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Prevention of medical errors and malpractice: Is creating resilience in physicians part of the answer?☆

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ABSTRACT

In this article, we present key concepts regarding physician and resident resilience and burnout, the legal and educational context for these distinctions, and the effects of improved physician resilience through self-care on a reduction in medical errors and malpractice. *Resilience* here indicates the mental processes and behaviors that enable an individual to overcome the potential negative effects of stressors. In order to explore the multiple factors that contribute to physician resilience, the authors approached the topic from a variety of perspectives, including the current ways of thinking about medical malpractice in the United States, physician resilience and medical errors, and building resilience during postgraduate medical education. The authors review steps taken and in process to mitigate physician burnout and enhance physician resilience.

1. Introduction

In this article, we present key concepts regarding physician and resident resilience and burnout, the legal and educational context for these distinctions, and the effects of improved physician resilience through self-care on a reduction in medical errors and malpractice. Physicians and residents work in a complicated and stressful environment, and abundant medical literature has correlated physician burnout with lowered quality of care, medical errors, and medical malpractice suits, as well as lowered patient compliance and satisfaction. For example, in 2000, the US Institute of Medicine released its landmark report, *To Err Is Human: Building a Safer Health System,* which stated that medical errors occur in as many as 5%–18% of all hospital admissions and accounted for 98,000 deaths annually (Institute of Medicine 2000). By 2013, medical errors were the third leading cause of death in the United States and accounted for 440,000 fatalities annually (James 2013).

Ethical considerations likely preclude clinical trials that would compare the performance of impaired vs. nonimpaired caregivers, but a 2008 study involving approximately 7900 physicians found that major medical errors were strongly related to physicians' degree of burnout (Shanafelt et al. 2010). A later report found that 45% of study physicians reported feeling at least one of the three principal symptoms of burnout: emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment (Shanafelt et al. 2012). Medical school and residency training years seem to be the peak time for physicians to experience distress, and, compared with their nonphysician peers, physicians experience burnout more frequently (Dyrbye et al. 2014; Marmon & Heiss 2015). What is more, compared with similarly aged college graduates who pursued other careers, 10% of medical students in one study experienced suicidal ideation during medical school (Dyrbye et al. 2008).

In contrast to burnout, *resilience* here indicates the mental processes and behaviors that enable an individual to overcome the potential negative effects of stressors—resilience is not a static, innate condition but rather can be developed or learned and, over the course of an individuals life, can be ameliorated or degraded (Fox et al. 2018). Zwack and Schweitzer (2013) succinctly defined physician resilience as the ability to deploy personal resources despite stressful working conditions. Eley et al. (2013) operationalized resilience as "a process of adaptation to adversity and stress." Further, the UK's Medical Research Council has defined resilience as the process of negotiating, managing, and adapting to significant sources of stress or trauma (Medical Research Council

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2014). Functionally, it is the capacity to bounce back after facing adverse situations.

In 2016, 32 experts in the study of burnout in health professionals gathered to create the Joy of Medicine, a program sponsored by the American Medical Association, to develop a national agenda for research in this field. The group identified five top-priority ideas for this research agenda: medical errors, malpractice suits, physician turnover, decreased clinical hours, and lower patient satisfaction as a consequence of burnout (Dyrbye et al. 2017).

Here we discuss physician resilience via explorations of related legal frameworks; what we currently know about resilience and reduced medical errors and malpractice; current actions in the US medical community to understand and foster this relationship; assessment of resilience in physicians; and finally, we present current activities at Eastern Virginia Medical School to enhance physician self-care and development of resilience. (Note: The main author of each section is identified by initials.)

2. Medical malpractice in the United States (S.R.H.)

Medical malpractice in the United States includes alleged patient injury related to surgical malpractice, misdiagnosis, robotic surgery malpractice, anesthesia malpractice, medication errors, and hospital malpractice. The extent of the issue is indicated by the finding that 1 in 14 physicians practicing in the United States faces a malpractice suit each year, and an estimated 210,000 and 400,000 people die each year from hospital-related medical errors (James 2013). In many cases, the alleged injury involves the provision of care by more than one physician and other allied health care professionals. This section provides a brief overview of medical malpractice law in the United States, describes how medical malpractice law functions, and explores the relation of medical malpractice law and tort law in the United States. This discussion necessarily includes the components of Medical malpractice, including the physician–patient relationship, the standard of care, the relationship of standard of care provided vs the actual alleged injury, and, if malpractice is determined, the awards to the injured party.

