Title: Learning to Swim: Burnout in Physicians and Strategies for Its Prevention

By: Daniel Johnson Brimm V

Word Count: 5907

Key Terms: Medicine, medical ethics, physician burnout

Abbreviations (listed alphabetically):

AUD - Australian Dollar
COVID-19 – Corona Virus Disease of 2019
DSM-5 - Diagnostic and Statistical Manual of Mental Disorders, 5th edition
ICD-11 – International Classification of Diseases – 11th edition
LGBTQ+ Lesbian Gay Bisexual Transgender Queer and others
MBI – Maslach Burnout Inventory
OSCE - Objective Structured Clinical Examination
WHO – World Health Organisation

Acknowledgements: The author would like to thank the following people for their contributions in the creation of this piece, whether it be via encouragement, comments on composition, literary guidance, or otherwise:

Mr Dylan Hackett
Mr Michael Cillis
Mr Daniel Brimm Sr
Dr David Arroyo, MD
Mr Jackson Moody
Mr James La Spina
Ms Carmen Ward
Dr Mark Winston, PhD

Declaration of Originality: *I declare that the work contained within this essay is original and has been composed by myself, the author. This work has not been plagiarised and has been referenced in an appropriate way. None of the findings have been fabricated or altered in anyway. I have no relevant disclosures, and this work has not been published previously to this submission.*

A note to the reader:

Thank you for taking the time out of your day to read this essay. Despite the sometimes morbid and oftentimes upsetting subject matter, it was a pleasure to write this paper. Indeed, this is my first work major of writing outside of the contexts of university assignments or journaling, and I am very proud of both the work put into this piece and of the piece itself.

There are many mental health issues within the realm of medical practice that need addressing, and my focus on physician burnout is in no way meant to signify that it is more important or more pressing than other issues. I felt compelled to write about physician burnout after learning about how prevalent it is in the physician community, how devastating the repercussions are, and after realising I had never been formally taught about it during medical school.

Regarding the essay structure, it is in some ways a hybrid piece. I tried my best to support any claim or argument that I made via in-text citation, but the reality is that while much data exists on the scope and severity of burnout, many of the proposed remedial strategies remain untested, or at least unmeasured, and are more within the realm of opinion than fact.

A motif runs throughout this piece, linking the ideas and components of physician burnout to a classic story in a way that I hope is done tastefully. Under the title of each section, you will note an epigraph that I felt was both relevant to the paragraphs that follow. I cannot guarantee that these are the best quotations on the subject, but I can tell you that they are among my favourites.

To those who are in the medical field, I hope that you would find inspiration in this piece. Not necessarily in my words or my call to arms, but in the ideas and courage of others who have been referenced here. If you feel frustrated by what you read, that is good. Use it to change the system. Use it to change yourself.

To those who are not in the medical field, I hope that this piece can shed some light on this serious issue that many outside of medicine are unaware of. The art of medical practice still fills me with awe, and I am unbelievably fortunate to be part of such a noble vocation. Medicine, for all its flaws, has given me meaning in life, and I hope that my love of the profession shines through my critiques.

To those currently in throws of depression or burn-out, I implore you to seek help. To seek help is not a sign of weakness; it is a sign of your courage, and a sign of your belief that things can change.

Learning to Swim: Burnout in Physicians and Strategies for Its Prevention

THE MAN AND THE RIVER

"Drown not thyself to save a drowning man" – Thomas Fuller

One day, a fisherman went down to the river and noticed another man drowning. Knowing how to swim, the fisherman jumped into the river, rescued the drowning man, and pulled him to shore. As he was dragging the man onto the beach, the fisherman noticed two more drowning people in the river. Again, he jumped into the river, rescuing two more drowning victims, and continued to treat them all on land. Soon after, the fisherman once again saw another drowning man, and then another. This continued for some time, and the fisherman soon found that he was too exhausted to rescue those still in need of aid, and they were left to drown.

After he had rested and regained his strength, the fisherman followed the river upstream, where he came across a bridge. The fisherman found that the bridge was derelict and decayed; the ropes were frayed, and many planks were missing. Those who tried crossing the bridge fell between the planks into the river below. The fisherman gathered supplies and tools, fixed the bridge, and stopped people from falling through, preventing people from drowning in the first place.

Any student who has spent time in public health circles has likely heard this story before. This parable, often attributed to political theorist and activist Saul Alinsky (1, 2) (but likely adapted from medical sociologist Irving Zola (3)), is a favourite of epidemiologists and public health professors around the world. It is usually told on the first day of class as an allegory for the importance of public health systems (1). The fisherman who rescues the drowning people represents primary healthcare providers. These are doctors, nurses, allied health; anyone who is directly involved in the care of a sick person. The drowning people represent the patients, the river represents any sickness or malady you can think of, and the bridge represents organisations, institutions, or society as a whole.

This metaphor holds true for many examples. It is well established that preventing sickness before it occurs is more effective than treating it once it exists. Arguably the most important example of this in modern medical history is the public health victory against cigarette smoking. Though certain groups continue to smoke, the overall prevalence of smoking has decreased drastically over the past 50 years thanks to public health campaigns restricting advertisement and sale of cigarettes, establishing minimum ages for tobacco purchase, and an overall cultural shift as to whether or not cigarettes are considered cool (4-6). These strategies together have reduced smoking related fatalities more than any new regime of radiotherapy, chemotherapy, or surgery could have done.

