive medicine, and reflect on what defensive medicine is and what it is not.

Generally used descriptions of defensive practice

Defensive medicine has been described in different ways and is thought to occur in different situations. One type of defensive medicine is ordering of tests or treatments to protect against malpractice suits, complaints, or criticism from patients and their families; so-called positive defensive medicine (De Ville 1998; Hermer and Brody 2010; Ortashi 2013; Lyu et al. 2017). It can include ordering tests where the risk of disease is low and testing does not add to clinical decision-making but are thought to reduce risks for the clinician; reassurance referral to specialists when not required; or adding treatments and testing to "cover all the bases" when the treatment or test has no value in aiding diagnosis or treatment. Another type of defensive medicine is the avoidance of patients or clinical situations to reduce the risk of such lawsuits or complaints; so-called negative defensive medicine (De Ville 1998; Ortashi 2013; Lyu et al. 2017).

A definition of defensive medicine

Reflecting on the types of actions considered to be examples of defensive medicine illuminates the central defining features of defensive practice. Defensive medicine refers to clinical actions taken by clinicians during patient-care primarily to protect the clinician against some adverse outcome. For an action to be an instance of defensive medicine we need (1) some clinical action involving a patient, (2) with the goal of protecting the clinician against some adverse outcome. Ultimately, these clinical actions directly affect patients, and would not have been done if it did not aim at protecting the clinician. Defensive medicine therefore represents a unique kind of conflict of interest. Clinician decision-making should be driven by the interests of the patient, but here we see a powerful set of non-patient interests that influence clinician decision-making.

What defensive medicine is not

Not all steps clinicians may take to protect against litigation or bad outcomes would count as defensive practice as defined here. For instance, what is not included under the definition of defensive practice are activities such as keeping diligent notes in the medical record, especially so when future complaints or litigation are a risk, or consulting risk management or legal services within the hospital. If a clinician documents a particular patient-related event in meticulous detail because she wants it recorded in case a complaint is made, this does not fall under the definition of defensive practice.

It is also not defensive practice if a clinician has genuine uncertainty and wants to order tests to address the uncertainty, or if a clinician believes a test to be indicated to confirm a diagnosis and then orders the test. These are components of good, professional practice aimed at ultimately benefiting the patient. Some may think every instance of being a careful clinician in search of the highest certainty is an instance of defensive medicine; but these are not the same thing. There is a distinction between careful (or even over-careful) practice and defensive medicine. Defensive practice seeks to protect the physician, while careful practice ultimately still seeks to serve the interests of the patient.

There are a range of practice decisions that may deviate from adherence to the best available evidence but does not count as defensive practice. Being sensitive to patient preferences and values may drive practice decisions in ways that modify the implementation of evidence-based recommendations, but this does not mean a doctor is practicing defensively. Neither is the physician who orders a test because

she is worried about a patient or has a nagging doubt (based on expert clinical judgment) that this patient may be the exception to the rule and may need a test that usually is not ordered. Good evidence-based practice seeks to apply the best evidence in conjunction with patient preference and clinical judgment, so that patient values and clinical judgment may sometimes steer decision-making away from a wooden adherence to the letter of the evidence. But this is not defensive practice; again, ultimately the clinician is using her skill to serve the interests of the patient, and not primarily to defend herself from adverse outcomes.

Overuse/underuse of resources and defensive medicine

Defensive medicine is sometimes mentioned in the discussion on the overuse and underuse of healthcare resources that affect healthcare quality (Lyu et al. 2017), but it is not quite right to think of all kinds of overuse of underuse as issues related to defensive practice (Carroll 2017). Overuse is the use of resources or provision of care in situations where there is no evidence for benefit to the patient, or where there is potential harm that exceeds any potential benefit, or where there is no clear medical rationale for use (Chan et al. 2013; Nassery et al. 2015). Underuse happens when interventions that may benefit a patient is not provided, an omission of something that could help patients (Chan et al. 2013).

