Rosemary Bryant AO Research Centre

Impacts of COVID-19 and workloads on NSW nurses and midwives' mental health and wellbeing

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The Rosemary Bryant AO Research Centre (the Centre) is a partnership between the University of South Australia, the Australian Nursing and Midwifery Federation (SA Branch) and the Rosemary Bryant Foundation. The Centre aims to strengthen the role of the nursing and midwifery professions across the health system through the development of a research-driven, evidence-based platform of healthcare. To achieve this, the Centre has developed a comprehensive research program focused on advancing the nursing and midwifery disciplines, and patient care in the domains of population and public health, workforce reform, safety and quality, clinical practice, patient outcomes, and integration into education.

Impacts of COVID-19 and workloads on NSW nurses and midwives' mental health and wellbeing

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Acknowledgement of country

We acknowledge the Traditional Custodians of the lands on which we work and live, and recognise their continuing connection to land, water, and community. We pay our respects to Elders past, present, and emerging. We acknowledge the stories, traditions, and living cultures of Aboriginal and Torres Strait Islander peoples on this land and commit to building a brighter future together.

"Nurses have had it. Emotionally we are on the verge of breakdown. If I was qualified to do another job I would leave and I would not recommend nursing to anyone. We work like dogs and are expected to keep going. The public think of nursing as vocational but those times are gone. No one should have to work with the pressure, physical demand and disrespect that we do. Our bodies are broken. We don't get breaks, we can't even have a lousy biscuit supplied to us, because of cost. It's pathetic. NSW Health have no value for us. They publish words that create the impression they value us but that does not translate to the real world of face-to-face nursing. The days of quality health care are gone. We all have moral burnout and I am representative of the nurses that are caring for our community. We give and give and give until one day we can give no more. How can the carers care if they are not cared for?"

(Senior career, Registered Nurse)

Acknowledgements

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We would also like to acknowledge and thank the nearly 2,300 nurses and midwives who donated time out of their very busy schedules to undertake the survey. Your collective input is invaluable to ensuring the voice of the workforce is heard regarding the challenges faced on the frontline of the COVID-19 pandemic response in New South Wales.

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Background

The pandemic has brought to light many vulnerabilities and weaknesses in healthcare systems internationally, which, with the rapid transmission of the virus, showed they were unable to absorb and manage sudden and intense surge events. This, in turn, has led to further disruptions across almost all sectors and community life.[1]

Nurses and midwives are under extreme and persistent psychological pressure since they are particularly exposed to the threat of COVID-19. They can become overwhelmed by fear for the safety of their own health, their close family members, and their patients.[2] Under these circumstances, nurses and midwives can experience severe psychological and mental health problems, as well as occupational syndromes like burnout, reduced productivity, errors in clinical settings, and lack of concern in handling patients.[3,4]

A recent meta-analysis showed across 93 studies representing 93,112 nurses, prevalence of depression, anxiety, stress and sleep disturbance was 35%, 37%, 43% and 43%, respectively.[3] Nurses also report worse mental health than doctors, potentially indicating the increased exposure risk they face on a day to day basis.[5]

There is now a growing body of literature identifying healthcare workers are at real risk of post-traumatic stress symptoms (PTSS) and post-traumatic stress disorder (PTSD).[6-8] One in five (21.5%) healthcare workers are experiencing PTSD. Healthcare workers working directly with COVID-19 patients have significantly higher levels of PTSD symptoms and depression compared to those working indirectly.[9] Prevention of PTSS in healthcare workers facing the COVID-19 pandemic is a challenge worldwide; workers are likely to experience acute and chronic, often unpredictable, occupational stressors leading to PTSS. Post-traumatic risk factors include low social support at work, heavy workload, working in unsafe settings (e.g. lack of personal protective equipment), passive coping, anxiety, and burnout. People experiencing PTSS, who are not appropriately or adequately supported, are at risk of degenerating into chronic post-traumatic stress disorder (PTSD), as has occurred in past outbreaks.[8]

COVID-19 in New South Wales

The largest wave of COVID-19 cases began to emerge in late 2021 and peaked early in approximately February 2022 (Figure 1). At conclusion of this wave, the daily rates did not return to previous daily incidence rates and then ran into a second wave that peaked in approximately April 2022 and subsequent, small wave in August 2022. Likely these patterns are as a result of easing of restrictions with respect to both freedom of movement (i.e. no lockdowns) which keeps the base rate of COVID-19 high and also easing of restrictions with respect to reporting. This means motivators to report are affected and not all will choose to do so for a range of reasons, resulting in flattened peaks in graphs of COVID-19 incidence and prevalence.

The Australian Government Department of Health and Aged Care (https://www.health.gov.au/health-alerts/covid-19/case-numbers-and-statistics) is currently reporting New South Wales is experiencing the greatest health system burden including daily numbers admitted to hospital and numbers of people on ventilators. This trend has been consistent

across the 2022 calendar year. These data suggest, on top of usual care requirements, COVID-19 care and management has placed significant additional strain on the health sector.

Given the largest proportion of care for COVID-19 cases are managed in the public healthcare system, especially where the person is of high acuity and requires significant intervention as part of care management, the workforce within this sector has carried a significant health impact burden of the COVID-19 pandemic. This then has the potential to translate into negative workforce wellbeing outcomes should there not be sufficient resources in place to assist with responding to and managing this additional burden.

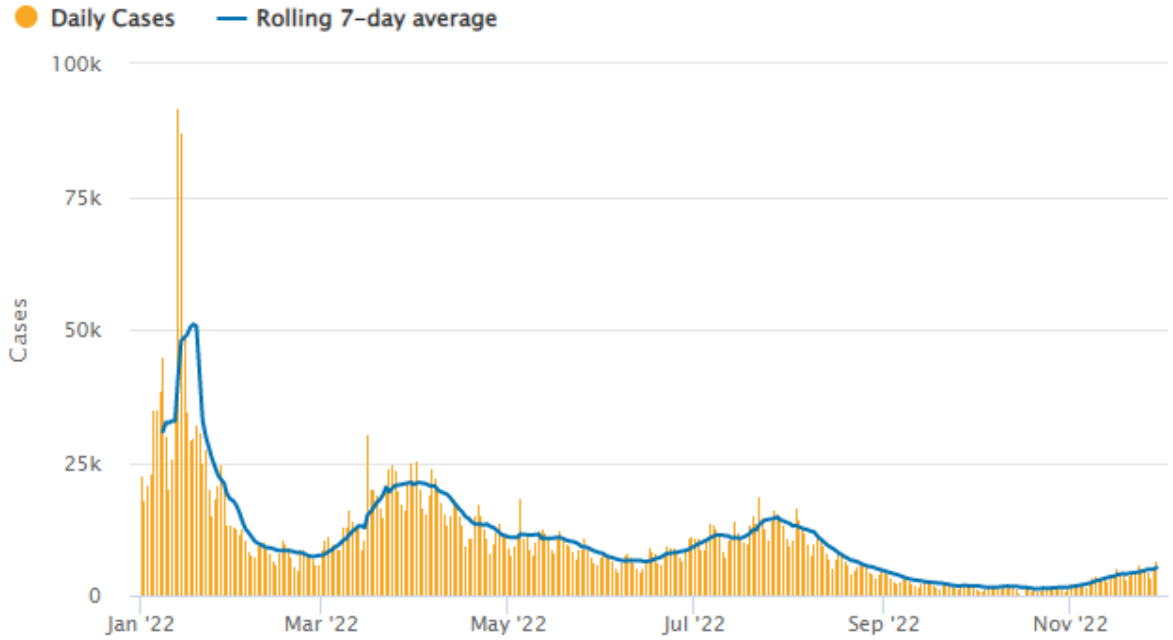

Figure 1. COVID-19 cases across 2022.

The impact of COVID-19 on nurses and midwives in New South Wales

The New South Wales Nurses and Midwives' Association (NSWNMA) has been concerned for its member's health and wellbeing during the COVID-19 pandemic, as well as risk to workers' rights being neglected, or at worst, abused due to system pressures. The current pressure NSW health services are under means there is now a significant risk to the occupational and mental health of the NSW health workforce. There are indications a concerningly large number of staff are experiencing symptoms of fatigue, burnout, stress, anxiety, depression, and post-traumatic stress.

The *2020 COVID-19 and workforce wellbeing survey* showed nurses and midwives in New South Wales had concerning levels of emotional exhaustion. The mean emotional exhaustion levels were 27.23 (score range: 0-54), which is considered high. Aged care workers were particularly affected (mean = 29.88). In addition, 63.5% were somewhat, moderately or extremely concerned about their psychological wellbeing.[10]

Findings also showed between 25.2% and 32.1% of nurses and midwives were experiencing mild, moderate, severe or extremely severe symptom profiles of depression, anxiety and stress. Given these data were collected in August to October 2020, it is anticipated these levels would have increased as the COVID-19 situation in NSW worsened during 2021 and 2022.

Purpose of the study

The NSWNMA commissioned the Rosemary Bryant AO Research Centre (RBRC) to conduct a workforce conditions, safety and wellbeing survey during mid-2022. This coincided with being approximately one year since the first significant lockdown in NSW (July 2021) and after several large COVID-19 waves where case incidence and prevalence significantly increased.

Methodology

Participants

The survey was primarily targeting nurses and midwives working in the public healthcare sector in New South Wales. While not the primary target group, other affiliated healthcare professionals were also able to complete the survey including assistants in nursing/midwifery, and students of either professions. It was not possible to determine a response rate based on those who saw the survey promotion, as it was distributed widely through NSWNMA member communication channels. Snowball sampling of the survey to other nurses and midwives was permitted.

Procedure

An online, anonymous, cross-sectional survey ran over a 9-week period from 1 July 2022 to 5 September 2022. There were 187 questions in the survey. The survey used piping logic, so depending on responses to some questions, not all questions were seen by participants. The survey was developed by RBRC with input from NSWNMA to ensure relevance and generalisability to the NSW context. Promotion of the survey was primarily through NSWNMA communication channels including its website, social media channels and member emails.

Materials

The survey tool was adapted based on pre-existing survey developed by RBRC for use in the Australian context. The NSWNMA provided input to its design and content to ensure applicability to the current public healthcare context in NSW. To this end, questions were reviewed to minimise risk of individuals or groups of respondents not thinking questions were relevant to themselves or their work setting.

The survey was developed and formatted in three parts:

1. Questions about individual and organisational demographics.
2. Questions regarding the experience of working in healthcare during the COVID-19 pandemic. These questions were generated by the research team or adapted from other surveys.
3. Use of validated tools to assess occupational job demand and resources, occupational wellbeing and general health and psychological wellbeing.

The survey was pilot tested with five nurses. The survey was refined based on feedback from pilot testing before final distribution.

Part I: Individual and occupational demographics

Respondents were asked a range of questions that sought socio-demographic information including gender, age, postal code, relationship status, ethnicity including Indigenous status, State/Territory of birth, migration for work, care giving responsibilities, as well as health conditions or COVID-19 risk factors.

Respondents were also asked a range of occupational demographic questions including job classification, years worked as a nurse or midwife, primary role, employment status, primary workplace, work setting, and NSWNMA membership.

Part 2: COVID-19 factors

Part 2 assessed the impacts of COVID-19 on the work environment, personal concerns, and personal protective equipment (PPE). Previous surveys used internationally were reviewed and where appropriate, modified and contextualised for the original Australian survey upon which this survey was derived. The Australian survey included questions from the following sources: the Italian healthcare survey,[11] the ICON study,[12] the PanSurg SSFAFE Wellbeing Survey,[13] American Nurses Association COVID-19 Surveys,[14] PPE Survey,[15] and National Nurses United Covid-19 Employer Preparedness Survey.[16]

COVID-19 preparedness, workplace plans and training

Eight survey items addressed organisational preparedness for the COVID-19 pandemic. One item asked survey respondents to rate their workplace's preparedness to manage COVID-19 cases when the pandemic was declared on a scale of 1 (*Very poor*) to 6 (*Excellent*). Respondents were also asked about whether their workplace had in place: designated COVID-19 areas, plans and protocols to respond to COVID-19 at the time of the pandemic or currently, and infection control and prevention training. Response options were generally "*Yes", "No*", "*Unsure*", and "*Not applicable*". Those who had received training were further asked to rate their confidence to practice safely because of their training on a scale of 1 (*Not at all confident*) to 5 (*Extremely confident*).

Care for patients/clients with COVID-19 in the workplace

Seven survey items were included to assess whether respondents and/or their workplaces had cared for clients with suspected or confirmed COVID-19, how many suspected or confirmed cases had been cared for in their workplaces, in what settings care had been provided and the estimated patient to nurse ratio.

COVID-19 information

Six survey items assessed the COVID-19 information provided within the workplace, as well as useful outside sources of COVID-19 information. Respondents were asked to rate the COVID-19 information provided within their workplace regarding being timely, trustworthy, clearly written, comprehensive, and consistent with other sources. Response options ranged from 1 (*Very poor*) to 5 (*Excellent*). An additional survey item asked whether respondents had found useful workplace related information regarding COVID-19 from other various sources.

Organisational preparedness

Respondents were asked to rate the quality of their primary workplaces' COVID-19 policies and procedures in 18 different areas (e.g. staff screening for risk factors/symptoms, support for new graduates or inexperienced staff, managing staff abuse). Response options ranged from 1 (*Very* poor) to 6 (Excellent). Respondents were also permitted to select 'Don't know' or 'Not applicable'.

COVID-19 health concerns around work, staff testing, and missed work

Respondents were asked a range of questions about their COVID-19 related health concerns and experiences with COVID-19 testing. Four questions asked respondents to rate their concern about risks to their physical and mental health due to COVID-19 at the start of the pandemic and at the time of the survey on a scale of 1 (*Not at all concerned*) to 5 (*Extremely concerned*). Respondents were also asked several questions about whether they had been tested for COVID-19 (*Yes/No*), whether they had tested positive (*Yes/No/Decision pending*), whether they believed the virus was acquired due to workplace exposure (*Yes/No/Unsure*), and whether they had experienced any work-

related distress associated with a positive result (*Yes/No*). Respondents were also asked how many times they had been tested, if they had missed work for COVID-19 related reasons, what type of leave they took to cover missed days, and if they had been vaccinated for COVID-19.

Personal concerns due to COVID-19 and mental health support

Respondents were asked to what level they were concerned about seven personal factors (e.g. psychological wellbeing, risks to vulnerable family members/people I live with, experiencing financial hardship) and ten work-related factors (e.g. welfare of my colleagues, job security in general, staffing levels). Responses ranged from 1 (*Not at all concerned*) to 5 (*Extremely concerned*). Respondents were asked one binary response (*Yes/No*) question about whether they had sought mental health/wellbeing support from external providers, and one check box question about the service(s) they sought help from.

Self-isolation and related behaviours

Four items addressed self-isolation among respondents. Two binary response questions asked respondents whether they chose to isolate from those they live with (*Yes/No*), and whether that isolation was at their own residence or at an alternative accommodation. One multiple choice question addressed who paid for any alternative accommodation. Respondents were given the opportunity to describe any other self-isolating behaviours they felt they had to adopt to protect themselves, their family/friends, or the community.

Community support and harassment

Three survey items addressed community support and harassment. Respondents were asked whether they had experienced or felt community support for their work, whether they had experienced abuse or felt threatened by members of the public/clients at work, and whether they had experienced abuse or felt threatened by members of the public in settings outside of work. Response options were "*Yes*", "*No*", "*Unsure*".

Workplace changes

Respondents were asked sixteen questions about workplace changes, including workload changes (four items), give up work (four items), working outside of or advancing scope of practice (three items), work schedule changes (two items), and redeployment (three items).

Personal Protective Equipment (PPE) at primary workplace

A mix of eleven multiple choice and open-ended survey questions addressed PPE at respondents' primary workplaces. Questions addressed the types, size, and amount of PPE, workplace policies and processes related to PPE, re-use of PPE, reporting of PPE concerns to employers, support received from employers regarding PPE concerns, the adequacy of resources and staff to delivery PPE training, and confidence the PPE training equipped respondents to practice safely during the pandemic.

Part 3: Job demands, resources and wellbeing

Practice environment

A modified version of the Practice Environment Scale – Nursing Work Index (PES-NWI)[17] was included in the survey to assess the nursing practice environment. Respondents were asked the extent to which they agreed certain desirable aspects of the practice environment were present in their current workplace, including nursing leadership (four items; e.g. "A Director of Nursing/Midwifery which is highly visible and accessible to staff"), adequate staffing and resources (three items; e.g. "Adequate support services allow me to spend time with my patients"), praise and supervisory support (three items; "A supervisory staff that is supportive of the nurses/midwives"), and a nursing philosophy for quality care (three items; e.g. "A clear philosophy of nursing/midwifery that pervades the patient care environment"). Scale response options ranged from 1 (*Strongly agree*) to 4 (*Strongly disagree*).

Response options were reverse coded prior to scoring so that higher scores indicated greater agreement that the aspect of the practice environment was present in the workplace. Following this, item scores were averaged for each subscale (score range 1 – 4). A mean score of 2.5 reflected the neutral mid-point (i.e. neither agreement nor disagreement), while scores above 2.5 showed agreement and scores below 2.5 disagreement. Respondents with only one missing item on the nursing leadership subscale were retained for subscale scoring (i.e. available item analysis). Subscale scores were not calculated for respondents with missing data on the remaining practice environment subscales because of the small number of subscale items. The adapted subscales were found to have good internal consistency (α range: .81 - .89).

Psychosocial workplace conditions

The Copenhagen Psychosocial Questionnaire Version 3 (COPSOQ-III)[18] was used in the survey to assess psychosocial workplace conditions and demands. There are short, medium, and long versions of the COPSOQ-III, with the long version containing eight domains and 45 scales. Four domains and eight scales were included in this research (Table 1). Respondents answered COPSOQ-III items on 5-point interval scales; values ranged from 0 – 100 and response options varied across survey questions (e.g. *Always* [100] to *Never/hardly ever* [0], *A very large extent* [100] to *A very small extent* [0]). Each scale was scored in the direction of the construct being measured, consequently one quantitative demand item was reverse coded prior to scoring. Mean scores were calculated for scales with more than one item (score range: 0 – 100). Scores were not calculated for respondents with missing data because of the small number of items for each scale. Internal consistency ranged from acceptable to high across subscales (α range: .60 - .91; Table 1).

Table 1. COPSOQ-III domains and scales included in the COVID and Wellbeing Survey

Domain	Scales	*N* items	α	Definition
Demands at work	Quantitative demands	3	.60	How much work is expected to be satisfactorily completed at work
	Work pace	2	.80	How fast work tasks need to be performed
	Cognitive demands	3	.81	Work tasks that require cognitive effort
	Emotional demands	3	.81	Work involves dealing with other people's feelings
Interpersonal relations and leadership	Role clarity	2	.77	Understanding of role at work
	Role conflicts	2	.81	Conflicting demands within a task or conflict when prioritising work tasks
Work-individual interface	Work life conflict	3	.91	Consequences of work for private life
Health and wellbeing	Self-rated health	1	-	Assessment of own general health over the past four weeks

Burnout

Burnout was measured using the most recent version of the Oldenburg Burnout Inventory OLBI; [19] which is job-related but not occupationally specific (e.g. items do not reference working with people). The OLBI is comparable to other burnout measures, including the Maslach Burnout Inventory and both scales have been used as part of workforce wellbeing studies in the research literature.

The OLBI contains two subscales: disengagement (eight items) and exhaustion (eight items). The disengagement subscale assesses negative attitudes towards and disconnection from work. The exhaustion subscale assesses emotional, physical, and cognitive strain. Respondents were asked to indicate their degree of agreement with each of the items on the scale, with response options ranging from 1 (*Strongly agree*) to 4 (*Strongly disagree*). Four items on each subscale were reverse coded before scoring so that higher subscale scores reflected greater burnout. Afterward, mean subscale scores were calculated (score range: 1 – 4). Respondents with only one missing item on each subscale were retained during scoring. Internal consistency was good for both the exhaustion subscale (α = .87) and the disengagement subscale (α = .83). To formulate the four burnout groups, scores ≥2.25 is high exhaustion and scores ≥2.1 is considered as high.[20]

Classification	Definition
Non-burnout	Low exhaustion and low disengagement
Disengaged	Low exhaustion and high disengagement
Exhausted	High exhaustion and low disengagement
Burnout	High exhaustion and high disengagement

Post-traumatic stress

Symptoms of post-traumatic stress were assessed using the Department of Veteran Affairs PCL-5 checklist. The PCL-5 is a 20-item self-report measure that assesses the 20 *DSM-5* symptoms of PTSD. There are five domains to be assessed as part of this assessment: 1) exposure to a traumatic event (e.g. death, serious injury or sexual violence); 2) presence of intrusive symptoms across five areas; 3) persistent avoidance of stimuli associated with the event across two areas; 4) negative alterations in cognition and mood associated with the event across 7 areas; and 5) marked alterations in arousal and reactivity associated with the event across 6 areas. A summary of the definition for PTSD can be found here: https://www.ncbi.nlm.nih.gov/books/NBK207191/box/part1_ch3.box16/.

Data analysis

Data were cleaned and analysed Statistical Package for Social Sciences (SPSS) v28.0.[21] Descriptive statistics are reported using count, frequencies, means and standard deviations, and median and quantile values, where appropriate. Inferential statistics using t-tests, analysis of variance and linear regression are used, where appropriate.

Reporting

The report is broken into a series of six chapters and explore various areas of concern related to workforce retention, wellbeing, safety and risk.

- Chapter 1 provides an overview of individual demographics and occupational demographics of respondents as well as summary statistics to respondents' perceptions of the working environment. This includes assessment of organisational communication regarding policies and processes, access to psychosocial support and availability of and organisational policies related to use of PPE.
- Chapter 2 focuses on post-traumatic stress and factors that may be contributing to its presence in the working environment.
- Chapter 3 focuses on intentions to leave including plans and actions taken to leave one's current position or to exit their profession entirely. It also explores factors associated with intentions to leave across a range of working environment and workforce wellbeing factors.
- Chapter 4 focuses on the experience of early career nurses and midwives in comparison to more senior career nurses and midwives. It explores comparisons between these two groups for a range of workplace and occupational wellbeing factors, along with leave intentions.
- Chapter 5 focuses on people's perceptions of their organisation's policies and procedures in place to manage COVID-19, as well as their level of concern regarding organisational and personal factors that may have been adversely impacted or exacerbated as a result of COVID-19.
- Chapter 6 focuses on comparisons between key measures taken in the 2020 survey and the 2022 survey, with a particular focus on key differences between job demands, job resources and burnout.

Throughout the report, supporting quotes from respondents are also provided where relevant to a particular topic.

Results

Chapter 1: Demographics and summary statistics

The mean age of respondents was 46.5 years. Age ranged from 18 years to 76 years (Figure 2). The majority of respondents were female and born in Australia. Half were married and nearly one-quarter were single. A small proportion identified as Aboriginal (n = 74). More than one-third of respondents had caregiver responsibilities for children (39.4%) and one in five had other caregiver responsibilities at home (21.0%).

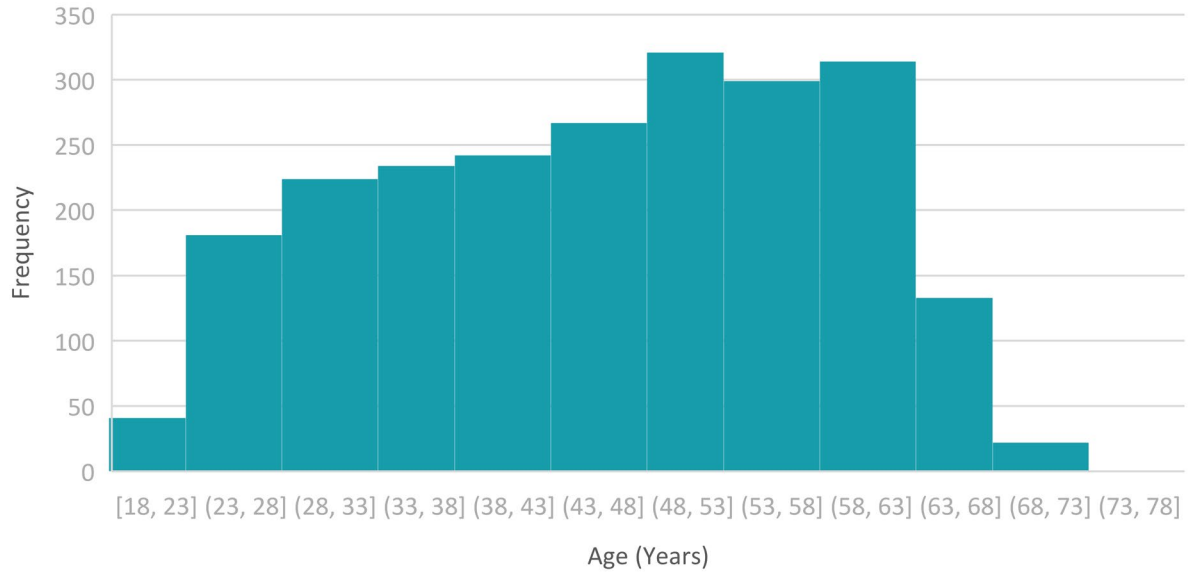

Figure 2. Ages in 5-year age categories.

