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Contents lists available at ScienceDirect

# Research in Social and Administrative Pharmacy

journal homepage: [www.elsevier.com/locate/rsap](http://www.elsevier.com/locate/rsap)

## The experiences of pharmacists during the global COVID-19 pandemic: A thematic analysis using the jobs demands-resources framework

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### ARTICLE INFO

#### Keywords

Pharmacist  
COVID-19  
Burnout  
Job demands-resources

### ABSTRACT

**Background:** COVID-19 has necessitated a change to the way pharmacists are providing healthcare and has impacted the psychological wellbeing of these frontline healthcare workers.

**Objective:** To use the job demands-resources framework of burnout to describe the experiences of pharmacists working during COVID-19.

**Methods:** An online survey investigating burnout, psychosocial, and work-related factors affecting pharmacists during COVID-19 was distributed to a convenience sample of pharmacists practising in Australia during April and June 2020. The survey was distributed via social media and professional organisations. This study was a thematic analysis of the free-text question of the survey that asked participants to provide comment on anything they considered important. The job demands-resources framework of burnout was applied to the themes.

**Results:** Of 647 total survey responses, 215 (33.2%) participants responded to the free text question. Thematic analysis explored the increase in demands on pharmacists with a decreased availability of resources during COVID-19. Themes associated with high demands included an increased workload, provision of education and support to the community, taking on roles traditionally performed by others, managing medication and stock supply issues, and poor consumer behaviour. Themes representing resources, which were inadequate, included feeling supported by management and colleagues, feeling adequately trained, receiving clear and consistent communication, feeling valued and appreciated, personal safety, and recovery time.

**Conclusions:** Pharmacists have experienced increased demands and reduced resources during COVID-19 which is associated with burnout. Knowledge of these demands and resources can inform interventions at an individual, workplace, and external level. Recommendations made in this paper are aimed at increasing resources available to pharmacists.

### 1. Introduction

The global COVID-19 pandemic has necessitated significant changes in the delivery of healthcare and has taken a toll on the psychological wellbeing of health professionals.<sup>1–8</sup> Pharmacists have reported burnout during COVID-19 as well as changes to their work including increased workload, working overtime, and dealing with medication supply issues.<sup>9</sup> Many pharmacists across the health sector have had to adapt to support the changing needs of patients and the healthcare system. The accessibility of community pharmacists has been crucial to ensuring adequate healthcare provision, often being the first contact of care for patients with mild ailments, particularly as telehealth replaced many

non-critical face-to-face healthcare consultations.<sup>10</sup> Pharmacists in all practice settings have been required to adapt to rapidly changing and inconsistent advice, which has affected their psychological wellbeing with increased rates of burnout reported.<sup>9–11</sup>

Burnout amongst pharmacists has been reported during the global COVID-19 pandemic in all areas of pharmacy practice.<sup>11</sup> Many factors including unpleasant patient and peer interactions, working overtime, stock control, and underappreciated contributions are known to contribute to pharmacist burnout.<sup>12,13</sup> Much of the information about the effect of COVID-19 on the psychological wellbeing of pharmacists is from quantitative data and commentaries, with a lack of in-depth information on the factors that pharmacists find most concerning about

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<https://doi.org/10.1016/j.sapharm.2022.03.018>

Received 12 November 2021; Received in revised form 15 March 2022; Accepted 27 March 2022

Available online 31 March 2022

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working during this time.<sup>9,11,14–16</sup>

The job demands-resources framework is a theoretical framework which presents a lens through which to explore the influence of the workplace on the employee and the employee on the workplace.<sup>17</sup> This framework demonstrates the important balance and interplay between job demands and resources. Demands are defined as anything that requires energy to undertake and might include such things as physical workload, time pressures, and contact with patients. Resources can include any asset that a person might rely upon to support them to function, not only fiscal or physical resources, but also emotional and professional assets such as feedback, autonomy, and support.<sup>17,18</sup> The job demands-resources model theorises that to cope with high demands, sufficient resources are required, and if these resources are inadequate, burnout commonly occurs, particularly when this mismatch is sustained.<sup>18,19</sup> This model provides a framework or lens to present and explore various factors affecting employees as they are identified through research. Providing pharmacists a platform to explain the specific demands and challenges they faced working during the global COVID-19 pandemic is important to understand the effect that the pandemic has had on their psychological wellbeing, and to inform possible interventions to support the profession.

