

# Physician burnout in ophthalmology: a New Zealand survey

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## ABSTRACT

**BACKGROUND:** Burnout is a chronic syndrome that compromises physician wellbeing and patient care. This study aimed to quantify burnout among New Zealand ophthalmologists and identify key demographic and practice-related factors associated with increased risk, as well as to assess lifetime burnout experiences, time off taken and barriers to seeking help.

**METHODS:** A cross-sectional study of 171 New Zealand ophthalmologists used a modified Mini Z 2.0 Burnout Survey to assess workplace satisfaction, stress and burnout, while additional questions gathered demographic and practice characteristics, as well as retrospective data on burnout frequency, time off taken, help sought and perceived barriers.

**RESULTS:** Out of 161 delivered surveys, 84 responses were received (52% response rate). Overall burnout was 20%, with a significantly higher rate in the public sector ( $p < 0.05$ ). Burnt-out respondents reported notably lower job satisfaction, team effectiveness and workload control. No significant associations were found with other demographic or practice factors. Sixty-three percent had experienced burnout at least once, and 40% reported multiple episodes, yet only 15.5% took time off. Among those who sought help (51%), family members were the most common source of support, while 43% did not seek help, primarily due to time constraints.

**CONCLUSION:** This study shows that burnout affects one in five New Zealand ophthalmologists. Findings underscore the importance of reducing stigma and cultivating supportive environments that encourage help-seeking without fear of repercussions. Reducing administrative tasks and expanding mental health resources, especially in the public sector, may mitigate burnout and strengthen workforce recruitment and retention.

Burnout is a psychological syndrome arising from prolonged occupational stress, characterised by emotional exhaustion, depersonalisation and a reduced sense of personal accomplishment.<sup>1</sup> Burnout negatively impacts clinician wellbeing, productivity and patient safety.<sup>2</sup> Rates are disproportionately higher among healthcare professionals, particularly surgeons and medical specialists.<sup>3,4</sup> Yet, studies focussing specifically on ophthalmologists remain limited.

International data suggest that ophthalmologists are not exempt from this challenge. Burnout prevalence has been reported at 38% in the United States, 25% in India and over 35% in Canada, with younger and female ophthalmologists particularly affected.<sup>5-8</sup> Although ophthalmology is often perceived as a desirable specialty with good work-life balance, these findings emphasise that ophthalmologists remain vulnerable to the pressures of modern medical practice.

In New Zealand, 175 ophthalmologists serve a population of 5.1 million, equating to approximately 34 per million people.<sup>9,10</sup> This is well below the ratio in other high-income countries, where figures range between 40 and 114 per million.<sup>11</sup> Workforce pressures are compounded by uneven

distribution, with services concentrated in metropolitan centres and regional ophthalmologists facing greater on-call demands, limited subspecialty support and professional isolation.<sup>12,13</sup> Coupled with an ageing population and increasing demand for eye care, these factors may place New Zealand ophthalmologists at heightened risk of burnout.

To date, no comprehensive study has yet quantified the prevalence of burnout among New Zealand ophthalmologists. Understanding the extent of the problem, and the demographic or practice-related factors that contribute to it, is critical. Such insights are necessary not only to safeguard the wellbeing of ophthalmologists but also to ensure the sustainability of the workforce and the delivery of equitable eye care across the country.

## Methods

A cross-sectional survey was conducted among all Medical Council of New Zealand-registered ophthalmologists ( $n=171$ ) identified as eligible at the start of the study.

Data were collected using a modified version of the Mini Z 2.0 Burnout Survey, a validated

instrument developed by the American Medical Association to assess workplace satisfaction, stress and burnout. The Mini Z 2.0 has been previously validated against the Maslach Burnout Inventory, ensuring reliability as a burnout measure.<sup>14,15</sup>

The original Mini Z 2.0 survey comprises 10 items on a five-point Likert scale, assessing domains such as job satisfaction, stress, burnout symptoms, workload control, teamwork, alignment of values with leadership, administrative burden and workplace atmosphere. For this study, documentation, electronic medical record (EMR) use and EMR proficiency were combined into a single category labelled “administrative time” to reflect the variable adoption of EMR systems across New Zealand.