Table 2. Individual demographics of respondents.

	Frequency	Percent
Gender (n = 2303)		
Female	2042	88.7
Male	251	10.9
Gender non-binary	2	.1
Prefer not to say	8	.3
Relationship status (n = 2281)		
Married	1152	50.5
De facto	355	15.6
Civil partnership	15	.7
Cohabitating	40	1.8
Single	555	24.3
Widowed	42	1.8
other	48	2.1
prefer not to say	74	3.2
Country of birth (n = 2245)		
Australia	1766	79.5
UK / Ireland	155	7.0
Philippines	51	2.3
New Zealand	48	2.2
India	28	1.3
China	18	0.8
Other	154	6.9
Aboriginal or Torres Strait Islander status		
Aboriginal	74	4.3
Torres Strait	0	0
Identify as both	0	0
Non-Aboriginal Australian	1603	92.9
Prefer not to say	48	2.5
Caregiver at home status		
Caregiver for children only	697	30.5
Caregiver for others only	280	12.2
Caregiver for both children and others	200	8.7
Not a caregiver at home	1110	48.5

Occupational demographics

The majority of respondents were Registered Nurses, followed by Enrolled Nurses and those with dual registration. Among those with dual registration (n = 149), more than half worked in midwifery (59.9%), one quarter worked primarily in nursing (25.2%), and some worked equally across both (15.0%). A large majority of respondents were educated in Australia (91.0%) or the UK/Ireland (4.3%).

Nearly all respondents were members of the NSWNMA (99.0%).

Table 3. Nursing or midwifery category of respondents.

	Frequency	Percent
Registered Nurse	1749	75.9
Enrolled Nurse	235	10.2
Registered Nurse and Midwife (dual registration)	149	6.5
Registered Midwife	118	5.1
Nurse Practitioner	25	1.1
Assistant in Nursing (AIN)	23	1.0
Undergraduate AIN	5	.2
Total	2304	100.0

A large proportion of respondents were very experienced nurses or midwives (Figure 3). There were 1,114 respondents with 20 years or more experience. Few respondents were in their first year of work.

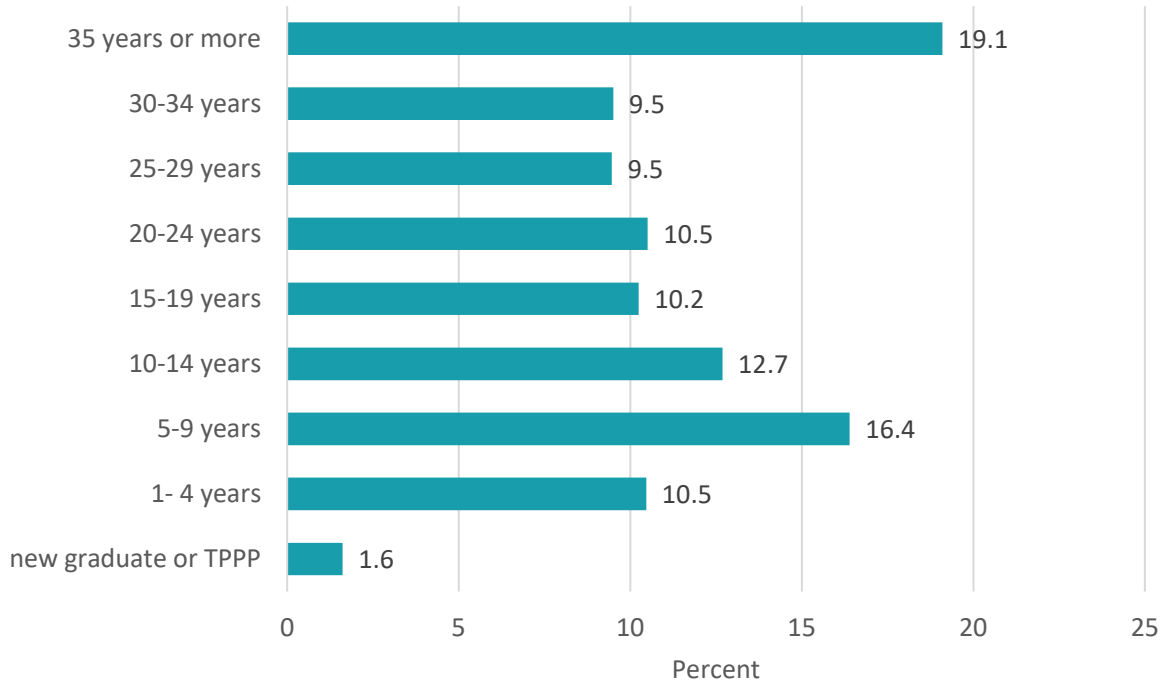

Figure 3. Years worked as a nurse and/or midwife.
Note. TPPP = Transition to Professional Practice Program.

The majority of respondents were registered nurses or enrolled nurses (Figure 4). A small proportion of respondents were midwives or had dual registration; more than half of whom were working as midwives (Figure 5).

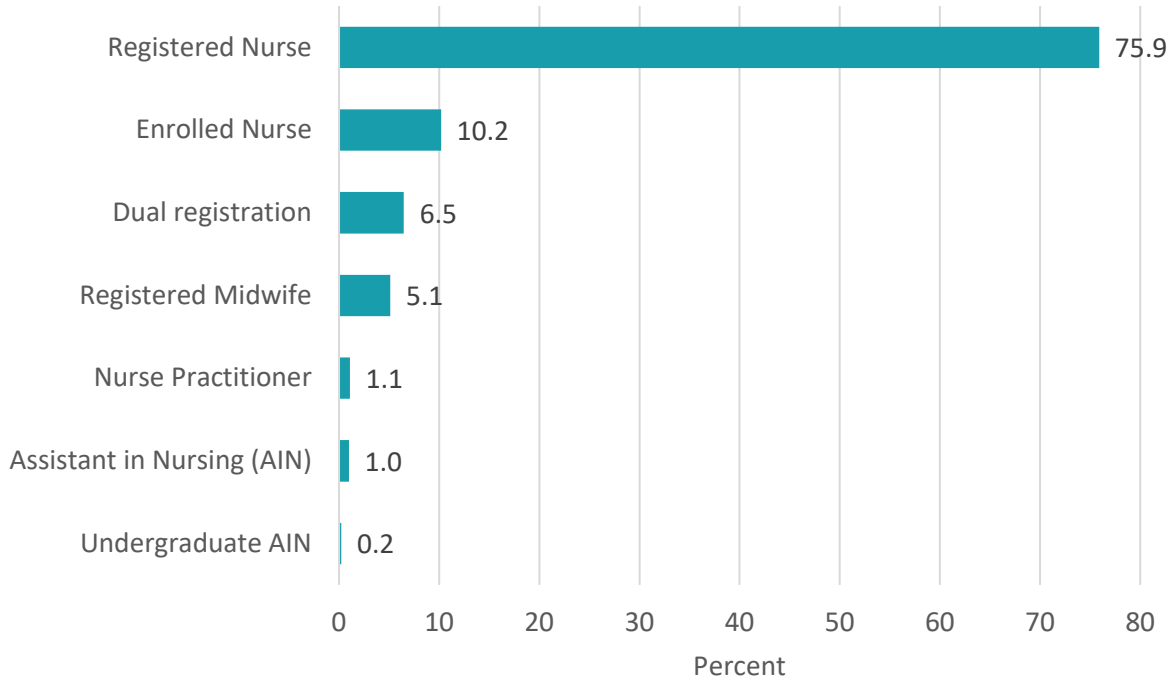

Figure 4. Job classification of respondents.

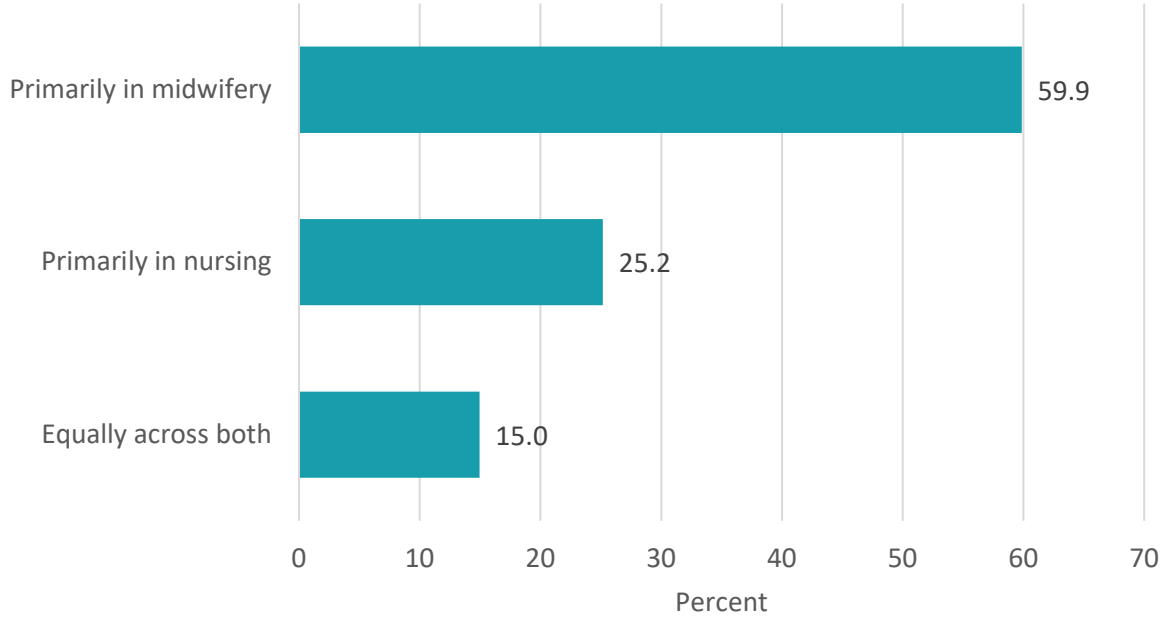

Figure 5. Job classification of respondents with dual registration.

The majority of respondents received their nursing or midwifery education in Australia followed by the United Kingdom or Republic of Ireland. Other countries repondents indicated were less than 2% of the total sample.

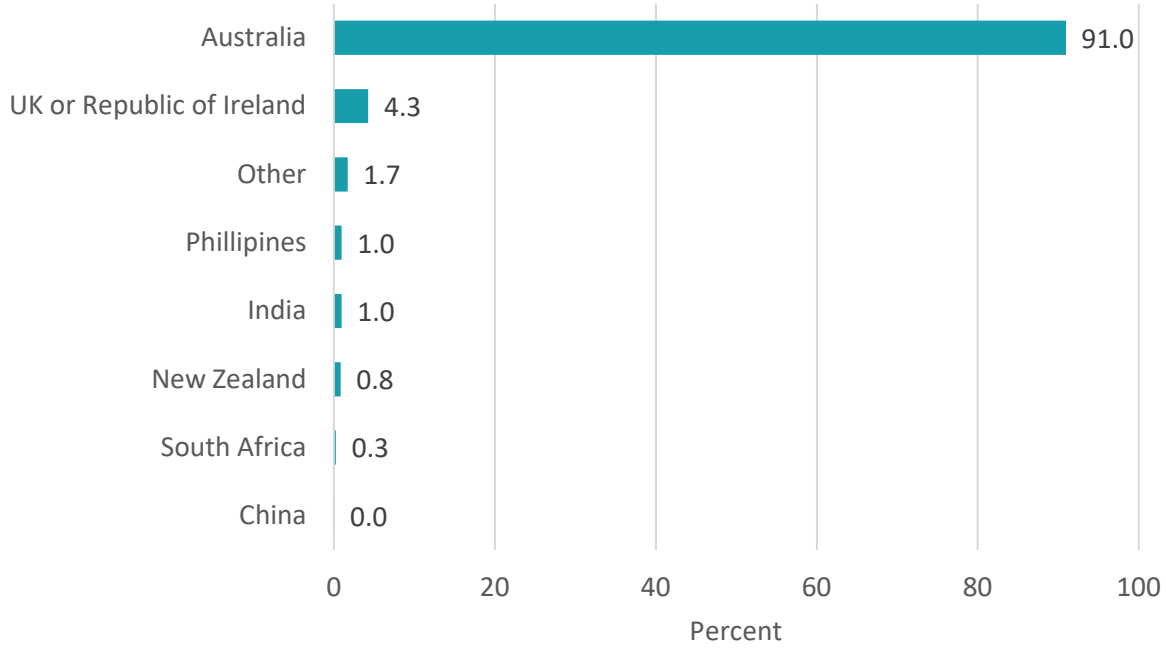

Figure 6. Country of nursing or midwifery education of respondents.

Over three-quarters of respondents worked in patient or client care roles (Figure 7). Some respondents had dual roles where time was split between two work areas, e.g. client care and management/administration. Very few respondents were in administration only or research only roles.

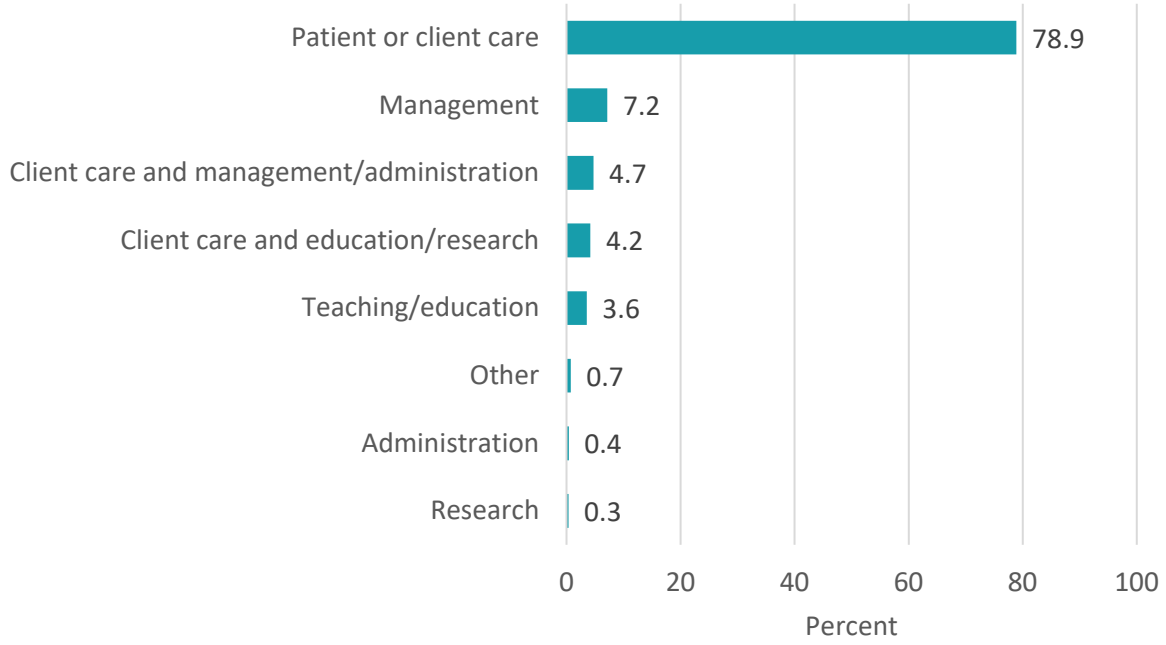

Figure 7. Primary job role of respondents.

Over 80% of respondents had permanent positions either as full-time or part-time employees (Figure 8). Approximately 9% had contract positions and 6% had casual positions. Very few respondents with agency positions responded.

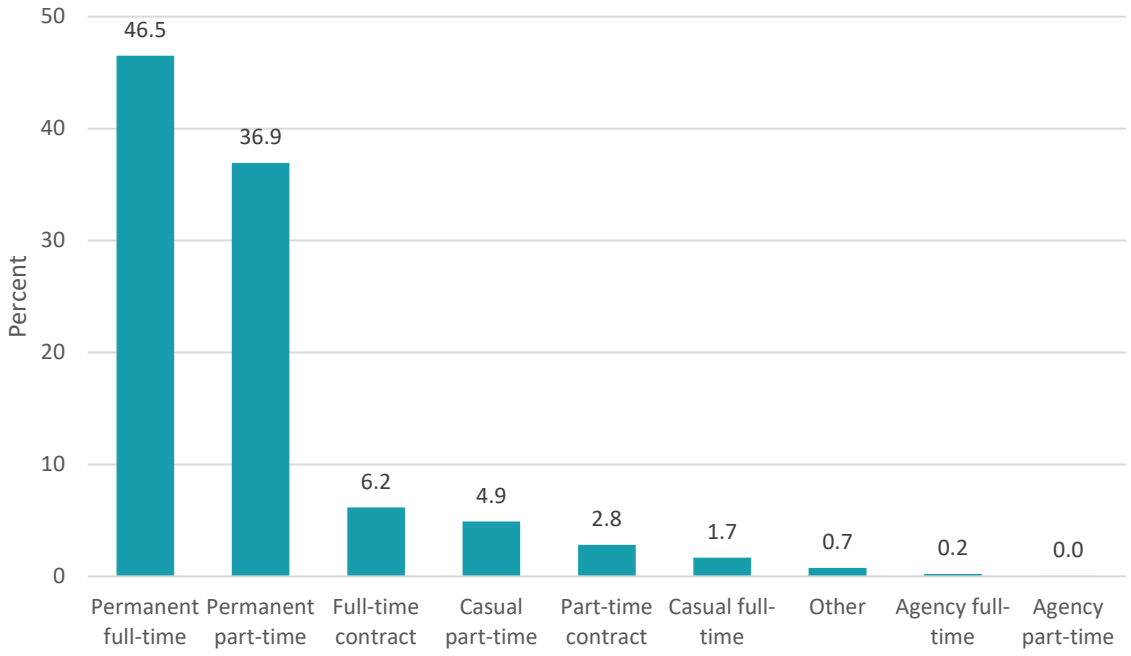

Figure 8. Current employment status of respondents.

There was a spread of hospital types where respondents were primarily employed (Figure 9). The most frequently reported were tertiary referral hospitals followed by regional hospitals. It is important to note definitions were not provided for each category so there may be some error based on respondents understanding of the most appropriate selection for their hospital.

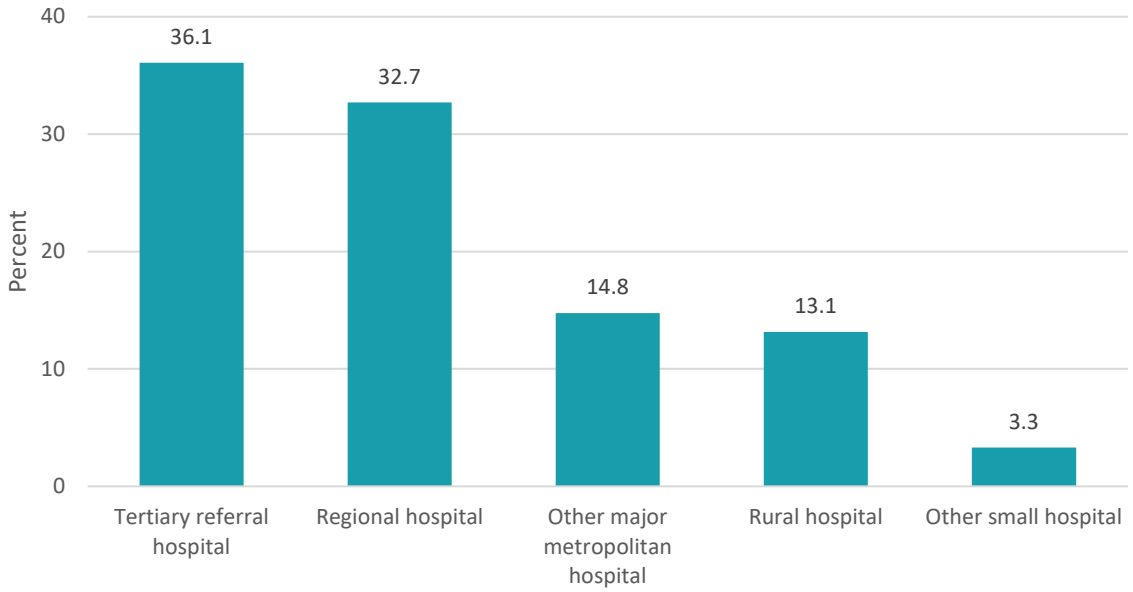

Figure 9. Public hospital type where respondents were primarily employed.

The highest proportion of respondents were from the Hunter New England Local Health District (LHD) followed by South Eastern Sydney, Sydney, Central Coast and Illawarra Shoalhaven (Figure 10). There were five LHD's with fewer than 1% of the total proportion of respondents. This distribution is important to consider when reflecting on other patterns of results.

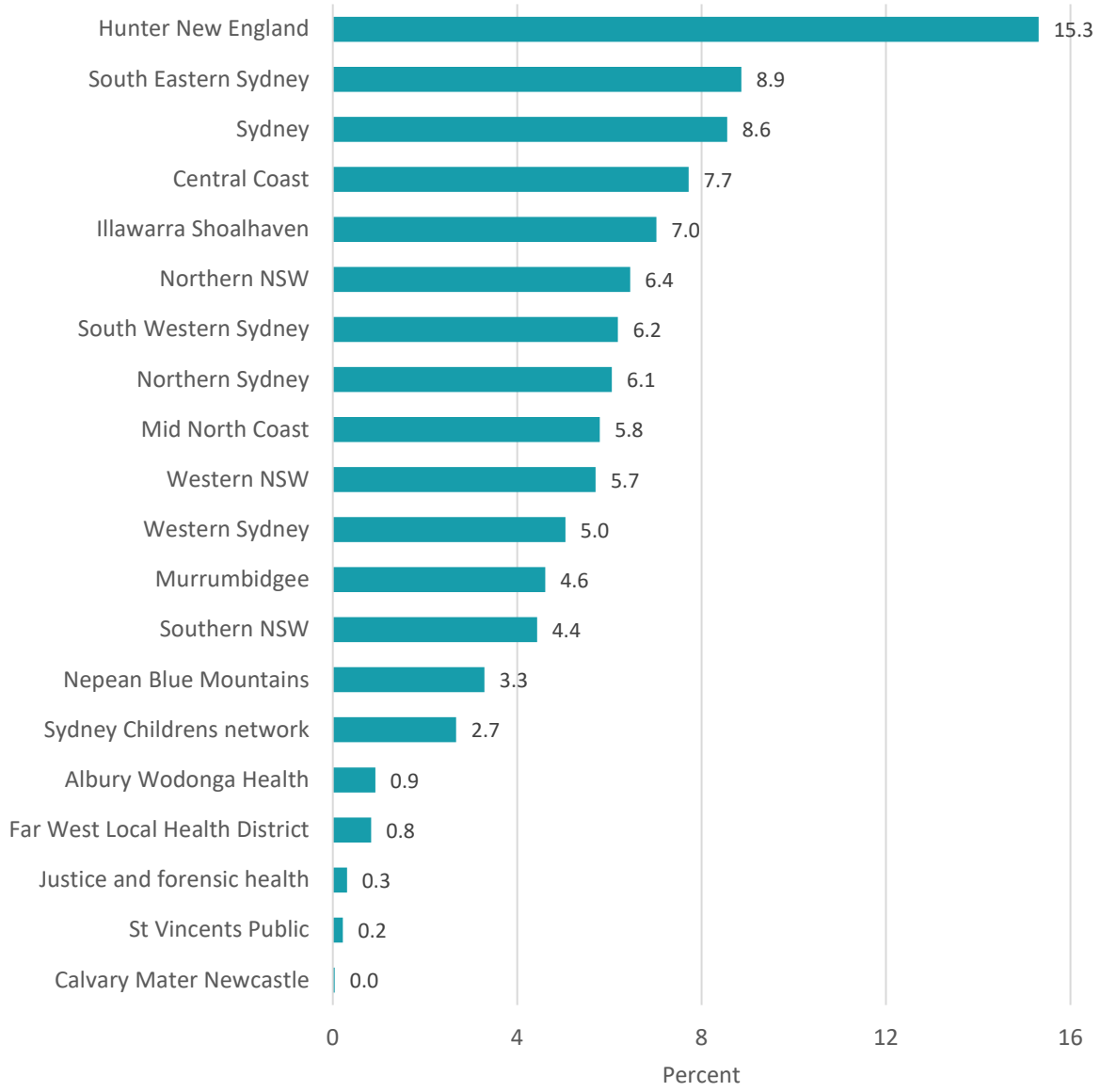

Figure 10. Local Health District of primary employer of respondents.