Therefore, the aim of this study was to use the job demands-resources theoretical framework of burnout to understand the experiences of pharmacists working during COVID-19.

## 2. Methods

**Study Design:** This study formed part of a larger study measuring burnout and describing the work and psychosocial factors affecting pharmacists during COVID-19.<sup>9</sup> A survey was developed and disseminated via an online survey platform Qualtrics ([www.qualtrics.com](http://www.qualtrics.com)) to a convenience sample of pharmacists who were recruited through social media platforms including Facebook and Twitter, as well as via promotion by pharmacist member organisations and publications. Pharmacists were eligible to complete the survey if they were registered as a pharmacist in Australia at the time and were encouraged to forward the survey to pharmacist colleagues. The survey consisted of 3 parts. Part 1 captured demographic information, part 2 measured burnout, and part 3 measured the psychosocial effects of the pandemic. The descriptive results of the survey have been published elsewhere.<sup>9</sup> The final question of the survey (and the only opportunity for free-text comments in the survey) asked participants to “Please provide comments on your experience or anything you think is important to report about providing pharmacy services during COVID-19”. Qualitative analysis of the comments provided by participants to this question are the focus of this study.

**Data analysis:** Participant responses were exported to NVivo for coding and thematic analysis. Thematic analysis using inductive coding was performed following the methods outlined by Braun and Clarke 2006.<sup>20</sup> The survey responses were read through multiple times in order for one author to become immersed in the data and to understand the data as a whole. The author undertook personal reflexivity to understand and consider the implications of their role in the data analysis. Initially, codes were assigned to the data line by line and continually revisited and assessed for relevance when like codes were assigned. During this stage of coding, preliminary themes were considered, and through iterative rounds of review, further themes were developed and explored. Theme exploration involved consideration of each theme individually, as well as the theme in the context of the entire dataset, which allowed for final themes to be developed from the data. Following this process, the themes were able to be mapped on to the job demands-resources framework and thus, the themes have been presented accordingly in a structured way. The application of the defined themes to this framework allowed for each of the themes to be categorised as either a workplace demand or resource. The application of this framework provided a platform to give overall context to the data, with all themes fitting within this framework as either demands or

resources. Finally, quotes were identified to exemplify themes.<sup>20</sup> Whilst the coding and theme development was performed by a single author, the codes and themes and their application to the job demands-resources framework were discussed within the author group, where discrepancies were resolved and the final results agreed upon.

This project was approved by the Australian National University Human ethics committee (2020/154).

## 3. Results

There was a total of 647 survey responses with 215 (33.2%) responding to the free text question. All 215 responses were included in the qualitative thematic analysis. Table 1 displays the demographics of the participants who completed the free-text comments question. Most respondents were female (73.5%), with more than 10 years' experience (69.3%), and more than half were in a position of a management or leadership (59.5%).

The job demands-resources model provided a framework with which the experiences of the participants could be contextualised. Themes resulting from analysis were defined as demands or resources, with participants experiencing increasing demands with a reduced availability of resources, the combination of which is recognised to contribute to burnout. In this study, the increased demands included increased workload, providing additional support and education, taking on roles usually performed by others, managing medication and stock supply, and dealing with poor consumer behaviour. Themes that represented pharmacist resources included receiving support from management and colleagues, receiving adequate training and preparation, receiving clear communication, feeling appreciated and recognised, a sense of personal safety as well as opportunities for adequate personal recovery, all of which were described as inadequate. Fig. 1.