But what happens when the roles of the story are changed? What happens when the doctors become the drowning victims? The reality is that today's medical professionals, from first medical student to department head, are in trouble. They are drowning in their work, and there is no fisherman on the shore to pull them out.

THE STATE OF MEDICINE TODAY

"Don't set yourself on fire trying to keep others warm." – Penny Reid

Imagine that a new infectious disease has just been discovered. This disease has the capacity to disable half of a certain group of people, and this group is twice as likely to become infected as the general public (7). The disease causes a myriad of negative outcomes: lack of sleep, poor work performance, and motor vehicle accidents to name a few(7). Worst of all, this new disease doubles the rate of suicide in the population that it infects (7). In the age of COVID-19, the task of imagining a new infectious disease and the subsequent global response may be easier than usual. Mass hysteria and panic would erupt, global health organisations would produce guidelines to be followed, and governments and non-government organisations around the globe would jump into action (to varying degrees of success) to quell the wave of new infections. Borders would shut, lockdowns would be put into place, and social distancing would become the new norm.

But of course, the disease being referred to is not infectious and by the strictest definition is not a disease either(8). It is largely silent in the background, and because it affects those who much of society would think of as immune, it mostly goes unchecked. This plague is physician burnout, and it affects physicians at every stage of their careers. It is a smouldering epidemic burning in the background, causing horrific consequences for both the medical community, their patients, and greater society. It will only get worse if left unaddressed.

DEFINING THE PROBLEM

"If I had only one hour to save the world, I would spend fifty-five minutes defining the problem, and only five minutes finding the solution." – Albert Einstein

The idea that physicians[1] can suffer from burnout is not new a new one. Even the great Sir William Osler, who many consider to be the father of modern medicine, wrote about the importance of students and physicians protecting themselves from the rigours of medical practice (9). But to the general population and to the patients, it may come as a surprise that physicians deal with mental health issues at all, let alone have higher rates of mental disorder than the general population (10, 11). After all, physicians are paid well, have stable employment, and are held in high esteem (12).Why would they be suffering any more than any other group?

To explore these ideas, a definition must be established for what is meant by physician burnout. Burnout is a term with many colloquial meanings, and even if a person has not read a definition of burnout, they likely know what feeling it describes. The definition used from here on is taken from eminent burnout researchers Dr Christina Maslach and Dr Susan E Jackson:

"Burnout is a syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do 'people work' of some kind." (13)

The job of the physician is absolutely one that can be considered 'people work'. Even the physicians who have the least patient interaction, such as radiologists and pathologists, still interact with colleagues and

[1] NB: Physician here is used to refer to all medical doctors, including MDs, DOs, MBBS, and any other certification. It is meant as an umbrella term for all medical practitioners, and sometimes is used to include medical students.

occasionally with patients (14). Thus, physician burnout may be accepted to follow Maslach and Jackson's definition of burnout when it is experienced by physicians.

Before continuing, it is important to acknowledge the existing debate surrounding the definition of physician burnout. Physician burnout is not a mental health disorder; it is not listed in the Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (DSM-5) (8). Physician burnout is not the same as physician depression, or major depression as experienced by physicians(8). Whether or not physician burnout should be classified as a form of depression has sparked some contention (15, 16). Due to the less-than-stringent definition of burnout used by many studies, it can be difficult to extrapolate exactly what the prevalence is. One standardised review highlighted this by showing the range to be between 0 and 80.5% based on the definition of burnout used(17). This does not discredit the existence of physician burnout, but strongly suggests the need for a universally accepted definition for future studies to be conducted from. Despite not being listed in the DSM-5, the World Health Organisation (WHO) announced the inclusion of physician burnout in the International Classification of Diseases (ICD-11) in 2022, though not as an outright diagnosis but as a "occupational phenomenon" (18). Finally, it is also important to acknowledge that a small group of voices do exist who believe that physician burnout is either non-existent, over diagnosed, or over dramatized (19, 20). They are in the overwhelming minority, and while a conversation regarding these claims is in order, they will not be discussed further at this time.

MEASURING BURNOUT

"If you cannot measure it, you cannot improve it" – Lord Kelvin

The most widely accepted framework for what is included in burnout is based on the Maslach Burnout Inventory (MBI), constructed by Christina Maslach and Susan E. Jackson (13) in 1981 to quantify and assess the individual's experience of burnout. The MBI is composed of three dimensions: emotional exhaustion, depersonalisation, and lack of personal accomplishment. The goal of this is not a thorough understanding of how the scoring system works, but an understanding of what is meant by the different dimensions of burnout and how they might relate to the physician experience.

Emotional exhaustion is the measure of emotional overextension and exhaustion associated from one's work(21). It is a chronic state of physical and emotional depletion resulting from excessive and continuous stress(21). It is important to emphasise that emotional exhaustion has a physical component, if only as a reminder that the road to becoming a doctor is both difficult on the body and the mind. Depersonalisation can be described as an unfeeling and impersonal response toward recipients of one's service, care, treatment, or instruction (13). A common finding is a doctor who occasionally forgets the humanity of the patients they are treating. Depersonalisation is not the same as depersonalisation-derealisation disorder, a disorder listed in the DSM-5 (8).The last dimension, personal accomplishment, differs from the first two in that it is the absence of it that is associated with physician burnout. A lack of personal accomplishment may manifest as loss of job satisfaction or feeling as though one is not making a difference. Some studies suggest that of the three dimensions, lack of personal accomplishment is the dimension least associated with burnout, and it is sometimes left out of metrics (7).

