

# Impact of the COVID-19 pandemic on student supervision and education in health care settings: A state-wide survey of health care workers

Priya Martin PhD<sup>1,2</sup>  | Adam Hulme PhD<sup>3</sup>  | Tony Fallon PhD<sup>4,5</sup>  |  
Saravana Kumar PhD<sup>6</sup>  | Matthew McGrail PhD<sup>1</sup>  | Geoff Argus M.Clin.Psych<sup>7,8</sup>  |  
Tiana Gurney PhD<sup>1</sup>  | Srinivas Kondalsamy-Chennakesavan MPH<sup>1</sup> 

<sup>1</sup>Rural Clinical School, Faculty of Medicine, The University of Queensland, Toowoomba, Queensland, Australia

<sup>2</sup>Darling Downs Health, Baillie Henderson Hospital, Toowoomba, Queensland, Australia

<sup>3</sup>Southern Queensland Rural Health, Faculty of Health and Behavioural Sciences, The University of Queensland, Toowoomba, Queensland, Australia

<sup>4</sup>Faculty of Health and Behavioural Sciences, The University of Queensland, Toowoomba, Queensland, Australia

<sup>5</sup>Centre for Health Research, University of Southern Queensland, Toowoomba, Queensland, Australia

<sup>6</sup>Allied Health and Human Performance, University of South Australia, Adelaide, South Australia, Australia

<sup>7</sup>Southern Queensland Rural Health, The University of Queensland, Toowoomba, Queensland, Australia

<sup>8</sup>School of Psychology and Wellbeing, University of Southern Queensland, Toowoomba, Queensland, Australia

## Correspondence

Priya Martin, Rural Clinical School, Faculty of Medicine, The University of Queensland, Locked Bag 9009, Toowoomba, Qld 4350, Australia  
Email: [priya.martin@uq.edu.au](mailto:priya.martin@uq.edu.au)

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## Abstract

**Objective:** To investigate student supervisor experiences of supervising students on clinical placements since the onset of the COVID-19 pandemic.

**Background:** Studies on the impact of COVID-19 on student clinical placements have focused largely on student reports and have been specific to individual professions or topic areas. There is a need to investigate student supervisor experiences. This study was conducted in Queensland (Australia) in four regional and rural public health services and four corresponding primary health networks.

**Methods:** The anonymous, mixed methods online survey, consisting of 35 questions, was administered to student supervisors from allied health, medicine, nursing and midwifery between May and August 2021. Numerical data were analysed descriptively using chi-square tests. Free-text comments were analysed using content analysis.

**Results:** Complete datasets were available for 167 respondents. Overall trends indicated perceived significant disruptions to student learning and support, plus mental health and well-being concerns for both students and supervisors. Extensive mask wearing was noted to be a barrier to building rapport, learning and teaching. Some positive impacts of the pandemic on student learning were also noted.

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**Conclusions:** This study has highlighted the perceived impact of the pandemic on supervisors' mental health, and on the mental health, learning and work readiness of students. This study provides evidence of the pandemic impacts on student clinical placements from a supervisor point of view. Findings can assist in future-proofing clinical education and ensuring that students continue to receive learning experiences of benefit to them, meeting curriculum requirements, in the event of another pandemic.

**KEYWORDS**

clinical education, clinical supervision, COVID-19 pandemic, student supervision

## 1 | INTRODUCTION

Accounts are accumulating of the negative impacts of the COVID-19 pandemic on student learning in the health care professions. Globally, academic and health care sectors had to quickly adapt and innovate to minimise the disruptions to student learning. One predominant concern for both health care workers and students has been threats to their mental health and well-being.<sup>1-4</sup> Recent reviews have highlighted the significant mental health challenges induced by the COVID-19 pandemic on an already stretched health care workforce.<sup>5-7</sup> Students too have not been immune to this challenge. A Chinese study of over 800 students and first-line nurses by Huang and colleagues has illuminated the fears and anxieties experienced by this group.<sup>1</sup> An Australian survey of over 600 nursing and midwifery students further documented the impact of the pandemic on student psychological well-being (i.e. stress and anxiety) and learning.<sup>3</sup> A national study of 1505 Australian nursing, medical and allied health students undertaking rural placements reported student concerns around timely graduation and securing employment.<sup>8</sup>