Because our comments address the legal system in the United States as it relates to medicine, a few definitions are in order (Johnson 2016; Pegalis 2017; Speiser, Krause, & Gans 2003): *Civil law,* as compared with criminal law, is concerned with the rights and duties of individuals and organizations toward each other. A *civil case* is an action brought by one person against another in order to seek restitution for some form of wrongdoing. *Torts* are a specific subset of civil law in which one party claims that another party acted negligently toward them and caused some sort of injury. *Medical malpractice* is a type of tort in which a healthcare professional, who is responsible for using reasonable judgment in making medical decisions and rendering care, fails to act reasonably under the circumstances. If the patient is injured as a result of this failure to act reasonably, the healthcare professional may be liable to compensate the patient for the injury suffered. A *plaintiff* is a person who brings a legal action. A *defendant* is a person, company, or other legal entity against whom a claim or charge is brought in court. A *verdict* is the finding made by a judge or a jury whether the healthcare provider is liable to the patient for the alleged injury sustained as a result of medical malpractice.

The plaintiff must demonstrate by a preponderance of evidence—that is, that it is more likely than not—that medical malpractice has occurred. A preponderance of the evidence essentially means there is a greater than 50% chance that the plaintiff's claim of medical malpractice is correct (Medical malpractice in diagnosis and treatment of breast cancer n.d., A.L.R. 6th 379). The goal of a medical malpractice claim is to make the plaintiff as close to whole as she was before the injury occurred. Nearly universally, the remedy for a medical malpractice claim is monetary damages.

In the United States, torts are defined and regulated by the individual states, which means that medical malpractice cases in different states may have different outcomes and damage awards. However, all share the same basic common elements of duty, breach, actual and proximate cause, and damages (A.L.R. 3d n.d.). Each of these essential elements is discussed below:

2.1. Existence of a legal duty

A fundamental principle of medical malpractice law is the existence of a legal duty on the part of the physician to provide care or treatment to the patient. Duty results from the development of a professional relationship between the patient and the physician at the time when a doctor–patient relationship is established. The physician then owes the patient the duty of care and treatment with the degree of skill, care, and diligence possessed by or expected of a reasonably competent physician in that community (Liability of Hospice in Tort n.d., in Contract, or Pursuant to Statute, for Maltreatment or Mistreatment of Patient, 95 *A.L.R.* 6th, 749).

2.2. Breach of duty

Breach of this duty occurs when the treating doctor fails to adhere to the standards of the profession. The physician's conduct is compared with the conduct of other physicians in similar situations: In other words, to determine whether there is a breach of duty, the defendant's actions are compared with the normal or expected actions of other providers in the same or similar circumstances. Was the level of competency and professionalism consistent with the specialized training, experience, and care a "reasonably prudent" physician would have provided? Typically, expert witnesses are engaged on both sides to support their contention of negligence or lack of negligence. If the physician's actions are egregious (e.g., amputating the wrong leg), expert witnesses may not be necessary (Johnson 2016).

2.3. Actual/proximate cause

A causal relationship must be established between the breach of duty and injury the patient suffers. Actual cause, also referred to as the cause in fact, asks whether the physician's actions or lack thereof resulted in the patient's injury. Proximate cause asks whether the law recognizes the doctor's actions as being legally responsible for the injury. Proximate cause can act as a limitation on liability (Van Arsdale, Larsen, & Levin 1936).

For example, say that Dr. Jones negligently prescribes the wrong medication for a patient. As a result of taking the medication, the patient has an allergic reaction and goes to an urgent care center for further treatment. Dr. Smith, the physician at the urgent care center, inadvertently causes the patient's death due to his own negligent medical care. Although Dr. Jones was the cause in fact of the patient's original injury, it is quite possible in this scenario that he will not be held liable for that injury. Instead, Dr. Smith's negligence may be seen to legally supersede Dr. Jones' negligence (Pegalis 2017). In this way, Dr. Jones is no longer the proximate cause of the patient's injury. Unfortunately for Dr. Smith, that honor now falls to him.

2.4. Damages

The existence of damages that result from the injury and appropriate compensation for them are routinely adjudicated by the legal system. Damages may be economic (past and future medical expenses, loss of income) or noneconomic (pain, suffering, inconvenience) (Speiser et al. 2003). In rare instances, when a physician's conduct is grossly reckless, wanton, or even malicious, punitive damages may be assessed as a punishment for the physician's conduct (Vaeth 1996). Absent a showing of damages, a plaintiff cannot maintain a cause of action for medical malpractice (Van Arsdale et al. 1936). For example, if a fractured tibia was treated using a closed reduction and case application when the