Burnout was assessed using the validated burnout item from the Mini Z 2.0 survey, which asks participants to self-assess symptoms of burnout. Respondents were classified as experiencing burnout if they selected one of the following: “I am beginning to burn out and have one or more symptoms of burnout”, “The symptoms of burnout that I’m experiencing won’t go away. I think about work frustrations a lot” or “I feel completely burned out. I am at the point where I may need to seek help”.

In addition, demographic and practice-related characteristics were recorded. These included age, gender, years of practice and subspecialty, as well as workload, work location, work sector, certification status, presence of registrars and frequency of on-call duties.

Participants were also asked whether they had ever experienced burnout during their careers, whether they had taken time off for this reason, the sources of help they sought and barriers encountered when seeking support.

Data were collected using an anonymous SurveyMonkey survey. (Symphony Technology Group, 2017, trademark SURVEYMONKEY®). Email addresses were collected only for survey distribution, and responses were de-identified. A reminder email was sent 2 weeks prior to the survey’s closure, and the survey remained open for 6 weeks, from 11 November 2024 to 25 December 2024.

Burnout prevalence was reported as frequencies and percentages, stratified by demographic and practice characteristics. Associations between burnout and these factors were examined using multivariate logistic regression. Mean scores for Mini Z 2.0 survey items were compared between participants with and without burnout using the

Mann–Whitney U test. Statistical significance was defined as  $p < 0.05$ .

The study has been evaluated by the New Zealand Health and Disability Ethics Committee and deemed not to require ethics approval. The study received approval from Te Whatu Ora – Te Matau a Māui Hawke’s Bay Research Review Committee.

## Results

Of 171 surveys distributed, 10 were undeliverable, leaving 161 successfully delivered. Eighty-four responses were received, yielding a 52% response rate.

Seventeen respondents (20%) reported current symptoms of burnout. Burnout prevalence was highest among ophthalmologists working exclusively in the public sector (29.4%), which was significantly higher than among those working exclusively in the private sector (15.4%,  $p < 0.05$ ).

Although differences across demographic groups did not reach statistical significance, several trends were observed. Male respondents reported slightly higher burnout (21.2%) than females (16.7%,  $p = 0.29$ ). Burnout was more common among general ophthalmologists (28.6%) compared with subspecialists (17.5%,  $p = 0.77$ ). By age, prevalence was greatest among those aged 40–49 years (36%,  $p = 0.14$ ), and lowest among those aged 50–59 years (9.1%,  $p = 0.99$ ). No differences were found between regional and urban practices (21.4% vs 19.6%,  $p = 0.09$ ), or between Royal Australian and New Zealand College of Ophthalmologists–certified and international medical graduates (20.6% vs 19.1%,  $p = 0.48$ ). Burnout also appeared more frequent in those working 32–40 hours per week ( $p = 0.85$ ), in practices without registrars ( $p = 0.70$ ) and among those with frequent on-call duties ( $p = 0.06$ ), although these trends were not statistically significant (Table 1).

Analysis of Mini Z 2.0 responses showed that respondents without burnout reported higher job satisfaction, teamwork and workload control ( $p < 0.05$ ). They also demonstrated lower stress and workplace disorder, as indicated by higher survey scores, along with slightly more time for administrative tasks and better alignment of professional values with their team, although these differences were not statistically significant (Table 2).

Across their careers, 53 respondents (63%) reported having experienced burnout at least once. Of these, 34 (40%) reported two or more

