



## **The quality of life of New Zealand doctors and medical students: what can be done to avoid burnout?**

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### **Abstract**

Life as a doctor or medical student poses particular challenges and stressors which can impact on quality of life. This paper sets out to review what is known about the quality of life of doctors and medical students and the ramifications of a poor quality of life. This paper summarises the national and international literature on what is known about quality of life and burnout with regards to both medical students and doctors in terms of the origin of these issues and various risk factors. This paper further recommends ways of addressing these issues from an undergraduate level, for doctors in practice, and then in the workplace. It is critical that the New Zealand medical workforce addresses these issues in a timely manner. In addition, the paper proposes that if doctors, particularly those involved as clinical teachers, have a poor quality of life, the learning environment for medical students may be adversely affected. Exploration of the evidence around these important issues and their relevance to the New Zealand context are considered with suggested solutions.

### **Background**

Quality of life can be defined in many ways. Dimenäs et al<sup>1</sup> suggested that there are three areas related to the notion of quality of life, namely subjective well-being, health and welfare. Subjective well-being refers to a person's perception of their life situation. Health can be defined in objective and subjective terms and imply an evaluation of physical and mental status. Welfare is a measure of environmental factors.

The World Health Organization (WHO) has developed a definition of quality of life that includes aspects of physical, mental, and social well being.<sup>2</sup> Quality of life is measured in terms of an individual's perception and level of satisfaction about their life. Other factors include culture, values, goals, expectations, standards and concerns. As such, the WHO Quality of Life (WHOQOL) survey incorporates areas of physical health, psychological state, level of independence, social relations, personal beliefs, and environmental characteristics.<sup>2</sup> Table 1 below illustrates the domains and facets used in the measurement of quality of life according to the Australian version of the WHOQOL-100, the most detailed version of the WHOQOL series.

Quality of life and burnout are integrally linked.<sup>3-5</sup> The increasing rates of burnout and poor quality of life for doctors has potentially serious ramifications for doctors' lives and patient care.<sup>6</sup> One study has suggested that physicians "have long considered burnout (i.e. emotional exhaustion, depersonalisation, and decreased feelings of personal accomplishment) to be an occupational hazard" and that this sense of disempowerment is linked with the notion of quality of life, such that physicians in the US have a higher risk of depression, substance abuse and anxiety compared with

the general population.<sup>4</sup> Eckleberry-Hunt et al<sup>4</sup> have argued that several factors can influence lowered quality of life and lead to burnout symptoms. These include lack of social support, depression, disempowerment and sleep deprivation. It is thus likely that burnout and quality of life indicators may measure very similar entities related to the notion of 'wellness'. In this model, burnout is viewed as being at the extreme end of quality of life issues going awry.

**Table 1. Domains and facets of the Australian version of the WHOQOL-100<sup>46</sup>**

<b>Domain</b>	<b>Facet</b>
<b>Physical health</b>	Pain and discomfort Energy and fatigue Sleep and rest
<b>II Psychological health</b>	Positive affect Thinking, learning, memory and concentration Self-esteem Body image and appearance Negative affect
<b>Level of independence</b>	Mobility Activities of daily living Dependence on medication or treatments Work capacity
<b>IV Social relationships</b>	Personal relationships Social support Sexual activity
<b>Environment</b>	Physical safety and security Home environment Financial resources Health and social care: accessibility and quality Opportunities for acquiring new information and skills Participation in and opportunities for recreation/leisure activities Physical environment Transportation
<b>Spiritual domain</b>	Spirituality/religion/personal beliefs Overall quality of life and general health

## **Quality of life issues for doctors**

Shanafelt et al<sup>5</sup> investigated the association between career satisfaction, burnout, and quality of life. These researchers found that nearly 40% of American surgeons in their sample met the criteria for burnout. In addition, burnout was associated with psychological aspects of quality of life, and nearly 30% of all surgeons surveyed displayed significantly low scores for this domain. They further found that younger surgeons were more at risk of burnout and lower measures of quality of life than more established or older surgeons. Paradoxically, 70% of the sample enjoyed being a surgeon and would not have it any other way. Of note, quality of life issues relating to crime and finance are strong motivating factors for doctors to seek relocation to New Zealand from South Africa.<sup>7</sup>