**Table 1**  
Participant demographics.

Demographic information	N = 215 (%)
Mean age (range)	43.35 (23–71)
Sex	
Male	52 (24.2)
Female	158 (73.5)
Prefer not to say	2 (0.9)
No response	3 (1.4)
Primary area of practice	
Community pharmacy	104 (48.4)
Hospital pharmacy	69 (32.1)
Other	6 (2.8)
Combination of above	35 (16.3)
No response	1 (0.5)
Years of practice	
Less than 5 years	29 (13.5)
5–10 years	36 (16.7)
More than 10 years	149 (69.3)
No response	1 (0.5)
Geographical area of practice	
Rural	47 (21.9)
Metropolitan	141 (65.6)
Other	26 (12.1)
No response	1 (0.5)
Current employment status	
Full time	118 (54.8)
Part time	63 (29.3)
Casual	16 (7.4)
Other	17 (7.9)
No response	1 (0.5)
Are you currently in a position of leadership or management of staff	
Yes	128 (59.5)
No	86 (40)
No response	1 (0.5)

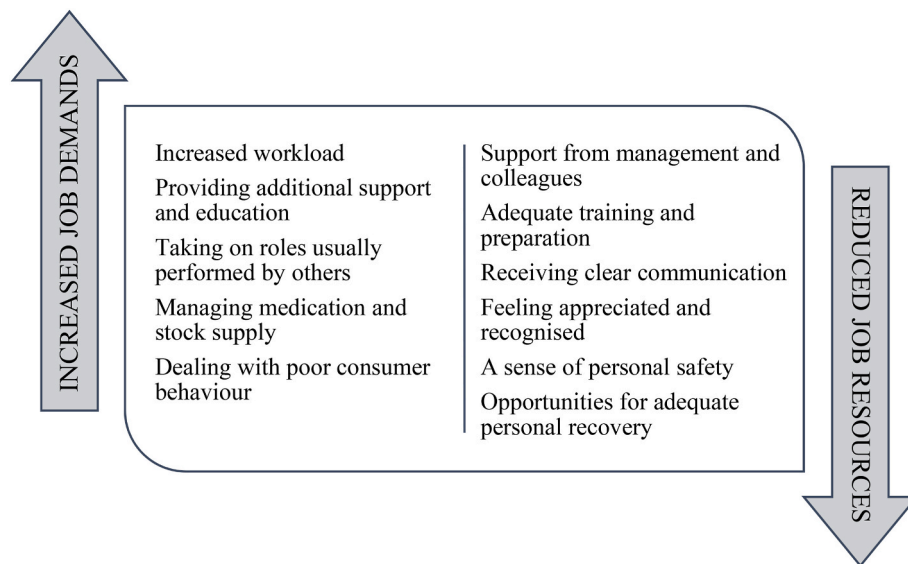


Fig. 1. Themes represented as increased job demands and reduced job resources.

### 3.1. Demands

#### 3.1.1. Increased workload

Participants were contending with an increase in workload during the pandemic. This increased workload appeared in various ways, including more patients presenting to community pharmacies seeking advice and information, having inconsistent access to medications, changing regulations and processes such as increasing deliveries to patients' homes, electronic prescriptions, and other changes required to support patients to stay at home as described in Extract 1.

##### 3.1.1.1. Extract 1 (Participant 101)

*"We provide health information, advice & continue to dispense scripts at a time when we have to restrict supply of medications to 1 month only, check that a person requesting Ventolin [salbutamol] has lung disease, explain out of stocks & certain medication unavailability. Keep an eye on faxes from Doctors as well as emails. Contend with a huge amount of deliveries every day"*

Increased workload was often considered the "biggest issue" during this challenging time, with some participants noting that this workload increase was leading to "an increase in medication related errors". Participants commented that the increased workload was preventing them from providing their usual high-quality service, with less time available to spend with patients and the provision of a "lower level of professional care".<sup>13,18</sup> Participants in this study expressed feeling "physically strained" and "Emotional[ly] stress[ed]" due to increased workloads, and were understandably concerned with the effect on patient safety and quality of care.

#### 3.2. Providing support and education

Another demand affecting pharmacists during COVID-19 was caring for the psychological wellbeing of their communities and the responsibility of providing public health information and education to their patients. Extract 2 describes the significant demand placed on pharmacists to provide emotional support to their communities during these stressful times.