There was a broad spread of primary work setting among respondents (Figure 11). As can be expected, the largest proportions were from those working in clinical care settings including medical, emergency or surgical wards, maternity care, ICU's and mental health. Few respondents worked specifically within dedicated COVID-19 wards. This may be due to the number of COVID-19 dedicated wards operating in NSW at the time of the survey.

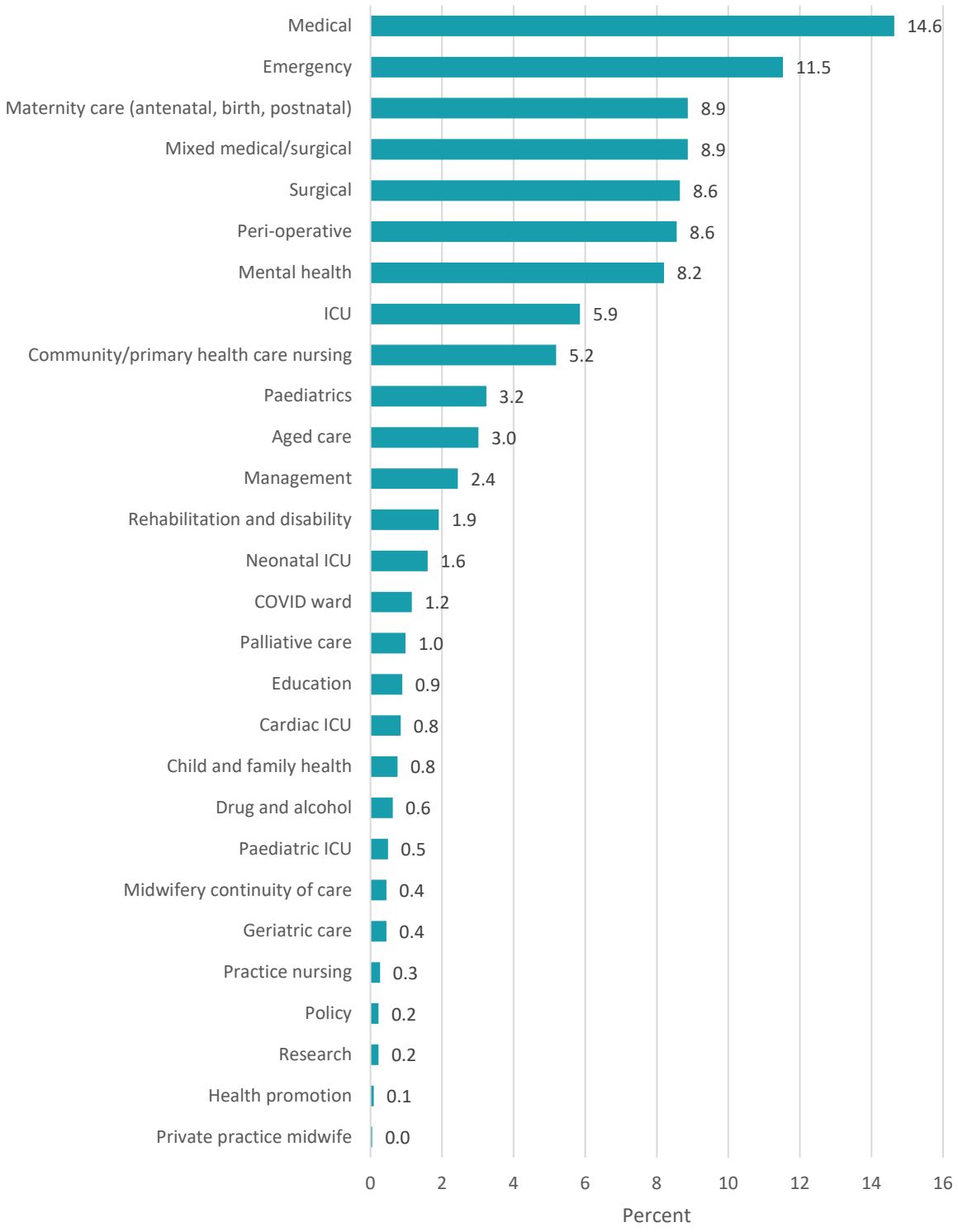

Figure 11. Primary work setting of respondents.

COVID-19 exposure

"Guilt and stress about not being able to work due to being unwell, even if it isn't covid. Stress about passing covid on to vulnerable people unknowingly. Worry about time off work unpaid and how to support family. How to keep family safe from my exposure as well as keep patients safe from my family exposure. Distancing and locking self off from others to reduce anxiety around spread and effects."

Respondents were asked to indicate if they had yet tested positive to COVID-19 (Figure 12) and if so, if they believed this was due to workplace exposure (Figure 13). More than half of respondents had acquired COVID-19 at some stage since the pandemic commenced. Very few were waiting on test results at the time of completing the survey. Of those who had tested positive, approximately one-third thought this was due to workplace exposure. One in five were not sure.

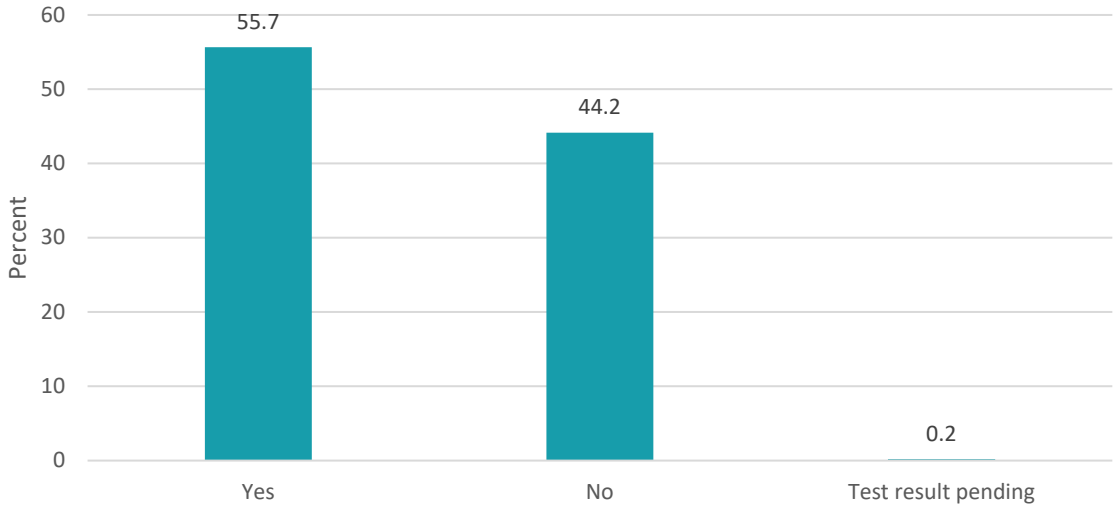

Figure 12. Proportion of respondents who have tested positive to COVID-19 (n = 2271).

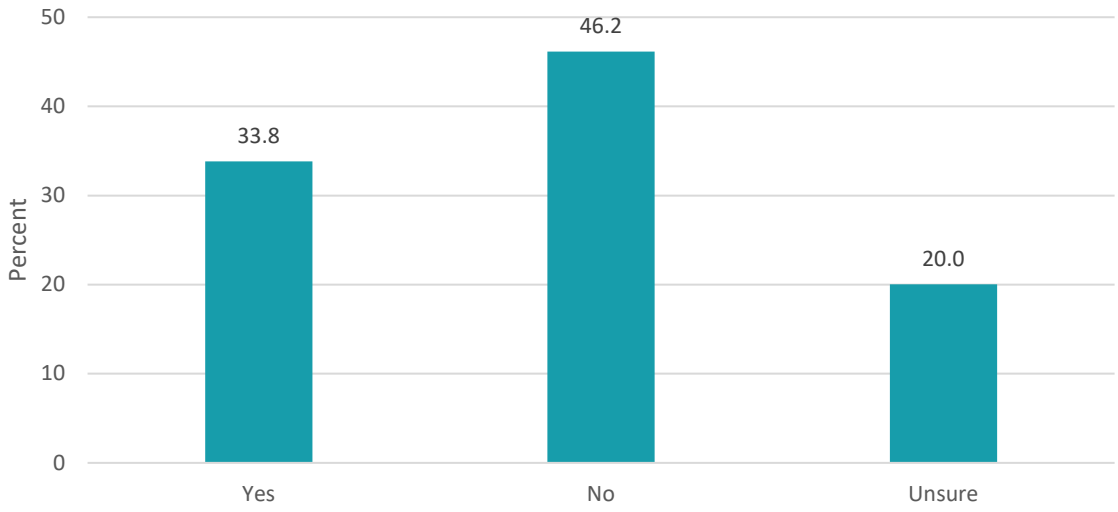

Figure 13. Proportion of COVID-19 acquired due to workplace exposure (n = 1263).

Communication regarding COVID-19 Policies

"There's so many contradictions and ridiculous policies that I have lost respect for policy makers and leaders. I feel nurses have lost their voice."

Respondents were asked to rate their organisation with respect to communicating about COVID-19 policies (Figure 14). Results showed overall, communication of policies was not very well rated with one in five respondents indicated communication was good or excellent across all items.

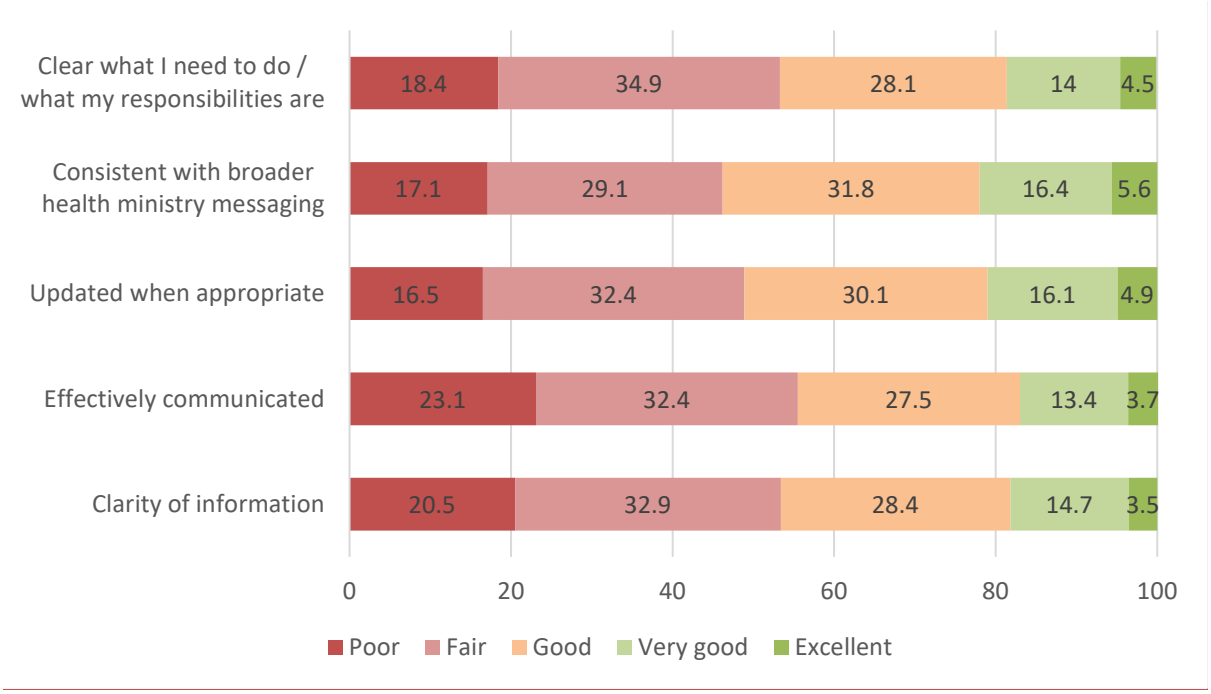

Figure 14. Rating of organisational policies by respondents across five domains.

Working hours, workload changes and perception of working hours during the pandemic

The mean number of hours worked per week was 32.9 hours (SD = 8.9), the mean number of paid hours was 5.5 hours (SD = 6.8) and the mean number of unpaid hours per week was 3.1 (SD = 4.0). Respondents were asked to indicate what they thought of their current working hours (Figure 15) and how they would like their workload to change after the pandemic period (Figure 16). A similar pattern was observed between both questions whereby over half of respondents thought their working hours were more than they would like and they would like them to decrease. Few respondents thought their hours were less than they would like and would like them to increase after the pandemic.

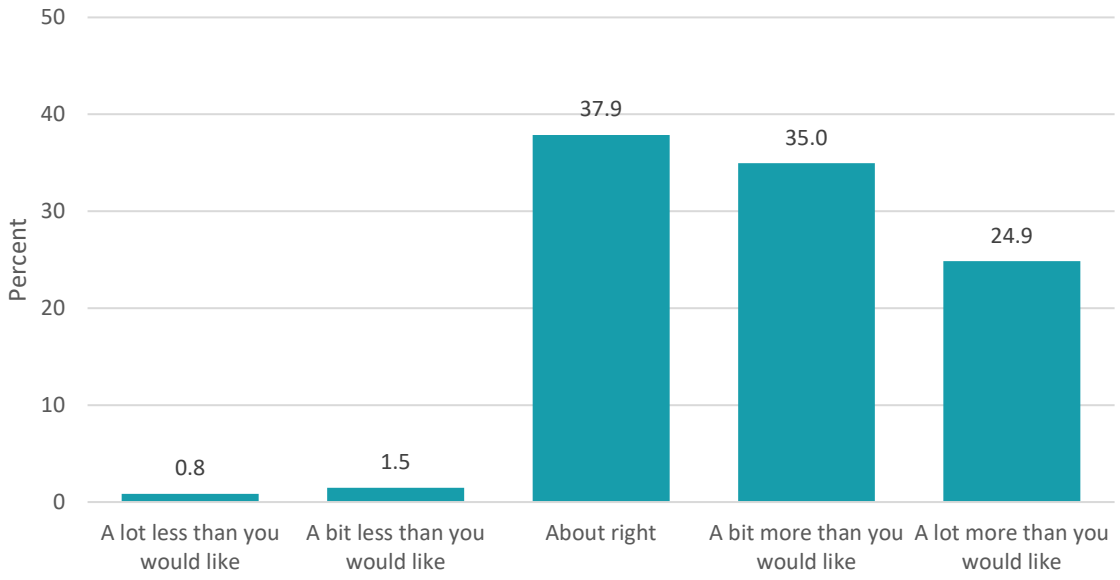

Figure 15. Perception of current working hours.

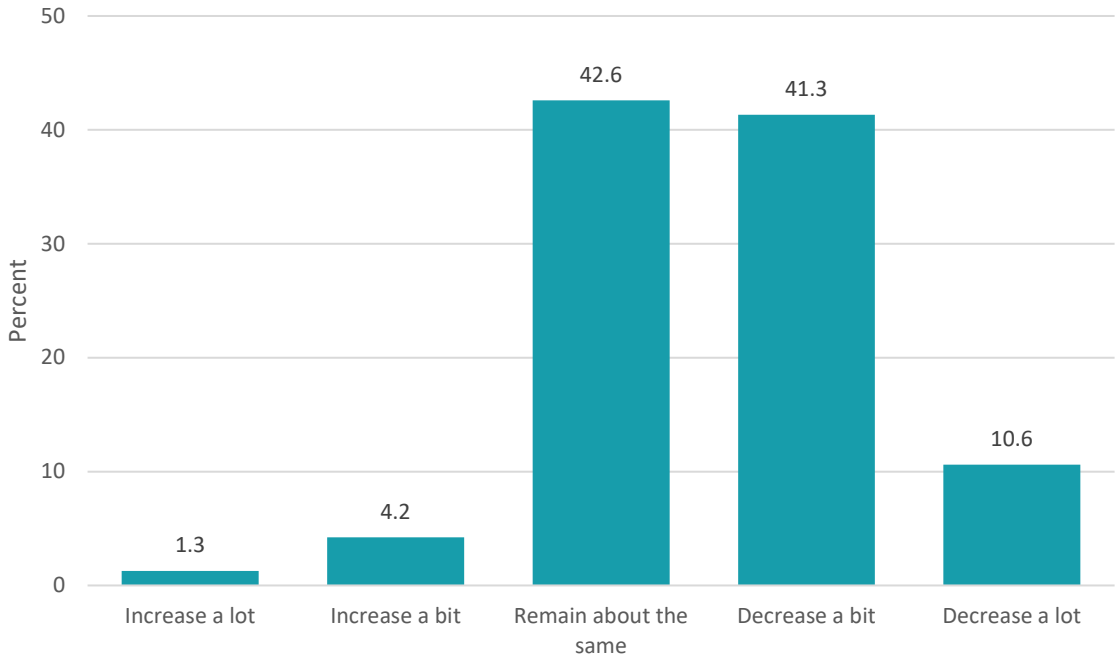

Figure 16. Perception of how average working hours per week should change after the pandemic.

Respondents were also asked to indicate how their workload had changed during the pandemic (Figure 17). The vast majority of respondents indicated it had either slightly, moderately or significantly increased (90.1%). Very few respondents indicated it had decreased (4.5%).

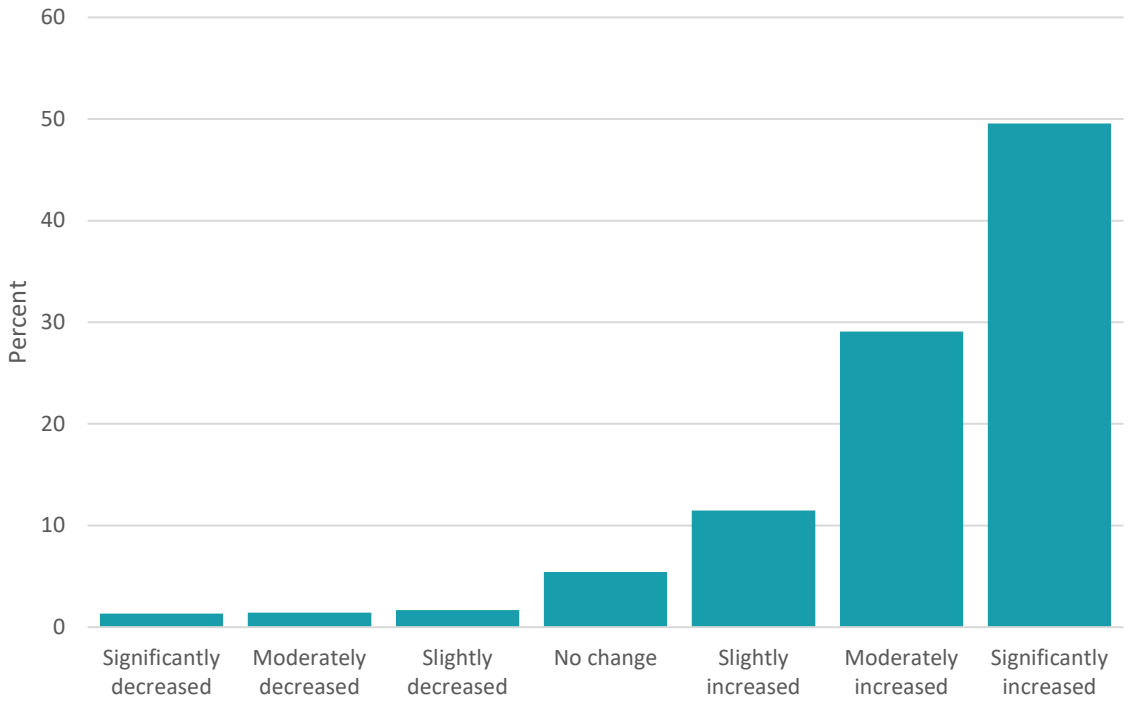

Figure 17. Perception of change to workload during the COVID-19 pandemic.

Working for multiple employers

Some respondents (n = 464) indicated they worked at more than one workplace. Of those who indicated they did, approximately one-third (n = 149) indicated they were asked to give up working at one of them.

Of these respondents, nearly two thirds (63.1%) indicated they gave up working at both workplaces. Only one-fifth (22.1%) sought advice on the situation and approximately one-quarter (26.8%) reported at the time, the situation was still not resolved.

Scope of practice and redeployment

> *"Redeployment to ED and ICU without proper training, poor staffing, increased patient workload, being verbally abused by patients and relatives, feeling unsupported by executive."*

Respondents were asked to indicate if, as part of the pandemic response, they had been asked to work outside of their usual scope of practice, and if so, whether they received appropriated education and training (Figure 18). Nearly half of respondents (44.8%) had been asked to work outside of their usual scope of practice. Of those who had, approximately three-quarters (74.5%) indicated they did not receive appropriate education and training to do so.

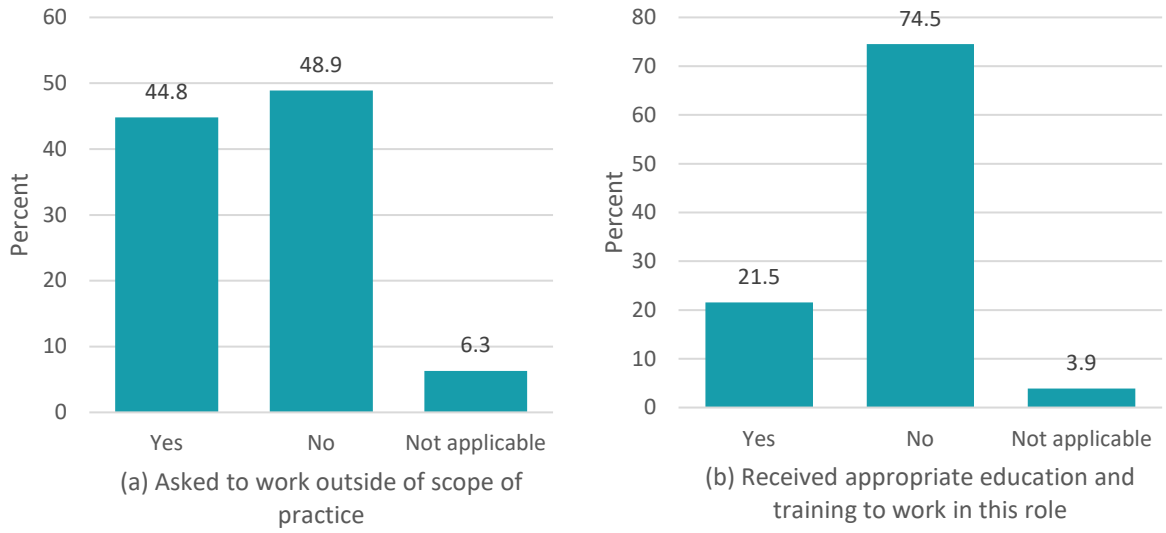

Figure 18. Asked to work outside of scope of practice (a) and received education to do so (b).

"As soon as covid hit, my adolescent ward turned into the paediatric Covid ward and all of a sudden I was caring for small children with covid instead of medical/ surgical teenagers. So so so stressful!! No choice in whether I wanted to work there, it was just expected. This was before vaccinations and I honestly thought I was going to bring it home and kill my very elderly parents."

Respondents were also asked if, at any time, they had been redeployed to a different area, hospital or speciality of work due to COVID-19 and if so, whether they received education and training for the position (Figure 19). Similar to the scope of practice pattern of responses, nearly half of respondents (46.8%) indicated they had been redeployed to a different location, and of those nearly three-quarters (71.2%) did not receive any education or training for the position. It is important to note given the similarity in response patterns here, it may be that respondents were being asked to work outside of scope as part of a redeployment response to the pandemic.