FALLING IN

"Everything in excess is opposed to nature" - Hippocrates

To identify the causes of physician burnout, it must be determined at what stage in medical training it first manifests. The answer, unfortunately, seems to be in medical school. Some studies have been conducted into whether premedical students have symptoms of burn out before they get into medical school, but these have largely been inconclusive with some studies suggesting increased rates of burnout and some suggesting rates similar to the general student body(22, 23). Some work has been done on the idea of the so-called "physician personality", a group of traits that is common among physicians that may predispose them to burnout, but there has yet to be a link established between the presence of these traits and burnout rates (24). What has been established is the relative rates of burnout in medical students when compared to other students. American medical school matriculants have lower rates of burnout and depressive features and higher quality of life scores than other, similarly aged college graduates (25). After two years, those roles have reversed. By just the halfway point of medical school, medical students have higher rates of burnout and depressive features than their college graduated counterparts (26) . Dyrbye (26) found that 45% of medical students had symptoms of burnout, 52% screened positive for depressive symptoms, and 48% were at risk of alcohol abuse.

After medical school come the junior doctor years. At this point the North American and Australian systems differ slightly, in that North American junior doctors begin their residency program immediately, whereas Australian junior doctors may take a few years before they begin. A residency program is the specialisation process by which medical graduates differentiate into the different types of doctors. Family practice and psychiatry are often considered amongst the easiest in terms of workload, with surgical specialties such as neurosurgery and plastic surgery being among the most difficult (27). Lack of sleep is the norm, as is working 80 or more hours in a week and being on-call for a week straight or longer (28). With conditions like these, it is not surprising that 51.5% of resident physicians experience burnout, 45.8% experience emotional exhaustion, and 28.9% experience depersonalisation (27). Only 32.9% of residents report having a satisfactory work life balance (27).

Unfortunately, things stay much the same after full accreditation, and it seems to be getting worse over time. Shanafelt (29) found that among consultant physicians, 45.8% experience burnout, 37.9% experience emotional exhaustion, 29.4% experience depersonalisation, and only 36.9% are satisfied with their work life balance. Trends do exist between the specialties, with so called "front-line" specialties such as emergency and family medicine being the worst for burnout, though specialties with the lowest burnout rates like dermatology are still experiencing rates of up to 40% (29, 30).

Looking to demographic groups, trends begin to emerge. Some evidence suggests that women may become burned out more often than men, but other studies have indicated that it may be more a case of women and men may have different stressors that lead them to burnout. Some suggest that the difference in rates may be partially explained by men and women having different presentations of burnout (31, 32). Others suggest that the systemic factors target young women doctors especially, including pay gaps and being passed up for promotion, making them more susceptible to burnout (33-35). Younger doctors seem to be more susceptible than older doctors, though this may be a case of survivor bias: many doctors from the older generations who were experiencing burnout may have already retired, meaning that they would not be recognised in a present day study (7). Doctors whose

practice includes greater numbers of patients, incentive-based remuneration, and private practice instead of an academic hospital all seem to be at higher risk as well (7, 27).

But physicians do not have a monopoly on stress. Being a physician is certainly a stressful job, but is it anymore detrimental to one's wellbeing than other professions? The answer unfortunately seems to be yes. Education level has been shown to be protective against burnout and depressive symptoms. When compared with a person with only a high school diploma, a person with a with a bachelor's degree was only 80% as likely to feel burnout and depressive symptoms (29).A person with a master's degree was only 71% as likely, and a person with a PhD, law degree, or another high-level or professional degree was only 60% as likely (29). For medical doctors, the opposite is true. A medical doctor was 36% more likely than a person with only a high school diploma to experience burnout or depressive symptoms (29).

LOOKING TO THE FUTURE

"The future influences the present as much as the past" - Friedrich Nietzsche

It is evident that physician burnout is a major issue in contemporary medical culture. The consequences of physician burnout are well established and will only continue to worsen if not addressed in a meaningful way. A clear link exists between physician burnout and increased medical errors, as well as decreased patient satisfaction (36, 37). Burned out doctors are also more likely to retire early (26, 38-40). With each physician having an average case load of 1800-2000 patients, the number of people left vulnerable increases as the number of doctors decreases (41). With some estimations setting the cost of training a doctor anywhere from $450,000 to $1,800,000 depending on the specialty, an education in economics is not required to recognise it is beneficial for hospitals and healthcare systems to retain highly trained staff for as long as possible (42-44)

Most important of all, physician burnout can lead to physician suicide. Physician suicide has long been the medical world's dirty secret, historically swept under the rug and not discussed. Recent cases of physician suicide have come to light due to media exposure, such as Dr Lorna M. Breen who had been on the frontline of the COVID-19 crisis in New York, or the suicides of a fourth year medical student and a psychiatry resident, both of New York University Langone health, only five days apart in 2018 (45, 46). Most go unreported. Physicians are twice as likely to commit suicide than the general population, and between 300-400 physicians in the United States alone take their lives every year, the size of an entire large cohort of medical students (47).

The good news is that interest in this issue exists, and the cries and pleas have at least been heard. The body of knowledge and the number of people working on physician burnout has increased exponentially in the last ten years. At the time of this writing, a simple search of "Physician Burnout" in the PubMed database yields 586 results. More interesting is that 537 of them have been published since 2010, and 478 since 2015. The interest is there, and it is growing.