##### 3.2.1. Extract 2 (Participant 105)

*"... We may not be looking after COVID infected patients, but we have to deal with our community and try to calm any panic and concern and increase mental support".*

Extract 3 describes the additional responsibility placed on pharmacists to provide public health information.

##### 3.2.2. Extract 3 (Participant 90)

*"Pharmacy is accessible and in the front line of public health. Helping our patients and staff manage their needs and understanding COVID-19 has placed a lot of additional stress on pharmacists"*

During this time where public health information was rapidly changing and inconsistent, and there was a lot of uncertainty, communities relied on their pharmacists to be an easily accessible source of support and information.

#### 3.3. Taking on additional roles usually performed by others

A reduction in access to face-to-face primary healthcare was an important contributor to the demands placed on pharmacists during COVID-19 with pharmacies remaining open for face-to-face consultations. Extract 4 describes how pharmacists felt that they were responsible for some tasks usually performed by others.

##### 3.3.1. Extract 4 (Participant 129)

*"The "thank you" messages from government etc never seem to explicitly state pharmacists. This has reinforced that we are the forgotten profession. Doctors have been thanked and, in my area, they're not even seeing patients. Much of the increased workload is because doctors will not perform their regular tasks - eg: blood pressure and glucose monitoring, actual consultations where physical presence is required. Stat Decs have also increased as members of the police force won't sign them."*

Whilst pharmacists possess the appropriate skills to take on these additional tasks to support the needs of patients unable to access these elsewhere, these additional demands were "... never financially compensated for ..." and left many pharmacists financially disadvantaged.

### 3.4. Medication and stock management

Managing the increased demand for essential products and medications during supply chain interruptions, manufacturing issues, and inequitable stockpiling added substantial pressure to pharmacists. Extract 6 describes the challenges of managing medication supply.

#### 3.4.1. Extract 5 (Participant 52)

*“The stock issues have been a major problem, and the uncertainty around what’s going to happen in the future and how much we need to be preparing is really stressful”*

This demand also created a sense of frustration for pharmacists, with one pharmacist noting *“the frustration of not be able to service my patients to accommodate their needs at such a stressful time.”* The additional work around stock supply went beyond procurement, as extract 6 explains.

#### 3.4.2. Extract 6 (Participant 66)

*“... working with clinicians on what drugs and what dosages might be required to manage critically ill patients that cannot be transferred due to the system being overloaded. Then trying to obtain the stock given the shortages.”*

Pharmacists were busy coordinating efforts not only to ensure ongoing access to medicines for patients and organisations during this time, but also advising on clinical implications and therapeutic alternatives.

### 3.5. Poor consumer behaviour

Extract 7 explains how the disrespectful behaviour of some consumers has affected pharmacists’ wellbeing.

#### 3.5.1. Extract 7 (Participant 126)

*“I personally think the profession was deeply disrespected by the public throughout all this, in particular with medicine supply/availability and quantity restrictions\*. Incivility was a major issue which led to me feeling extremely emotionally vulnerable and affected my mental and vocational wellbeing on a daily basis.”*

\*Changes to National legislation limited how much medication pharmacists could supply to patients.

Unfortunately, it was not just the mental wellbeing of pharmacists but also their physical wellbeing that was at risk due to poor behaviour with one pharmacist reporting *“... I almost got hit by a table due to a patient frustrated ...”*. The additional demands placed on pharmacists who had to contend with incivility was unacceptable.

### 3.6. Resources

The increased demands reported in this study require, according to job demands-resources model, a matching increase in supporting resources for an individual to cope. Resources to balance the increasing demands described by pharmacists in this study were: feeling supported by management and colleagues, feeling adequately prepared and trained, receiving clear communication, feeling appreciated and recognised, feeling a sense of personal safety, and being provided with opportunities for adequate personal recovery. Unfortunately, there was a reduction in these resources during COVID-19, which in the context of increased demands would place pharmacists at risk of burnout.