**Table 1:** Demographic and practice characteristics of New Zealand ophthalmologists and associated burnout prevalence.

Demographics		n (%)	Burnout, n (%)	p-value
Total		84 (100)	17 (20)	
Sex	Female (ref) <sup>a</sup>	18 (21.4)	3 (16.7)	0.29
	Male	66 (78.6)	14 (21.2)	
Age	30–39 (ref) <sup>a</sup>	8 (9.5)	2 (25)	0.14
	40–49	25 (29.8)	9 (36)	
	50–59	33 (39.3)	3 (9.1)	
	60 or older	18 (21.4)	3 (16.7)	
Years worked	<5 (ref) <sup>a</sup>	7 (8.3)	2 (28.6)	0.45
	5–9	14 (16.7)	4 (28.6)	
	10–15 years	16 (19.1)	5 (31.2)	
	>15	47 (55.9)	6 (12.8)	
Workload	0.5–0.79 FTE <sup>b</sup> (20–32 hours per week) (ref) <sup>a</sup>	11 (13.1)	2 (18.2)	0.85
	0.8–0.99 FTE (32–40 hours per week)	45 (53.6)	10 (22.2)	
	More than 1.0 FTE (40+ hours per week)	28 (33.3)	5 (17.9)	
Specialty	General ophthalmologist (ref) <sup>a</sup>	21 (25)	6 (28.6)	0.77
	Subspecialist	63 (75)	11 (17.5)	
Workplace	Rural (ref) <sup>a</sup>	28 (33.3)	6 (21.4)	0.09
	Urban	56 (66.7)	11 (19.6)	
Work sector	Private only (ref) <sup>a</sup>	13 (15.5)	2 (15.4)	0.04
	Public only	17 (20.2)	5 (29.4)	
	Public and private	54 (64.3)	10 (18.5)	
Certification	IMG <sup>b</sup> (ref) <sup>a</sup>	21 (25)	4 (20.6)	0.48
	RANZCO <sup>b</sup>	63 (75)	13 (19.1)	
Registrar presence	No (ref) <sup>a</sup>	14 (16.7)	4 (28.6)	0.70
	NTR <sup>b</sup>	9 (10.7)	3 (33.3)	
	TR <sup>b</sup>	9 (10.7)	1 (11.1)	
	TR and NTR	52 (61.9)	9 (17.3)	

**Table 1 (continued):** Demographic and practice characteristics of New Zealand ophthalmologists and associated burnout prevalence.

Demographics		n (%)	Burnout, n (%)	p-value
On-call duties	No on-call duties (ref) <sup>a</sup>	26 (31)	5 (19.2)	
	≤1 in 5	29 (34.5)	10 (66.7)	0.06
	1 in 6–10	18 (21.4)	2 (11.1)	0.71
	1 in >10	11 (13.1)	0	1.0

<sup>a</sup>Reference group for multivariate analysis.

<sup>b</sup>FTE = full-time equivalent. Regional centres refer to locations outside the major urban cities of Auckland, Hamilton, Wellington, Christchurch and Dunedin. IMG = international medical graduate (trained outside of New Zealand or Australia); RANZCO = Royal Australian and New Zealand College of Ophthalmologists; NTR = non-training registrars (registrars not enrolled in the RANZCO training programme); TR = training registrars (registrars enrolled in the RANZCO training programme).

**Table 2:** Mean Mini Z 2.0 scores for workplace factors, stratified by burnout status.

	Not burnt out mean score	Self-reported burnout mean score	p-value
Job satisfaction	4.1	3.3	<0.05
Alignment of values	3.6	3.3	0.20
Team effectiveness	3.8	3.1	<0.05
Workload control	3.7	3.1	<0.05
Job stress	3.3	2.9	0.07
Administration time	2.9	2.8	0.66
Work atmosphere	3.2	2.9	0.07

episodes and eight (9.5%) reported five or more episodes. Only 13 respondents (15.5%) had ever taken time off work due to burnout. While a greater proportion of female ophthalmologists reported ever experiencing burnout compared with males (66.7% vs 62%), these differences were small and not statistically significant.

