

INVITED EDITORIAL

Stress and suicide in medical students and physicians

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Note: The following article discusses suicide, depression, and other mental health conditions, which may be distressing for some people. If you are worried about your own or someone else's mental health and would like to seek help about these issues, please see the resources at the end of this article or in the Editors' welcome on page 4.

Suicide is the second most common cause of death for medical students, after accidents.¹ Once they have graduated, physicians have higher rates of suicide than the general population, and are consistently at the top of rankings for occupational groups at risk of suicide.² However, we should be careful to avoid alarming medical students with these statistics. Suicide is the second leading cause of death for all young people, not just medical students, and the higher rate of suicide among physicians is substantially accounted for by their ready access to lethal means of suicide.

Nevertheless, the problems of stress, depression, drop-out, burn-out, and suicide in medical students and physicians are well-established.³ In the last few years, concerns have escalated,^{4–11} resulting in multiple calls for action to improve the mental health, wellness, self-care, and resiliency of students, in efforts to prevent these problems persisting into practice.^{12–15} Physician burnout has been called a public health crisis,¹² and an increasing number of hospitals are appointing Chief Wellness Officers to promote physician wellbeing. In the United States there are an estimated 400 physician suicides a year.¹⁶ In response, in 2017, the US National Academy of Medicine launched the Action Collaborative on Clinician Well-Being and Resilience, a network of more than 60 organisations committed to reversing rises in clinician anxiety, burnout, depression, stress, and suicide.¹⁷ The American College of Emergency Physicians (ACEP), along with related professional organisations, has dedicated September 17 annually as National Physician Suicide Awareness (NPSA) Day.¹⁸

Suicide is often an endpoint of stress and distress. Rates of suicide among physicians are estimated to be about 70% higher for male physicians than for men in the general population (including men in other professions), and, for female physicians, 250% to 400% higher than for women in the general population.¹⁶ (While suicide rates for male and female physicians are generally similar, the male rate of suicide in the general population is higher). However, these figures may under-estimate the extent of the problem, since there is general agreement that suicide among both medical students and physicians is likely under-counted.³

The particular pressures of medical education are assumed to contribute to the stress, depression, and burnout that arise during medical training. Once students graduate and begin working as physicians, organisational structures and work-related pressures (including clerical burdens associated with electronic health records, micromanagement, multiple healthcare reforms, and complaints), are named as the leading contributors to stress.¹⁹ In the general population, two

major psychiatric risk factors for suicide are mental disorders and substance use disorders. There is a higher prevalence of psychopathology among medical students and physicians than the general population. A meta-analytic review found that 27% of medical students reported depression or depressive symptoms, and 11% reported suicidal ideation.⁷ However, of those students who reported depression, only 15% sought professional mental health care. Seeking help for depression is stigmatised in the general population in many cultures, but is amplified within the health profession,²⁰ suggesting that depression, anxiety, and stress are probably significantly under-reported and untreated in students and physicians. A study of medical students found that they viewed mental health problems with greater stigma and they reported more reluctance to seek help if they were themselves distressed.²⁰ A study of physician suicides found that, compared to people in the general population who died by suicide, physicians were less likely to be in treatment and three times more likely to have had a job-related problem prior to their death.²² Toxicology findings suggested psychiatric medications were 20–40 times more common in physicians, raising the possibility that they might be self-medicating rather than seeking psychiatric treatment.^{21,22} These studies suggest that the professional culture of medicine encourages stoicism, and discourages those with poor mental health from seeking help.

Aside from psychiatric illnesses, a range of other interrelated individual and work factors can contribute to poor mental health in medical students and physicians. These include:

Personality factors: Medicine requires academic excellence. People who gain entry to medical school tend to be high achieving, perfectionistic, conscientious, and anxious, and tend to have high expectations of themselves.^{23,24} This may particularly be the case for females.²¹ These characteristics may predispose to depression and anxiety.

Study pressures: Academic demands and pressures to succeed create stresses during training. A study of medical students found that stress increased as people progressed through training, and that women reported more stress than men.¹⁸ Younger students with limited life experience and coping skills may be more vulnerable to stress and depression.

