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pandemic*

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ORIGINAL ARTICLE

The workplace and psychosocial experiences of Australian junior doctors during the COVID-19 pandemic

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Key words

coronavirus, COVID-19, junior doctor, mental health, psychosocial, healthcare worker.

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Abstract

Background: Junior doctors experience high levels of psychological distress and emotional exhaustion. The current Coronavirus disease 2019 (COVID-19) pandemic has resulted in significant changes to healthcare globally, with quantitative studies demonstrating increased fatigue, depression and burnout in junior doctors. However, there has been limited qualitative research to examine junior doctors' experiences, challenges and beliefs regarding management of future crises.

Aims: To investigate the workplace and psychosocial experiences of Australian junior doctors working during the second wave of the COVID-19 pandemic.

Methods: Australian healthcare workers were invited to participate in a nationwide, voluntary, anonymous, single time point, online survey between 27 August and 23 October 2020. A qualitative descriptive study of responses to four free-text questions from 621 junior doctors was undertaken, with responses analysed using inductive content analysis.

Results: Participants were predominantly female (73.2%), aged 31–40 years (48.0%) and most frequently reported working in medical specialties (48.4%), emergency medicine (21.7%) or intensive care medicine (11.4%). Most (51.9%) participants had 0–5 years of clinical experience since medical graduation. Junior doctors described experiences related to four key themes: a hierarchical, difficult workplace culture; challenging working conditions; disrupted training and career trajectories; and broader psychosocial impacts. The COVID-19 pandemic exacerbated longstanding, workplace issues and stressors for junior doctors and highlighted the threat that crises pose to medical workforce retention. There is an urgent need for authentic, positive workplace cultural interventions to engage, validate and empower junior doctors.

Conclusions: Challenging workplace cultures and conditions, which have worsened during the COVID-19 pandemic, are associated with poor psychological well-being in junior doctors. There exists a need for long-term, widespread improvements in workplace culture and working conditions to ensure junior doctors' well-being, facilitate workforce retention and enhance the safety and quality of patient care in Australia.

Introduction

Healthcare workers (HCW) experience unique workplace demands and stressors, contributing to high rates of mental illness, including depression, anxiety, emotional exhaustion and suicide.^{1,2} Factors contributing to mental illness in HCW include long working hours, heavy workload, poor work–life balance,¹ threat of interpersonal abuse, fear of litigation and regular exposure to death and suffering.^{1,3,4} Junior doctors experience high

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levels of psychological distress and emotional exhaustion, with rates greater than in the general population or other professional groups.⁵ An Australian survey conducted by Beyond Blue in 2019 demonstrated approximately 21% of junior doctors reported having a diagnosis of depression and 25% reported thoughts of suicide in the preceding 12 months.⁵ Additional factors that contribute to mental illness in junior doctors include stringent training requirements, and fear of making clinical errors.^{6–8}

The social contexts within the workplace, or workplace culture, that influence how people behave and the social norms that are accepted and expected,⁹ have typically been experienced by junior doctors as hierarchical, negatively impacting their workplace conditions.⁸ Globally, poor workplace conditions have been associated with junior doctors suffering burnout,^{10,11} undertaking workforce strikes¹² and resulting in poor workforce retention.¹⁰

Crisis events such as the current Coronavirus disease 2019 (COVID-19) pandemic have resulted in significant changes to healthcare globally. In addition to strict lockdowns, social restrictions, loss of non-essential services and closure of schools, HCW have had to endure many additional challenges such as increased workloads, altered work practices, inadequate resources, large volumes of new information, income concerns and changing health policies and guidelines.^{13–15} Many HCW have been exposed to COVID-19, leading to concerns about spreading the virus to family and friends, as well as being blamed if they acquire COVID-19 infection.¹⁴ Early concerns regarding provision of personal protective equipment (PPE) and resource scarcity were associated with anxiety.¹⁶ Wearing PPE was uncomfortable and led to challenges communicating and delivering care.¹⁶ Various studies examining the impacts of the COVID-19 pandemic on HCW have demonstrated increased fatigue, distress, depression and burnout.^{13–15,17,18}