Overuse is a generic term that refers to all instances where services are used in an unnecessary way, and is thought of as a world-wide problem (Brownlee et al. 2017). There are various forms of overuse that relate to features of diagnostic and screening tests and various societal factors, which may include (Brownlee et al. 2017; Lown Institute 2019; Moynihan and Doust 2012):

- Overdiagnosis, where a person without symptoms are diagnosed with a disease that will not cause them to develop symptoms or lead to premature mortality;
- Indication creep, where treatments are used on less-sick people and for reasons other than what the drug initially was developed for;
- Over-medicalization. Some behavior or state of being is medicalized when it is described in medical terms, using the concepts of medicine, and medical treatments or interventions are offered in response to the behavior or state of being. Over-medicalization happens when something that is not a medical issue, but a cultural or social one, or something that is not really a problem is approached as if it is a medical problem. For example, someone who is appropriately sorrowful because of the loss of a job or relationship is not experiencing a psychiatric disorder and should not be diagnosed with a medical condition. Over-medicalization is therefore a kind of overuse as it employs medical interventions and treatments where it is not appropriate to do so, where non-disease phenomena are treated as if they are diseases. (For further discussion on medicalization and over-medicalization, see Kaczmarek 2019.)

It can be hard to identify a solid line between appropriate use of resources and overuse, and overuse is thought to occur in a continuum. In many cases of overuse, doctors may think they are helping the patient, but they are in fact not doing so. But is seems as if there is a specific form of overuse that is different in kind and form to other kinds of overuse: when unnecessary tests or treatments are ordered not because of uncertainty of benefit or diagnosis, but mainly to protect the clinician against a lawsuit or against a negative patient evaluation. This is defensive practice, and can be seen as a specific type of overuse, and should be distinguished from other forms of overuse. For example, if a physician is uncertain about the evidence underlying a specific test, and then orders it so that she can be sure she has not omitted anything important for the patient, this could lead to overuse of resources if the test was really not necessary. But this is clearly not defensive practice. Similarly, there may be many forms of underuse, but certain kinds of underuse may qualify as defensive practice. For example, if a physician neglects to provide a diagnostic test to a patient that may benefit the patient because the physician is not familiar with the test, it is an instance of underuse but not of defensive medicine. If a clinician avoids seeing a patient when the patient needs care purely in order to protect the clinician against legal liability, it would count as defensive practice. So, while defensive medicine may lead to overuse or underuse, it is not so that all overuse and underuse is defensive medicine.

Defensive medicine and intentionality

I've defined defensive medicine as clinical actions primarily intended to protect the clinician's interests. This is not to say that doctors always knowingly or consciously place their own interests ahead of patient interests, and careful or overcautious practice does not necessarily translate to defensive medicine. However, surveys of physicians seem to indicate that there are occasions where physicians are aware of treatment decisions they make in response to fear of lawsuits or patient complaints (Lyu et al. 2017; Ortashi 2013; Vento, Cainelli and Vallone 2018). There are various reasons that may prompt or influence a clinician to resort to defensive medicine (De Ville 1998; Ortashi et al. 2013; Mello et al. 2010; Studdert et al. 2005). These include fear of litigation, fear of a patient complaint, fear of negative patient evaluations, or loss of reputation. Common to all these reasons is

the feature that something important to the clinician provides the primary motivation for action.

It is important to recognize that these are valid concerns clinicians have. Nobody wants to be sued. Complaints, negative evaluations, or legal action can lead to loss of reputation, position, and income. Such concerns should be taken seriously. Some clinicians may feel they have no choice but to practice defensively; if clinicians are measured against the actions of their peers in legal proceedings, and other clinicians practice defensively, those who do not may be vulnerable to adverse outcomes (Kachalia and Mello 2013). But there are good reasons to think that defensive medicine should not be practiced, even in the face of such concerns. Simply stated, it is wrong to practice defensively given the stated definition, and (as I will indicate) we have reasons to be skeptical that defensive medicine is a cure-all for these concerns.

How widespread is defensive practice?

Defensive medicine appears to be practiced all over the world, and is not limited to one country in particular (Vento, Cainelli and Vallone 2018). It is a serious issue which impacts how clinicians treat patients. Many clinicians seem to view defensive practice as an appropriate response to fears of malpractice and patient dissatisfaction (Vento, Cainelli and Vallone 2018).