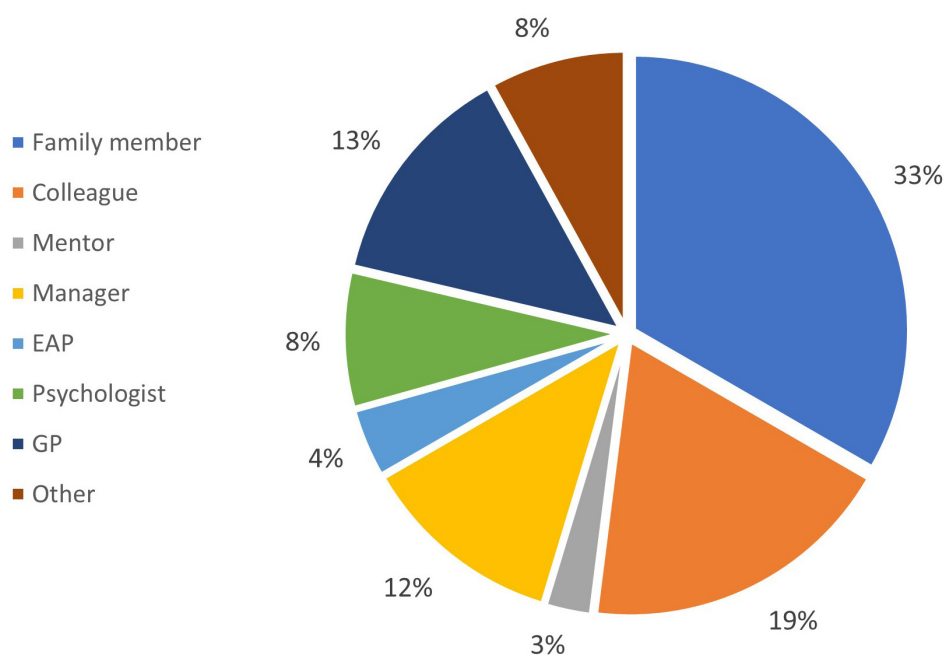
Among those who sought support, family members were the most common source of help (33%), followed by colleagues (19%), general practitioners (13%) and psychologists (8%). Less commonly reported sources included managers, employee assistance programmes, mentors and other supports such as counsellors, workshops or religious leaders (Figure 1).

Barriers to help-seeking were also reported. The most frequent was lack of time (55%), followed by limited support from colleagues or supervisors (24%) and difficulty accessing

services (11%). Other barriers included self-blame and lack of family support.

## Discussion

Burnout is a critical issue with effects that extend beyond the individual. In this national survey of 84 ophthalmologists, representing approximately half of New Zealand's practicing ophthalmology workforce, 20% reported symptoms of burnout. While the response rate was relatively strong (52%), these findings may not be fully representative of all ophthalmologists nationwide. Nevertheless, burnout in this sample was associated with lower job satisfaction, reduced team efficiency and limited workload control, which, if left unaddressed, can undermine collaboration and the trust essential to clinical practice.<sup>2–4,7</sup> Burnout rates among ophthalmologists

**Figure 1:** Sources of help-seeking among ophthalmologists with burnout.

(20%) were considerably lower than the average across other New Zealand specialties, including radiology (59%), psychiatry (56%), emergency medicine (58%), internal medicine (50%), obstetrics and gynaecology (48%) and surgery (44%).<sup>16</sup> These differences likely reflect variations in workload intensity, administrative burden and patient acuity across disciplines, though ophthalmology remains affected by the same systemic pressures influencing clinician wellbeing nationwide.

The higher burnout rate among public sector ophthalmologists may reflect underlying differences in workload and autonomy.<sup>17–20</sup> Similar patterns have been reported internationally, with hospital-based ophthalmologists in the United States and Canada, and New Zealand radiologists and oncologists, showing higher burnout than their private counterparts.<sup>5,8,17–20</sup> A recent Medscape 2023 survey identified excessive bureaucratic tasks, particularly documentation and charting, as the leading contributor to burnout among ophthalmologists.<sup>21</sup> Office-based clinicians spend an additional 1.84 hours per day—equivalent to 9.2 hours per week—on administrative tasks beyond scheduled hours, further compounding stress and burnout.<sup>22</sup>

Other key contributors to burnout in hospital-based settings include insufficient remuneration, limited autonomy and the burden of government regulations.<sup>5,8,17–20</sup> In contrast, private practice offers greater flexibility,

control over the work environment and more efficient administrative systems. With stronger support staff, ophthalmologists in private practice can delegate non-clinical tasks, reducing administrative burden and potentially lowering burnout rates in this group.