The bad news is that any answer to the question of physician burnout will likely be complicated. Very likely, there will not be a one-size-fits-all solution. Most proposed models are more of a tool kit approach, in which a combination of different strategies tailored to the institutions specific needs will be used. Further complicating the matter is that some interventions have been very successful in one

institution and not at all effective in another, raising the question of the ubiquity of any of the proposed solutions and further cementing the idea that there will be no one-size-fits-all solution (7).

Most of the strategies for addressing physician burnout can be divided into one of two camps: systemic or individual. Depending on who is giving their opinion, varied reports for the optimal split between these two solution groups are given. Dr Christine Sinsky, Vice President of Professional Satisfaction at the American Medical Association (48), believes that 80% of the responsibility is systemic, and 20% is individual. Some say that this is a completely systemic problem and as such should be a systemic burden to bear, or that the individual approaches simply give the overworked physician another job to do: get better(7, 33). Others agree that while burnout is likely a product of both systemic and individual factors, the ability for the systems to undergo meaningful change is minimal and thus are strong advocates of the individual strategies(49). Whether or not there is value in putting numbers on the split remains to be seen, but the consensus is that something must be done.

BUILDING BRIDGES

"It takes both sides to build a bridge" – Fredrik Nael

Recall the opening parable of this essay. Recall the symbolism of the bridge, the river, and the rescuer. Recall who the drowning victim represents. In the story, the fisherman who rescued people drowning in the river is also the one who leads the reconstruction of the bridge. In reality, this is not always possible, nor is it necessarily desirable. Though being a fisherman involves a valuable skillset in being able to swim and having access to a fishing pole or boat, it is likely that a fisherman does not know much about building bridges. It would stand to reason that a local engineer, carpenter, or architect would be a better choice than the fisherman, or at least someone else who has built a bridge before. Much like the fisherman must look to those who build bridges for guidance, so must the medical institutions look outwards for inspiration on how to fix their broken systems.

To investigate potential interventions at a systemic or institutional level, the institutions a doctor is a part of must be investigated, starting with medical school. A medical degree is considered one of the most difficult degrees that is awarded. The body of knowledge that a medical student must learn in a relatively short time is immense. A frequently used analogy by medical students likens learning material in medical school to trying to drink from a firehose. And while this can be fun to imagine, it has serious implications for students. At what point does the amount of minute knowledge become detrimental to the learning of the student?

The question is not whether the information being taught is valuable to a doctor, but rather whether it is valuable at that stage of training. If the premise is accepted that there is a finite amount of material a medical student can learn in a given period of time, and it is accepted that there is more information available than the medical student can learn in that period of time, it becomes important to prioritise what information the medical student learns first. Physician burnout needs to be formally acknowledged and taught in any respectable medical curriculum. This includes teaching students to recognise the causes, the signs, and what to do about them. Learning about something that will affect half of any given cohort, something has the potential to drive some to suicide is surely more important for medical students to learn than esoteric, consultant level histological findings.

Physical, tangible resources for medical students are important as well. Social media campaigns about mental health are a good start, but they lack substance. One such example of an active campaign is the Student and Trainee Mental Health Program by Icahn School of Medicine at Mount Sinai, where they have implemented an annual mental health check-up for all medical students (50). It may seem jarring to have a compulsory annual mental health check-up, but how different is it from mandatory vaccinations and hygiene practice assessments? Current vaccinations and hygiene awareness are crucial for medical students and staff, as they interact with critically ill patients daily. However, it has been established that burnout negatively affects patient outcomes as well, meaning that efforts should be made to protect patients from this with the same vigour that they are protected from infectious diseases. Normalising mental health self-care as an aspect of professional practice is the goal, and it is an active process. A compulsory psych evaluation levels the playing field; if everyone must do it, it is no longer abnormal. And if it is no longer abnormal, it becomes the new normal.

Not every systemic intervention needs to be colossal or paradigm shifting. Small gestures by medical schools have the capacity to make large differences to the wellbeing of medical students. Medical students should have free access to the university's gym and fitness centres. Medical students should have access to unlimited, free therapy sessions with university counsellors. Compulsory attendance at lectures and laboratories should not be encouraged; what good can come from punishing students for finding more effective studying tools than those offered by the university? Common workplace scenarios should be included in OSCE stations along with standardised patient scenarios. Future physicians will be better able ask each other if they are okay if they have practiced it before. If it is a question of cost, a reminder is in order that Australia's third largest export is education, and international students pay $300,000 AUD or more for a four-year medical degree (51, 52). The issue is not one of funding, but one of distribution.

Residency programs also have their role in fixing physician burnout. As mentioned before, residency is notoriously demanding. Sleep deprivation is the norm, with residents routinely putting in 100 hours per week or more, despite the 80 duty-hour per week limit. Recently, Dr Yumiko Kadota, a surgical trainee based in Sydney made news by quitting her training program after accruing 100 hours or more of overtime in the first month and being scheduled to work 180 hours of continuous on-call time (28). Meaningful changes have yet to be made to the surgical training program in question, and there is no reason to believe this will not happen again (53).