In a recent survey of United States physicians, 20.6% of medical care provided in the United States is reported as unnecessary (Lyu et al. 2017). Two important reasons for unnecessary care identified by respondents are fear of malpractice (84.7%) and pressure/requests from patients (59.0%). These represent examples of defensive medicine: medical tests and interventions are provided which are known to be unnecessary, but to protect against malpractice suits and patient complaints or dissatisfaction.

In the United Kingdom, doctors in a survey indicated that 78% practice some form of defensive medicine. The most common practice is ordering unnecessary tests (Ortashi 2013). In Italy, studies indicate that up to 14% of pharmaceutical costs, up to 23% of laboratory tests, and up to 25% of imaging examinations may be related to defensive medicine (Pellino and Pellino 2015). In surveys, Italian physicians also state that they often prescribe medications, order laboratory tests, or refer patients because of concerns about litigation (Pellino and Pellino 2015). In a study of Israeli psychiatrists, 62% of participants admitted to practicing defensive medicine. This is interesting because psychiatry is seen as a low-risk specialty when compared to other medical specialties with regards to risk for malpractice litigation against physicians (Reuveni et al. 2017). Yet, the study concludes that there is evidence that defensive practice is "well established in the routine clinical daily practice of psychiatrists" (Reuveni et al. 2017).

Defensive medicine is not a new problem. An older US survey (2005) showed that 93% of physicians in high-risk specialties practiced defensive medicine, with "assurance behavior" (ordering of tests, diagnostic procedures, or referring of patients) being very common (Studdert et al. 2005). Defensive medicine has been estimated to result in annual US healthcare costs of $45.6 billion (2008 dollars) (Mello et al. 2010). A review published in 2006 of the medical liability system in Australia, the UK and the USA demonstrated that fears of litigation and liability substantially increased defensive behavior among physicians in these countries, driving up costs and negatively impacting patients (Kessler et al. 2006).

An ethical analysis of defensive medicine

Potential ethical arguments in favor of defensive medicine

Are there perhaps ethical arguments that can justify defensive practice? Two lines of argument come to mind. First, protecting the doctor against negative consequences means that the doctor is able to provide care to patients, do good in society, continue working. In protecting the doctor, the doctor's patients are also protected. Second, perhaps the extra testing results in some good for patients undergoing said testing. If we do a test on a patient and find a positive diagnosis, we may identify disease that we would have otherwise missed.

These arguments are not persuasive on consideration. It seems quite unlikely that the actions taken during defensive practice would lead to benefit for patients. It is the nature of defensive practice that tests or treatments are used in situations outside of the usual parameters that define patient-focused care, in other words tests or treatments are used in situations where evidence for benefit is lacking or evidence shows no patient benefit. Yet, additional testing or treatments carry with them inherent risks of harm, as all medical tests and treatments do. It is therefore not so that defensive medicine can deliver unexpected benefits to patients, but instead that it places patients at risk of unexpected and unjustified harms.

Furthermore, we have reasons to doubt that defensive medicine is as successful in protecting doctors as those who practice it may imagine. First, a review of the literature points out that while defensive practice has increased over time, litigation has increased as well (Pellino and Pellino 2015). This does not provide causative evidence of a link between defensive medicine and litigation in any direction, but it at least suggests that defensive medicine may not work

as well as those employing it would hope. Second, one needs to consider the nature of malpractice litigation. Malpractice refers to a breach of the established standard of care which causes harm to the patient (Nebel 2003). Defensive medicine employs testing and treatment that are not part of established standards of care while exposing patients to risk of harm. A test done outside of the established standard of care is therefore unlikely to provide a shield against other omissions or errors in a court of law. Third, defensive medicine may backfire and paradoxically increase the likelihood of legal risk. If defensive medicine is widespread and it is known by patients that it is widespread, it decreases the trust and goodwill patients have towards clinicians. This in turn fosters a climate that may be ripe for more litigation and more patient complaints, not less. If doctors aren't seen to protect patients, many patients will feel the need to protect themselves. This may potentially lead to more instead of less lawsuits.