While the psychosocial effects of the pandemic on HCW have been well described in quantitative surveys^{17,19–21} there has been little qualitative research examining the lived experiences, challenges and beliefs regarding management of future crises of HCW. Given the critical frontline role that junior doctors play in all healthcare systems, understanding their experiences and concerns is vital to safeguarding this workforce long term. Knowledge of their experiences, including their views on pandemic preparedness can inform policy and decision-making.

The Australian COVID-19 Frontline Healthcare Workers Study examined the prevalence and predictors of mental health symptoms, as well as the social,

workplace and financial disruptions experienced by Australian HCW during the COVID-19 pandemic. This substudy aimed to understand the workplace and psychosocial experiences of Australian junior doctors working during the COVID-19 pandemic.

Methods

The Australian COVID-19 Frontline Healthcare Workers Study

A nationwide, anonymous, voluntary survey was conducted between 27 August and 23 October 2020. The survey ran concurrently with the Australian second wave of the COVID-19 pandemic, which primarily affected Melbourne and the state of Victoria, where strict lockdown restrictions were instituted. Individuals who self-identified as frontline HCW in primary or secondary care were invited to participate. Each participant completed the survey once, via an online survey link or the study website. The survey collected data regarding demographics and home life, workplace situation and change, organisational leadership and communication, symptoms of mental illness (both subjectively determined and assessed using five validated, objective mental health symptom measurement tools) and coping strategies. Additionally, four free-text questions were included, to understand workplace and psychosocial experiences of HCW during the pandemic. Ethics approval was provided by the Royal Melbourne Hospital Human Research Ethics Committee (HREC/67074/MH-2020). Informed consent was obtained from all subjects involved in the study.

Substudy

A qualitative descriptive study was undertaken to analyse the responses of junior doctors who answered at least one of the free-text questions (Box 1). With both

Box 1 Free-text survey questions answered by junior doctors

- 1 What do you think would help you most in dealing with stress, anxieties and other mental health issues (including burnout) related to the COVID-19 pandemic?
- 2 What did you find to be the main challenge you faced during the COVID-19 pandemic?
- 3 What strategies might be helpful to assist frontline healthcare workers during future crisis events such as pandemics, disasters, etc.?
- 4 Is there anything else that you would like to tell us about the impact of the COVID-19 pandemic or regarding supports that you feel are useful for well-being?

insider and outsider expertise, our research team comprising a junior doctor, senior doctor and social scientist were well positioned to understand the participant descriptions of training, their career trajectory and the healthcare system; to challenge any underlying assumptions; and thus to ensure a robust approach to the data.

Data analysis

Junior doctors' responses were analysed using inductive content analysis. This approach aims to describe patterns in the data and interpret meaning from the content.²² Responses were imported into Excel and read several times by one author (RH) to ensure immersion in the data. Codes that encapsulated the key ideas were then applied without a pre-defined coding framework. As analysis proceeded, codes were added, and the meaning of each code refined, in an iterative process where the data were constantly reviewed to ensure the fit between ideas expressed and the code. Each question was initially coded separately but it quickly became evident that many participants wrote about the same issue in different responses, and this led to the data being organised and reported thematically across the whole data set, rather than as separate responses to each question.

Codes were sorted by frequency to aid in determining major and minor themes present across responses. Data codes and themes were reviewed by three researchers (RH, NS, KW) during weekly meetings where clarity of the meaning attributed to codes was discussed, assumptions were challenged and consensus reached on the four themes (Fig. 1). Illustrative quotes are provided to highlight the themes identified.