### 3.7. Being supported by managers and colleagues

Effective workplace relationships are a particularly important resource to buffer increasing demands. For some pharmacists, the global COVID-19 pandemic provided an opportunity for these workplace relationships to flourish and resulted in a *“positive experience”* as described in extract 8:

#### 3.7.1. Extract 8 (Participant 79)

*“Generally, [it’s] been a positive experience at work as staff are extremely supportive of each other”*

Whereas other pharmacists, such as the author of extract 9, described a lack of support, care, and collegiality from management:

#### 3.7.2. Extract 9 (Participant 201)

*“Our bosses were not front line and worked from home to protect themselves but didn’t care about the health of their own staff.”*

Whether a pharmacist feels supported by their manager and team has the potential to impact long-term psychological outcomes.

### 3.8. Receiving adequate training and feeling prepared

Feeling prepared and being provided adequate training for any challenge is an important resource, particularly during uncertain times. Pharmacists describe feeling unprepared during COVID-19, as extract 10 discusses.

#### 3.8.1. Extract 10 (Participant 36)

*“I do not think we were prepared for COVID-19. We were just starting the healing after the fires. Also, I am not sure how you can prepare for the effect of such a big crisis and how people would react. It would be good to have had some more training in how to deal with crisis and understand reactions. I have done a mental health first aid course but not sure it is enough in a situation like this.”*

As front-line healthcare workers, having adequate training would better support pharmacists to be prepared in *“how to deal with crisis and understand reactions”* as they provide important care for the community during these challenging times.

### 3.9. Receiving clear communication

The changing advice and legislation for pharmacies during COVID-19 was difficult to keep abreast of. As described in extract 11, the usual resources of legal frameworks and clear policies and procedures were no longer reliable.

#### 3.9.1. Extract 11 (Participant 158)

*“Daily, the situation around legislation and pharmacy news changes. It’s hard to keep up, especially with the legislative changes that may or may not apply due to federal/state differences. Navigating this as a law abiding health professional is really hard sometimes ...”*

A lack of clear communication meant that there were inconsistencies in the provision of pharmacy services as there was *“not a consistent position with dealing with issue[s] in all pharmacies ...”*, and this lack of clear guidance related to pharmacy service provision was a challenge for pharmacists.

### 3.10. Feeling appreciated and recognised

COVID-19 provided a unique opportunity for pharmacist to demonstrate their value and important role in healthcare, with one pharmacist noting *“Pharmacists have been recognised as essential to Australia’s health care system which is a great acknowledgement.”* However, the degree to which pharmacists felt appreciated and valued during COVID-19 varied with extract 12 reporting feeling less valued than other healthcare workers.

#### 3.10.1. Extract 12 (Participant 125)

*“Despite being deemed an essential service and literally at the front line, there’s not enough practical support from governing bodies and professional society. Also, it feels like we are not valued as much as doctors and nurses as professional health care providers. Yet, we are as much at the front line as they are. This is especially true for pharmacy staff who risk their health every time they front up to work.”*

Pharmacists feeling unappreciated for their contribution during this time, particularly in the context of increased workload and additional demands, is concerning.

### 3.11. Feeling a sense of personal safety

With pharmacies remaining open, often being COVID-19 exposure sites, and pharmacists providing in-person care, the potential exposure to COVID-19 positive patients was substantial.

#### 3.11.1. Extract 13 (Participant 93)

*“No way of screening patients who might be symptomatic other than temperature checking everyone which is impossible. In addition, not knowing if our cleaning is good enough and [the] risk of exposure to COVID 19 patients. We had a patient come in [for a] flu shot with COVID-19. She was cleared but was still symptomatic with a cough. She did not disclose she had Covid-19 three weeks prior until after flu shot. My pharmacist had no PPE [personal protective equipment] on except for gloves. That’s unacceptable to not disclose this prior to our pharmacist.”*

As extract 13 describes the possibility of unexpected exposure to COVID-19 positive patients was significant, particularly with people not disclosing their COVID-19 status.