There has been a significant interest in New Zealand and internationally in the areas of work related stress, mental health issues and burnout across various medical

disciplines. In New Zealand there have been reports of up to 10% of general practitioners (GPs) showing psychological symptoms of concern<sup>8</sup> and a related study showed similar rates for New Zealand physicians and surgeons.<sup>9,10</sup> Forty-six percent of GPs felt that work had affected their physical health and of greater concern is that 57% indicated they often thought about leaving general practice.<sup>8</sup> A study of emergency physicians across the USA, UK, and Australasia indicated that levels of work-related stress and depression were similar across the sites.<sup>11</sup> A recent study of young surgeons in New Zealand and Australia revealed that almost 27% of the participants reported burnout. Risk factors included being female, working in small hospitals, and working more than 60 hours per week.<sup>12</sup>

Similarly, a recent study of New Zealand physicians preparing for written examinations, found that two thirds reported their preparation for the examinations had adversely affected their relationship with their partner or spouse. Of those with children, 90% of participants felt it adversely affected their relationships.<sup>13</sup> Other reported morbidities included insomnia (37%), headaches (35%), anxiety/panic (17%), and depression (15%). A survey of practicing physicians in the Waikato and Bay of Plenty reported that 28% of participants experienced high levels of two or three aspects of burnout.<sup>14</sup> Similar results were shown in a survey of Christchurch public hospital clinicians.<sup>15</sup>

## **Quality of life issues for medical students**

Issues linked with the notion of quality of life amongst medical students have also been well documented<sup>6,16-21</sup>. Rosenthal et al<sup>20</sup> stated that medical students are more likely to manifest depressed symptoms than their nonmedical peers. Goebert et al disclosed that 21% of their US respondents indicated depressed states of mind, which was significantly higher than those found in the general population (8%–15%). Furthermore, reports for suicidal ideation were higher in student years with a peak at fourth year of 9.5% (as opposed to 6.6% at year 1) and lower rates in later postgraduate years. In a similar study in Australia, it was found that between 16% to 25% of students reported some degree of suicidal ideation before examinations.<sup>22</sup>

A further study in Turkey<sup>23</sup> revealed that medical students self-reported significantly worse scores on the General Health Questionnaire, Beck Depression Inventory and State-Trait Anxiety Inventory as the students transitioned from years 1 to 2 suggesting marked problems in these areas. These scores were significantly higher than comparable students studying in physical education and economics. These findings are similar to other studies noting that medical students were particularly vulnerable to conditions such as depression, anxiety, suicidal ideation, inability to cope with problems and distress, and dissatisfaction with social support networks.<sup>21,24,25</sup>

## **Problems with quality of life: How do they originate?**

Quality-of-life issues are relevant to everyone and in this article quality of life issues pertaining to doctors and medical students have been discussed. There are some interesting causal factors postulated, that need to be acknowledged before solutions can be proposed and implemented.

Psychiatrists experience higher rates of burnout than other groups of doctors and, therefore, this group may be predisposed to burnout due to personality characteristics

and work related factors. A recent study indicated that two thirds of the psychiatrists surveyed reported moderate to high levels of emotional exhaustion and a similar proportion reported low levels of personal accomplishment.<sup>26</sup> Kumar et al<sup>27</sup> have proposed an aetiological model that encompasses predisposing, precipitating and perpetuating factors associated with this phenomenon.

Predisposing factors, with respect to psychiatrists, include characteristics such as neuroticism, openness and agreeableness<sup>27</sup>. Moreover, Kumar et al found that psychiatrists scored higher than physicians and surgeons on items related to neuroticism, openness, and agreeableness, but lower in conscientiousness, implying that when combined with the personalised nature of their occupation this medical sector are more prone to burnout than other medical professionals. A further predisposing factor discussed in this article proposed that the training experience of psychiatrists plays a significant role in causing stress and burnout, due to the often adversarial encounters when working with patients with mental illness.