Results

Of 9518 survey participants, 7846 complete responses were received. A total of 798 (10.2%) junior doctors participated, of whom 621 junior doctors responded to at least one free-text question. Participants were predominantly female

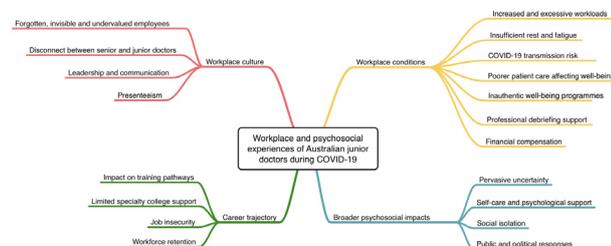


Figure 1 Workplace and psychosocial experiences of Australian junior doctors during the COVID-19 pandemic.

(73.2%) and were aged 31–40 years (48.0%) (Table 1). Junior doctors most frequently reported working in medical specialties (48.4%), emergency medicine (21.7%) and intensive care medicine (11.4%). Most (51.9%) participants had 0–5 years of clinical experience since medical graduation. Demographics of junior doctors who provided responses to the free-text questions, and those who did not, were of a similar distribution.

Question 2 was answered most frequently ($n = 581$), while question 4 received the least number of responses ($n = 162$). Length of responses varied, with some writing a single word, but most participants wrote a paragraph or more about their experience, with many covering multiple points within a single answer. The mean number of words per response was 26 (range: 1–303 words). Less than 10 responses per question were one word only. A total of 130 respondents answered all four questions, while 95 respondents answered only one question.

Overall, junior doctors' described long-standing, widespread, systemic issues that became more visible during the COVID-19 pandemic. Four themes encapsulated their experiences (Fig. 1). First was a hierarchical workplace culture in which they felt undervalued, which included leadership and communication issues. Second,

Table 1 Junior doctors' demographics ($n = 621$)

Demographic	Count (%)
Sex	
Female	455 (73.2)
Male	161 (25.9)
Non-binary	1 (0.16)
Prefer not to say	4 (0.64)
Age (years)	
20–30	284 (45.7)
31–40	298 (48.0)
41–50	33 (5.3)
51–64	6 (1.0)
Frontline area	
Medical specialties†	301 (48.4)
Emergency medicine	135 (21.7)
Intensive care medicine	71 (11.4)
Surgical specialties and anaesthetics	62 (10)
Hospital aged care	26 (4.2)
Other‡	17 (2.7)
Primary care or community	9 (1.4)
Years of experience after graduation ($n = 619$)	
0–5	322 (51.9)
6–10	237 (38.2)
11–15	43 (6.9)
More than 15	17 (2.7)

†Medical specialties include general medicine, respiratory medicine, infectious diseases and other medical specialty areas.

‡Other includes radiology, pathology, residential/non-hospital aged care or other role.

Table 2 Workplace culture

Subtheme	Quote
Forgotten, invisible and undervalued employees	<p>'a lot of the groundwork is being done by young nursing and medical staff who are having the most face-to-face contact with patients ... I think unfortunately junior/younger staff are forgotten about when acknowledging they really are the work-horse of the public healthcare system. An intern or resident salary also does not reflect the work they do in the middle of a COVID pandemic, considering the salary of our senior colleagues.' (Male, 0–5 years, General Medicine, Q3)</p> <p>'I have felt very under supported from medical management. I have realised how much medical management sees us as numbers and not individuals.' (Female, 6–10 years, Surgical Specialty Area, Q1)</p>
Disconnect between senior and junior doctors	<p>'It feels as though senior doctors are sometimes completely out of touch with the work and emotional stress on their junior colleagues. This had led to a lot of internal anger and apathy at the hierarchical medical system.' (Male, 0–5 years, General Medicine, Q4)</p> <p>'I'm working as an advanced trainee in an inpatient palliative care unit with harsh visitor restrictions (no-one allowed in or out unless "very end of life")... Nursing and admin staff defer decisions and explanations to me. None of my consultants are here Monday–Friday 8–6 like I am, they all work part-time so I feel they get a break.' (Female, 6–10 years, Palliative Care, Q1)</p>
Leadership and communication	<p>'[What would help is] having a head of department that has strong communication, empathy, understanding, leadership and advocacy for junior staff. The lack of leadership and unity in our department has been detrimental to our junior staff and has resulted in a lack of confidence and trust.' (Female, 6–10 years, Medical Specialty Area, Q1)</p>
Presenteeism	<p>'...staffing is under significant pressure. It isn't feasible to take time off because of burnout or reduce hours, and there is no procedure for doing so beyond taking sick leave. This is also difficult to do - colleagues understandably will enquire why you are ill...and admitting you're taking time off for mental health maintenance/treatment is essentially "letting down the team" but others will tough it out rather than take time off.' (Female, 0–5 years, Other, Q1)</p> <p>'There is still a culture of not taking rest/sick leave among doctors. When I was sick and needed a COVID swab, I felt so guilty that all of my work for those 2 days would fall to other members of the team or my patients would be disadvantaged.' (Female, 6–10 years, Palliative Care, Q3)</p>