Despite these counter-arguments that indicate that we have reason to doubt that defensive medicine may be successful, it may be that some instances of defensive medicine end up being successful in protecting clinicians against liability or a bad outcome for the clinician in specific cases. Even if one were to grant that some defensive actions are successful in protecting the clinician, we should realize that such practice comes at great ethical cost. As I will argue in the next section where I present ethical arguments against defensive medicine, this cost is very high: it undermines the goals of medicine, the trust of patients, and the professional obligations of the clinician. Ultimately, defensive medicine so erodes the practice of medicine that clinicians end up doing irreparable harm to the profession and themselves while seeking to protect the profession and themselves. In this way defensive practice can at best deliver a pyric victory: sure, you may protect yourself against the occasional lawsuit, but at such a great cost that the victory seems a defeat.

Ethical arguments against defensive medicine

I offer here five arguments based on values central to medicine to show aspects of defensive medicine that are ethically problematic. The arguments can stand on their own: if even one of these arguments work it would be a serious indictment of defensive medicine. Together they form a cumulative case for viewing defensive medicine as seriously ethically troubling.

The arguments draw on the principlist framework of medical ethics of Beauchamp and Childress (Beauchamp and Childress 2013). This framework offers four principles that can be used as starting points for bioethical analysis in medical ethics: autonomy, beneficence, non-maleficence, and justice. The principles are general, broad guidelines that need to be specified in order to apply them to concrete situations, much like what I'm doing in the arguments I present here to apply these principles to defensive practice.

There is no framework in medical ethics that does not have its detractors, and the principlist framework certainly has been criticized by adherents of alternate frameworks. Despite this, I use this framework for good reasons: (1) The four principles are drawn from shared judgments about medical ethics between adherents of different ethical theories or approaches. It therefore forms a point of reference for bioethical reasoning of the sort I offer here even if we disagree about ethical theory or the ultimate underpinning for ethical norms. This is a decided advantage over basing argumentation in a specific ethical theory, giving the conclusions of these arguments broader appeal. (2) Despite the critiques against it, the four principles have become widely used in analyses in medical ethics. Consequently, clinicians and ethicists are familiar with the framework and its application in medicine. This too makes these arguments and their implications more accessible and relevant in medical practice.

(1) Defensive medicine infringes on obligations of respect for autonomy.

Treating patients respectfully includes the idea that patients have the right to make decisions about their own care, based on values and wishes related to the patient's view of the good. Clinicians are obligated to provide full disclosure of necessary information to patients prior to implementing tests or treatments. Patients should receive the information they need to make informed decisions about their own healthcare. Respecting a patient's autonomy requires no less: engaging in shared decision-making, full disclosure of relevant information, and allowing a patient to provide informed consent.

When practicing defensively a doctor is unlikely to provide full disclosure of the reason why the test or treatment is to be performed. Instead of telling the patient, "we are doing this to protect me against litigation" or "we are doing this to cover me in case something goes wrong, and here are the risks to you", a doctor is likely to be unclear about why the test is done, possibly saying something like "it is just to make sure" or "just to be certain we cover our bases" or "we usually do this test to confirm" or something like that. The point is, the clinician is not forthcoming about the real reasons for doing the test and does not provide the patient with the opportunity to autonomously authorize or refuse the test. For defensive medicine to work, the patient should be in the dark. If the patient knew that the clinician was acting in self-interest, the patient would refuse the test, and likely seek another clinician.

Defensive medicine therefore depends on subtle deception and on incomplete disclosure to patients. Defensive practice also imposes treatments on patients (or withholds it from them) without giving patients the opportunity to make

decisions about these treatments based on patient values and wishes. This compromises a clinician's obligations to respect the autonomy of her patients. Defensive medicine is dishonest, deceitful, and disrespectful to the patient.

I am not suggesting that the remedy is that physicians be more transparent about the practice of defensive medicine; this likely would erode patient trust and undermine the doctor-patient relationship. The answer is to stop practicing defensively, and instead be guided by the best available evidence and patient values.