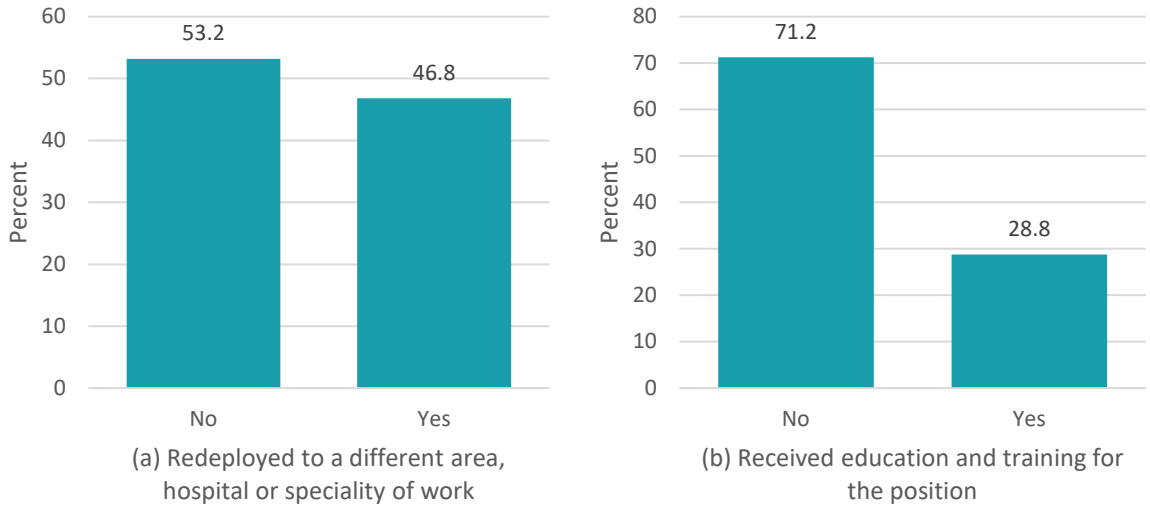

Figure 19. Redeployed to a different location (a) and if so, received education and training (b).

Personal protective equipment access, policies and training

"We didn't get fit tested for masks until the union stepped in, which made me extremely nervous."

Respondents were asked a series of questions related to personal protective equipment (PPE) appropriateness and access, and appropriate PPE policies to support staff. Overall, the majority of respondents (>80%) thought always or often access to the right type, right size and sufficient supply of PPE (Figure 20). With respect to PPE policies at organisations, only one-quarter of respondents indicated their organisation had a policy while working in full PPE, less than one-fifth indicated they were able to take breaks in compliance with policy, approximately half indicated their organisation support appropriate respirator fit checking, and approximately four in ten had reported complaints to their employer (Figure 21).

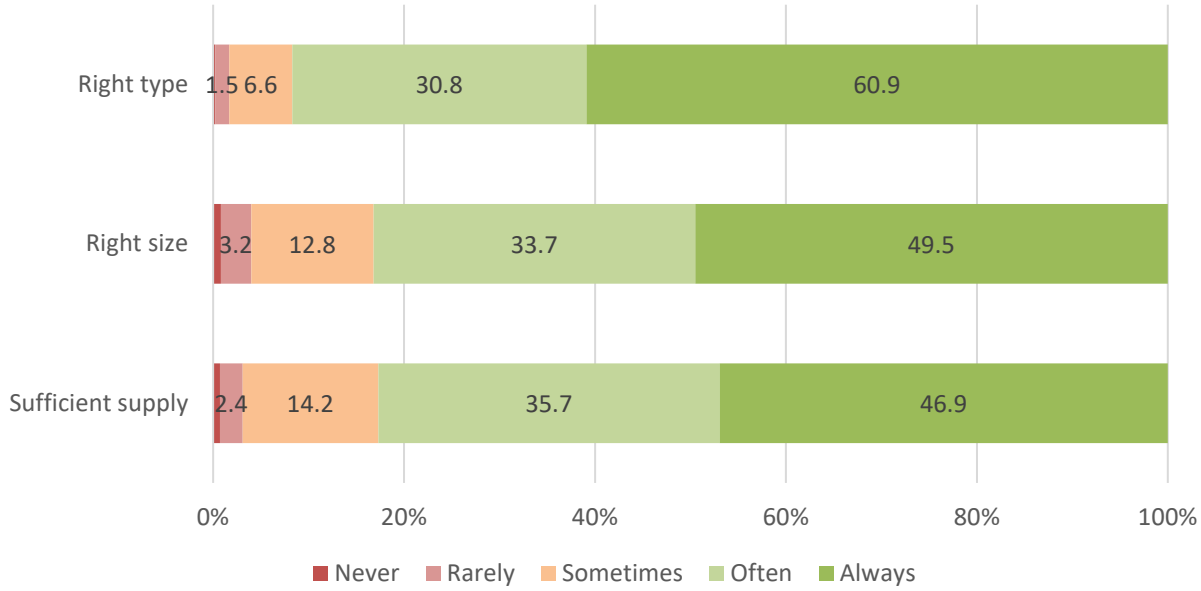

Figure 20. Assessment of access to right type, right size and sufficient supply of PPE.

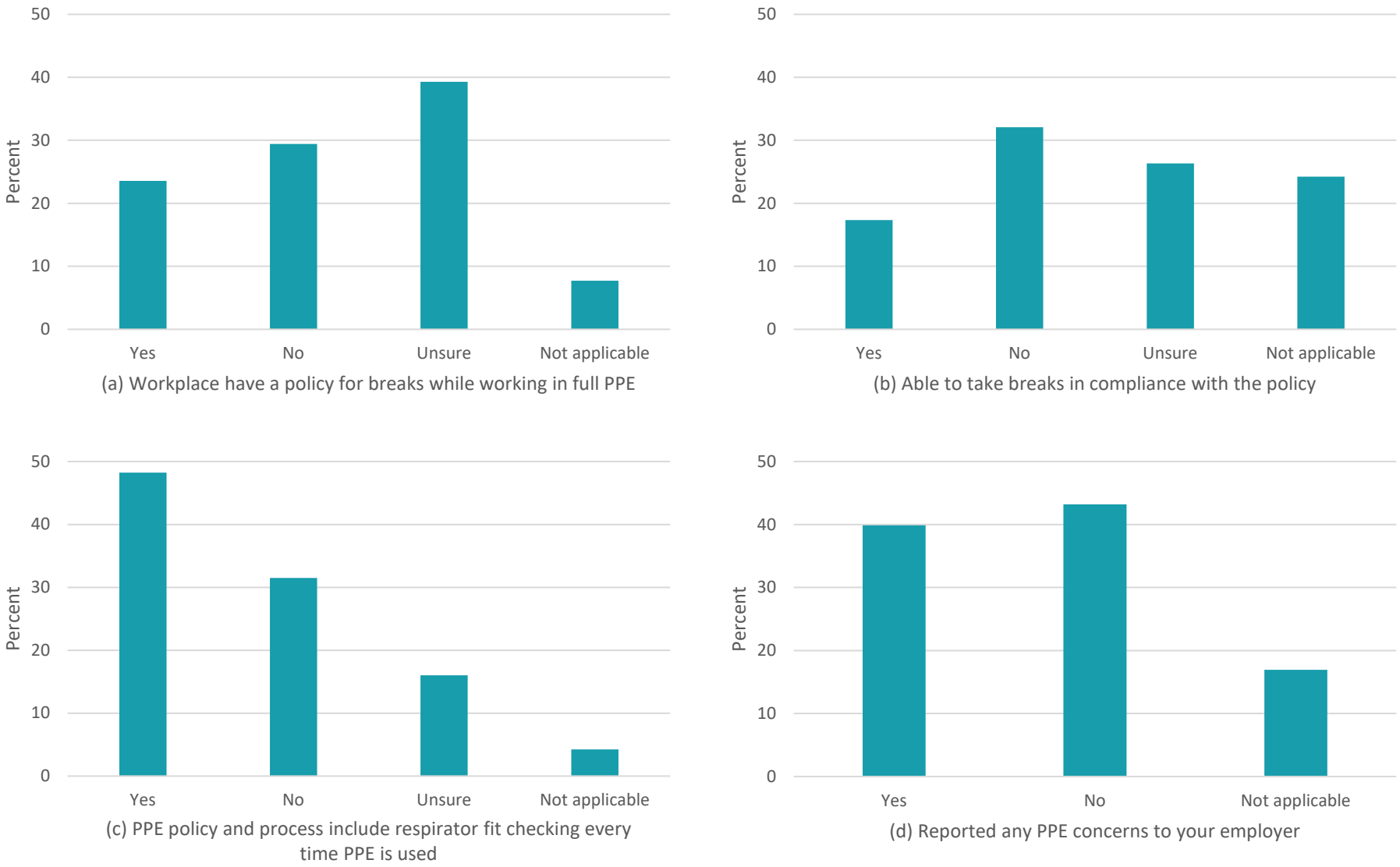

Figure 21. Assessment of policies and process related to PPE breaks (a), breaks compliance (b), fit checking (c), and raising PPE concerns (d).

Respondents were also asked a series of questions related to support by the organisation (Figure 22). Overall approximately half of staff indicated they felt supported by their workplace regarding PPE concerns and requirements. Four in ten thought there were adequate resources and staff to deliver high quality training and nearly 60% thought the training they received equipped them to practice safely.

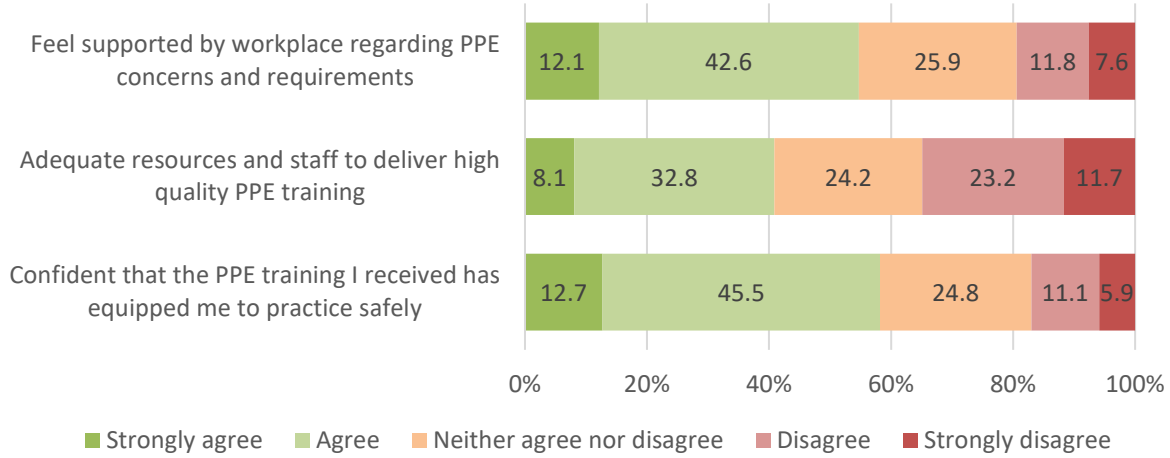

Figure 22. Perceptions of support, resources and confidence associated with PPE training.

Workplace psychosocial support programs

> *"I have been abused more in the last 2 years than in the previous 43 of my career… We are more than tired. Suggesting we are or need to be resilient is insulting and disingenuous. EAP is a useless service unless the clinician is highly skilled in trauma and abuse. The one time I had contact with an EAP person I may as well have talked to a wall… Token fruit baskets 2 years into a pandemic does not make up for safe work practices."*

Respondents were asked questions regarding availability of five different types of support programs for staff (Figure 23). The most frequently reported program was the Employee Assistance Program (EAP), followed by team huddles and other structured team debriefing sessions. Few people indicated in-house psychological support was available or Schwartz rounds. Of those who indicated Schwartz rounds were present in their organisation (n = 66), approximately one-third (34.8%) said they had participated in one. Of those (n = 23), less than half (39.1%) indicated they were of some or great benefit.

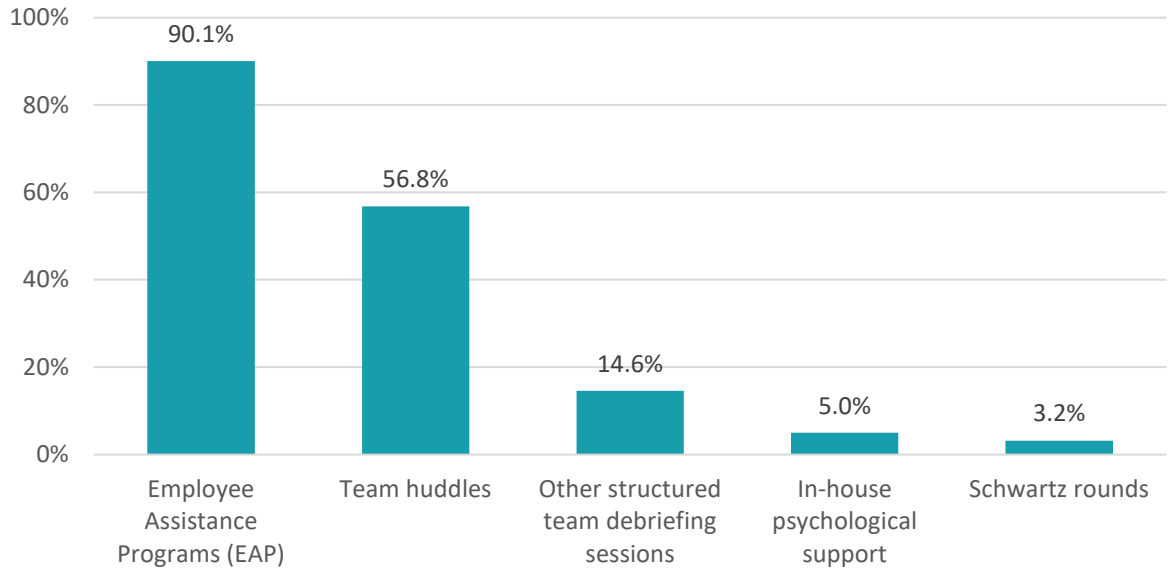

Figure 23. Availability of workplace support programs.

Chapter 2: PTSD among nurses and midwives in New South Wales public healthcare facilities

The following chapter focuses on post-traumatic stress and factors that may be contributing to its presence in the working environment. Post-traumatic stress was assessed using the Department of Veteran Affairs PCL-5 checklist (Figure 24). The mean PCL-5 score was 23.0 (SD = 18.4) and the median score was 18. Scores ranged from 0 to 80. The majority of respondents (n = 1607, 84.6%) had scores below the PTSD positive cut-off score (44) as provided by the PCL-5 authors, the United States Department for Veteran Affairs[22]. That said, there were still 292 (15.4%) respondents who indicated a score in the PTSD positive range.

PTSD and workplace factors

> *"The isolation from my colleagues left me feeling stressed out and lonely. I also got no positive feedback about my work… 12h shifts alone with a tubed patient in one room, very difficult."*

Previous research using this survey has indicated having a patient or client-facing role as a nurse or midwife (i.e. frontline worker), as well as concern regarding staffing levels, skill mix and managing workload are significant factors in the working environment that can impact on one's wellbeing. Results supported this previous research (Table 4). The largest difference was between people who were most concerned about their workload (i.e. high concern versus low concern). That said, there were still large differences between skill mix and staffing levels, and moderate differences between job role.

Table 4. Workplace factors associated with PTSD.

	N	Mean	SD	t-test	Sig
Job role					
Patient or client care	1668	23.7	18.5	4.0	<.001
Other	229	18.5	16.8		
Staffing level concern					
High concern	1665	24.1	18.5	7.3	<.001
Low concern	219	14.6	14.7		
Skill mix concern					
High concern	1646	24.2	18.5	7.7	<.001
Low concern	243	14.7	15.3		
Workload concern					
High concern	1327	26.2	18.8	12.6	<.001
Low concern	557	15.0	14.4		

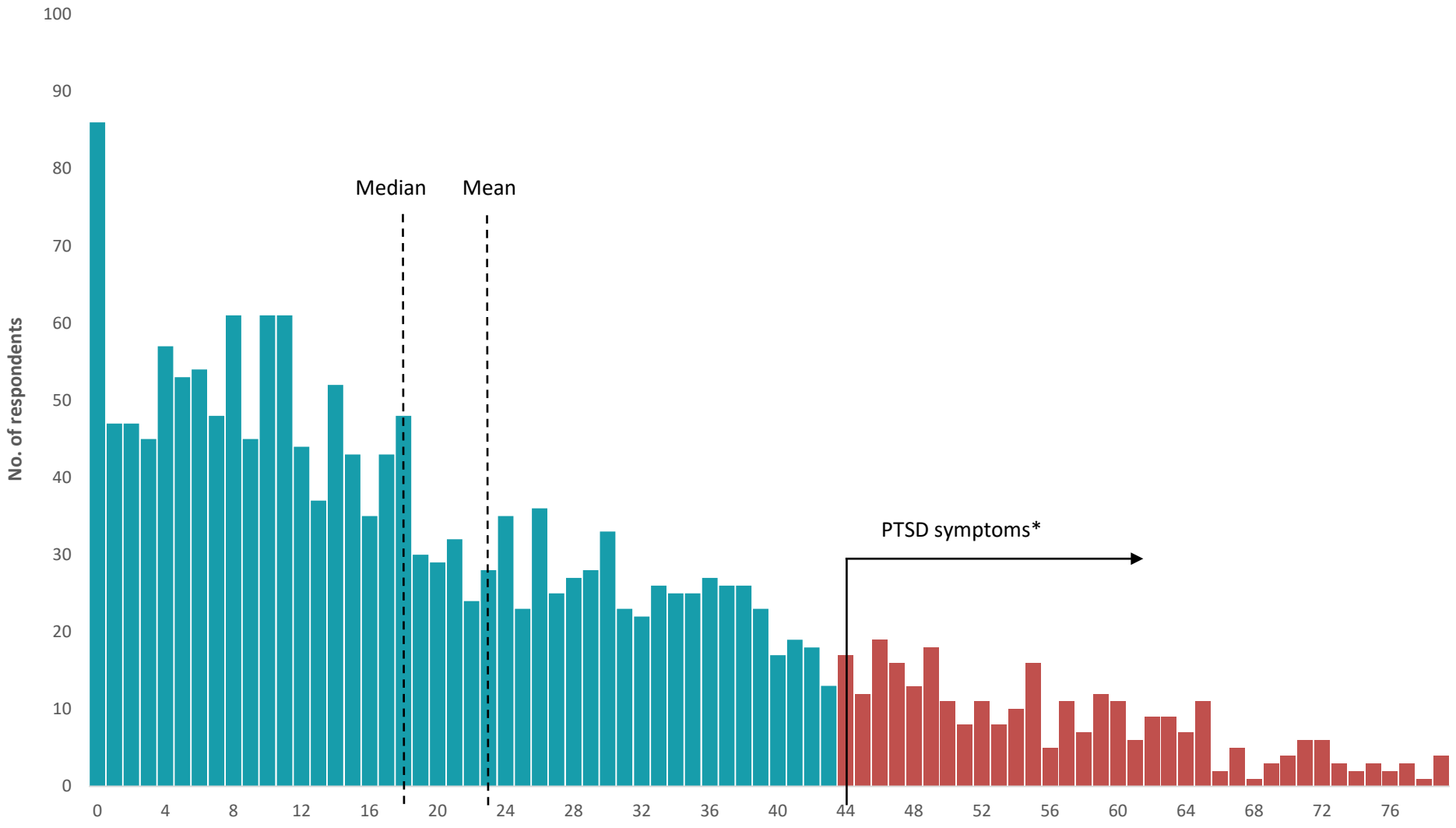

Figure 24. Count of post-traumatic stress scores as measured by the PCL-5.
* Scores 44 and above are considered PTSD positive among the civilian population[22]

PTSD and wellbeing factors

PTSD was also correlated with measures of job demand, job resources and indicators of burnout (exhaustion and disengagement; Table 5). Values can range between -1 and +1. Values closer to either extreme suggest a stronger association. Values close to 0 suggest little or no association. Positive values indicate as the measure increases, so too does PTSD scores.

For job demand, the strongest correlations were associated with work-life conflict and emotional demand. For job resources, the strongest correlations were associated with nurses or midwives as visible leaders in the work setting and receiving praise and supervisory support. For burnout, both exhaustion and disengagement showed strong positive associations with PTSD.

Table 5. Relationship between PTSD and other work wellbeing measures.

	N	Correlation	Lower C.I.	Upper C.I.
Job demand				
Emotional demand	1881	.44	.40	.47
Quantitative demand	1884	.24	.20	.29
Cognitive demand	1879	.26	.22	.31
Role clarity	1880	-.21	-.25	-.16
Work-life conflict	1881	.56	.52	.59
Work pace	1881	.29	.25	.33
Job resources				
Nursing/Midwifery as visible leaders	1548	-.34	-.38	-.29
Praise and supportive environment	1823	-.32	-.36	-.28
Resource adequacy	1849	-.31	-.36	-.27
Nursing/Midwifery philosophy of care	1420	-.28	-.33	-.23
Burnout				
Exhaustion	1890	.56	.53	.59
Disengagement	1889	.52	.49	.56

Identifying most salient factors contributing to PTSD

> *"Working as the NUM on the covid ward and supporting my staff through countless traumatic deaths in which the family couldn't be present…Repeated phone calls from families that do not believe in covid saying they hold me solely responsible for killing their loved ones. Doing all of this and reaching out to executive for support and being told that I have it easy and that it is not that difficult and to not complain"*

A regression analysis was undertaken to determine which work setting factors or wellbeing factors contributed uniquely to PTSD, after all other factors were taken into account (Table 6). While all measures included in this report thus far, have an association with PTSD, this analysis demonstrated which measure is uniquely contributing to the relationship. Here we can see emotional demand and work-life conflict were the most salient demands in the working environment that predicted PTSD. For job resources, visibility of nurses or midwives as leaders in the healthcare setting was the only uniquely protective factor. Both measures of burnout (i.e. exhaustion and disengagement) were predictors also. In the below table, the most important column is 'β' which shows the relative association with PTSD (i.e. all measures can be directly compared). Here, work-life conflict and exhaustion had the strongest associations. Overall, this model explained 42% of the variance in PTSD scores.

It is important to note this analysis is looking for unique contribution to PTSD. Measures of job demand, job resources and workplace wellbeing all tend to share relationships with each other in a statistical sense, so while other factors may be important to observe and measure in the work setting.

Table 6. Relationship between PTSD and other employee wellbeing measures.

	B	β	t-test	Significance
Job demand				
Emotional demand	.08	.08	2.8	.006
Work-life conflict	.16	.24	7.2	<.001
Job resources				
Nurses/Midwives as visible leaders	-2.9	-.11	-4.5	<.001
Burnout				
Exhaustion	1.2	.23	6.2	<.001
Disengagement	0.7	.16	4.4	<.001

Exploration of PTSD and burnout

Given the strong, positive relationship between the two measures of burnout – exhaustion and disengagement – with PTSD, further exploration of this relationship was undertaken. Both exhaustion and disengagement were given cut-off scores of 18 (out of a possible 32) or higher.

As can be seen in Figure 25, while PTSD scores varied at all scores of exhaustion, there was a positive trend clearly visible. In addition, only one person with 'low' exhaustion had a PTSD score above the cut-off of 44. All other respondents with a PTSD score above the cut-off had 'high' exhaustion. For disengagement, the results were similar to that of exhaustion with a positive relationship clearly

visible (Figure 26). There were few people categorised as 'not disengaged' who had PTSD scores above the cut-off of 44 (n = 5). Finally, respondents were categorised multidimensionally according to both their exhaustion and disengagement status (Table 7 and Figure 27). Respondents who were both exhausted and disengaged, under this categorisation system, were considered 'burnt-out'. This represented the majority of respondents.

Table 7. OLBI scores categorised by burnout classification.

	Not exhausted (score <18)	**Exhausted (>=18)**
Not disengaged (<18)	Normal (n = 66, 3.4%)	Exhausted (n = 206, 10.8%)
Disengaged (>=18)	Disengaged (n = 26, 1.4%)	Burnt-out (n = 1616, 84.4%)

Results showed very few people who were normal (n = 1), or exhausted (n = 4) had PTSD above the cut-off score of 44 (Table 8). No people who were disengaged only were above the PTSD cut-off score. All other respondents who were above the cut-off were considered burnt-out (n = 286). However, it is important to note here there was still a large majority of respondents who were burnt-out but did not reach the PTSD cut-off threshold (n = 82.1%). This can be seen by the large number of yellow dots below the cut-off. The relationship between PTSD categories and burnout categories was significant (χ^2 = 49.8, p<.001).

Table 8. Post-traumatic stress categorisation by burnout categorisation.

							Total
			Normal	**Exhausted**	**Disengaged**	**Burnt out**	
PTSD clinical cut-off	non-clinical	Count	62	199	26	1308	1595
		% within general health category	98.4%	98.0%	100%	82.1%	84.6%
	clinical	Count	115	66	27	2	291
		% within general health category	1.6%	2.0%	0.0%	17.9%	15.4%
Total		Count	576	745	353	54	1893

PTSD and general health

Single-item, self-report measures of perceived general health are valid indicators of a person's quality of life (Table 9). The relationship between PTSD and general health status was explored to identify if discernible patterns emerged. Indeed, as general health status declined, the proportion of respondents above the PTSD clinical cut-off increased to the point where approximately half (49.1%) of all respondents who rated their general health as poor were above the PTSD cut-off. The relationship between PTSD categories and general health was significant ($\chi^2 = 49.8$, $p<.001$).