Care providers and problem solvers: Physicians respond to illness, distress, crisis, and trauma, and support people and families upset by illness and death. They are expected to be supportive and compassionate, and to be problems-solvers, not people who have problems themselves. These demands and expectations can result in stigma and difficulty admitting the need for help and then asking for help. Female physicians seem to be more vulnerable to trying to meet multiple, competing family and work demands.²¹

Isolation: Long hours studying may lead to social isolation for students and registrars. Students and physicians who work in rural areas may face social and professional isolation. The time requirements of the clerical workload of electronic medical records, shift work, large

er workloads, and the business demands of modern healthcare (and budget deficits), have reduced the time available for collegial connections and social support.²⁵

Exposure to death: Medicine involves death, and extensive exposure to death may shape attitudes to ending suffering and contribute to considering suicide as a rational solution.

Work-related stresses: Occupational pressures include long study or working hours, after hours on-call schedules, heavy workloads, administrative and regulatory work demands, frustrating bureaucracy, risk of errors, impact of errors, unexpected outcomes, dealing with distressed patients and their families, patients who die, trauma and disaster, emotional (compassion) fatigue, conflicts with work colleagues or staff, and poor work-life balance. All these work stresses can lead to burnout, depression, and anxiety. Work stresses may occur alongside, or contribute to, personal, relationship, and family stresses, and exacerbate risk of mental health problems. Recent evidence suggests generational differences in work pressures, with older, but not younger, physicians more frustrated by the demands of electronic health records.²⁶

Access to lethal means of suicide: People tend to use for suicide the means which are most readily available and with which they are familiar. Physicians share high suicide rates with nurses, dentists, and veterinarians: all have ready access to lethal means of suicide including drugs in particular, and all have knowledge, experience, and expertise in using those drugs. Overdose is a common method of suicide for people in the health professions.

Suicide contagion: Medical student and physician populations are small. People know each other and learn of suicides within the profession. Suicide contagion tends to occur in small, socially enmeshed communities and the medical profession is one such community. Knowledge of another's suicide may increase suicide risk in someone who is vulnerable and identifies with someone who has died by suicide. In turn, these deaths may reinforce beliefs that suicide is characteristic of the profession and those beliefs may further increase risk.

The excess mortality for suicide in the medical profession stands in contrast to physicians' lower risk of cancer and cardiovascular disease. Presumably, physician's knowledge of the risk factors for cancer and heart disease, prudent self-care, and ready access to early diagnosis and treatment contribute to their lower risk of these diseases. Suicide, too, is preventable in many cases. As with physical health, suicide prevention depends on early recognition of the major risk factors, good self-care practices, and early treatment.

Initiatives to reduce stress, depression, and suicide

Initiatives are underway to improve medical education and work practices to address the problem of poor mental health. As with prevention efforts in the general population, initiatives in the medical profession must focus on ways to recognise, and manage mental health problems when they occur, and address institutional practices which contribute to stress. In the general population, no single programme or intervention is adequate. Best evidence suggests that multi-level, systems-based approaches are more likely to be effective, generating small gains from each intervention and an additional gain from the synergistic impact of having several programmes operating in concert. A similar multi-faceted approach is required to address the multiple precursors and risk factors linked with student and physician poor mental health.²⁷ It is logical to begin to address these issues very early in medical training in the hope of preventing and arresting problems before they persist into practice. Medical students can advocate for inclusion of preventive initiatives in their training programmes. A comprehensive approach includes the following initiatives:

Early education about self-care: Good self-care practices, and education about stress and burnout should be integral and integrated components of medical education, introduced within the first year of student training, and reinforced each year with programmes to enhance wellness and encourage resiliency. The importance of establishing good lifestyle habits to help manage stress (including exercise,

good sleep practices, meditation, and social activities) should be emphasised as a component of professional responsibility.

Wellness and mental wellbeing: There is increased interest in wellness and mental wellbeing in the general population, and within health systems. This focus provides an opportunity to promote wellbeing among medical students, and a platform to treat mental health as being equally as important as physical health. Some medical schools are working with students and specialist services to co-produce suites of wellbeing interventions including focusing on suicide education, "mental health weeks", conversations about how to broach difficult topics, and education to widen opportunities for reflection. While there is not yet a comprehensive longitudinal evaluation of whether these measures improve student mental health, they seem logical inclusions in a holistic wellness approach.