(2) Defensive medicine violates a clinician's professional and fiduciary obligations to the patient.

Medicine exists to serve patients. Clinicians are obligated to use their skills to advance the health-related interests of patients rather than promoting self-interest. The clinician-patient relationship is often thought of as a fiduciary relationship: clinicians ought to place the patient's interests above their own, acting with the patient's best interest in mind. Defensive medicine is the direct antithesis of these foundational ethical commitments: it subjugates patient interests to physician interests. In this way, defensive medicine is a unique type of conflict of interest. Physician interest, rather than patient interests, drive care decisions. Defensive medicine, therefore, runs counter to a clinician's professional and fiduciary obligations, undermining the very reason for medicine's existence and medicine's principal goal.

(3) Defensive medicine contravenes the doctor's obligation to avoid doing harm.

Defensive medicine employs tests or interventions with no hope of benefit while the patient is still exposed to potential adverse effects of these tests or interventions. This places the patient at net risk of harm with no compensating benefit. Another form of defensive medicine is to withhold care or treatments that would potentially benefit patients for fear of risk of litigation. This harms the patient by not being able to access treatments that would protect or promote patient wellbeing. Physicians are obligated to refrain from actions that would harm or wrong their patients, a specification from the ethical principle of non-maleficence. Defensive medicine therefore risks harming patients, running counter to a primary ethical commitment of medicine to do no harm.

(4) Defensive medicine erodes public trust and harms the doctor-patient relationship.

Medicine is practiced in the context of a clinical relationship that is built on trust. The trust of patients and the trust of the public in the profession is a central value in medicine, and is important for the successful practice of medicine. Trust in the profession leads patients to seek out clinicians, entrust clinicians with their personal affairs and wellbeing, and follow clinicians' advice. It is trust that forms the foundation of the clinical relationship, and leads patients to submit to invasive treatment procedures. It is trust that leads society to allow medicine to self-regulate, and to allow clinicians' practice of medicine in the public sphere.

Defensive medicine compromises the trust of patients and of the public. If it is known that clinicians practice in ways to defend themselves rather than to promote patient interests, it would decrease the trust individual patients and society places in clinicians. This in turn undermines the practice of medicine itself: patients trust clinicians less, seek out clinicians less, trust and follow clinician advice less. It becomes harder to establish trusting clinician-patient relationships. Society and its institutions would need to regulate medicine and place restrictions on the practice of medicine in order to protect patient interests. Overall, the profession itself suffers irreparable harm if defensive medicine becomes and continues to be an established mode of practice.

(5) Defensive medicine violates obligations of justice.

Doctors are stewards of healthcare resources and are obligated to deploy healthcare resources judiciously. Healthcare resources should not be wasted where it can provide no benefit, so that these resources can instead be used where benefit is possible. Defensive medicine spends time, money, and resources where it is not needed. In turn, this strains the availability of resources where it is actually needed. Defensive medicine drives spending on unnecessary healthcare. As such, it increases societal healthcare costs. By practicing defensively doctors impact the society in which they live negatively. This places further pressure on patients, whose healthcare outcomes are directly influenced by their societal environment. Defensive medicine therefore compromises a doctor's justice obligations towards society and patients.

Of these arguments, argument (5) about justice obligations and stewardship mirror the usual arguments offered to show the problematic nature of defensive medicine. Arguments (1)-(4) reframe defensive medicine as a challenge for medical ethics and professionalism, rather than a systems issue.

The ethical status of defensive medicine

There are persuasive reasons why defensive medicine should not be practiced, no matter how strong the inducement may be to protect oneself. These include obligations to respect patients, to act in patient's interests, and to oversee just distribution of resources. The ethical cost of defensive practice is very great. Potential arguments in favor of defensive practice are not persuasive in the light of these ethical costs. The actions taken undermine the ends for which they are employed, and there is no compensatory benefit to the patient for the ethical goods compromised by defensive practice.