Published studies on the impact of the COVID-19 pandemic on student clinical placements have focused largely on student reports (as opposed to supervisor/educator experiences) and have been specific to individual professions (e.g. medicine), or topic areas (e.g. telehealth). For example, a study of 277 students and 14 educators on the impact of the pandemic on clinical radiology education in Ghana revealed significant disruptions to clinical education.<sup>9</sup> An Australian study by Bacon and colleagues explored stakeholder experiences of telehealth placements in six allied health disciplines, documenting the benefits of telehealth.<sup>10</sup> A study of 31 medical students in the UK demonstrated high student satisfaction with their experience of combined face-to-face and online clinical teaching.<sup>11</sup> A further rural Australian study of 124 medical students highlighted their satisfaction with the changes

### What is known about the topic?

- The COVID-19 pandemic has disrupted student clinical placements in health care settings worldwide.

### What does this paper add?

- This study investigated the impact of the COVID-19 pandemic on student placements in Australian regional and rural health care settings.
- Study findings can help health care organisations to target their efforts in better supporting the current and emerging workforce impacted by the pandemic.

to education and placements, as well as some challenges they experienced.<sup>12</sup> Some studies have captured student perspectives about disruptions to their curriculum delivery, revealing increased academic and social support needs, and reduced readiness for placements following such disruptions.<sup>2,13</sup>

Studies of experiences of postqualification health care workers who provide clinical supervision to students on placements (also known as clinical supervisors, clinical educators or preceptors) are lacking given the difficulties in accessing this population for research purposes during the thick of the unprecedented pandemic situation. Health care organisations rightly prioritised patient care and preservation of personal protective equipment (PPE) over clinical education of students at the initial onset of the pandemic, which necessitated cancelling or varying student placements across professions.<sup>12,14,15</sup> It is important to investigate and learn from health care worker experiences related to the provision of student placements not only to provide this cohort with the necessary support into the postpandemic period but also to inform future

pandemic plans related to clinical education. Therefore, this study aimed at investigating perspectives and experiences of student supervisors supervising students on clinical placements since the initial onset of the COVID-19 pandemic.

## 2 | METHODS

### 2.1 | Design

A mixed methods survey was developed to investigate the impact caused to student placements and clinical supervision of students in health care settings due to the COVID-19 pandemic.

### 2.2 | Setting and participants

The study was conducted in Queensland in four regional and rural public health services and four corresponding primary health networks, following the footprint of one of the study partner organisations (i.e. The University of Queensland Rural Clinical School). This spanned hospital, community, inpatient, outpatient, acute, subacute and rehabilitation settings. Eligible participants were student supervisors (i.e. postqualification health care workers) who were doctors, nurses, midwives and allied health professionals (from audiology, clinical measurement science, exercise physiology, medical radiation, music therapy, nutrition and dietetics, occupational therapy, pharmacy, physiotherapy, podiatry, prosthetics and orthotics, psychology, social work and speech pathology), who had been in their role for at least 3 months at the time of the study. A student supervisor was defined as a health care worker who had supervised at least one student on a clinical placement prior to the time of this study and/or in dedicated roles supporting student supervisors. Included student placements came from multiple universities located both within Queensland and other Australian states (as is usual practice). Hence, the type, length and nature of placements typically vary between days and months, dependent on the profession and university. This was considered while developing the survey questions.

### 2.3 | Outcome measure

A mixed methods survey consisting of 35 Likert scale and closed (e.g. yes/no) questions, with options for free text comments, was developed specifically for this study.<sup>16</sup> The survey was piloted with seven health care workers and academics, given both groups play a significant role

in student placements, prior to being finalised. The questions were designed to understand the nature and extent of disruption to student placements and clinical supervision of students in health care settings. Questions broadly focused on the impact of the COVID-19 pandemic on health care workers' service delivery and work practices, provision of clinical supervision to students, student learning, placement experience, caseload, quality of student placement, quality of clinical supervision and student work readiness. Respondents were asked to consider their experiences from the onset of the COVID-19 pandemic when answering the survey questions. The survey tool has been included as Appendix S1.

### 2.4 | Procedure

Data were collected between May and August 2021 through an anonymous survey using Qualtrics™.<sup>17</sup> The survey link was distributed to the study population using e-mail distribution lists of professional and health service networks, newsletters and organisational social media of involved organisations. Three reminders were used to prompt potential respondents using the same channels. Completion of the survey was taken as implied consent.