### 3.12. Being provided opportunities for adequate personal recovery

A resource often employed to cope with excessive work demands is to spend time on personal recovery. Such recovery is different for each individual but might include holidays, hobbies, and spending time with friends and family, which were less accessible during COVID-19. As the pharmacist in extract 14 describes, COVID-19 brought long days and no escape from work.

#### 3.12.1. Extract 14 (Participant 48)

*“There is no off switch or down time during this COVID period. You start work early and finish late. Then someone calls you after hours about something else. The best way to look after yourself is to not think about work - with current technology that is not an option.”*

The importance of self-care and personal recovery is discussed extensively in burnout literature. Unfortunately, for pharmacists this personal recovery was difficult to access, with one participant noting *“There is no escape. COVID-19 is at work, all over social media, all family and friends talk about.”*

## 4. Discussion

This study describes the experiences of pharmacists working through the COVID -19 pandemic. Using the job demands-resources model of burnout to view these experiences has provided an opportunity to explore the demands and resources that affected pharmacists working during these challenging times. The increased demands experienced by pharmacists, included an increase in workload, providing extra support and education, performing roles that would usually be performed by others, managing medication supply challenges, and dealing with poor consumer behaviour. Using the job demands-resources theory, it would be necessary to have an increase in resources to cope with such high demands on the pharmacists. In this study resources included practical factors such as adequate education and training, clear communication, personal safety, and having adequate opportunities for personal recovery. As well as practical resources, other, less tangible resources were also important including feeling supported by management and colleagues as well as feeling appreciated and valued. This study has described a disequilibrium between the high demands and the inadequate resources experienced by pharmacists during COVID-19, which is likely associated with the reported high rates of burnout and has implications for long-term psychological outcomes in this group.<sup>9,21</sup> It is crucial to reflect on this imbalance and strategise for future interventions aimed at increasing available resources or decreasing demands, where either or both of these factors are modifiable. Given the potential for intervention and contribution can be made more with modification of resources (rather than demands), the main focus of this discussion will be on workplace resources and opportunities to modify them to support the psychological wellbeing of pharmacists.

The demands described by pharmacists in this study are either not easily modifiable or not appropriate to modify. Many of the demands placed on pharmacists are a result of the accessible and trustworthy role they play in healthcare, which increases their workload. Increased workload is a demand that is associated with burnout in the job demands-resources model, however it is important that communities have access not only to medicines and supplies but also to the expertise of pharmacists, particularly when access to other services is limited.<sup>13,22</sup> Pharmacists were relied upon to provide advice and support to communities as fear, uncertainty, and social isolation caused increased psychological distress and anxiety during the pandemic.<sup>22–24</sup> Taking on roles usually performed by others, particularly in-person consultations and public health information will appropriately fall to pharmacists due to their accessibility and expertise during pandemics and emergencies, all of which add to the expectations placed on them.<sup>25,26</sup> Demands such as managing medication supply and poor consumer behavior, which has increased during the pandemic will add to the increased workload, but are not easy to modify.<sup>13,16</sup>

The resources described in this study, however, do provide opportunities for modification, to rebalance and buffer the high demands experienced by pharmacists. The job demands-resources model explains that not only can interventions aimed at increasing resources buffer the demands they may actually reduce them.<sup>19</sup> For example, if interventions are introduced to provide additional management and peer support, there may be a resulting reduction in workload, due to an increase in efficiency.<sup>19,27</sup> The strengthening of resources can occur at an individual, workplace, or external level.

Pharmacists reported feeling unappreciated, and undervalued, *“the forgotten profession”* during COVID-19. The value of pharmacists needs to be reflected with adequate remuneration and legislative reform to support them to perform their important duties. For many pharmacists, the demands of taking on additional tasks that would usually be performed by others was extra work and *“never financially compensated for”*. Providing pharmacists with an appropriate legal and financial framework to practise in extended scope roles such as emergency preparedness and response, vaccination, specialist compounding, and even prescribing will ensure adequate training and governance to support a

sustainable model of care and a valued workforce.<sup>25,28</sup> This intervention will likely also reduce some demands such as managing medication supply, which was “a major problem” and resulted in poor consumer behaviour, as pharmacists would have more autonomy and agency in making decisions around medications.