Defensive medicine is therefore not compatible with ethical, professional medical practice. It represents an egregious

breach of professionalism and of ethical obligations to the patient and to society. In no way can defensive practice be defended. It is surprising and concerning that it remains so widely practiced and appears to enjoy implicit acceptance among some practitioners.

What can be done?

First, efforts to address systems issues that encourage the practice of defensive medicine should continue (Mello et al. 2014). There are powerful motivators that incentivize defensive practice (Kachalia and Mello 2013; Van Der Steegen et al. 2017). For instance, missed rare diagnoses are penalized more heavily than defensive medicine with related overtesting and overtreatment that lead to harms. Payment and litigation systems tend to favor provision of tests rather than discouraging unnecessary ones. This is a mistake; we have good reasons to think of defensive medicine as being equally problematic as undertesting and undertreatment. Here we need policy makers and governments to intervene to make necessary changes. At the very least, policy makers should investigate various policy options that may address the systems issues that motivate defensive practice. This could include looking at tort reform, placement of caps on liability payments, alternative ways to address patient complaints or malpractice outside of the legal system, or regulations aimed at overuse of care and defensive practice in particular.

Second, we need concerted and sustained public health efforts addressed at defensive practice. In one sense defensive medicine can be seen as a public health issue with consequences for public health. The tools of public health should therefore be directed at this problem, to stimulate change in individual and population-level behavior.

Third, the way in which the profession views defensive practice should change. There is evidence that defensive medicine is widely practiced, in many settings and countries, and that there is therefore at least some widespread idea that it is acceptable or unavoidable to practice this way. Medicine is a self-regulating profession with clinicians keeping themselves accountable. Here is need for the profession to regulate itself. Defensive medicine tends to perpetuate defensive medicine – if other clinicians practice this way, it is more likely that individuals will have to practice this way too (Kachalia and Mello 2013). It is thus up to clinicians to change. Clinicians should refuse to practice defensively, and instead be guided by what is best for the patient. Doing right by the patient is a better defense when asked to give an account of one's actions than the ordering of unnecessary tests or treatments. Clinicians should clearly communicate with patients about the risks, benefits, indications, and alternatives for testing or treatment, guided by evidence and patient values. This allows patients to choose tests and treatments in keeping with the best evidence and with patient values. Further, clinicians should engage in conversations with each other about defensive medicine and encourage change in each other's practice. Professional organizations should take the lead in starting these initiatives. Unnecessary testing, overtreatment, and placing oneself first should be viewed in the same way as any other unethical or unprofessional act.

Fourth, there are implications for medical education. The medical ethics and professionalism components of medical school curricula should explicitly address the issue of defensive practice as being problematic. In their clinical education, students no doubt encounter various examples of defensive practice given how widespread this practice style is. Formal education on the topic would counter the invited assumption that defensive practice is inevitable or ethically sound. In my experience as medical school educator some medical students from early on ask questions about "what to do to protect myself" in discussion on ethically complex cases. Such students do not need much encouragement to seek refuge in defensive practice if modelled to them in clinic. While the desire to protect oneself against adverse outcomes is understandable, we do such students a disservice if we leave them with the idea that defensive medicine is an effective protection against malpractice suits, or that defensive medicine is an ethically viable practice style.

Fifth, clinical ethics consultants should consider whether they have a role in calling attention to defensive practice in the institutions in which they work. If defensive practice represents an unethical mode of practice, it is within the purview of the clinical ethicist to help their clinician colleagues avoid practicing this way. At the very least, clinical ethicists should start a conversation as to what their role might be in addressing defensive practice. At present there is not much talk of defensive medicine among clinical ethicists. Given the scope and problematic nature of the issue this should change.

Conclusion

Physicians may have legitimate fears surrounding vulnerability to lawsuits and patient evaluations of physician practice, and efforts are ongoing to identify solutions. Defensive medicine is not an ethically defensible response. Defensive medicine is inconsistent with the ethical obligations of physicians to patients and society, and it runs counter to the fundamental goals and values of medicine. It risks harming patients and diluting patient trust, which also increases risks to physicians. Physicians should abandon defensive medicine entirely, and instead practice in ways that are evidence-based, focused on patient well-being, and avoidant of unnecessary care.