In parentheses: sex; years of experience postgraduation; frontline area worked; response to question answered; square brackets used to provide context to a participant's response to a particular question. Q1 = What do you think would help most in dealing with stress, anxieties and other mental health issues (including burnout) related to the COVID-19 pandemic? Q2 = What did you find to be the main challenge you faced during the COVID-19 pandemic? Q3 = What strategies might be helpful to assist frontline healthcare workers during future crisis events like pandemics, disasters, etc.? Q4 = Is there anything else that you would like to tell us about the impact of the COVID-19 pandemic or regarding supports that you feel are useful for well-being?

as a consequence of workplace culture, junior doctors described suboptimal working conditions comprising an overwhelming increase in workload, limited respite, high infection risk and difficulties in providing patient care. Third, they described the negative impact of the pandemic on their careers and training. Last, the pandemic generated broader psychosocial impacts, including challenging public and political responses.

Workplace culture

Junior doctors revealed that a challenging workplace culture contributed negatively to their psychological well-being during the COVID-19 pandemic (Table 2). They perceived that they were 'invisible, forgotten work-horses', with a lower status in the hierarchical system than senior doctors, with issues related to poor leadership and communication and an endemic workplace culture of presenteeism.

Participants suggested that workplace culture made them feel forgotten, overlooked and undervalued, and that the hierarchical medical system led to a disconnect (with limited knowledge or interest in each other's day-to-day roles and tasks) between junior and senior medical staff. Junior doctors described leadership that was not empathetic and workplace communication as untimely, unclear and inaccessible. Junior doctors also revealed that a long-standing culture of presenteeism led to an unwillingness to take leave and guilt for burdening colleagues with additional workload. A minority of junior doctors suggested they felt well supported by senior medical staff through empathic, regular communication and individual expressions of encouragement during the pandemic.

Workplace conditions

One consequence of the workplace culture described by junior doctors was the effect on working conditions (Table 3). Junior doctors suggested that staff furlough,