The education and training requirements for pharmacists in pandemics must be reconsidered. Adequate education and training are predictors of long-term psychological outcomes in healthcare professionals, and pharmacists in this study did not feel equipped for their role “I do not think we were prepared for COVID-19”.<sup>21</sup> Education, training, and skills development in emergency and disaster preparedness, public health, infection control, psychological, and mental health first aid training will help prepare pharmacists as they “... try to calm any panic and concern and increase mental support”.<sup>28</sup> Access to many of these educational programs is already available to pharmacists, but access is not universal, nor is it a mandatory requirement for pharmacist skills development. Training in mental health and/or psychological first aid will likely provide additional resources for self-care, and public health and infection control training will likely provide additional resources to support personal safety.<sup>29</sup> Adequately preparing and training pharmacists for their roles in pandemics increases their sense of personal safety reducing long-term psychological burden and also assists them in providing a high level of care to the community.<sup>21,30–34</sup> Education and training of pharmacists for emergencies, disasters, and pandemics is a shared responsibility of external governing bodies, organisations, and individuals.

Feeling supported is one of the most important factors associated with both short and long-term psychological outcomes for healthcare workers working through a pandemic.<sup>21,35–39</sup> Participants in this study had a “... positive experience at work” when “staff are extremely supportive of each other”. Organisations have a responsibility to provide support for staff, and can do this by considering individual relationships when making staffing decisions such as rostering and team allocations as well as maximising opportunities for meaningful connections between employees where this is possible. This small intervention can increase the sense of support, personal recovery, and feeling valued, but can also reduce a demanding workload, with positive social supports increasing the ability of workers to reach work goals and increased workplace efficiency.<sup>19</sup> Organisations and also professional bodies should champion structured peer support programs. Peer support programs such as restorative clinical supervision, which involves a professional relationship focused on the wellbeing of participants, reduces burnout, and improves patient care and has been used to successfully support pharmacist wellbeing during COVID-19.<sup>40</sup> Such programs are increasingly being used across various health disciplines to support practitioner wellbeing and can be introduced within existing organisational supervision programs and structures.<sup>40</sup>

## 5. Limitations

The results from this study are from a single country, at a single point in time. Therefore, the generalisability to other settings is unclear. There is a chance that there is bias in the results, as responses were from a proportion of participants (33.2%) from a larger survey, and those that chose to comment may have been more interested, or more articulate, or more affected by particular factors during COVID-19.<sup>41</sup> Given this was a written commentary section, there was no opportunity to further explore the comments as there would be with interviews or focus groups. Further research using qualitative methods, such as interviews, would add to the validity to the results of this study.

## 6. Future directions

In order to address the mismatch in demands and resources experienced by pharmacists in the future, interventions such as those recommended in this study should be implemented and evaluated. Evaluation

of such interventions would need to include the practical aspects of the interventions such as financial and associated costs, organisational acceptance, and whether they could be sustained long-term. In addition to evaluating the practical aspects of the interventions, the effect on resources and demands, and, ultimately, pharmacist burnout should be investigated.

## 7. Conclusions

The experiences of pharmacists working during COVID-19 can be described using the job demands-resources model of burnout. The burden of this mismatch in increased demands and reduced resources is likely contributing to the high rates of burnout in these healthcare professionals. Interventions that are focused on increasing resources used by pharmacists to cope with increasing demands is an important step in re-balancing this disequilibrium. The success of using interventions to equalise demands and resources requires external bodies, organisations, and individuals to commit to and invest in the psychological wellbeing of pharmacists.

## Declarations of interest

None.

## Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Author statement

**Karlee Johnston:** Conceptualization, data curation, investigation, methodology, project administration, software, writing-original draft preparation. **Claire O'Reilly:** Supervision, writing-review and editing. **Brett Scholz:** supervision, writing-review and editing. **Imogen Mitchell:** Supervision, writing-review and editing.

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