Table 9. Post traumatic stress categorisation by general health classification.

			General health status					Total
			Poor	Fair	Good	Very good	Excellent	
PTSD clinical cut-off	non-clinical	Count	84	461	679	326	52	1602
		% within general health category	50.9%	80.0%	91.1%	92.4%	96.3%	84.6%
	clinical	Count	81	115	66	27	2	291
		% within general health category	49.1%	20.0%	8.9%	7.6%	3.7%	15.4%
Total		Count	165	576	745	353	54	1893

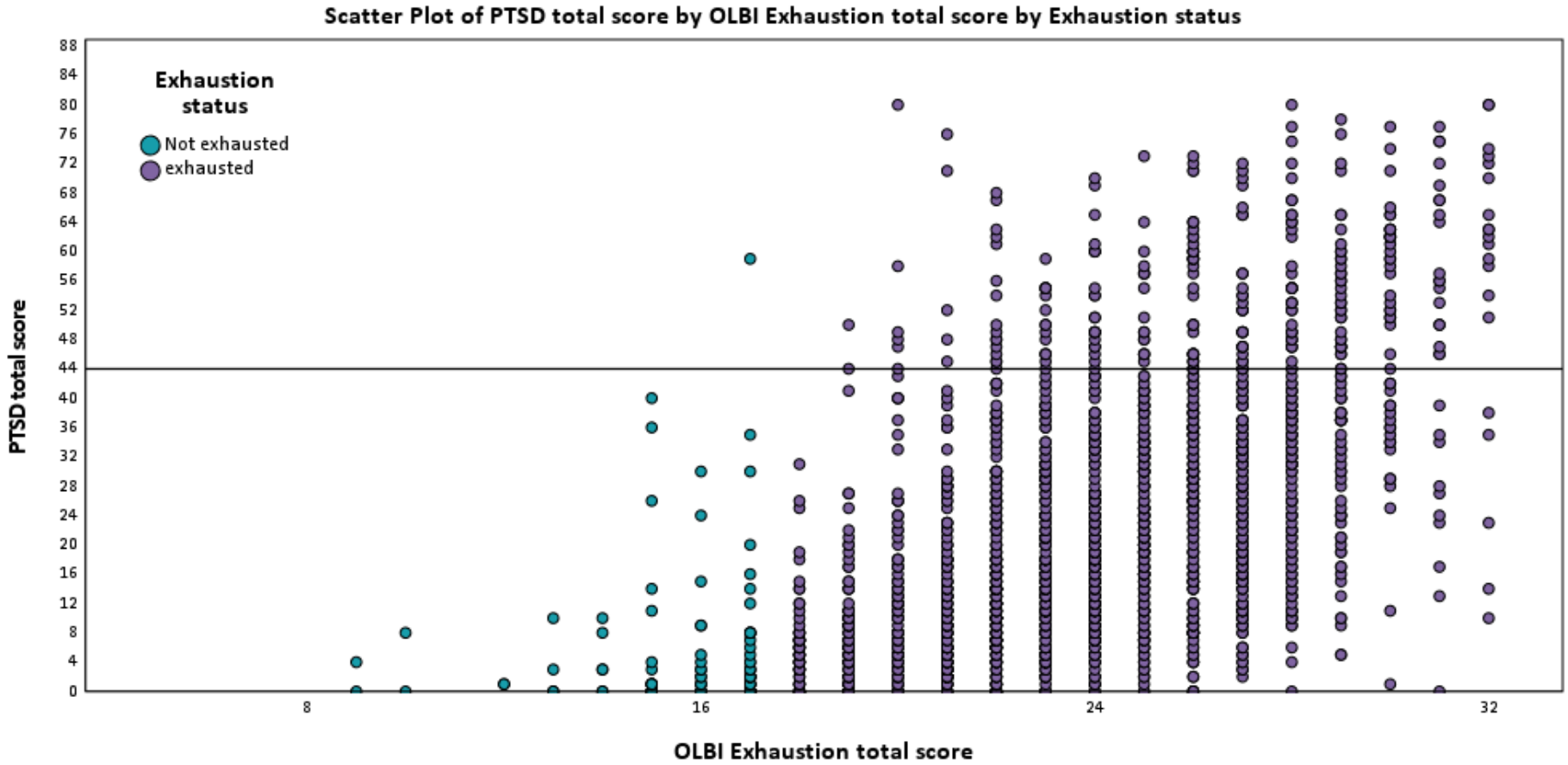

Figure 25. PTSD total score by exhaustion classification.

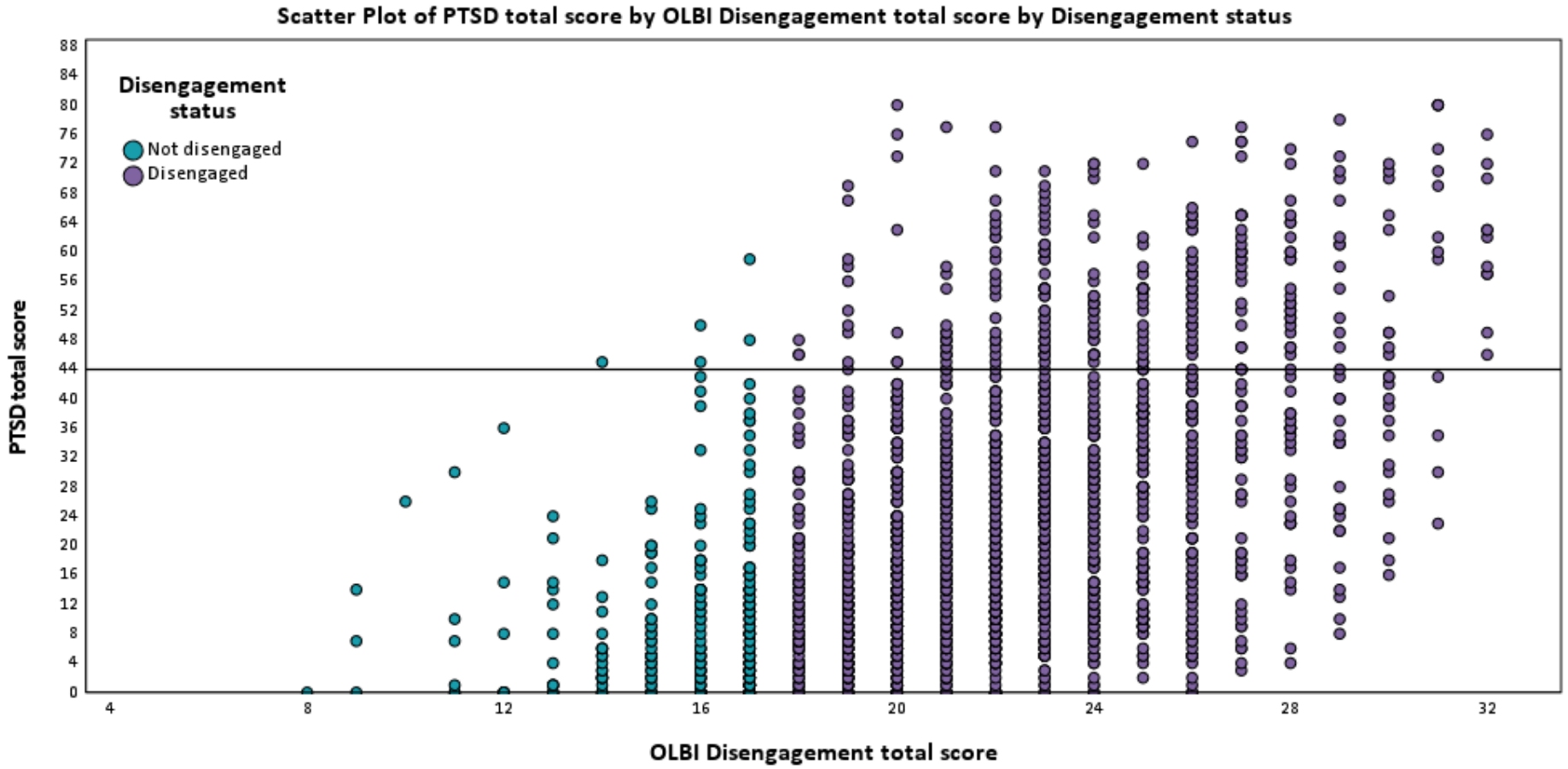

Figure 26. PTSD total score by disengagement classification.

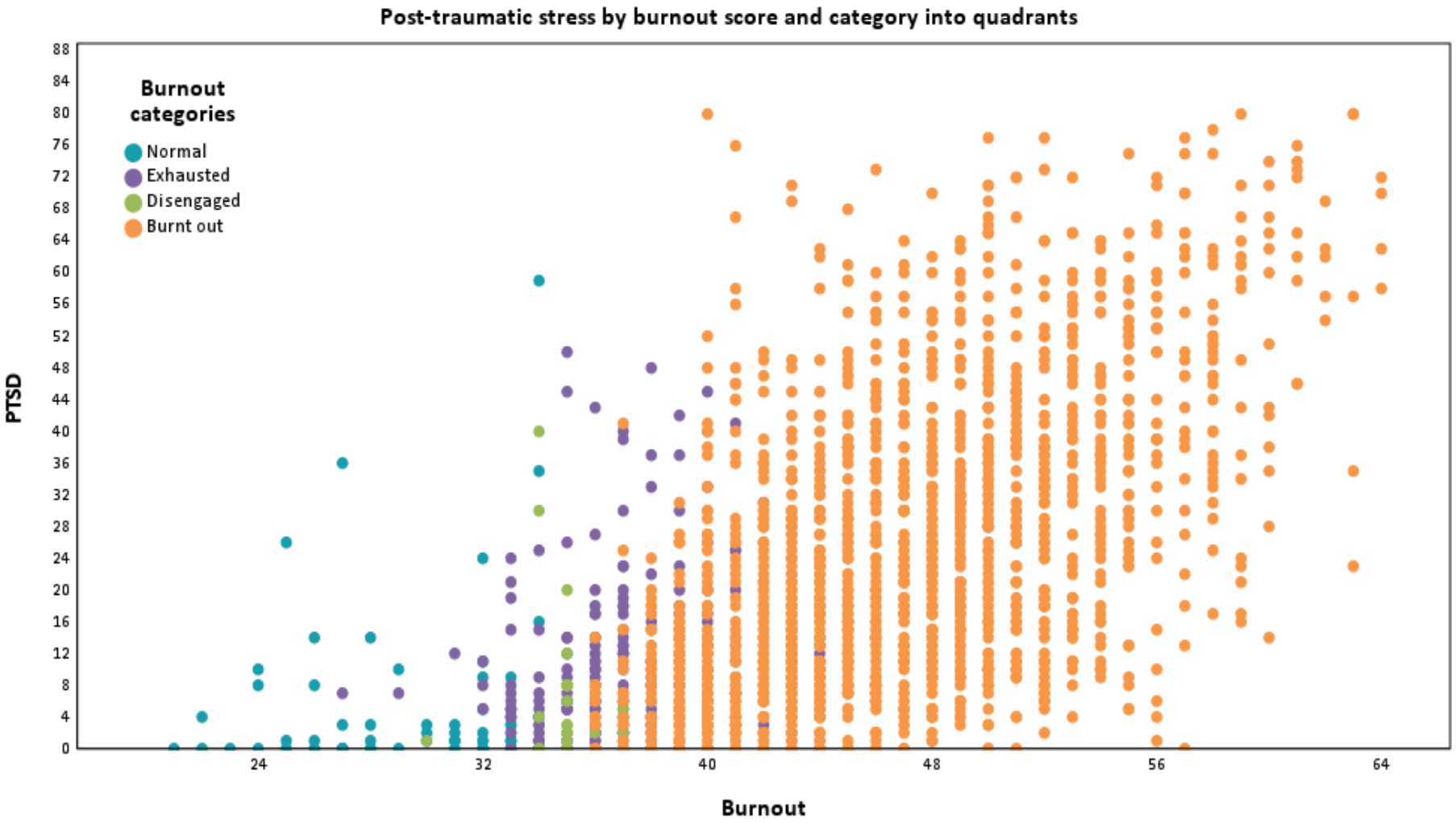

Figure 27. PTSD total score by burnout classification.

Chapter 3: Intention and actions to leave, and incentives to stay

The following chapter focuses on intentions to leave including plans and actions taken to leave one's current position or to exit their profession entirely. It also explores factors associated with intentions to leave across a range of working environment and workforce wellbeing factors.

Time since last changing current position

As noted in Figure 28, there were over 600 nurses and midwives who had less than 10 years' experience. The focus of the remainder of this report is exploring respondents' intentions actions associated with leaving as well as incentives to stay.

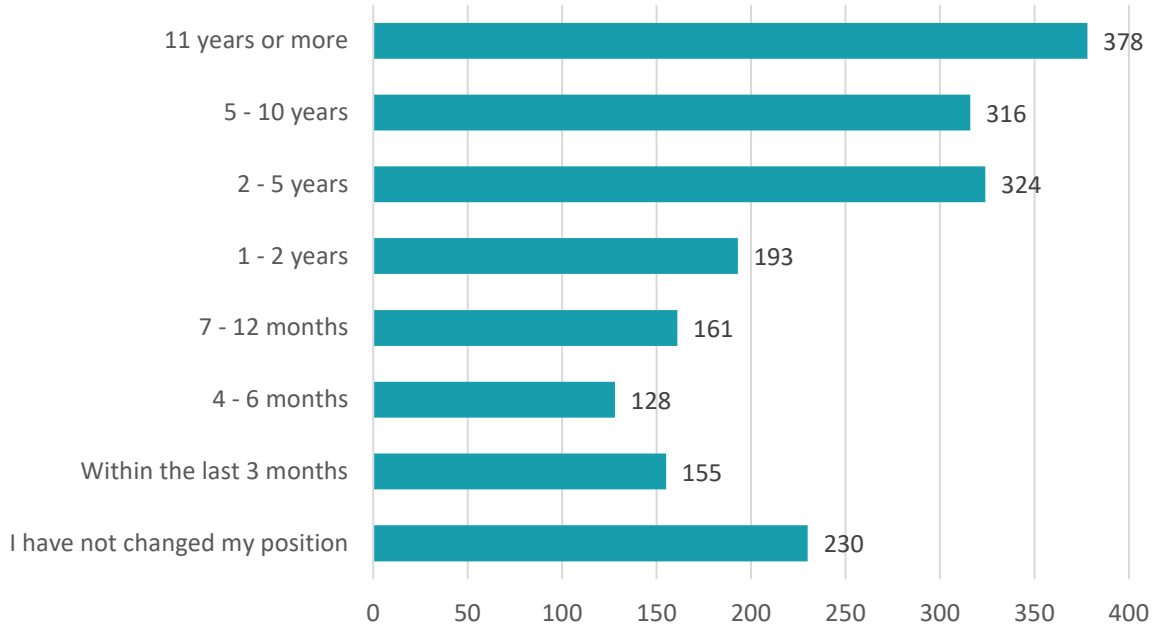

Figure 28. Time since changed last position.

Those who were currently working in COVID-19 vaccination clinic or screening clinic (n = 194) were asked how likely they were to return to the clinical setting (Figure 29). More than half (53.1%) were either not at all likely or only somewhat likely to return to the clinical environment. Here, it is important to note those working COVID-19 settings are potentially highly experienced nurses whose skills and experience would be a loss for current generations of early career nurses and emerging nurse leaders should they not return.

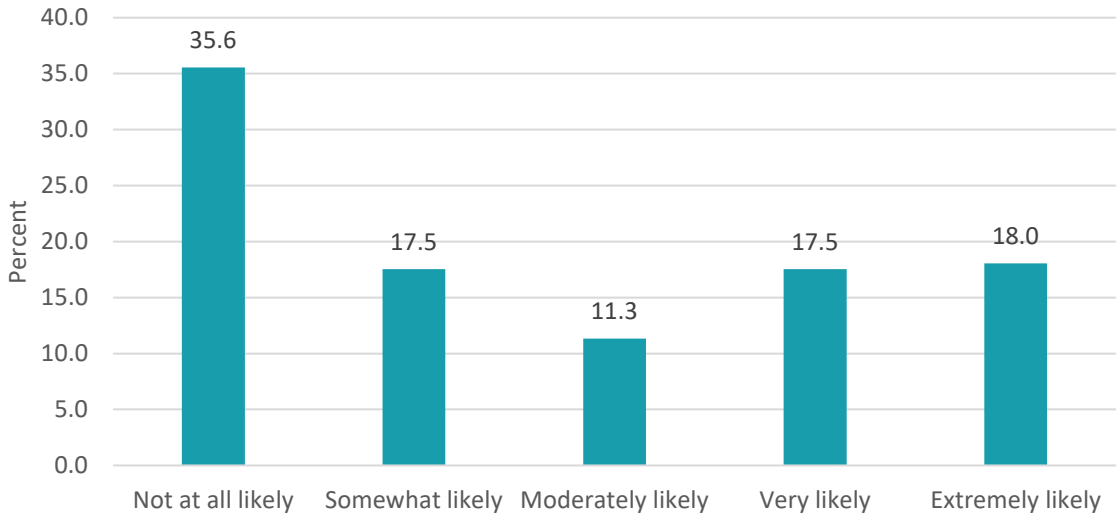

Figure 29. Likelihood to return to clinical work after being in a COVID-19 testing or vaccination clinic.

Intentions to retire

Respondents were asked to indicate whether they planned to retire in the next five years or sooner. Among all respondents (n = 1879), a small proportion (n = 288, 13.3%) intended to retire.

Of those, the majority intended to retire in the next one to five years (n = 249, 86.5%) and a small proportion intend to retire within the next year (n = 39, 15.5%).

Intentions and actions to leave

Respondents were also asked when they intend to leave their current position (Figure 30). While a large proportion had no intentions to leave within the next five years (41.8%), there was a larger proportion who did intend to leave (58.2%). Of those who do intend to leave, 37.4% plan to do so within the next 12 months.

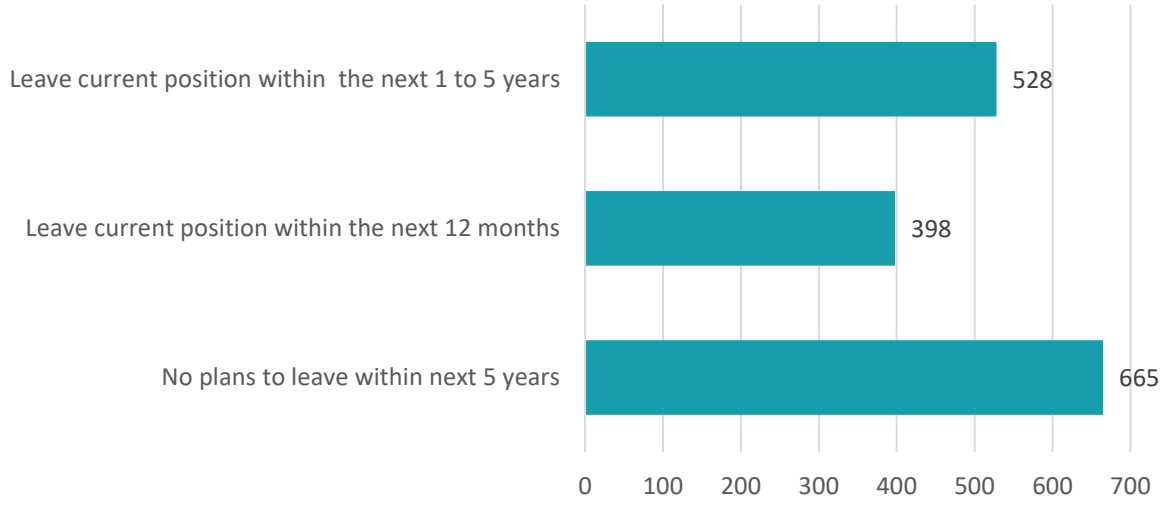

Figure 30. Count of people's intention to leave their current position.

Of those who intend to leave their current position were asked whether they intend to leave their respective profession entirely to work in another field (n = 922). Overall, 22.2% intended to leave the profession, 36.3% did not intend to leave and 41.4% were undecided (Figure 31).

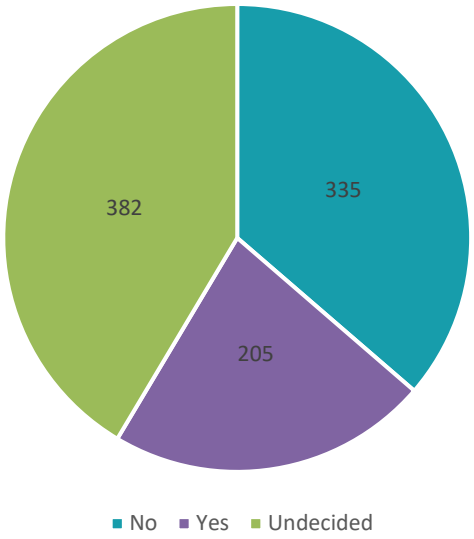

Figure 31. Intention to leave the profession.

Respondents were also asked to indicate whether they had recently applied for another position in the past six months (Table 10). Here, it is argued the action of applying for another position is a stronger indicator of true behaviour than intention alone. Over 400 respondents indicated they had applied for other positions, of which, over 100 respondents had applied for a position in another profession.

Of those who had applied for other positions, the vast majority had applied to between 1 and 5 positions in the past six months. This was consistent whether for another nursing or midwifery position or another profession.

Table 10. Application for another position and count of number of applications in past six months.

	Applied for another nursing or midwifery position	Applied for a position in another profession	Not applied in past 6 months
	324	103	528
Number of applications			
1	117	36	
2	86	26	
3	53	25	
4	19	4	
5	15	4	
6-10	18	3	
11-20	3	2	
>20	4	3	

Incentives to stay

"Ratio's, improved wages, change in management would be the only reasons for me considering to remain in this profession. There is little job satisfaction in my current position."

All respondents were asked to indicate if they are planning on leaving their profession, what would incentivise them to stay (Figure 32). Multiple responses were allowed. In total, 565 people provided a response. The top three responses were better pay (78.9%), better workplace supports (71.5%), and reduced workload (67.1%).

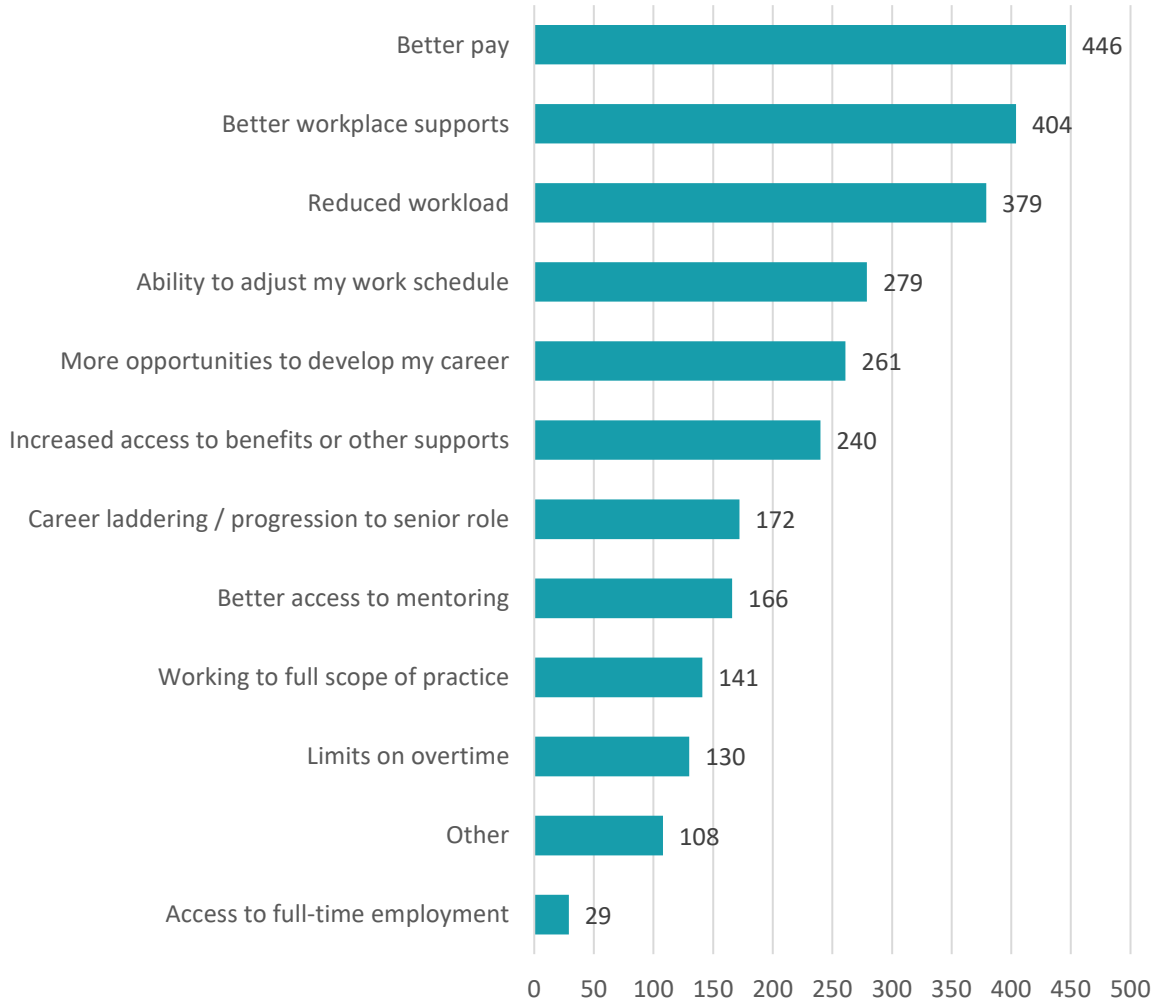

Figure 32. popularity rank of incentives to stay in the profession.