Besides the fact that sleep deprivation is literally used as a torture method, the glaring concern here is one of safety, both for the resident physician and for the patient(54). It is known that lack of sleep reduces performance, and not just in the medical field(55-58). Truck drivers and pilots are examples of other industries who routinely use hours tracking to ensure that they maintain a safe level of wakefulness (59-62). Both industries impose serious repercussions to deter those who would work more than the allowed amount, but medical residents continue to work immense hours despite the laws in place with no one being held accountable (28). Some would argue that residency is as difficult and demanding as it is because this is the level dedication required to learn the trade of being a physician. While it is true that residency is exceptionally demanding, there are few if any calls for a residency program to be limited to fewer than 80 hours per week. However, it should be noted that the first formal surgical residency program, upon which all other training programs are based on, was founded and directed by Dr William Stewart Halsted, who was heavily addicted to cocaine throughout his career (63). This is not meant as an ad hominem attack against Dr Halsted; indeed cocaine was not a controlled

substance during the period he used it, and the study of addictions medicine was essentially non-existent (64, 65). He is one of the most important figures in surgical history and deserves the praise and status he has received, but he likely had a skewed perception as to what constitutes reasonable, or at least safe, working hours.

Things are beginning to change with residency programs. In Australia, programs such as Wellbeing at Work (previously Resilience on the Run) have begun to become the norm in hospitals (66). Wellbeing at work is a program for hospital interns instructed by a wellbeing expert and teaches new doctors resiliency and mindfulness training (66). No data exists yet on whether a measurable change has occurred to physician wellbeing, but it has been immensely popular among interns and led it to receive the 2018 Best Public Health Initiative Award (66). In the future, hopefully this program can be expanded to include both medical students and senior physicians.

In America, Stanford University's general surgery residency created a program for its residents titled "Balance in Life", aimed at facilitating discussion surrounding physician mental health (67). Resident physicians in this program are required to attend confidential meetings with a clinical psychologist specialising in high-performance teams. This type of mandatory, structural intervention is crucial for the process of normalising mental health as a key part of maintaining wellbeing.

Structural impositions on residents and on consultant physicians are not particularly different. They work in similar environments and thus encounter many of the same systemic barriers. When surveyed about the specific causes or elements of their work that were contributing to burnout, physicians identified five primary drivers of physician burnout: Workload, inefficient work environment, work-life integration, loss of autonomy, and loss of meaning (27). Some who study these drivers propose a matrix in which each of the five drivers has both a list of individual and organisational interventions(7, 27). While this may be helpful for creating visual aids, a quick analysis of the individual strategies reveals that they are more difficult to attribute to one of the drivers over another. As an example, an individual skill such as mindfulness training would surely be useful as a strategy for all five of the drivers.

It is not surprising that excessive workloads drive physician burnout. This includes things such as productivity targets and the sheer amount of duty hours required. Changing the amount of duty hours a doctor is responsible for remains controversial, but what about productivity targets? Is there really benefit in telling a physician how many patients they must see in a given time period? Inefficient work environment is another driver of burnout, something that Dr Mark Linzer (7) (refers to as the Hassle Factor. The electronic medical record is almost ubiquitously seen as a negative influence on physician wellbeing (68-73). Physicians report feeling that they spend less time talking with patients than ever before, and they are right. There is a trend toward more and more of healthcare adapting the electronic medical records. A solution which has shown promising results is to hire more medical scribes to allow physicians to spend more of their time practicing medicine and less of their time staring at a screen (70). Non-medical tasks should be passed on to non-medical staff. This has the potential to free up a physician's time to simultaneously allow them to treat more patients and give existing patients more of their time. Work-life integration is another recurring cause of physician dissatisfaction, including meeting times outside the 8am to 5pm window and off-hour clinics. The nature of the physician's work requires someone to be available at all hours for night shift or call but on days when they are not scheduled their time off should be protected. Scheduling meetings and rounds within the accepted 8-5 workday is crucially important for physician wellbeing. Borrowing from the automobile industry,

Volkswagen made it company policy that workers can only receive emails on their company phones between 7am to 615pm, or half an hour before and after their standard workday (74). It is easy to see how this same strategy could be applied to hospital culture in a meaningful way. The final two drivers of are loss of autonomy and loss of meaning in work. For autonomy, promotion of physician engagement at work is crucial, as is promotion of shared decision making. To help physicians find meaning in work, fostering physician communities and maximising time with patients seems to be the favoured approach (27).

LEARNING TO SWIM

"It is not stress that kills us, it is our reaction to it" – Hans Selye

Again, recall the parable of the river. In the story, fixing the bridge stops people from falling in, thereby eliminating the need to rescue people from the river. However, people fall from perfectly functional bridges all the time and once they have fallen in, the options to save them are limited. What if the fisherman is not there? What if the fisherman is too exhausted to help? The answer is to teach the people to swim before they fall in. People will still fall off the reconstructed bridge, and some will still need rescuing, but if they have learned to swim, they can keep their heads out of the water long enough to call for help - they can stay afloat long enough to reach for safety.

In this context, learning to swim is a metaphor for a variety of coping skills that should be learned by medical students and junior doctors before they enter the system or upon entry. While one would hope that a bridge could be relied upon, it is imperative for those who would cross the bridge to first learn to swim should the fall in or if the bridge were to collapse.

The duty of the individual in response to physician burnout has two components. The first component is the duty to oneself. Once an individual knows about the risks and dangers of physician burnout, it is that individual's responsibility to seek out resources to make themselves stronger and protect themselves, whether they are provided by institutions or not. This may be through practicing meditation, learning mindfulness techniques, developing hobbies, or many other established ways of preventing burnout (27). It is also the responsibility of the individual to seek help when they become burned out. One analogy is that of the airplane oxygen mask. Any extended period without oxygen will dramatically affect a person's abilities to help themselves or help others. This is why it is standard protocol to apply an oxygen mask to one's face before helping others with their masks. Helping others will be impossible if one cannot help themselves.