Although not statistically significant, our survey suggested that burnout was more common among ophthalmologists aged 40–49 years. This mid-career stage often coincides with peak professional demands, including leadership and mentorship responsibilities alongside a rising clinical workload.<sup>7,23,24</sup> At the same time, many in this age group face substantial personal pressures, such as raising children or supporting ageing parents, which may compound emotional exhaustion and contribute to burnout.<sup>24</sup>

Contrary to our initial hypothesis that practice location might influence burnout rates, with regional ophthalmologists expected to be more vulnerable, our survey found no significant difference between regional and urban practices, with both reporting burnout rates of about 20%. Regional clinicians often face professional isolation, frequent on-call duties and limited access to subspecialty support, all of which can elevate burnout risk.<sup>12,13,25</sup> Conversely, urban ophthalmologists encounter distinct challenges, including heavier job demands, reduced job control and greater work-related exhaustion.<sup>25</sup> Burnout is a multifactorial syndrome shaped by numerous factors;<sup>1–4</sup> although the

nature of these stressors differs across rural and urban settings, both environments appear to result in comparable levels of burnout. Further research is needed to delineate which specific features of urban and regional ophthalmology practice contribute most to this outcome.

Our study revealed a non-significant trend suggesting that male ophthalmologists may be more affected by burnout at the time of the survey (21.2% vs 16.7%), a finding that contrasts with much of the existing literature reporting higher rates among female physicians.<sup>6,7</sup> One possible explanation is that men may be less likely to seek support for mental health concerns due to societal expectations around masculinity and resilience, potentially worsening the severity of burnout when it occurs.<sup>26</sup> However, when considering career-long experiences, a higher proportion of female respondents reported having experienced burnout at least once (66.7% vs 62%), aligning more closely with prior studies. This suggests that while male ophthalmologists may be more vulnerable to acute or survey-time burnout, female ophthalmologists continue to face heightened lifetime risk, likely reflecting the additional pressures of caregiving responsibilities, work-life integration challenges and experiences of workplace harassment and discrimination.<sup>5,6</sup> Together, these findings highlight the importance of further research into gender-specific drivers of burnout within ophthalmology.

Nearly two-thirds of respondents (63%) reported experiencing burnout at least once in their careers, and 40% had faced multiple episodes. Yet only 15.5% took time off to recover, and just half sought help. Such reluctance reflects multiple barriers, including concerns about professional repercussions, redistribution of workload and the culture of resilience deeply embedded in the specialty. Consistent with existing literature, physicians are often hesitant to seek support due to fears of judgement, confidentiality concerns and potential damage to reputation or career progression.<sup>27,28</sup> The culture of stoicism and self-reliance in medicine reinforces this silence, perpetuating unaddressed burnout and magnifying its long-term effects on clinician wellbeing and the quality of patient care.

## Implications

New Zealand has one of the lowest ophthalmologist-to-population ratios among high-income countries, with 34 per million

people.<sup>11</sup> While burnout prevalence in this study is lower than in Canada and the United States and closer to India,<sup>5,6,8</sup> workforce pressures will intensify with an ageing population and rising demand for care. The ophthalmologist-to-population ratio is projected to fall by nearly 10% by 2050,<sup>10</sup> highlighting the urgent need for strategies to mitigate burnout and maintain workforce sustainability.

In this context, our findings point to the importance of re-evaluating workplace structures, particularly in public hospitals. Lessons can be drawn from private practice, where lower burnout rates are linked to greater autonomy, reduced bureaucratic demands and more efficient delegation of administrative tasks. Adopting similar strategies in the public sector—such as streamlining documentation, limiting non-essential audits and meetings and providing greater control over schedules—may help reduce stressors and improve job satisfaction.<sup>17–20,22</sup>

Beyond structural reforms, there is also a pressing need to normalise discussions around mental health and reduce stigma, ensuring ophthalmologists can seek support without fear of professional repercussions. Organisational priorities should include increasing staffing in public sector roles, refining administrative workflows and expanding access to mental health resources. Just as importantly, fostering a culture that supports recovery from burnout—through structured mental health leave, robust employee assistance programmes and adequate backup staffing—can help break the cycle of unaddressed distress and its long-term consequences.<sup>29</sup>

## Strengths and limitations, and suggestions for future research

As with all voluntary self-report surveys, this study is subject to non-response bias, as individuals experiencing burnout may have been less likely to participate, potentially leading to underestimation of prevalence.<sup>30</sup> Reliance on self-reported data also introduces the possibility of recall and social desirability bias.