Precipitating factors for burnout in psychiatrists include patient violence, difficult or hostile relatives or patient suicide. Perpetuating factors depend on how a doctor perceives and responds to stressful situations.<sup>27</sup> This is influenced by numerous factors including gender. For example, women may respond to stress by career dilution and working part time. They may also respond by limiting the demands of intimacy, and thus they are less likely to marry, and have fewer children.

Other studies in reference to other medical disciplines also tend to somewhat resonate with the quality of life problems faced by psychiatrists. In a longitudinal study of UK medical graduates, it has been reported that doctors who are most stressed had higher neuroticism scores, and those reporting the most emotional exhaustion had both higher neuroticism scores and were more likely to be introverted.<sup>28</sup> In addition, it was found that lower conscientiousness on a personality measure predicted greater stress. Extroverts reported greater satisfaction with medicine as a career.

The causal link between quality of life, stress and burnout has been addressed in a longitudinal study of UK doctors. McManus et al<sup>29</sup> noted that an increasing emphasis on higher professional standards increases stress, lowers perceived levels of quality of life, and increases likelihood of burnout in doctors.<sup>29</sup>

Depersonalisation (cynicism) was found to be a protective factor against stress but was considered a maladaptive coping mechanism.<sup>29</sup> Academic work demands have also been reported to be associated with higher risk of burnout and stress<sup>30</sup>. Lastly, GPs reported the main causes of stress were excessive paperwork, health reforms, bureaucracy, excessive hours and on call work.<sup>8</sup>

A qualitative study in the UK found that medical students reported the pressure of academic and professional demands provided significant sources of stress<sup>18</sup>. It is difficult to discern whether there is an increase in problems with obtaining a good quality of life or if there is greater awareness about issues such as depression which have highlighted recognition of the problem.<sup>20</sup>

Nonetheless, a commonly cited link with depression is sleep deprivation, such that students who experienced less or disturbed sleep are more prone to experiencing varying degrees of depression.<sup>21</sup> Furthermore, increased pressure of assessments and applying for residency placements adversely affect quality of life perceptions.<sup>21</sup> In

addition, increases in psychological distress have also been associated with similar increases in perfectionism, and more critically, increased levels of perfectionism have been linked to the more severe reports of suicidal ideation.<sup>22</sup>

Kaptein et al<sup>31</sup> revealed that New Zealand medical students are more anxious about the health-related aspects of living in the postmodern world than European medical students and that female students are more anxious than their male counterparts. One suggested explanation for the difference was the greater prominence given to issues of health and environment in New Zealand compared to Europe, suggesting that students with more awareness about the issues of quality of life are more likely to report and discuss concerns related to cause and effect.

The periods of transition from school to university, from pre-clinical to clinical and from clinical to qualification, are considered to be taxing. Students find that they are expected to develop a professional persona and find the expectations of a sense of clinical confidence and competence to be a major stressor. "Many students perceive(d) lack of guidance from the medical school and individual tutors on academic requirements and individual welfare issues as a significant source of stress".<sup>18</sup>

Ross et al<sup>16</sup> found that students felt that lack of money and high levels of coursework were significant causes of stress. Environmental issues related to financial stress heavily impact on the wellbeing of medical students in New Zealand.<sup>32</sup> This is perhaps unsurprising in New Zealand medical students given their high tuition fees.<sup>33</sup> and subsequent debt; it is suggested that "first-year house officers have an average debt of \$65,000; with 10% owing more than \$100,000".<sup>34</sup>

## **Solutions and strategies to improve quality of life**

Overseas research suggests that poor coping styles of physicians in response to high work demands are magnified by a reluctance to seek help.<sup>6</sup> This is an area of concern and suggests a need to target the emotional well-being and health concerns of those within the profession. A key factor in the ability to care for others is the ability to care for oneself.<sup>35,36</sup> Developing strong work networks that promote personal and professional reflection can assist in the exploration of practice and reduce anxiety-provoking behaviour.<sup>35</sup> Positive protective factors for burnout include having interests outside professional life.<sup>30</sup>