Dr Gary R. Simonds, a retired chief of neurosurgery and emeritus professor of neuroscience at Virginia Tech, has written extensively about the power and need for resiliency training among medical trainees. Neurosurgery residency in the USA is the longest and one of the most difficult medical training programs that exists. During a survey of his neurosurgical residents in his program, Dr Simonds (49, 75) found that an average neurosurgical resident will come into contact with between 65-100 people per week who are going to die or are at serious risk of death. These are very specific and very niche stressors that few others will come close to experiencing. Borrowing from the work of sports psychologists, who also work with people who experience very specific and very niche stressors, Dr Simonds has put together a list of ways for physicians and medical students to improve their resilience. The first is self-care; physicians are notoriously bad at looking after themselves. The physician must be well in order to make others well. The second is actively noting the positives. Physicians are often surrounded by death and sickness.

Actively collecting and recognising uplifting experiences will help keep a physician grounded. Recording these experiences is important so that they may be shared with others, and so that they may be remembered in the future. The third is the importance of debriefing stressors, specifically with people who can be trusted. The final point made is the importance of maintaining relationships. Most of Dr Simonds' medical trainees reported the "contracting" of existing relationships during residency, whether that was a functional ending. Being mindful of this and putting effort into growing relationships is important, as is building a support infrastructure of family and friends.

The second component of the duty of the individual is the duty to others. The duty to others manifests not only as helping those who ask for assistance, but also in normalising mental health issues among peers. Role models are needed desperately in medicine, but not in the traditional, stoic sense of the selfless physician. Senior doctors who have experiences with burnout and depression must come forward and normalise asking for help. American journalist and LGBTQ+ activist Dan Savage(76) once said that closeted LGBTQ+ people have moral obligation to come out if they are an adult, as nothing reduces stigma surrounding being gay than knowing a gay person. The same applies to mental health and medicine. The actions of leaders such as Dr Michael S Weinstein (77), a prominent and talented surgeon who has struggled with depression in a very serious way and has talked about his experiences openly, should be applauded and brought to the forefront as an example for others. In admitting we are the ones drowning, we become the rescuer for ourselves and others.

CLOSING NOTES

"The world is changed by your example, not by your opinion." – Paulo Coelho

Ultimately, physician burnout is the responsibility of both the individual and the system. And as an individual, it is important to remember that systems are made up of individuals, and thus the two are intimately intwined. It should not be surprising that a profession that simultaneously values individualism and teamwork will require accountability on both an individual and group level to move forward.

The knowledge surrounding physician burnout has improved dramatically in the last decade, and there is no reason to think that it will not continue to improve. The job of the medical community now is to foster the transition from research into meaningful change, and to identify gaps in the knowledge that need to be addressed. Future research must quantify the progress made by the programs currently in place. More effort must be put into ensuring data for physician burnout in Australia stays up to date, and that populations who are more at risk are adequately acknowledged.

Together we can build bridges.

Together we can rescue those who are drowning.

Together we can learn to swim.

Resources for help

If you or someone you know is in crisis, please contact any of the following:

Beyond Blue Lifeline: **13 11 14**

Beyond Blue Suicide Call Back Service **1300 659 467**

https://www.beyondblue.org.au/get-support/get-immediate-support

RACP Support Program: **1300 687 327** (Australia)

0800 666 367 (New Zealand)

https://www.racp.edu.au/fellows/physician-health-and-wellbeing/i-need-support/racp-support-program

BIBLIOGRAPHY

1. unknown. Public Health for the People [Internet]. online: independent. 2013. [cited 2020]. Available from: https://upstreamthinking.wordpress.com/upstream-story/.
2. Colgan S. Why Did the Policeman Cross the Road? How to Solve Problems Before They Arise: Unbound; 2016. 300 p.
3. McKinlay JB. A Case For Refocusing Upstream: The Political

Economy Of Illness. Applying Behavioral Science to

Cardiovascular Risk. 1975.
4. Ng M, Freeman MK, Fleming TD, Robinson M, Dwyer-Lindgren L, Thomson B, et al. Smoking prevalence and cigarette consumption in 187 countries, 1980-2012. Jama. 2014;311(2):183-92.
5. Gartner CE, Barendregt JJ, Hall WD. Predicting the future prevalence of cigarette smoking in Australia: how low can we go and by when? Tob Control. 2009;18(3):183-9.
6. White V, Hill D, Siahpush M, Bobevski I. How has the prevalence of cigarette smoking changed among Australian adults? Trends in smoking prevalence between 1980 and 2001. Tob Control. 2003;12 Suppl 2(Suppl 2):ii67-74.
7. Colin P. West M, PhD. Physician Burnout: Why We Should Care and What We Can Do About It. Icahn School of Medicine, Mount Sinai2016.
8. Association AP. Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, Virginia2013.
9. Kopel JJ. Sir William Osler: A forerunner of mindfulness in medical practice. Baylor Medical Center Proceedings. 2019;32:456–8.
10. Jane B. Lemaire1, Darby Ewashina3, Alicia J. Polachek2, Jaya Dixit4, Verna Yiu5. Understanding how patients perceive physician wellness and its links to patient care: A qualitative study. PLOS One. 2018;13(5).
11. Blue B. National Mental Health Survey