References

Beauchamp, T.L., and J.F. Childress. 2013. *Principles of Biomedical Ethics*, 7th ed. New York: Oxford University Press.

Brownlee, S., K. Chalkidou, J. Doust, A. Elshaug, et al. 2017. Evidence for overuse of medical services around the world. *Lancet* 390: 156–168.

Carroll, A.E. 2017. The high costs of unnecessary care. *JAMA* 318 (18): 1748–1749.

Chan, K.S., E. Chang, N. Nassery, et al. 2013. The state of overuse measurement: a critical review. *Medical Care Research and Review* 70 (5): 469–473.

De Ville, K. 1998. Act first and look up the law afterward? Medical malpractice and the ethics of defensive medicine. *Theoretical Medicine and Bioethics* 19: 569–589.

Hermer, L.D., and H. Brody. 2010. Defensive medicine, cost containment, and reform. *Journal of General Internal Medicine* 25 (5): 470–473.

Kachalia, A., and M.M. Mello. 2013. Defensive medicine – Legally necessary but ethically wrong? In patient stress testing for chest pain in low-risk patients. *JAMA Intern Med* 173 (12): 1056–1057.

Kaczmarek, E. 2019. How to distinguish medicalization from overmedicalization? *Medicine, Health Care and Philosophy* 22: 119–128.

Kessler, D.P., N. Summerton, and J.R. Graham. 2006. Effects of the medical liability system in Australia, the UK, and the USA. *Lancet* 368: 240–246.

Lown Institute. *Overuse 101.* Available online at: https://lowninstitute.org/learn/overuse-101/. Accessed September 18, 2019.

Lyu, H., T. Xu, D. Brotman, et al. 2017. Overtreatment in the United States. *PLoS ONE* 12 (9): e0181970.

Mello, M., A.C. Chandra, A.A. Gawande, and D.M. Studdert. 2010. National Costs of the Medical Liability System. *Health Affairs* 29 (9): 1569–1577.

Mello, M.M., D.M. Studdert, and A. Kachalia. 2014. The Medical Liability Climate and Prospects for Reform. *JAMA* 312 (20): 2146–2155.

Moynihan, R., and J. Doust. 2012. Preventing Overdiagnosis: How to Stop Harming the Healthy. *BMJ* 344: e3502.

Nassery, N., J.B. Segal, E. Chang, and J.F.P. Bridges. 2015. Systematic overuse of healthcare services: a conceptual model. *Appl Health Econ Health Policy* 13: 1–6.

Nebel, E.J. 2003. Malpractice: Love they Patient. *Clinical Orthopaedics and Related Research* 407: 19–24.

Ortashi, O., J. Virdee, R. Hassan, et al. 2013. The practice of defensive medicine among hospital doctors in the United Kingdom. *BMC Medical Ethics* 14: 42.

Pellino, I.M., and G. Pellino. 2015. Consequences of defensive medicine, second victims, and clinical-judicial syndrome on surgeons' medical practice on health service. *Updates Surg* 67: 331–337.

Reuveni, I., I. Pelov, H. Reuveni, et al. 2017. Cross-sectional survey on defensive practices and defensive behaviors among Israeli psychiatrists. *British Medical Journal Open* 7: e014153. https://doi.org/10.1136/bmjopen-2016-014153.

Studdert, D.M., M.M. Mello, W.M. Sage, et al. 2005. Defensive Medicine Among High-Risk Specialist Physicians in a Volatile Malpractice Environment. *JAMA* 293 (21): 2609–2617.

Thomas, J.W., E.C. Ziller, and D.A. Thayer. 2010. Low costs of defensive medicine, small savings from tort reform. *Health Affairs* 9: 1578–1584.

Van Der Steegen, T., W. Marneffe, I. Cleemput, et al. 2017. The determinants of defensive medicine practices in Belgium. *Health Economics, Policy and Law* 12: 363–386.

Vento, S., F. Cainelli, and A. Vallone. 2018. Defensive medicine: It is time to finally slow down an epidemic. *World Journal of Clinical Cases* 6 (11): 406–409.