Analysis of intentions to leave by occupational factors

Further analysis was undertaken exploring what, if any, occupational factors were associated with intentions or behaviours of leaving (Table 11). These factors were selected based on features known to be salient contributors to choosing to leave one's position. These factors were: role (patient/client care versus other); public hospital type; worked any double-shifts in past month; burnout status (normal, disengaged, exhausted, or burnt-out), and PTSD status (yes versus no).

The intentions or behaviours of leaving included: intention to leave current position, intention to leave the profession, application for other position, and application for position in other profession. Intention to retire was excluded from all analyses as the primary focus was on those who are not yet at retirement age.

The pattern in the data were clear in that it was factors associated with addressing the emotional drain of work and working in a supportive environment that most significantly contributed to intentions or actions associated with leaving. For example, emotional demand and work-life conflict were the only consistently associated job demand characteristics that were associated with intentions or actions associated with leaving one's position or profession. This was also repeated for nursing/midwifery leadership and supportive environment as job resource factors, and burnout and PTSD as wellbeing factors.

Table 11. Association with leave intention and behaviours and other occupational factors.

	Intention to leave position	Intention to leave profession	Applied for other position	Applied for position in other profession
Work setting				
Primary role	✗	✓	✓	✗
Hospital type	✗	✓	✗	✗
Double-shift status	✗	✗	✓	✗
Concern for staffing levels	✓	✗	✓	✗
Concern for skill mix	✓	✗	✓	✗
Concern for workload	✓	✗	✓	✗
Job demand				
Quantitative demand	✓	✓	✓	✗
Work pace	✓	✓	✓	✗
Emotional demand	✓	✓	✓	✓
Cognitive demand	✓	✗	✓	✗
Role clarity	✓	✗	✓	✗
Work-life conflict	✓	✓	✓	✓
Job resources				
Nursing/ Midwifery Leadership	✓	✓	✓	✓
Resource availability	✓	✓	✓	✗
Supportive environment	✓	✓	✓	✓
Nursing/ Midwifery philosophy of care	✓	✓	✓	✗
Wellbeing				
General health	✓	✗	✓	✓
Burnout	✓	✓	✓	✓
PTSD	✓	✓	✓	✓

Chapter 4: Experiences of the early career nurse and midwife

The following chapter focuses on the experience of early career nurses and midwives in comparison to more senior career nurses and midwives. It explores comparisons between these two groups for a range of workplace and occupational wellbeing factors, along with leave intentions. A summary of the number of early, mid and senior career nurses and midwives who responded is provided in Figure 33. Note here, the early career nurse or midwife was defined as those with one to four years of career experience, mid-career nurses were defined as those with five to nine years of experience and the senior career was defined as those with ten years or more career experience.

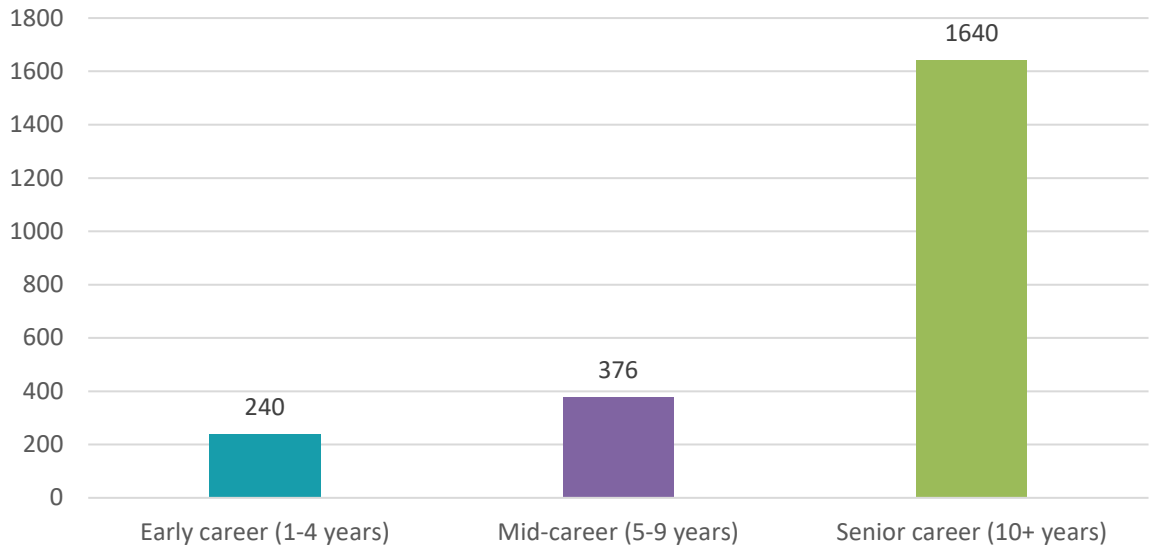

Figure 33. Count of respondents by years of nursing or midwifery career experience.

Abuse and threats

Respondents were asked whether they had experienced abuse or been threatened at work (Figure 34). When compared by career length, early and mid-career respondents were more likely to report experiencing abuse or having been threatened in the past year ($\chi^2(4) = 28.2$, $p<.001$).

"Being abused constantly by patients, other staff and not supported by management."

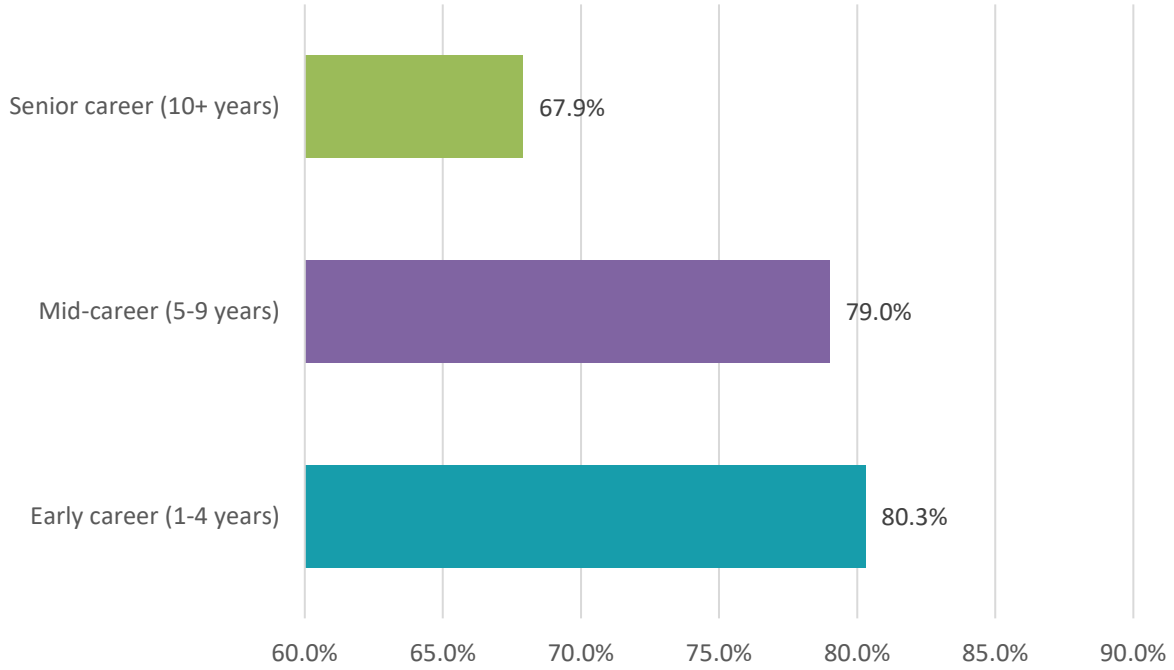

Figure 34. Proportion of threats or abuse at work in past year by career experience.

When explored by frequency of abuse or threats, a significant difference was also observed with early career nurses and midwives reporting receive abuse or threats more frequently ($\chi^2(2) = 9.54$, $p<.001$; Figure 35).

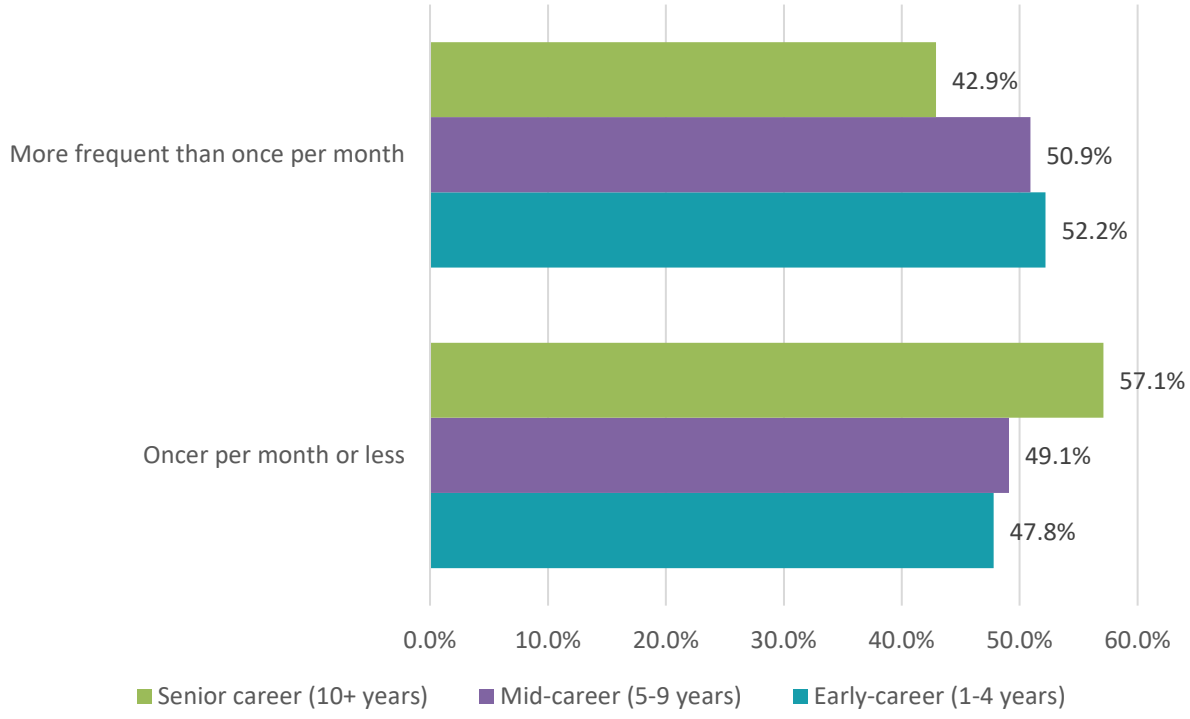

Figure 35. Frequency of respondents being abused while at work by career experience.

Double shifts

Respondents were asked a series of questions related to double shifts. When asked how often respondents were asked to work double-shifts, there was also a significantly higher rate of early career (75.2%) and mid-career nurses and midwives (65.1%) being asked once per week or more (compared with 45.4% for more senior career respondents, $\chi^2(2) = 97.3$, $p<.001$). Indeed, 16.9% of early career respondents were being asked to work a double shift every day or more than once per day. In contrast, approximately one-third of senior career nurses reported never being asked to work a double-shift in the past month (Figure 36).

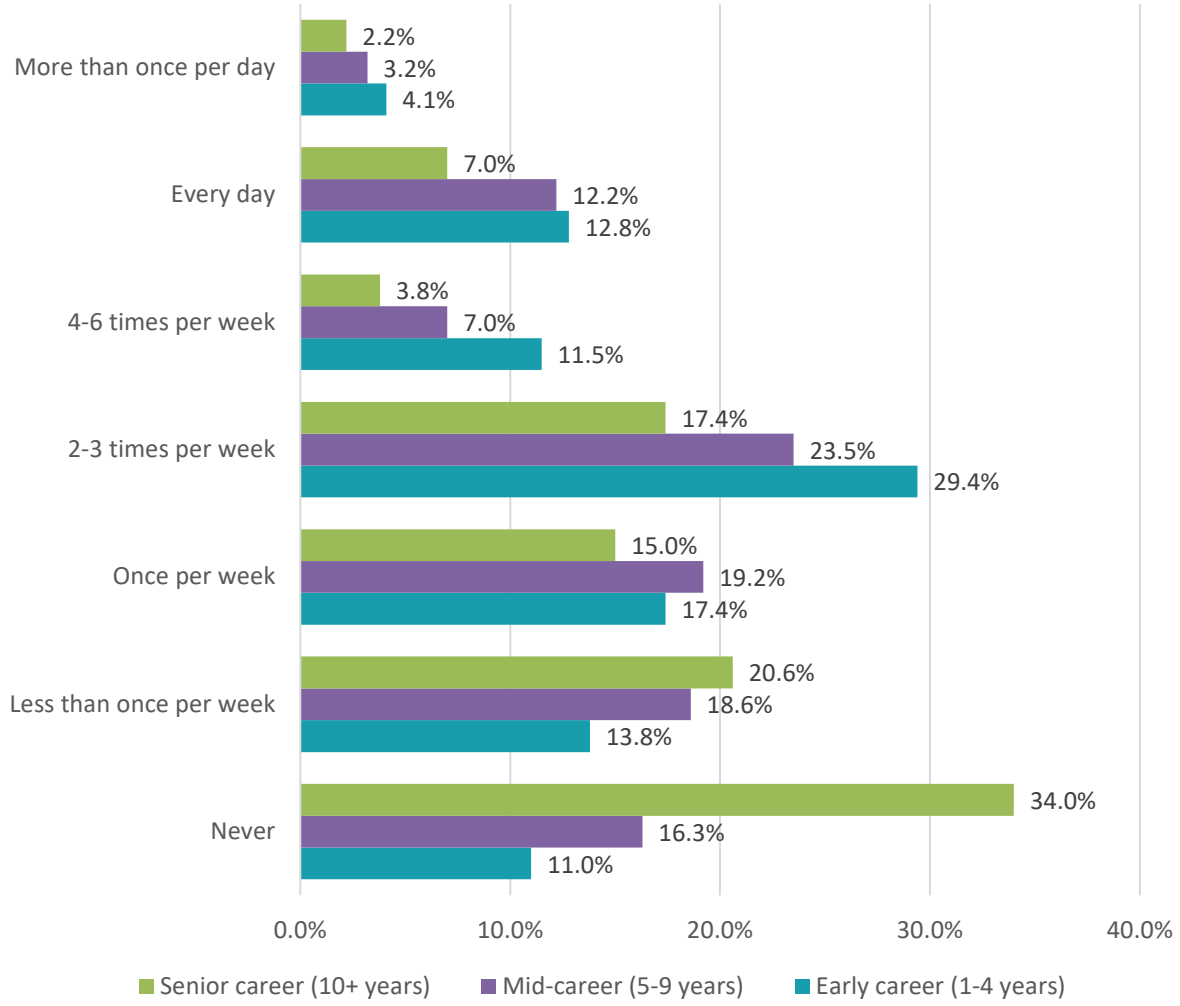

Figure 36. Frequency of being asked to work double-shifts by career experience.

In turn, there was a higher proportion of early career (50.5%) and mid-career respondents (51.6%) reporting to have worked a double-shift in the past month compared with senior career respondents (31.7%, $\chi^2(2) = 66.9$, $p<.001$). However, this did not equate to early career nurses more frequently working more double-shifts in the past month with all career levels reporting to work approximately three double-shits per month on average (early career mean = 3.2, mid-career mean = 2.9, senior career = 3.0, $p=.574$). This pattern suggests there is a smaller proportion of senior career nurses who are working, on average, a greater number of double-shifts each month compared with their more junior colleagues.

Scope of practice

"The amount of deployment to other ward with a complete lack of support. I have been a nurse for 2.5 years and have done 8.5 months' worth of deployment to covid wards + ED with no support. This has been traumatic and has grossly impacted my opportunity to learn as a junior nurse. The total lack of empathy, understanding or care factor from management regarding our wellbeing, huge concerns for patient safety and staff mental health. Zero debriefs."

With respect to scope of practice, a higher proportion of early career respondents reported being asked to work in areas that were outside of their scope as part of the pandemic response (Figure 37). This pattern tended to decrease with career experience. Again, this pattern was significant ($\chi^2(4) = 13.1$, p=.011). Also note there was a small proportion from each cohort who reported this situation was not applicable to their working situation.

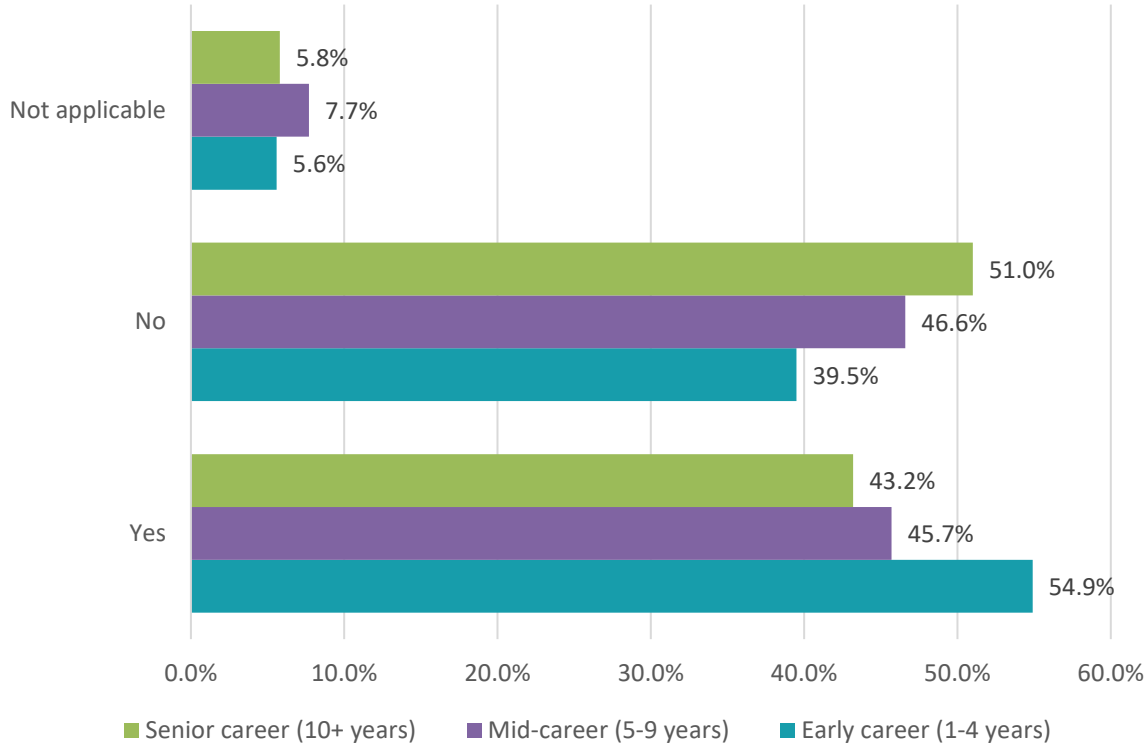

Figure 37. Asked to work outside of scope of practice by career experience.

Work environment concerns

"Not being able to deliver the type of compassionate care to my woman. Being more interested in there[sic] swab results then their pregnancy/birth."

The top three work environment factors based on level of concern were explored with respect to career experience (Figure 38). Results showed early career respondents reported higher levels of concern with respect to staffing levels ($\chi^2(2) = 25.5$, $p<.001$), skill mix ($\chi^2(2) = 23.7$, $p<.001$) and workload ($\chi^2(2) = 6.28$, $p=.043$).

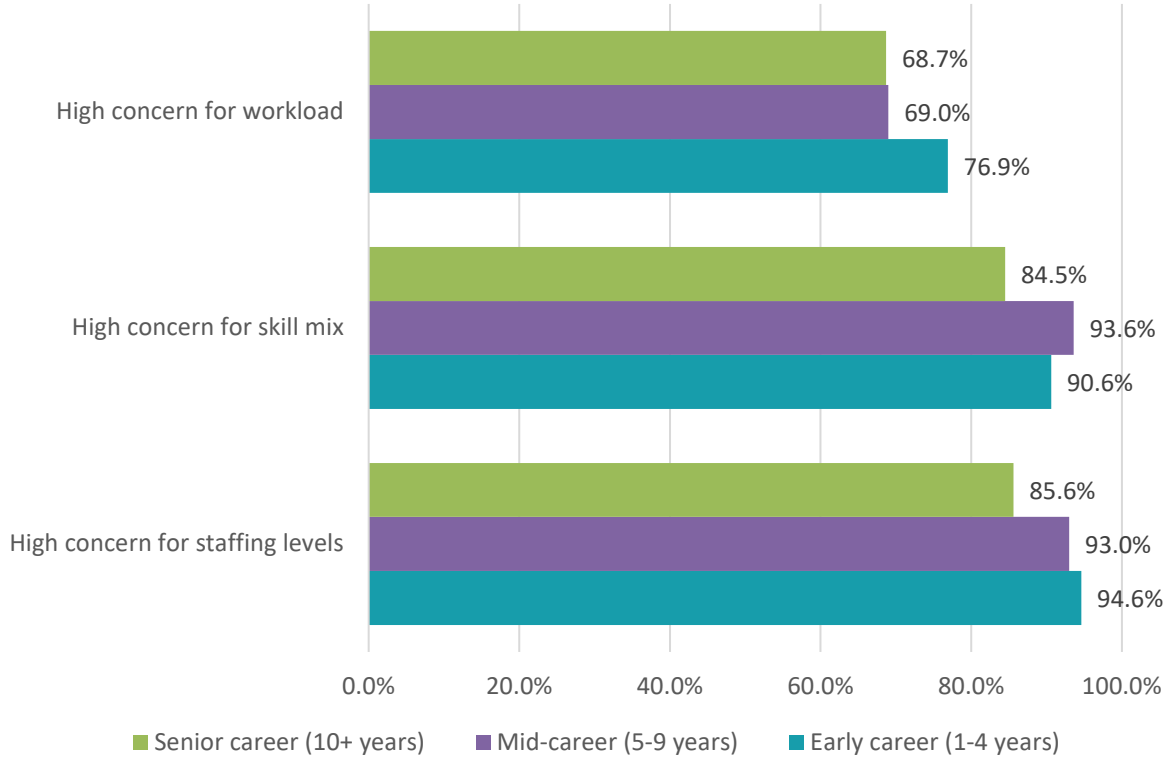

Figure 38. Frequency of high concern for key work environment factors by career experience.

Demand, resources and wellbeing and career experience

"The concern that I cannot keep functioning safely for my patients. Guilt that my care isn't enough for patient safety/adequate care even when giving 120%. My nursing standard has had to reduce to withstand the demands of workload/patient turnover."

Measures of job demand, job resources and wellbeing were explored across the continuum. High job demand, in the absence of sufficient job resources has been demonstrated to contribute to poor occupational wellbeing and general health. It is important to note here measures use different scales

so are not directly comparable with respect to values like mean and mean difference. F-statistics and p values provide an indication of the size of the difference and whether it is statistically significant or not.

Across nearly all measures, early career nurses and midwives reported high levels of demand, lower levels of resource availability and poorer wellbeing outcomes. For job demand, the largest differences were noted for work-life conflict and work pace followed by emotional demand and quantitative demand. Here, only role clarity did not show a significant difference.

For job resources, nursing or midwifery leadership, resource adequacy and philosophy of care all reported a modest U-shaped distribution, whereby mid-career respondents tended to rate availability of resources lowest, followed by early career and senior career respondents. Here, the only factor that did not show a significant difference was supportive environment. It is also important to note here values below 2.5 suggest an overall tendency to disagree the resources are present in the working environment. To this end, it was only philosophy of care that achieved this level or higher. Resource adequacy was especially low.