of Doctors and Medical Students. 2013.
12. Office AT. 2016–17 Tax Stats released. In: Office AT, editor. 2019.
13. MASLACH C. The Measurement of Experienced Burnout. Journal of Occupational Behaviour. 1981;2:99-113.
14. Toteman A. Roadmap to Choosing a Medical Specialty. Stanford University: Stanford School of Medicine Academic Advising & the Office of Medical Student Wellness; 2015.
15. Bianchi R. Defining Physician Burnout, and Differentiating Between Burnout and Depression—I. Mayo Clinic Proceedings. 2017;92(9):1455.
16. Bianchi R, Schonfeld IS, Laurent E. Physician burnout is better conceptualised as depression. Lancet. 2017;389(10077):1397-8.
17. Rotenstein LS TM, Ramos MA, Rosales RC, Guille C, Sen S, et al. Prevalence of burnout among physicians: a systematic review. JAMA. 2018;320(11):1131-50.
18. Health W. [
19. Weeks WB. Physician Burnout-Overdiagnosis and Unproven Interventions. JAMA Intern Med. 2018;178(4):576-7.
20. Kay M. Do we overdramatize family physician burnout?: YES. Can Fam Physician. 2012;58(7):730-2, 4-6.
21. Wright TA, Cropanzano R. Emotional exhaustion as a predictor of job performance and voluntary turnover. J Appl Psychol. 1998;83(3):486-93.
22. MK G. Depressive Symptoms, Burnout, and Declining Medical Career Interest Among Undergraduate Pre-Medical Students. Int J Med Educ. 2018;9:302-9.
23. Fang DZ, Young CB, Golshan S, Moutier C, Zisook S. Burnout in premedical undergraduate students. Acad Psychiatry. 2012;36(1):11-6.

24. Gabbard GO. The role of compulsiveness in the normal physician. Jama. 1985;254(20):2926-9.
25. Brazeau CM, Shanafelt T, Durning SJ, Massie FS, Eacker A, Moutier C, et al. Distress among matriculating medical students relative to the general population. Acad Med. 2014;89(11):1520-5.
26. Dyrbye LN, Varkey P, Boone SL, Satele DV, Sloan JA, Shanafelt TD. Physician satisfaction and burnout at different career stages. Mayo Clin Proc. 2013;88(12):1358-67.
27. West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. J Intern Med. 2018;283(6):516-29.
28. Kadota DY. Mind Body Mike [Internet]. Kadota DY, editor. Sydney, Australia2019. Available from: https://mindbodymiko.com/the-ugly-side-of-becoming-a-surgeon/.
29. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. Arch Intern Med. 2012;172(18):1377-85.
30. de Moll EH. Physician burnout in dermatology. Cutis. 2018;102(1):E24-e5.
31. Lu PW, Columbus AB, Fields AC, Melnitchouk N, Cho NL. Gender Differences in Surgeon Burnout and Barriers to Career Satisfaction: A Qualitative Exploration. J Surg Res. 2020;247:28-33.
32. Sanfey H, Fromson J, Mellinger J, Rakinic J, Williams M, Williams B. Surgeons in Difficulty: An Exploration of Differences in Assistance-Seeking Behaviors between Male and Female Surgeons. J Am Coll Surg. 2015;221(2):621-7.
33. Dis Jv. What's Missing in the Physician Burnout Dialogue: Equity - ACOG 2018 [Youtube]2018.
34. Chesak SS, Cutshall S, Anderson A, Pulos B, Moeschler S, Bhagra A. Burnout Among Women Physicians: a Call to Action. Curr Cardiol Rep. 2020;22(7):45.
35. Eden AR, Jabbarpour Y, Morgan ZJ, Dai M, Coffman M, Bazemore A. Gender Differences in Personal and Organizational Mechanisms to Address Burnout Among Family Physicians. J Am Board Fam Med. 2020;33(3):446-51.
36. Chen KY, Yang CM, Lien CH, Chiou HY, Lin MR, Chang HR, et al. Burnout, job satisfaction, and medical malpractice among physicians. Int J Med Sci. 2013;10(11):1471-8.
37. Bernat JL, Busis NA. Patients are harmed by physician burnout. Neurol Clin Pract. 2018;8(4):279-80.
38. Pit SW, Hansen V. Factors influencing early retirement intentions in Australian rural general practitioners. Occup Med (Lond). 2014;64(4):297-304.
39. Khan A, Teoh KR, Islam S, Hassard J. Psychosocial work characteristics, burnout, psychological morbidity symptoms and early retirement intentions: a cross-sectional study of NHS consultants in the UK. BMJ Open. 2018;8(7):e018720.
40. Shin J, Kim YJ, Kim JK, Lee DE, Moon S, Choe JY, et al. Probability of Early Retirement Among Emergency Physicians. J Prev Med Public Health. 2018;51(3):154-62.
41. Weber DO. How Many Patients Can a Primary Care Physician Treat? American Association for Physician Leadership. 2019.
42. Segal L, Marsh C, Heyes R. The real cost of training health professionals in Australia: it costs as much to build a dietician workforce as a dental workforce. J Health Serv Res Policy. 2017;22(2):91-8.
43. Allen J. Hospital Medical Director [Internet]. hospitalmedicaldirector.com2019.
44. Ben-Ari R, Robbins RJ, Pindiprolu S, Goldman A, Parsons PE. The costs of training internal medicine residents in the United States. Am J Med. 2014;127(10):1017-23.
45. Ali Watkins MR, William K. Rashbaum and Brian M. Rosenthal. Top E.R. Doctor Who Treated Virus Patients Dies by Suicide. The New York Times. 2020 April 27, 2020.
46. Frellick M. NYU Resident, Medical Student Die by Suicide 5 Days Apart: Medscape; 2018 [
47. Tanwar D, editor Physicians Experience Highest Suicide Rate of Any Profession American Psychiatric Association (APA) 2018 annual meeting; 2018; New York, New York.
48. Medscape. Beating Burnout: Advice From Physician Experts: Medscape; 2016.