Female ophthalmologists, who make up just over a quarter of the New Zealand workforce,<sup>10,11</sup> were under-represented in the sample (20%), which may have influenced findings related to gender-associated burnout and limited their generalisability. The modest sample size may also have reduced statistical power to detect associations with demographic and practice factors. None-

theless, the response rate of 52% strengthens the representativeness of results and supports their relevance to comparable ophthalmology populations internationally.

Future research should incorporate qualitative methods to explore ophthalmologists' perspectives on burnout, particularly focussing on protective and resilience factors. These insights could guide the design of targeted interventions to enhance workplace wellbeing. In addition, longitudinal studies are needed to assess the sustained impact of workplace changes on burnout and job satisfaction.

## Conclusion

Burnout affects one in five New Zealand

ophthalmologists, with many experiencing repeated episodes across their careers. Despite its impact, few seek help or take time off, reflecting systemic and workplace barriers. Public sector ophthalmologists appear particularly vulnerable due to heavy workloads, administrative demands and limited autonomy. Contributing factors include low job satisfaction, reduced team efficiency and restricted control over work. Addressing these challenges requires systemic reforms—streamlining bureaucracy, strengthening workplace support and fostering a culture that prioritises mental health. Such efforts are essential for sustaining the workforce and supporting recruitment and retention, both in New Zealand and internationally.

**COMPETING INTERESTS**

VB is on the RANZCO executive committee, the ANZOPS executive committee and the RANZCO New Zealand workforce committee.

El is RANZCO New Zealand Branch chair and a CMC trustee.