For wellbeing measures, both exhaustion and disengagement were used to measure burnout. Here mid-career respondents had highest levels of disengagement, and early career and mid-career respondents had the highest levels of exhaustion. Early and mid-career respondents tended to report poorer assessment of their general health and had higher levels of PTSD-like symptoms, compared to their senior career colleagues.

Table 12. Occupational factors by career experience.

		N	Mean	*F*	*p*	Mean distribution
Job demand						
Quantitative demand	Early career	193	65.2	8.7	<.001	
	Mid-career	294	63.5			
	Senior career	1419	60.5			
Work pace	Early career	193	88.4	29.0	<.001	
	Mid-career	293	87.3			
	Senior career	1409	80.6			
Cognitive demand	Early career	192	84.1	5.2	0.006	
	Mid-career	294	87.0			
	Senior career	1417	83.7			
Emotional demand	Early career	191	77.1	11.5	<.001	
	Mid-career	292	78.7			
	Senior career	1414	73.5			
Role clarity	Early career	192	67.7	1.4	0.242	
	Mid-career	294	66.2			
	Senior career	1408	68.3			
Work-life conflict	Early career	192	75.4	24.6	<.001	
	Mid-career	292	75.7			
	Senior career	1407	65.5			
Job resources						
Nursing/Midwifery leadership	Early career	147	2.23	13.6	<.001	
	Mid-career	242	2.10			
	Senior career	1206	2.36			
Adequate resources	Early career	194	1.71	13.9	<.001	
	Mid-career	302	1.61			
	Senior career	1409	1.83			
Supportive environment	Early career	193	2.24	1.8	0.170	
	Mid-career	298	2.14			
	Senior career	1387	2.23			
Nursing/Midwifery philosophy of care	Early career	137	2.63	6.4	0.002	
	Mid-career	217	2.42			
	Senior career	1106	2.61			
Burnout and Wellbeing						
Disengagement	Early career	191	22.0	10.0	<.001	
	Mid-career	292	22.5			
	Senior career	1401	21.4			
Exhaustion	Early career	191	24.8	23.4	<.001	
	Mid-career	292	24.6			
	Senior career	1403	23.4			
General health	Early career	191	40.2	6.6	0.001	
	Mid-career	294	41.2			
	Senior career	1420	45.3			
PTSD	Early career	147	26.7	14.2	<.001	
	Mid-career	242	27.0			
	Senior career	1386	21.7			

Intentions to leave by career experience

"I have learnt that I can pretty much do anything that has been asked of me and do it well, so much so that it is enabling me to apply for jobs that I never would have before."

Intentions and actions taken to leave their current role and profession were analysed by career experience (Figure 39). Here, early career respondents showed similar pattern of responses to senior career respondents. However, it is important to note here these differences were not statistically significant (p = .207) and, overall, there was no apparent trend to the results based on career experience.

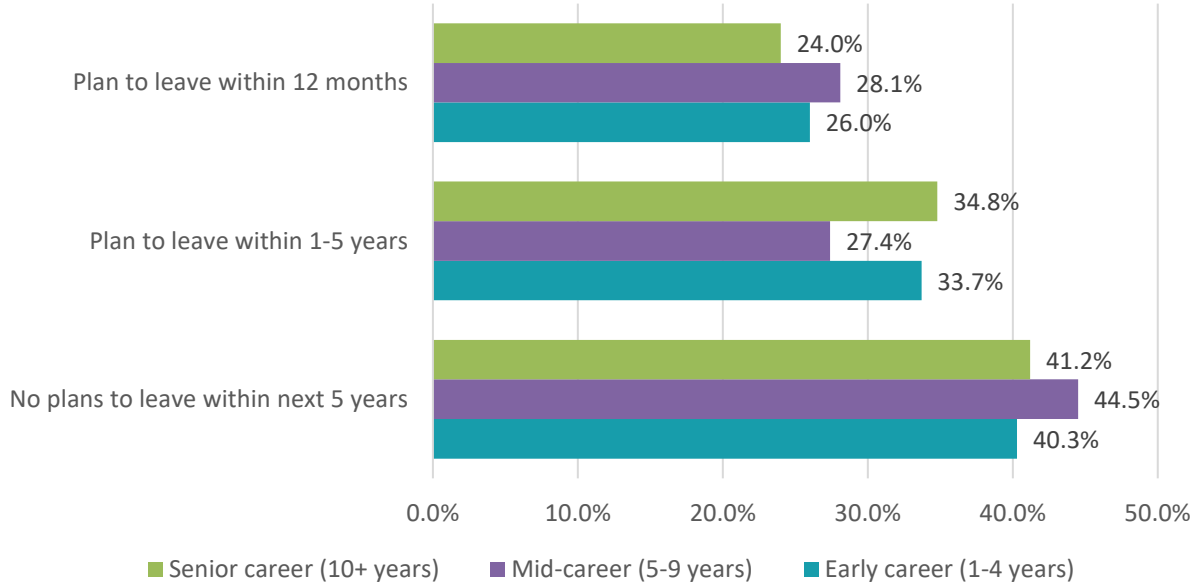

Figure 39. Intention to leave current position by career experience.

When asked whether they planned to leave the profession, a moderately higher proportion of mid-career respondents said 'yes' compared with early and senior career respondents (Figure 40). There was a higher proportion of early career respondents reporting they had no intention of leaving the profession. The overall pattern of results was significant ($\chi^2(4) = 12.0$, p= .017).

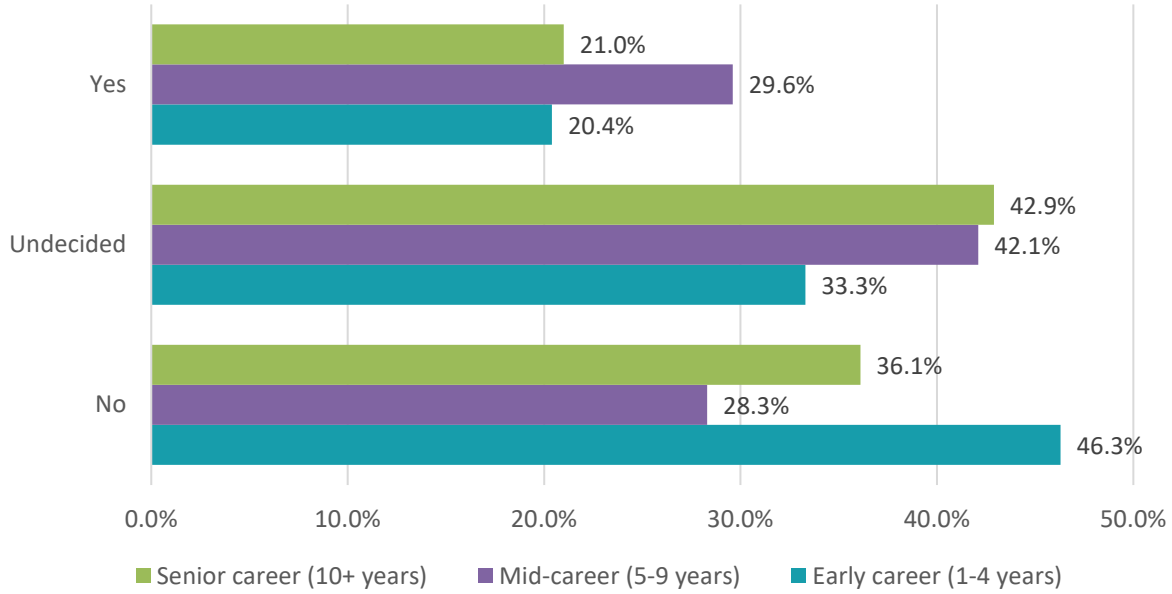

Figure 40. Intention to leave the profession by career experience.

Respondents were asked whether they had actively applied for other job positions in either another nursing or midwifery position or outside of the profession entirely (Figure 41). A higher proportion of early career nurses and midwives indicated they had applied for other nursing or midwifery positions ($\chi^2(2) = 8.51$, $p = .014$). There was a small proportion of respondents who indicate they had applied for positions outside of the professions (4.5%). Results suggest this tended to be those in their early or mid-career stage however, this pattern was not significant ($\chi^2(2) = 4.66$, $p = .097$).

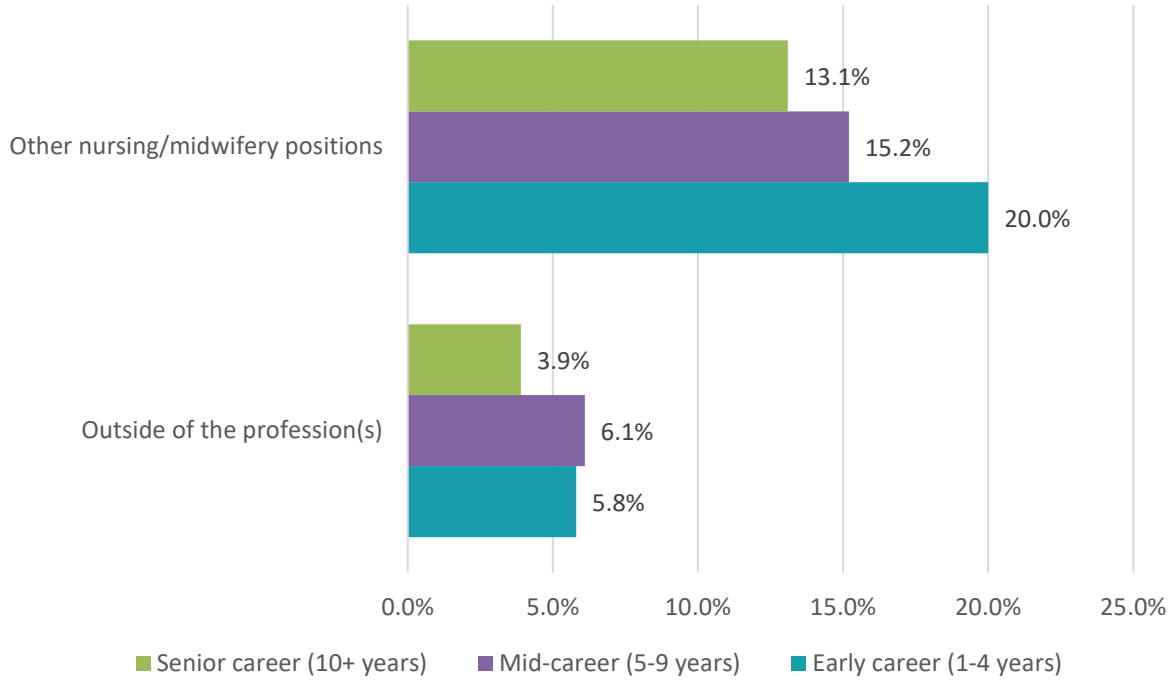

Figure 41. Applying for other positions in past six months by career experience.

Chapter 5: assessment of policies procedures and areas of concern

The following chapter focuses on people's perceptions of their organisation's policies and procedures in place to manage COVID-19, as well as their level of concern regarding organisational and personal factors that may have been adversely impacted or exacerbated as a result of COVID-19.

Workplace policies and procedures

Respondents were asked to rate their organisation across a range of areas related to policies and procedures of the organisation. Ratings were scored on a six-point scale from 'very poor' through to 'excellent'. Respondents were also able to indicate if they did not know or if they thought it was not applicable to their situation or setting. For the purposes of analysis and, given for each area there were very few respondents who indicated 'not applicable', those who indicated 'not applicable' were removed from analysis and reporting.

Nearly all areas were rated as fair, poor or very poor by more than 50% of respondents. Results showed the top five areas where organisational policies and procedures were frequently rated fair, poor or very poor included:

- Ability to deploy more staff if required (86.7%)
- Access to alternative accommodation to stay between shifts (80.4%)
- Debriefing processes (79.7%)
- Managing staff abuse (73.1%)
- Access to workplace psychological or mental health support (69.8%)

There were also some policies and procedures a small proportion of respondents did not know about. These included access to alternative accommodation to stay between shifts (12.4%), support for new graduates and inexperienced staff (7.3%) and use of other methods to reduce face-to-face contact with patients or clients (6.6%). All other areas had few (<5%) of respondents who did not know about a policy or procedure.

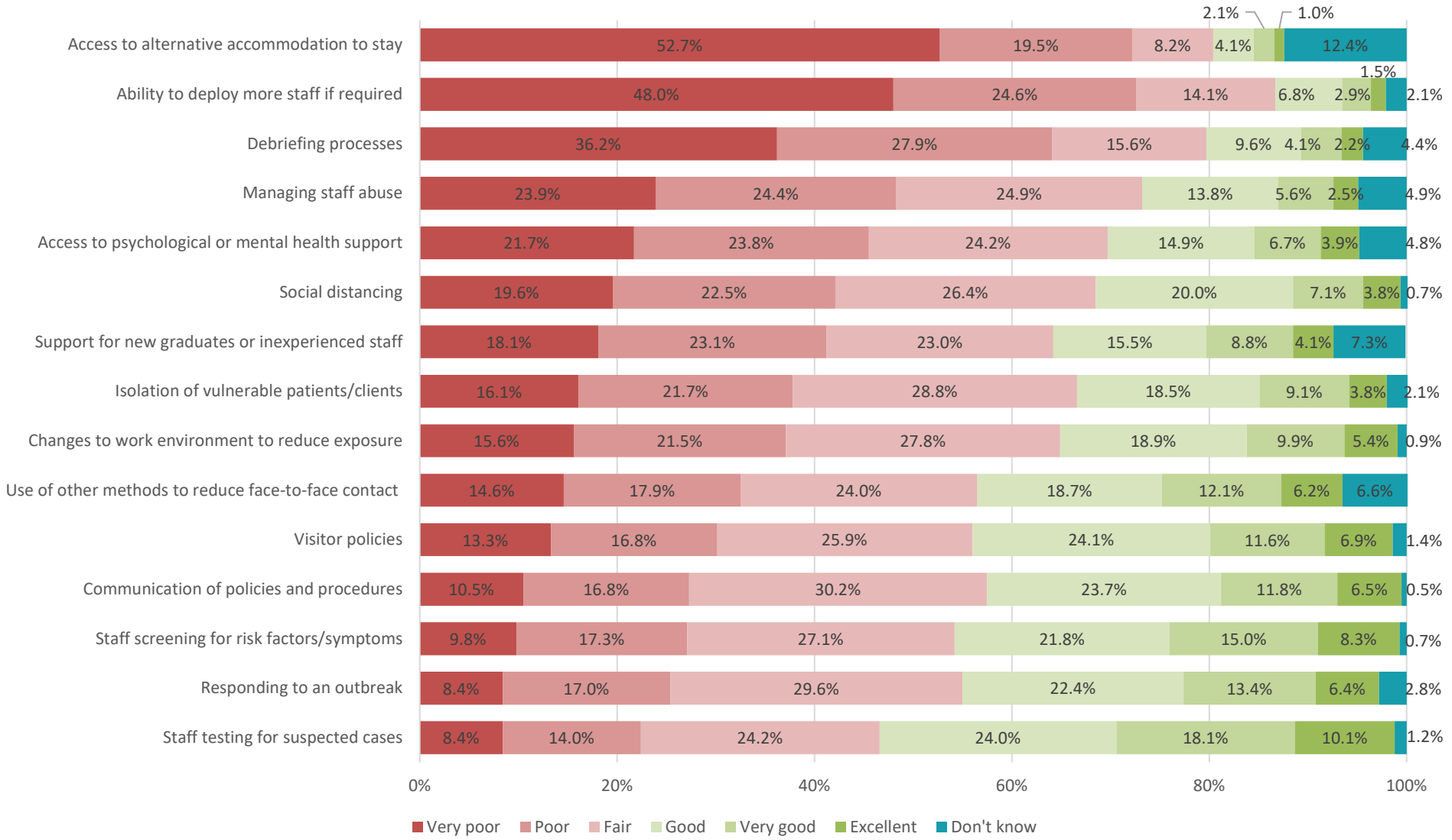

Figure 42. Overall rating of workplace policies and procedures.

Areas of concern for nurses and midwives

Respondents were also asked to rate their level of concern across a range of statements related to the working environment or factors outside of work. Ratings were scored on a six-point scale from 'not at all concerned' through to 'extremely concerned'.

For seven of the factors respondents were also asked to reflect on, and rate, their level of concern at the height of the 2021 lockdown in July. These factors were selected as they were known from a previous Australian survey conducted in August to October 2020 to have been the most highly rated areas of concern. These factors were:

- My physical health
- My psychological wellbeing
- Keeping my family or people I live with safe
- Managing my workload
- Staffing levels
- Skill mix
- Access to and frequency of taking breaks

The pattern of results showed staffing levels and skill mix were the factors of most concern to respondents, followed by managing workload and access to and frequency of taking breaks. Personal factors were not rated at as high levels of concern based on frequency response analysis.

Further analysis using paired samples t-tests to assess differences in means indicated across five of the seven factors, the perceptions of concerns had improved from lockdown to the time of completing the survey. This pattern is observed in the frequency response analysis also. These changes were significant, yet modest.

For staffing levels and skill mix, these perceptions of concern for these factors had significantly worsened. Relatively, they also represented the largest changes from lockdown to at the time of completing the survey.

For seven other organisational and personal factors, respondents were asked to reflect on at the time of completing the survey only. This was in the interest of response burden. Results showed the factors that respondents rated most highly with respect to being moderately, very or extremely concerning were:

- The welfare of my colleagues (68.6%)
- Having access to paid leave (61.4%)
- Managing the personal needs of my family / the people I live with (53.9%)

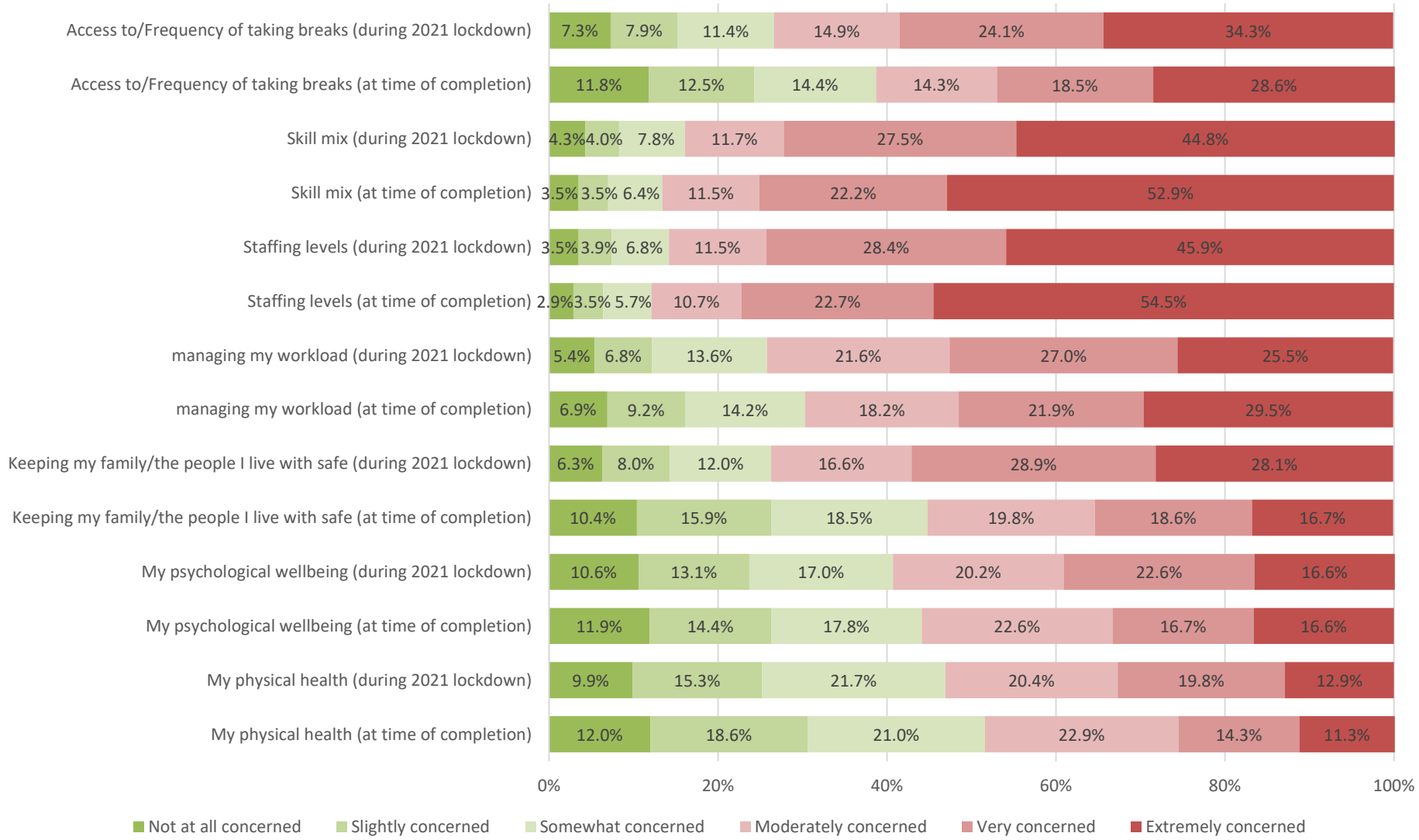

Figure 43. Changes in concern areas from lockdown (Jul-Aug '21) to time of survey completion (Jul-Sep '22).

Figure 44. Assessment of other organisational and personal concerns at time of survey completion (Jul-Sep '22).

Table 13. Changes in specific concern areas from lockdown to time of survey completion.

Concern areas	Timepoint	Mean	Mean difference	t	*p*	change
Physical health (n = 2177)	Lockdown	3.63	-0.20	-7.5	<.001	↓
	Survey completion	3.43				
Psychological wellbeing (n = 2167)	Lockdown	3.81	-0.14	-5.2	<.001	↓
	Survey completion	3.68				
Keeping family safe (n = 2164)	Lockdown	4.38	-0.67	-24.3	.002	↓
	Survey completion	3.71				
Managing workload (n = 2155)	Lockdown	4.36	-0.08	-3.0	<.001	↓
	Survey completion	4.27				
Staffing levels (n = 2151)	Lockdown	4.96	0.15	6.1	<.001	↑
	Survey completion	5.10				
Skill mix (n = 2159)	Lockdown	4.89	0.15	6.1	<.001	↑
	Survey completion	5.04				
Taking breaks (n = 2154)	Lockdown	4.44	-0.43	-14.8	<.001	↓
	Survey completion	4.01				

Chapter 6: Comparison between 2020 and 2022

"I started my new grad in April 2020. I only know nursing in a public hospital during a pandemic. I moved from a base hospital to a referral hospital in that time and have worked in 5 different wards. The past year has been unbearable, unsupported by management. I've cried nearly every shift on the way home. I dreaded going to each shift. I resigned and no one cared."

The following chapter focuses on comparisons between key measures taken in the 2020 survey and the 2022 survey, with a particular focus on key differences between job demands, job resources and burnout.

Note, the 2020 data were cleaned as part of the initial research however, this study included respondents from outside the public healthcare sector. So, to make for a fair comparison between the two datasets, only those who indicated they worked in a public hospital, specialist women's and/or children's hospital, community healthcare, outpatient service or mental health service were included. This was based on the assumption the vast majority of respondents from these work settings would be based in the public healthcare sector, not a private setting. After removal of all other respondents, the final number included in the 2020 dataset was 1,811 respondents.

Demographic comparison

The mean age of respondents was 49.5 years in 2020 versus 46.5 years in 2022. The distribution of data for both years showed a similar shape (Figure 45). Similar results were observed for gender also (Figure 46). Most respondents across both years were female. This difference was not significant.