49. Simonds G. Scott Becker Interviews Dr. Gary Simonds [Internet]. castbox; 2019. Podcast: 24:13. Available from: https://castbox.fm/episode/Scott-Becker-Interviews-Dr.-Gary-Simonds%2C-Professor-at-Virginia-Tech-School-of-Neuroscience-and-Author-of-%E2%80%9CThe-Thriving-Physician%E2%80%9D-and-%E2%80%9CThriving-in-Healthcare%E2%80%9D-id2014796-id192207511?country=us
50. Roberts K. Student and Trainee Mental Health Program New York, New York: Icahn School of Medicine at Mount Sinai; 2020 [Available from: https://icahn.mssm.edu/about/departments/psychiatry/clinical/stmh.
51. Australia Go. Export income to Australia from international education activity in 2017. In: Training DoEa, editor. 2018.
52. Queensland Uo. 2021 Indicative international postgraduate fees. 2020.
53. Aubusson K. Sydney hospital faces trainee ban over junior doctor scandal. The Sydney Morning Herald. 2019.
54. Cakal E. "Befogging reason, undermining will: Understanding the prohibition of sleep deprivation as torture and ill-treatment in international law. Torture. 2019;29(2):11-22.
55. Hunasikatti M. The Impact of Sleep and Circadian Disorders on Physician Burnout: Time for "Nap Time". Chest. 2020;157(6):1689.
56. Kancherla BS, Upender R, Collen JF, Rishi MA, Sullivan SS, Ahmed O, et al. Sleep, fatigue and burnout among physicians: an American Academy of Sleep Medicine position statement. J Clin Sleep Med. 2020;16(5):803-5.
57. Kancherla BS, Upender R, Collen JF, Rishi MA, Sullivan SS, Ahmed O, et al. What is the role of sleep in physician burnout? J Clin Sleep Med. 2020;16(5):807-10.
58. Stewart NH, Arora VM. The Impact of Sleep and Circadian Disorders on Physician Burnout. Chest. 2019;156(5):1022-30.
59. Pellegrino P, Marqueze EC. Aspects of work and sleep associated with work ability in regular aviation pilots. Rev Saude Publica. 2019;53:16.
60. Lamp A, McCullough D, Chen JMC, Brown RE, Belenky G. Pilot Sleep in Long-Range and Ultra-Long-Range Commercial Flights. Aerosp Med Hum Perform. 2019;90(2):109-15.
61. Tefft BC. Acute sleep deprivation and culpable motor vehicle crash involvement. Sleep. 2018;41(10).
62. Garbarino S, Guglielmi O, Sannita WG, Magnavita N, Lanteri P. Sleep and Mental Health in Truck Drivers: Descriptive Review of the Current Evidence and Proposal of Strategies for Primary Prevention. Int J Environ Res Public Health. 2018;15(9).
63. Olch DPD. William Stewart Halsted; A Lecture by Dr. Peter D. Olch. Annals of Surgery. 2006;243(3):418–25.
64. Harrison Narcotics Tax Act, (1914).
65. ABMS Officially Recognizes Addiction Medicine as a Subspecialty [press release]. American Board of Medical Specialties, March 14, 2016 2016.
66. Queensland AMA. Wellbeing at Work (formally Resilience on the Run) Brisbane, Queensland: Australian Medical Association Queensland; 2015 [Available from: https://qld.ama.com.au/events/wellbeing-at-work.
67. Greco R. Residency Program Balance in Life: Stanford University; 2011 [Available from: http://med.stanford.edu/gensurg/education/residencyProgram/residentlife.html.
68. Collier R. Electronic health records contributing to physician burnout. Cmaj. 2017;189(45):E1405-e6.
69. Collier R. Rethinking EHR interfaces to reduce click fatigue and physician burnout. Cmaj. 2018;190(33):E994-e5.
70. Gidwani R, Nguyen C, Kofoed A, Carragee C, Rydel T, Nelligan I, et al. Impact of Scribes on Physician Satisfaction, Patient Satisfaction, and Charting Efficiency: A Randomized Controlled Trial. Ann Fam Med. 2017;15(5):427-33.

71. Girard DE. Physician Burnout in the Electronic Health Record Era. Ann Intern Med. 2019;170(3):215-6.
72. Hayes D, Jr. Electronic Health Record and Physician Burnout. Am J Med Qual. 2019;34(4):416.
73. Shanafelt TD, Dyrbye LN, Sinsky C, Hasan O, Satele D, Sloan J, et al. Relationship Between Clerical Burden and Characteristics of the Electronic Environment With Physician Burnout and Professional Satisfaction. Mayo Clin Proc. 2016;91(7):836-48.
74. Volkswagen turns off Blackberry email after work hours London, England: British Broadcasting Company; 2012 [Available from: https://www.bbc.com/news/technology-16314901.
75. Simonds G. How to Prevent Physician Burn Out: Carilion Clinic; 2019.
76. Stromboulopoulos G. Dan Savage: "You Have A Moral Responsibility To Be Out". Toronto, Ontario: Canadian Broadcasting Company; 2013.
77. Weinstein DMS. Out of the Straight Jacket. NEJM. 2018;378:793-5.