Table 3 Workplace conditions

Subtheme	Quote
Increased and excessive workloads	<p>'On good days, we are already stretched, stretching ourselves to do more and more. When something stressful happens like a pandemic or disaster, we are expected to put in even more hours plus the extra stress. This [leads] to burnout and mental health disorders very easily.' (Female, 6–10 years, Hospital Aged Care, Q3)</p> <p>'Even if you aren't working directly in the COVID wards junior medical staff are still trying to manage being redeployed to new units at short notice, increased workload when co-workers are off sick, seeing their colleagues get burnt out, plus all the regular stress/trauma of being a junior doctor and learning how to emotionally face the difficulties of the profession.' (Female, 0–5 years, Hospital Aged Care, Q3)</p>
Insufficient rest and fatigue	<p>'I would desperately benefit from some time off the ward during the week as allocated study/professional development time, just to get a break from the high levels of emotional distress that patients and other staff are exposing me to. It's getting too much.' (Female, 6–10 years, Palliative Care, Q1)</p> <p>'...fatigue management was my biggest annoyance ... I was asked to work several 12 h night shifts in level 4 PPE with only a break offered by a colleague once in the shift ... and no place to lie down or rest ... pretty disgraceful. Better staffing and acceptance of rest periods is vital to safe practice. And for mental well-being.' (Male, 0–5 years, Anaesthetics/Perioperative Care, Q3)</p>
COVID-19 transmission risk	<p>'I'm very worried about the implications for my family if I contract COVID. We live in a very small unit without outdoor space. I have an 18 month old. It will be almost impossible to isolate from him and my husband in our home. ... If I get covid we will isolate in our small home together and it is likely my family will all contract the virus.' (Female, 6–10 years, Hospital Aged Care, Q4)</p>
Poorer patient care affecting well-being	<p>'I felt that the increase in palliation of patients, rapid deterioration and death was very overwhelming.' (Female, 0–5 years, Hospital Aged Care, Q1)</p> <p>'[The main challenges were...] having to tell young people they have new diagnosis stage IV lung cancer repeatedly without any family present, in a four bed loud room, through an N95 and face shield, at a 1.5 m distance is mentally and physically exhausting. Having to call family who haven't been able to see their family member for 4–5 weeks in hospital and tell them they are now dying and they need to rush in is equally as draining.' (Male, 6–10 years, Medical Specialty Area, Q2)</p>
Inauthentic well-being programmes	<p>'Tokenistic supports (e.g. breakout rooms/yoga sessions) are unhelpful when the workload means you can't access them – sometimes we barely get a lunch break, where is the time for yoga?' (Female, 0–5 years, Emergency Department, Q4)</p> <p>'[What would help most is...] more meaningful wellness oriented changes to work (i.e. less of the organisational box ticking "we have a wellness programme", call this helpline if you feel depressed).' (Male, 11–15 years, Emergency Department, Q1)</p>
Professional debriefing support	<p>'I think more needs to be done to provide appropriate debriefing with staff, and this should be factored into the day.' (Female, 0–5 years, Hospital Aged Care, Q3)</p> <p>'Structured paid professional debriefing is needed for everyone.' (Female, 6–10 years, Hospital Aged Care, Q4)</p>
Financial compensation	<p>'The most meaningful intervention you could do for junior doctors is audit the amount of actual overtime they are doing and pay it.' (Female, 6–10 years, Medical Specialty Area, Q4)</p>

See legend in Table 2.

redeployment and resultant staffing issues resulted in increased workload and diminished respite, worsening their emotional exhaustion. They indicated that improving the acceptance of rest in medical culture would lead to improved psychological well-being.

Junior doctors also described anxiety regarding the risk of acquiring COVID-19 infection, conveying concerns about transmitting infection to patients, colleagues and family. They raised concerns about the quality of patient care, particularly end-of-life care, with the sheer volume of palliative patients and the rapid nature of their deterioration distressing.

Well-being supports offered by workplaces were described by most junior doctors as inauthentic, with few junior doctors suggesting that their workplace provided useful well-being supports such as structured debriefing

opportunities and peer group supports. Additionally, participants revealed that they did not receive adequate financial compensation for their working hours, arguing that adequate compensation would be the most meaningful well-being intervention.