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**REFERENCES**

- Maslach C, Leiter MP. Burnout. In: Fink G, editor. *Stress: Concepts, Cognition, Emotion, and Behavior. Handbook of Stress Series Volume 1*. 1st ed. Elsevier; 2016. p. 351-357.
- Salyers MP, Bonfils KA, Luther L, et al. The Relationship Between Professional Burnout and Quality and Safety in Healthcare: A Meta-Analysis. *J Gen Intern Med*. 2017;32(4):475-482. doi: 10.1007/s11606-016-3886-9.
- Dyrbye LN, West CP, Satele D, et al. Burnout among U.S. medical students, residents, and early career physicians relative to the general U.S. population. *Acad Med*. 2014;89(3):443-451. doi: 10.1097/ACM.0000000000000134.
- Balch CM, Shanafelt TD, Sloan JA, et al. Distress and career satisfaction among 14 surgical specialties, comparing academic and private practice settings. *Ann Surg*. 2011;254(4):558-568. doi: 10.1097/SLA.0b013e318230097e.
- Sedhom JA, Patnaik JL, McCourt EA, et al. Physician burnout in ophthalmology: U.S. survey. *J Cataract Refract Surg*. 2022;48(6):723-729. doi: 10.1097/j.jcrs.0000000000000837.
- Nair AG, Jain P, Agarwal A, Jain V. Work satisfaction, burnout and gender-based inequalities among ophthalmologists in India: A survey. *Work*. 2017;56(2):221-228. doi: 10.3233/WOR-172488.
- West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. *J Intern Med*. 2018;283(6):516-529. doi: 10.1111/joim.12752.
- Viviers S, Lachance L, Maranda MF, Ménard C. Burnout, psychological distress, and overwork: the case of Quebec's ophthalmologists. *Can J Ophthalmol*. 2008;43(5):535-546. doi: 10.3129/i08-132.
- Royal Australian and New Zealand College of Ophthalmologists. RANZCO's Vision for Aotearoa New Zealand's Eye Healthcare to 2030 and beyond [Internet]. 2023 [cited 2025 Aug 8]. Available from: [https://ranzco.edu/wp-content/uploads/2023/05/NZ-Vision-2030\\_FINAL.pdf](https://ranzco.edu/wp-content/uploads/2023/05/NZ-Vision-2030_FINAL.pdf)
- Yen Hong C, Merriman M, Wilson G, Chiong Hong S, et al. Update and projections for New Zealand's ophthalmology workforce. *N Z Med J*. 2024;137(1599):27-36. doi: 10.26635/6965.6361.
- Resnikoff S, Lansingh VC, Washburn L, et al. Estimated number of ophthalmologists worldwide (International Council of Ophthalmology update): will we meet the needs? *Br J Ophthalmol*. 2020;104(4):588-592. doi: 10.1136/bjophthalmol-2019-314336.
- Humphreys JS, Jones MP, Jones JA, Mara PR. Workforce retention in rural and remote Australia: determining the factors that influence length of practice. *Med J Aust*. 2002;176(10):472-476. doi: 10.5694/j.1326-5377.2002.tb04518.x.
- Hays RB, Veitch PC, Cheers B, Crossland L. Why doctors leave rural practice. *Aust J Rural Health*. 1997;5(4):198-203. doi: 10.1111/j.1440-1584.1997.tb00267.x.
- Shaholli D, Bellenzier C, Colaprico C, et al. Mini-Z validation for burnout and stress evaluation: an observational study. *Riv Psichiatri*. 2024;59(2):60-68. doi: 10.1708/4259.42359.
- Linzer M, McLoughlin C, Poplau S, et al. The Mini Z Worklife and Burnout Reduction Instrument: Psychometrics and Clinical Implications. *J Gen Intern Med*. 2022;37(11):2876-2878. doi: 10.1007/s11606-021-07278-3.
- Association of Salaried Medical Specialists. The Specialist Issue 108. [Internet]. 2016 Oct [cited 2025 Oct 13]. Available from: <https://asms.org.nz/wp-content/uploads/2022/05/The-Specialist-Oct-2016-Issue-108.pdf>
- Lim RC, Pinto C. Work stress, satisfaction and burnout in New Zealand radiologists: comparison of public hospital and private practice in New Zealand.

- J Med Imaging Radiat Oncol. 2009;53(2):194-199. doi: 10.1111/j.1754-9485.2009.02063.x.
18. Leung J, Riaseco P, Munro P. Stress, satisfaction and burnout amongst Australian and New Zealand radiation oncologists. *J Med Imaging Radiat Oncol.* 2015;59(1):115-124. doi: 10.1111/1754-9485.12217.
  19. Surgenor LJ, Spearing RL, Horn J, et al. Burnout in hospital-based medical consultants in the New Zealand public health system. *N Z Med J.* 2009;122(1300):11-18.
  20. Dinibutun SR. Factors Affecting Burnout and Job Satisfaction of Physicians at Public and Private Hospitals: A Comparative Analysis. *J Healthc Leadersh.* 2023;15:387-401. doi: 10.2147/JHL.S440021.
  21. Koval ML. Medscape ophthalmologist lifestyle, happiness & burnout report 2023: contentment amid stress. Medscape [Internet]. 2023 [cited 2025 Aug 26]. Available from: <https://www.medscape.com/slideshow/2023-lifestyle-ophthalmologist-6016086>
  22. Gaffney A, Woolhandler S, Cai C, et al. Medical Documentation Burden Among US Office-Based Physicians in 2019: A National Study. *JAMA Intern Med.* 2022;182(5):564-566. doi: 10.1001/jamainternmed.2022.0372.
  23. Chambers CN, Frampton CM, Barclay M, McKee M. Burnout prevalence in New Zealand's public hospital senior medical workforce: a cross-sectional mixed methods study. *BMJ Open.* 2016;6(11):e013947. doi: 10.1136/bmjopen-2016-013947.
  24. Dyrbye LN, Varkey P, Boone SL, et al. Physician satisfaction and burnout at different career stages. *Mayo Clin Proc.* 2013;88(12):1358-1367. doi: 10.1016/j.mayocp.2013.07.016.
  25. Harry ML, Sudak NL, Engels MJ, et al. Physician and Advanced Practice Clinician Burnout in Rural and Urban Settings. *J Am Board Fam Med.* 2024;37(1):43-58. doi: 10.3122/jabfm.2023.230233R1.
  26. Sileo KM, Kershaw TS. Dimensions of Masculine Norms, Depression, and Mental Health Service Utilization: Results From a Prospective Cohort Study Among Emerging Adult Men in the United States. *Am J Mens Health.* 2020;14(1):1557988320906980. doi: 10.1177/1557988320906980.
  27. Favre S, Bajwa NM, Dominicé Dao M, et al. Association between burnout and stigma in physicians. *PLoS One.* 2023;18(4):e0283556. doi: 10.1371/journal.pone.0283556.
  28. Cho HL, Huang CJ. Why Mental Health-Related Stigma Matters for Physician Wellbeing, Burnout, and Patient Care. *J Gen Intern Med.* 2020;35(5):1579-1581. doi: 10.1007/s11606-019-05173-6.
  29. DeChant PF, Acs A, Rhee KB, et al. Effect of Organization-Directed Workplace Interventions on Physician Burnout: A Systematic Review. *Mayo Clin Proc Innov Qual Outcomes.* 2019;3(4):384-408. doi: 10.1016/j.mayocpiqo.2019.07.006.
  30. Walters WH. Survey design, sampling, and significance testing: Key issues. *J Acad Librariansh.* 2021;47(3):102344. doi: 10.1016/j.acalib.2021.102344.