Depression and suicide prevention education and resources: Medical students should be educated early in their training to recognise depression in themselves, their peers, and patients. Gatekeeper suicide prevention training programmes can increase skills and confidence to recognise and triage colleagues who may be at risk.²⁸ Today's medical students have been exposed to increased rates of suicide in their peers, profession and communities, and via cybermedia. Education early in their careers can help assuage anxieties about the difficult, and increasingly common, issues of depression and suicide, and how to approach peers and patients about these issues.

Stigma reduction, and normalisation of help-offering and help-seeking: Given a physician culture of stoicism and stigma which discourages help-seeking for depression, promoting wellbeing programmes may be a more effective approach than encouraging people to seek treatment for depression. However, both approaches are needed. Destigmatising and de-penalising help-seeking, providing student support and mentoring programmes, promoting early intervention, and encouraging use of face-to-face counselling and online intervention programmes such as Cognitive Behavioural Therapy (CBT), are all positive practices. Peers who offer help to fellow students and normalise help-seeking can drive a culture change to reduce stigma and provide a more supportive environment.

Provide support for vulnerable groups: Females, international students, Māori and Pacific students, young doctors, and people working in rural areas are at higher risk of developing mental health problems. For vulnerable groups, additional support systems and education should be implemented to enhance mentorship and provide access to mental health services.

Improve the learning and working environments: Most of the initiatives to reduce stress focus on people – education, self-care, and destigmatising help-seeking for mental health problems. These interventions show small reductions in symptoms of common mental health disorders among physicians, and could be expected to have similar reductions in medical students.²⁹ In addition to addressing individual risk factors, interventions focussed on workplace environments might also improve student and physician mental health. These initiatives are the responsibility of employing organisations and professional bodies and include organisational strategies and leadership, workloads, work hours, resources, workplace culture, administrative burdens, and regulatory licencing and reporting requirements. Few studies have examined the impact of changes in organisational structures and work practices on physician mental health. However, it is logical to conclude that both people-focused and work interventions are needed.

Enhance connectedness: Having supportive close relationships and feeling socially connected are effective buffers against stress and suicide.^{30,31} Promoting social activities and developing supportive communities of medical students can help mitigate the stresses of medical school. In the healthcare workplace, enhancing professional social connectedness and teamwork can increase job satisfaction and reduce burnout.³¹

Medical students: advice about care of peers

Students and colleagues who work closely with each other may be well-positioned to notice subtle changes in behaviour and demeanour. If you are concerned that a colleague might be thinking about suicide, always trust your intuition, take the issue seriously, and do something - don't hope that someone else will intervene. If you do not feel comfortable about intervening with a particular colleague, find someone who does. Signs that someone may be at risk include talking about suicide, saying they feel alone, feel a burden, feel overwhelmed, can see no purpose, or want to escape. They may sound or talk about feeling desperate, hopeless, helpless, worthless, numb, or ashamed. They may have had a recent rejection or loss, relationship breakup, humiliation or bereavement, or feel overwhelmed, depressed, or distressed. Talk to the person about what you have noticed that makes you concerned. Ask directly about thoughts of suicide: "Are you thinking about suicide?" (Use gatekeeper training skills). Listen without judgement, and take or refer the person to appropriate help. Don't try to assess how serious the risk is. Connect the person with professionals who will assess them. Take the person to a residential support person, student counselling service, their mentor, GP, or the Emergency Department. You can call the national mental health helpline (free text or call 1737), or the local DHB Mental Health Crisis Team, to refer the person or to ask for advice. Both 1737 and the DHB Crisis Team are available 24/7. In an emergency, if you are concerned for someone's immediate safety, call 111. Trained responders will triage the call. Stay with the person until emergency services arrive. Do not leave them, but do not put yourself at risk. After you have connected someone to help, ensure you debrief with a support person, and take good care of yourself.

Resource: The website of the American Foundation for Suicide Prevention has useful resources about medical student and physician depression, burnout and suicide: <https://afsp.org/our-work/education/healthcare-professional-burnout-depression-suicide-prevention/>

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