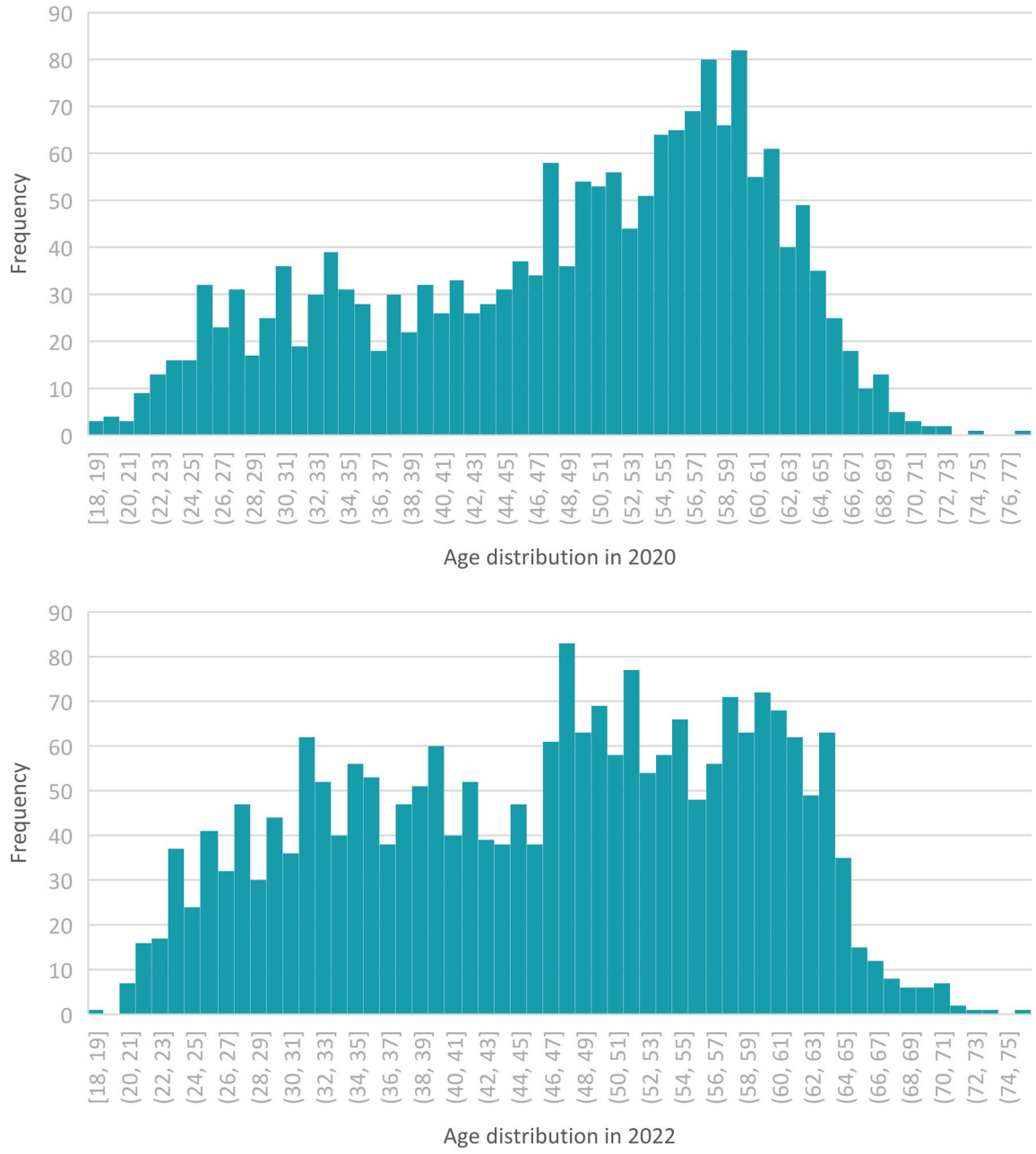

Figure 45. Distribution of age ranges in 2020 (top) and 2022 (bottom).

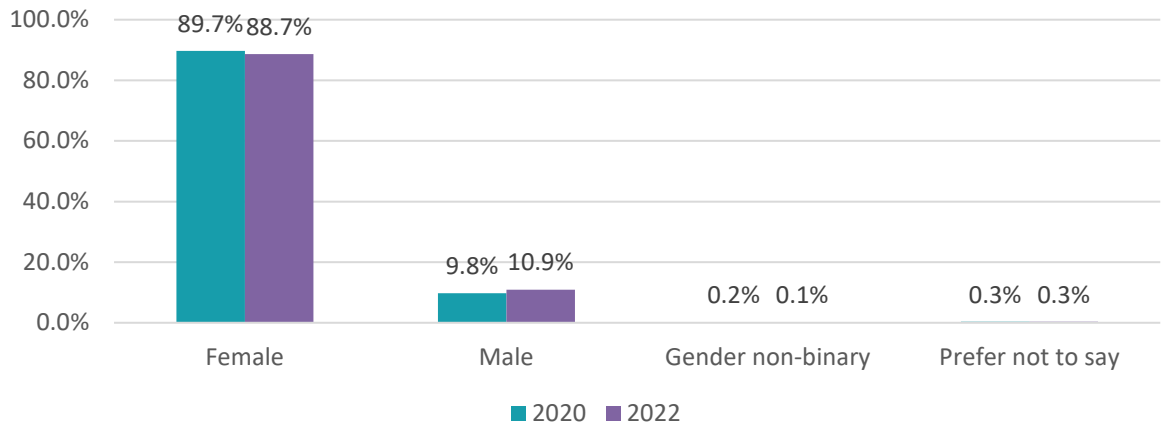

Figure 46. Gender distribution by year.

Job class and job role were also explored to see if there were difference patterns in the responses. The distribution of job class categories was similar across both years however, a higher proportion of midwives and dual registered individuals responded in the 2022 survey compared to 2020 (Figure 47). There was a similar proportion of respondents employed in patient or client centred care positions versus other positions within the public healthcare system (Figure 48).

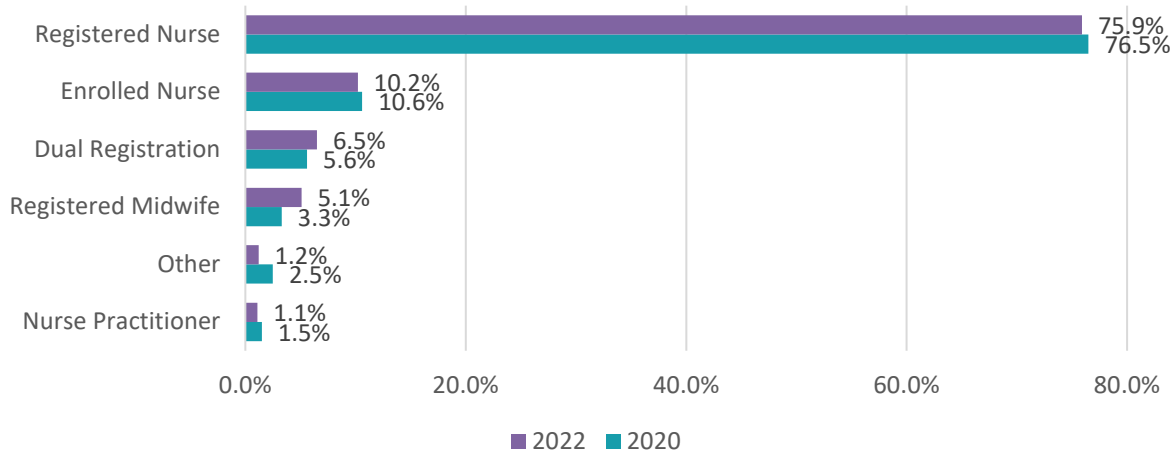

Figure 47. Job class by year.

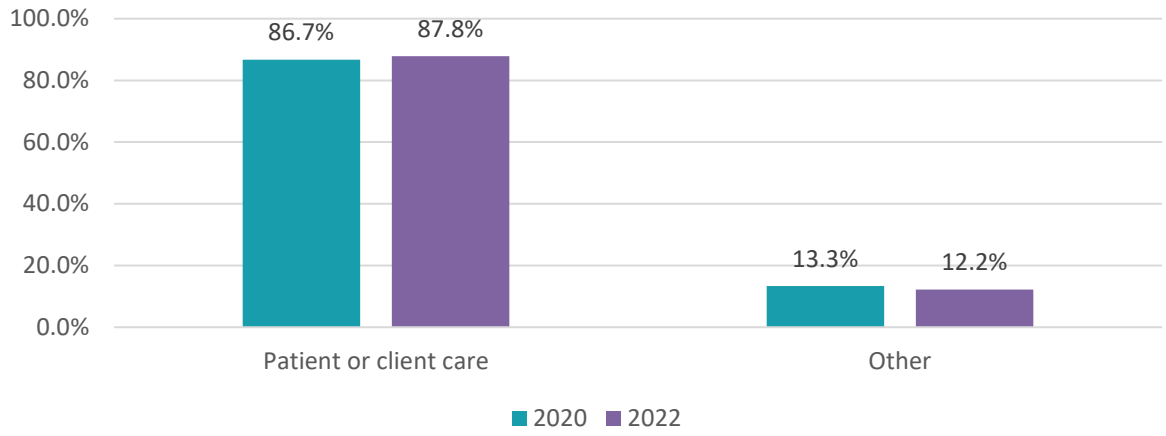

Figure 48. Job role by year.

Scope of practice and redeployment

Scope of practice and redeployment was also compared between 2020 and 2022. Results showed there was a significantly higher proportion of respondents who were asked to work outside of scope during the 2022 survey (p<.001) and significant reduction in respondents reporting they received education and training when this occurred (p<.001).

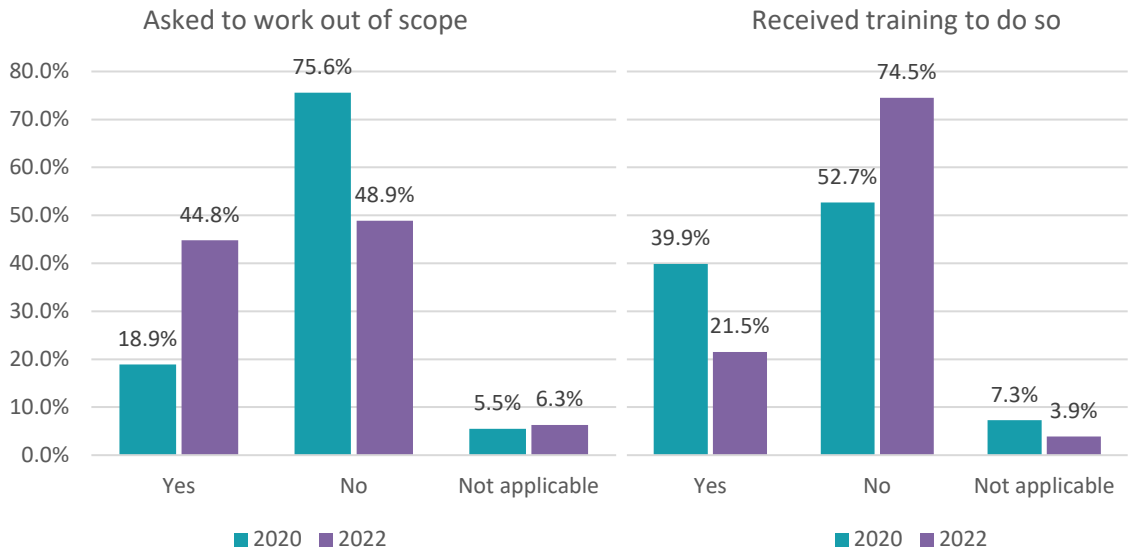

Figure 49. Asked to work outside of scope (left) and if training was provided (right).

Similar findings were observed for redeployment (Figure 50). There was a significantly higher proportion of respondents reporting to have been redeployed to a different area, hospital or specialty ward as part of the pandemic response (p<.001) and a smaller proportion of respondents reporting to have received appropriate education and training when this occurred (p<.001).

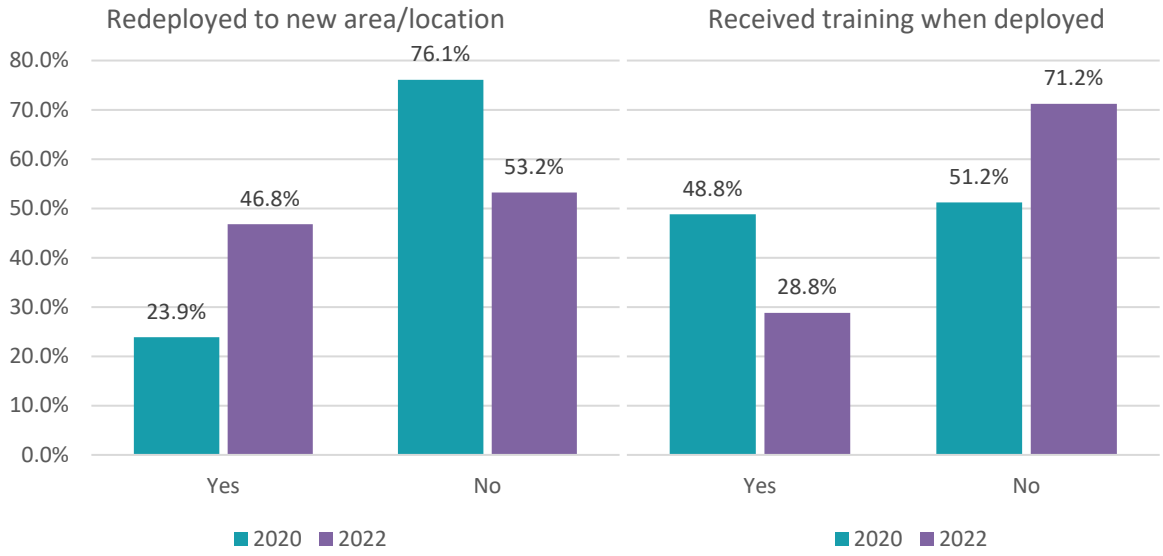

Figure 50. Redeployed to a new area or location (left) and received training when redeployed (right).

Work demand, resources and occupational wellbeing comparison

Measures of job demands, job resources and burnout were compared across the years to see if there had been significant changes in any of the measures and if so, in which direction. Results showed there had been significant differences across all measures, and across all measures the results were worse in 2022 compared with 2020.

Table 14. Measures of work demand, resources and occupational wellbeing by year.

	Year	N	Mean	T	*p*	Direction
Job demand						
Quantitative demand	2022	1945	61.4	13.7	<.001	↑
	2020	1294	52.5			
Work pace	2022	1932	82.4	14.6	<.001	↑
	2020	1277	72.0			
Cognitive demand	2022	1940	84.2	10.3	<.001	↑
	2020	1296	80.0			
Emotional demand	2022	1932	74.6	9.5	<.001	↑
	2020	1285	68.1			
Role clarity	2022	1930	67.8	3.1	<.001	↓
	2020	1286	70.0			
Work-life conflict	2022	1928	68.0	14.8	<.001	↑
	2020	1268	52.6			
Job resources						
Nursing/Midwifery leadership	2022	1619	2.32	10.5	<.001	↓
	2020	1330	2.59			
Adequate resources	2022	1941	1.78	23.0	<.001	↓
	2020	1312	2.34			
Supportive environment	2022	1912	2.22	13.4	<.001	↓
	2020	1304	2.59			
Nursing/Midwifery philosophy of care	2022	1485	2.58	11.7	<.001	↓
	2020	1300	2.88			
Burnout and Wellbeing						
Disengagement	2022	1917	2.70	21.6	<.001	↑
	2020	1238	2.32			
Exhaustion	2022	1919	2.96	20.3	<.001	↑
	2020	1241	2.62			

Notes. Direction of change arrows are reported based on change of mean scores from 2020 to 2022. Red arrow indicates poorer mean scores in 2022 relative to 2020.

Discussion

This report has provided an in-depth analysis of the working environment and occupational wellbeing and indices of mental health among New South Wales nurses and midwives working in the public health system. The report showed the nursing and midwifery workforce is working through a very challenging time and, because of this, their mental health is at risk, along with their intentions to stay in their current role or their profession.

Chapter 1 provided an overview of the workforce who completed the survey along with a summary assessment across a range of workplace environment factors related to supporting the workforce during COVID-19. Results indicated there was great variability with respect to organisational support for staff. The pattern of results suggested more tangible, easily addressed solutions were achieved (e.g. PPE access), whereas those factors that require greater time or investment by an organisation were not as well rated (e.g. communication to staff). This may be as a result of overall lack of resources across the system has contributed to more time or resource intensive interventions being overlooked or where the immediate benefit of action (or risk of not taking action) are not apparent.

The results also clearly support a workforce that is feeling overworked. The majority of nurses and midwives working in the public health system reported their workload was too high, their hours were higher than they'd like them to be, and they would like their hours to reduce after the pandemic. Given Australia has one of the highest rates of graduate nurses per capita, the issue here is not so much related to supply, but rather retention.[23] Hence, retention strategies are required which are underpinned by interventions that target reasons for wanting to leave the workforce. In addition, it is important to consider other factors that contribute to workload issues that are then exacerbated a lack of staff. For example, the rapidly changing environment created by the COVID-19 pandemic translated into ever-changing policies and practices, fear and disruption to service delivery and workflow. These factors may increase the perception of work demand among employees because their systems and processes are being continually disrupted, which then leads to a desire for more resources (i.e. staff) to assist them as individuals or as a team to manage the changing situation.

Chapter 2 provided a brief analysis of post-traumatic stress, as measured using the PCL-5, among nurses and midwives working in public health settings in New South Wales. Results indicated while the majority did not have post-traumatic stress at a clinical level, there was still a sizeable proportion (approximately 15 in every 100) who did.

There were a number of organisational factors that contributed to this, in particular, concerns regarding workload, skill mix and staffing levels, as well as job demand and lack of availability of job resources important to the working environment for nurses and midwives. The most salient corollary with post-traumatic stress was burnout. Here, the results showed the higher the burnout, the higher the proportion of people with post-traumatic stress scores above the clinical cut-off. People with post-traumatic stress were also more likely to have poorer quality of life.

It is important to note PTSD is psychological diagnosis under the Diagnostic and Statistical Manual version 5 (DSM-V) and requires a qualified health practitioner to properly diagnose a person. While this research used a validated instrument to explore the presence of symptoms of PTSD among the nursing and midwifery cohort, it is not valid to conclude these people have PTSD; rather they have expressed symptoms of PTSD at a level that, according to the publisher of the instrument, are

comparable to others who have been diagnosed with PTSD. It is also important to note this study did not measure domain A (exposure to a sufficiently traumatic event). This was assumed among the cohort based on their exposure at work during the pandemic.

Chapter 3 provided a brief analysis of intentions and actions taken associated with leaving their current role or leaving their profession, among nurses and midwives working in public health settings in New South Wales. Results indicated over half of respondents intend to leave their current position within the next five years. Of those, more than 20% plan to leave the profession entirely and 40% were undecided. There is also a small proportion who are intending on retiring in the next five years. When looking at factors contributing to intentions to leave or actions taken associated with leaving, it is the more emotionally salient cues in the nursing environment, as well as factors associated with leadership. To this end, it is important the healthcare system and services give consideration to supporting stronger representation (and visibility of representation) of nursing or midwifery leadership as well as understanding what is influencing factors such as burnout in order to identify appropriate interventions to reduce currently very high levels. Furthermore, it is important that decision-makers pay close attention to those factors most frequently identified as incentives to continue working in the public healthcare system. Here, improved pay, better workplace support and reduced workload were identified as the top three key workforce retention measures to draw upon.

Chapter 4 provided a brief analysis and comparison of early career nurses and midwives compared with mid-career and senior career nurses and midwives, among those working in public health settings in New South Wales. Here, early career was defined as those with 1-4 years of work experience, and mid-career was defined as those with 5-9 years of work experience. Those with less than one year (i.e. new graduates and Transition to Professional Practice Program (TPPP) students) and undergraduate respondents were excluded for two reasons – there were far fewer of these respondents compared with all other groups and their experience may be skewed based on the increased level of support provided at this very early stage of their career.

Overall, early career respondents were worse off across nearly all areas. With respect to the working environment, there is indication they are receiving more of the brunt of the pandemic in that frontline response. They are being asked to work more double-shifts and receiving more abuse, more frequently from the public while at work. They are also being asked to work outside of scope. Their observation with respect to staffing levels and skill mix is one of greater concern for these factors.

These work environment patterns are picked up in their response to demand and resource measures. Here, early career nurses and midwives are perceiving higher levels of demand with fewer resources available to draw upon. Potentially, all of this is contributing to the poorer observed wellbeing indicators of burnout, general health and PTSD symptoms. One area where differences were not observed was in relation to intention and actions taken to leave their job role or their profession entirely. While trends were observed, differences were small and not significant.

What is not explained in these data is; why is there such consistent patterns? Is it due to what happens in those first few years of being a nurse or a midwife that then determines whether you choose to stay? That is, is there some kind of natural selection being observed where senior career nurses and midwives have had a ‘better’ experience of the pandemic because they were able to survive their first ten years of being in the profession? Alternatively, it may be that over a career, the

experience accumulated assists as a buffer during such challenging times. Other explanations may also be possible. Here, longitudinal research would be beneficial.

Chapter 5 provided a brief analysis of respondent perceptions of organisational policies and procedures and perceptions of concern across a range of organisational and personal factors, among nurses and midwives working in public health settings in New South Wales. Overall, results showed there are some areas where organisations can stand to improve the working environment for their staff, and when looked at together, the area of most need is addressing staffing levels. It is evident in the results that perceptions of adequate staffing levels is poor and it has declined over the course of the pandemic. Ability to deploy more staff is also the policy and procedure nurses and midwives rated most poorly.

Other areas identified in this report include addressing skill mix in the working environment and being able to access paid leave. It is probable these concerns are inter-related and associated with the lack of staff. For example, concern with respect to accessing paid leave is likely driven by organisations refusing to approve leave because of an already high number of staff on sick leave or furloughing due to COVID-19. This potentially also creates a skill mix imbalance with many more junior staff and recent graduates deployed to high risk and highly skilled areas (e.g. intensive care units or emergency departments). Other policies and procedures that also need consideration include debriefing processes and managing staff abuse. Findings highlighted in other reports based on this survey include staff abuse levels being high, especially among early career nurses and midwives, and staff wellbeing is concerning including burnout and PTSD symptoms. Given this, investment in initiatives in programs that address nurses' and midwives' safety and wellbeing, are required.

Chapter 6 provided a brief comparison between select measures from the survey conducted in 2020 and the present survey. The results showed from a demographic perspective, there was little variation between the individual or workforce profiles sampled. This is important as it assists with ensuring that differences observed are less likely to be as a result of some underlying differences in the two samples. Comparisons between the two years across job demand and job resource measures showed across all measures there has been a worsening trend. This pattern suggests the working environment for nurses and midwives working in the public healthcare system in New South Wales has deteriorated over the past two years. However, what is not so easy to identify from cross-sectional surveys is the causes of these patterns and how they can be addressed. To this end, in-depth research is required that is conducted in close partnership with healthcare providers to ensure intervention are evidence-based, align to the underlying challenges, applied appropriately, and are monitored over time for effectiveness.

Considerations for policy and practice

Based on the findings of this research, the following considerations are made to advance policy, practice and support to address the health, wellbeing, and safety of the nursing workforce. These considerations are primarily focused on the leadership, management and coordination, safety, and support and wellbeing of frontline staff. While they have been derived at a time of significant health system challenge, they can also be extended to health system improvement more broadly. Recognising and committing to the resources required to maintain a thriving working environment in healthcare will lead to better outcomes for all. Recommendations for future areas of strategic research are also identified.

Healthcare policy and leadership
1. **Leadership**: Create visible nursing leadership in healthcare settings from mid-level clinicians through to the executive level to ensure nurses and midwives have a visible voice in the system and can advocate strongly for improvements to policy and practice of organisations. 2. **Staffing and skill mix**: Achieving both safe staffing and safe skill-mix is essential to respond to post-pandemic needs and future emergencies. This may necessitate a comprehensive recruitment and retention strategy to achieve and maintain safe staffing and skill mix.
The practice and its impact
3. **Scope of practice:** Provide adequate education and training to staff to ensure they are able to work within scope when being transferred/deployed to new locations. 4. **System design**: Design effective systems for the rapid deployment of staff across the healthcare system. Key considerations are to identify and address major system or industrial barriers that may hinder movement, flexibility, and protection of workers during a pandemic or other prolonged health care situations. 5. **Communication**: Provision of consistent, evidence-informed information through trusted communication channels and to relevant staff to ensure accuracy of information and direction is reported
Wellbeing access and support
6. **Evidence-based support**: Adoption of evidence-based programs designed to provide structured, tailored and meaningful support, and that actively engage staff, especially during times of significant disruption and/or significant trauma. These supports need to be targeted at the most salient risk factors for poor mental health and employee burnout. 7. **Wellbeing monitoring systems**: Systems established to periodically monitor occupational health and wellbeing are adopted as part of business activity reporting, and include both predictors and performance and organisational risk outcomes of wellbeing.
Strategic research
8. **Longitudinal research**: Large, mixed-methods, longitudinal research studies are undertaken (e.g. cohort studies) that apply a theory-guided approach to study the interaction between the health system, the wellbeing of its workforce, worker and patient safety, and organisational performance. 9. **Policy research**: a structured program of policy-focused research targeted at the public healthcare sector environment to address current challenges related to workforce sustainability and wellbeing.

Conclusion

This report has highlighted the significant challenges faced by nurses and midwives working in the public healthcare sector in New South Wales. Findings suggest there are areas where considered strategy needs to be worked through and resources applied in order to reverse the current trends identified. These strategies need to be considered over a long period of time and carefully reviewed to ensure they have been effective and beneficial to the workforce.

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