## Appendix

### Mini Z 2.0 Survey

**1. Overall, I am satisfied with my current job:**

5.Strongly agree 4.Agree 3.Neither agree/disagree 2.Disagree 1.Strongly disagree

**2. Using your own definition of “burnout”, please circle one of the answers below:**

5. I enjoy my work. I have no symptoms of burnout.
4. I am under stress, and don't always have as much energy as I did, but I don't feel burned out.
3. I am definitely burning out and have one or more symptoms of burnout, e.g. emotional exhaustion.
2. The symptoms of burnout that I'm experiencing won't go away. I think about work frustrations a lot.
1. I feel completely burned out. I am at the point where I may need to seek help.

**3. My professional values are well aligned with those of my department leaders:**

5.Strongly agree 4.Agree 3.Neither agree/disagree 2.Disagree 1.Strongly disagree

**4. The degree to which my care team works efficiently together is:**

5 – Optimal 4 – Good 3 – Satisfactory 2 – Marginal 1– Poor

**5. I feel a great deal of stress because of my job**

5.Strongly disagree 4. Disagree 3.Neither agree/disagree 2.Agree 1. Agree strongly

**6. The amount of time I spend on the electronic medical record (EMR) at home is:**

5 – Minimal/none 4 – Modest 3 – Satisfactory 2 – Moderately high 1 – Excessive

**7. Sufficiency of time for documentation is:**

5 – Optimal 4 – Good 3 – Satisfactory 2 – Marginal 1– Poor

**8. Which number best describes the atmosphere in your primary work area?**

5. Calm 4 3.Busy, but reasonable 2 1. Hectic, chaotic

**9. My control over my workload is:**

5 – Optimal 4 – Good 3 – Satisfactory 2 – Marginal 1– Poor

**10. The EMR adds to the frustration of my day.**

5.Strongly disagree 4.Disagree 3.Neither agree/disagree 2.Agree 1.Strongly agree

#### Mini Z 2.0 Survey.

The Mini Z survey, created by Dr Mark Linzer and his team at Hennepin Healthcare in Minneapolis, Minnesota, is a versatile tool designed for use in research, programme evaluation and educational purposes without any restrictions. However, its use in commercial or revenue-generating contexts requires prior approval from Dr Linzer or the Hennepin Healthcare Institute for Professional Worklife. For more information, visit [www.professionalworklife.com](http://www.professionalworklife.com).