Career disruption

Junior doctors were worried about the implications of the COVID-19 pandemic on their career trajectories (Table 4). Many believed that their progression through specialty training pathways had been negatively affected due to a decreased exposure to clinical cases and less opportunities for teaching. Junior doctors did not feel supported by specialty colleges and were concerned about delayed training progression and future workforce

Table 4 Career disruption

Subtheme	Quote
Impact on training pathways	'It's definitely changed how we take exams as junior doctors. It will affect our training and our ability to progress. It's already affecting how we apply for jobs and further training next year - less people are getting into programs they want compared to last year.' (Female, 0–5 years, Intensive Care Unit, 31–40 years, Victoria, Q4)
Limited specialty college support	'[What would help most is...] better management/communication from my specialty college around exams. More compassionate understanding communication from them. This has been the most anxiety provoking component of the whole thing for me personally, as the exam is a large hurdle to overcome... e.g. most recently from the "head of exams" "you don't understand how difficult it is for us to write and set these exams during a pandemic." With no avenue for us to respond "do you know how hard it is to study for one?".' (Male, 0–5 years, Anaesthetics/Perioperative Care, Q1)
Job insecurity	'The lack of job security for junior medical staff has been a problem at all times, but exacerbated by the COVID pandemic. Many of my friends and colleagues have found the annual job search and attempt to get on to training programs far more unbearable and non-transparent than usual this year.' (Male, 0–5 years, Surgical Specialty Area, Q4)
Workforce retention	'I was burnt out pre-pandemic and now feel so guilty about wanting to leave medicine and will stay because I feel I need to, not because it's what's best for me.' (Female, 0–5 years, Emergency Department, Q4) 'Being a junior doctor is hard enough. The pandemic has made me want to quit medicine even after spending most of my life striving towards being a doctor. I'm having a really hard time.' (Female, 0–5 years, General Medicine, Q4)

See legend in Table 2.

bottlenecks, with a larger number of junior doctors competing for the same number of jobs. While some junior doctors felt obliged to continue to practice medicine, others felt a desire to leave the profession.

Broader psychosocial impacts

The pervasiveness of the pandemic in both their professional and personal lives meant junior doctors were

Table 5 Broader psychosocial impacts

Subtheme	Quote
Pervasive uncertainty	'[The main challenges were] uncertainty, inability to escape, all-consuming, anxiety.' (Female, 0–5 years, Intensive Care Unit, Q2) 'Its [the pandemic's] impact is so enduring, and widespread that it is impossible to distract yourself from thinking about it for large periods of the day. Especially when you are constantly reminded of it at work ... it's just constant for weeks and months on end.' (Male, 0–5 years, Anaesthetics/ Perioperative care, Q4)
Self-care and psychological support	'[The main challenges were...] lack of in person socialisation and usual methods to unwind and destress.' (Female, 0–5 years, Medical Specialty Area, Q2) '[What would help most is...] counselling. But I don't feel like I have enough time to even research getting a counsellor, let alone attend sessions.' (Female, 11–15 years, General Medicine, Q1)
Social isolation	'I feel the social needs of single people who live alone have been severely impacted. It is extremely isolating and I am finding it difficult to remain positive at work. I also now appreciate the value of team coffee breaks for mental health and human connection. Now that we can't even sit in the same room together, I feel very disconnected.' (Female, 6–10 years, Medical Specialty Area, Q4) '[The main challenge was...] being single and living alone [meaning] I haven't seen a single person without masks in 6 weeks.' (Female, 6–10 years, Medical Specialty Area, Q2)
Public and political responses	'Applause and open letters from the Premier mean next to nothing to me and other people I know... we've been pushed into this front line "hero" role that none of us asked to be in or agreed to.' (Male, 6–10 years, Intensive Care Unit, Q4). 'A lot of stress is generated from seeing the gaps in our safety net health care system glaringly and how slow and imperfectly it felt things were implemented for our most vulnerable community members.' (Female, 0–5 years, General Medicine, Q4)

See legend in Table 2.

rarely able to 'switch off', and they were unable to utilise usual self-care coping mechanisms due to lockdown restrictions (Table 5). Some junior doctors reflected on the need for additional psychological supports, albeit finding time to access therapy was perceived as challenging.

Furthermore, social isolation from friends and extended family exacerbated disconnection. A minority of junior doctors suggested that they experienced minimal disruptions to their work and personal lives during the pandemic.