It is suggested that the way forward is to address issues of quality of life for doctors at many levels, starting at medical school selection and training through to developing a culture of support in the work place. We propose the following solutions to some identified questions:

### **What can be done at an undergraduate level?**

1. The selection criteria for medical students needs to be considered prudently in terms of personality characteristics that may predispose to burnout and other quality of life issues, such as neuroticism.<sup>28,37</sup>
2. Educators<sup>38</sup> need to be explicit in the teaching and modelling of self care in the medical school curriculum including:
  - a Resilience, self-care skills training

- b Facilitation of good study habits and consider strategies for coping with examination stress
  - c Modelling of self care
  - d Curriculum attention to burnout (awareness raising)
3. Medical schools should support students in engaging in positive social relationships. One of the key WHO factors for quality of life is the development of interpersonal skills.<sup>35</sup> This cultivation of mind and empathy is important when establishing relationships with patients and developing clinical practice.<sup>35</sup> The promotion of well-being in oneself heightens the capability to care for others especially in uncertain health contexts.

Mentoring needs to be evaluated with respect to its potential benefit for medical students. A review of all studies on mentoring in medical education reveal that although the programmes appear positive, there are challenges with their delivery, and the long term outcomes are not known. Longer term effects of a mentoring programme and a cost benefit analysis need to be investigated.<sup>39</sup>

### **What can be done for doctors in practice?**

1. Where practical, such as in a hospital, non-clinical managerial and support staff should be trained to identify early warning signs of burnout in junior and senior medical staff and monitoring well being.<sup>40</sup>
2. Promoting quality of life programmes that include engaging in healthy exercise, developing healthy sleep patterns, and facilitating time out activities such as retreats and regular meditation.<sup>41, 42</sup>
3. Establishment of peer groups and one-on-one support systems should be explored more widely. Most physicians prefer a one-on-one support system.<sup>14</sup> Peer groups and supervision have been successfully introduced to help in self care for GPs by the RNZCGP,<sup>43</sup> and similarly for surgeons by the RACS.
4. Close supervision and support of junior doctors. Increased supervision by senior doctors is important as the relationship between the supervising consultant is central to the learning experience of the intern and can impact on career decisions.<sup>44</sup> It is also important to note that any proposals to reduce workload for junior doctors (see below) or increase the supervision of junior doctors by senior doctors must be monitored for their effect on senior doctors.

### **What can be done about the workplace?**

1. Scrutiny and change with respect to medical culture should be investigated. In an exploration of compassion fatigue, Huggard urges that in order to care for the carers, health care organisations need to “develop respect and care for their employees in the same way that they require their employees to care for their patients”.<sup>36</sup> Similarly Kumar et al propose that “organisational leaders must work with their staff to develop a workplace environment where the acknowledgement and resolution of such

workplace distress is normalised and not contained within a culture of secrecy and shame”.<sup>27</sup>

2. Changes in working conditions should be considered. In a local study,<sup>45</sup> surveying a small group of Resident Medical Officers (RMOs) and Senior Medical Officers suggested some strategic changes in work conditions. The RMOs sought the following work provisions: prohibition of PGY1s working nights in the first six months of employment; restrictions around provision of 24-hour on-call duty; the requirement for alternate weekends off; and unlimited training reimbursements for costs incurred on the pathway to vocational registration.<sup>45</sup>

## Conclusion

High rates of burnout in medical students and doctors are areas of great concern. There are several contributing factors including predisposing personality traits, training experience, workplace culture and workload. Potential strategies involve addressing the problem at all levels from initial selection processes, medical undergraduate education and postgraduate training, improved support systems, and changes in working conditions.

Further research is required into the effectiveness of elements of mentoring and supervision, and identifying protective and preventative factors in promoting quality life and reducing the risk of burnout. All medical students and doctors need to challenge ongoing learning and workplace practices that perpetuate less than optimal self-care practices; thereby making positive changes to workplace culture and learning environments, improving the quality of life of medical students and doctors, ultimately leading to better patient care.

**Competing interests:** None known.

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