Widely varying public responses to HCW, including stigma as a source of COVID-19 infection, or being heralded as heroes, were difficult for junior doctors to navigate. Junior doctors were frustrated by non-adherence to public health directives, media misinformation and the political response to the pandemic. Some suggested that the pandemic had uncovered gaps in the Australian healthcare system, and that better planning and a united government framework was necessary to improve disaster responses.

Discussion

To our knowledge, this is the first paper describing the workplace and psychosocial experiences of Australian junior doctors during the COVID-19 pandemic. Junior doctors described a hierarchical, difficult workplace culture, challenging working conditions and disrupted training and career trajectories, together with broader psychosocial impacts. The COVID-19 pandemic exacerbated long-standing workplace stressors for junior doctors and highlighted the threat that crises pose to medical workforce retention. These findings point to a need to actively consider junior doctors' concerns in the context of their vitally important role in the healthcare workforce.

Junior doctors described a challenging workplace culture that caused them to feel overlooked, undervalued and dissatisfied. Medicine typically has a hierarchical structure with senior doctors being accountable overall for patient care, while also having key roles in teaching junior staff, sharing their clinical expertise, and providing positive reinforcement and role modelling.²³ However, in the present study, junior doctors described being lower in the hierarchy, which led to a sense of feeling invisible and a lack of professional autonomy. Our findings align with those of both Crowe *et al.* and Salehi *et al.*, who revealed that medicine's hierarchical structure may heighten junior doctors' psychological distress.^{8,23} Additionally, junior doctors in the present study reported that leadership and communication during the pandemic were poor. This aligns with Ananda-Rajah *et al.*, who demonstrated that suboptimal leadership during the pandemic resulted in HCW losing trust in their organisations.¹⁵ The negative impact of workplace culture on working conditions during the pandemic, including the increase in workload, insufficient rest and increasing threat of disease transmission, heightened junior doctors' psychological distress.

Challenging workplace cultures and conditions have been a long-term source of stress for junior doctors internationally. A meta-analysis performed prior to the pandemic found that the global prevalence of burnout among medical residents was over 50%, attributed to long working hours, high educational pressures, lack of autonomy and professional uncertainty.²⁴ In their qualitative study of junior doctors in England, Riley *et al.* suggested that harsh work cultures, lack of support, stigma and working conditions were all associated with work-related psychological distress in junior doctors.¹¹ Challenging workplace cultures reduced junior doctor autonomy, generated moral distress,²⁵ and worsened burnout.²³ Concerningly, there is also extensive evidence that increased professional burnout among doctors worsens patient outcomes and reduces workforce retention.²⁶

In the present study junior doctors reported that the COVID-19 pandemic added to their usual, day-to-day workplace challenges. Similarly, a survey conducted by the Royal Australian College of Physicians during the pandemic, which included both consultants and junior doctors, revealed that 87% were concerned about burnout, and one-third believed they did not receive adequate support from their employer.²⁷ While limited qualitative research has been performed to elucidate junior doctors' experiences of working during COVID-19 internationally, junior doctor strikes over suboptimal working conditions in Asia^{28,29} demonstrate the pandemic's detrimental impact on already fragmented medical systems, and a reluctance to continue to tolerate poor working conditions.

In the present study, junior doctors expressed frustration at inadequate financial compensation, with similar concerns raised in international studies both prior to and during the pandemic.^{7,12,29} In Australia, concerns have been raised regarding a widespread culture of dissuading junior doctors from claiming unrostered overtime.³⁰ A survey of Victorian junior doctors in 2020 found that 47% claimed they were 'never' paid for unrostered overtime, due to a 'highly obstructive or difficult claiming process' or 'hospital/workplace cultural expectations'.³¹ Thousands of junior doctors have recently united to file class actions against various state health services in response to unpaid wages.³²

A crucial impact of the COVID-19 pandemic described by participants in our study was the effect on career progression. Similarly, the Australian National Medical Training Survey in 2020 demonstrated that 60% of junior doctors reported having routine teaching disrupted by the pandemic.³³ A workforce bottleneck was another major stressor due to the inability of candidates to progress, resulting in reduced job opportunities

and increased job competition. Importantly, the upheaval that COVID-19 has wrought on individuals' careers may cause some junior doctors to re-evaluate their chosen career path, with detrimental follow-on effects for a workforce that is already experiencing significant staffing shortages.^{34,35}

Broader psychosocial impacts of COVID-19 for junior doctors included pervasive uncertainty, social isolation and inability to utilise coping strategies. Similarly, Adams *et al.* revealed that social isolation was significantly associated with psychological distress in Australian HCW during the pandemic.¹⁸ In their quantitative study of Australian HCW, Smallwood *et al.* found low rates of adaptive coping strategies including exercise, maintaining social connections and professional help-seeking.³⁶ Participants were also frustrated by HCW stigma from friends and acquaintances, which has been seen globally in several instances of violence and assault against HCW.³⁷ Further, in a survey of non-HCW adults from the United States and Canada, over one-quarter of respondents believed that HCW should have severe restrictions placed on their freedoms, and over one-third of respondents avoided HCW for fear of infection.³⁸

Junior doctors were frustrated with being labelled 'heroes', with literature suggesting that this metaphor results in junior doctors being portrayed as an expendable sacrifice,³⁹ or diverts attention away from government errors.⁴⁰ Few participants discussed utilising formal psychological supports, likely due to barriers including time pressures and difficulty accessing face-to-face care.³⁶ Additionally, stigma around mental illness, both internalised and within health professions is a longstanding barrier to seeking help among health practitioners.^{5,36}

Health system implications

Challenging workplace cultures and conditions, which have worsened during the COVID-19 pandemic, are associated with poor psychological well-being in junior doctors. There is an urgent need for authentic, positive workplace cultural interventions to engage, validate and empower junior doctors. West *et al.* suggested that to address loss of autonomy for HCW, they could be engaged in establishing work requirements and structure, as well as become involved in leadership and shared decision-making.⁴ More broadly, Shanafelt and Noseworthy outline nine specific strategies healthcare organisations could consider to promote well-being, including harnessing effective leadership, cultivating community, promote flexibility and work-life integration and provide resources for resilience and self-care.⁴¹ Another example is the Pandemic Kindness Movement, a clinician-led project

implemented recently in Australia, which provides extensive online resources for individuals to ensure HCW support, safety and engagement.⁴² Other solutions including peer support and advocacy have been demonstrated to be effective in reducing psychological distress in HCW.^{43,44}

As well as being economically beneficial, there is a moral and ethical imperative to implement cultural interventions to mitigate junior doctors' psychological distress, as well as to enhance patient quality of care and safety.⁴¹ Importantly, there is also a need for further research, particularly to formally evaluate any well-being programmes that are implemented.

Strengths and limitations

Although most respondents were female, this is consistent with data from the Australian Medical Training Survey 2020 demonstrating that 52% of medical trainees in Australia identify as female.³³ Voluntary participation may have introduced selection bias, with those experiencing mental health symptoms more likely to engage. Participant responses were recorded at one time point only, and a cross-sectional survey cannot elucidate the complex relationship between workplace and personal stressors, lockdown restrictions and mental health symptoms. Further, research with both long-term data collection and qualitative studies is urgently required to better understand occupational mental health issues and the additional threats that crises generate.

Conclusions

The present study highlights concerning psychosocial and workplace challenges for Australian junior doctors during the second wave of the COVID-19 pandemic. There is a moral and ethical need for long-term, widespread improvements in both workplace culture broadly and working conditions to ensure psychological well-being, facilitate workforce retention and enhance the safety of patient care in Australia.

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