### 2.5 | Statistical analyses

All numerical data were analysed using SPSS (version 28.0.1.0). Where necessary categorical independent variables were collapsed into groups. The initial six categories of medicine, nursing, midwifery, pharmacy, allied health and other were recoded into three categories: medicine, nursing and midwifery, and allied health. Missing data were excluded from analyses. All data analysed were categorical, including the response variables regarding pandemic-related interruptions to, for example, service delivery capacity and the quality of student supervision. To examine the relationship between a categorical response variable (all were binary—yes or no) and the health care profession across three levels (i.e. medicine, nursing and midwifery, and allied health), chi-square tests of independence were used after verifying assumptions, namely that the sample consisted of independent observations, and the expected count in each cell was  $\geq 5$  in at least 80% of cells. Effect sizes were assessed and reported using Cramer's *V*. Effect sizes were classed as small ( $\leq 0.2$ ), moderate (0.20–0.60) and large ( $\geq 0.60$ ). A *p*-value of  $< 0.05$  was used as the threshold to indicate statistical significance for all omnibus tests. Sequential Bonferroni adjustments of alpha level were undertaken to establish statistical significance in post hoc testing. Free-text

comments (i.e. textual data) were collated, cleaned and analysed through a conventional content analysis process by the first author (PM) and validated by another team member (SK). Textual data were read and re-read several times to develop categories in an inductive way (i.e. informed by the data) for reporting.<sup>18</sup>

### 3 | RESULTS

Although 216 respondents initiated the survey, only 180 of them provided background information. Almost half of the respondents ( $n = 88$ ; 48.9%) had been in their roles for between 2 and 10 years at the time of the survey. Over 63% ( $n = 114$ ) had ten or more years of experience in their profession. Only one participant reported to having <6-month experience in their profession. A majority of respondents ( $n = 163$ ; 90.6%) has supervised at least one student in their current role at the time of the survey. A majority of respondents reported to being experienced supervisors with 41% ( $n = 74$ ) having supervised students for over 10 years and 43% ( $n = 77$ ) having supervised students from between 2 and 10 years. While 8.3% ( $n = 15$ ) reported being new to student supervision (i.e. supervised no more than one student), 70.56% ( $n = 127$ ) were experienced student supervisors (i.e. supervised two or more

students). One hundred and twenty respondents (66.7%) reported having had prior training in student supervision. Only 12.5% ( $n = 24$ ) of respondents had experience in providing student supervision using technology (i.e. telesupervision).

Complete datasets were only available for 167 respondents (28 from medicine, 43 from nursing and midwifery and 71 from allied health). Findings of overall patterns of differences in impacts across professional groups are presented in Table 1. There were only two questions where differences were evident across professions. There was a significant difference between respondents' health care profession and the reported pandemic-related impact to work practice,  $\chi^2(2, n = 167) = 11.32, p = 0.003$ ; ES = 0.26 (moderate). Post hoc comparisons revealed that medicine ( $n = 28$ ; 96.6%) and allied health ( $n = 71$ ; 89.9%) were more significantly impacted more than nursing and midwifery ( $n = 43$ ; 72.9%). Second, there was a significant difference between health care profession and the perceived impact of the pandemic on student learning,  $\chi^2(2, n = 104) = 6.39, p = 0.041$ ; ES = 0.25 (moderate). Post hoc comparisons revealed that the perceived impact on student learning was significantly greater for medicine ( $n = 17$ ; 89.5%) than allied health ( $n = 35$ ; 58.3%). Other areas of impacts to the provision of student supervision are presented below, informed by the analysis of numerical and textual data. To

**TABLE 1** Frequency and proportion of respondents across health care profession (medicine, nursing and midwifery, and allied health) who responded to each question.

Question	Total valid N (%) <sup>†</sup>	N (%) who responded as yes <sup>‡</sup>				$\chi^2$ value, <i>df</i> = 2
		All professions	Medicine	Nursing and midwifery	Allied health	
Impacted your health service delivery and work practice	167 (92.8)	142 (85.0)	28 (96.6) <sup>a</sup>	43 (72.9) <sup>a,b</sup>	71 (89.9) <sup>b</sup>	11.32**
Impacted the provision of clinical supervision to students on placement	157 (87.2)	98 (62.4)	19 (70.4)	27 (50.9)	52 (67.5)	4.56
Student learning was impacted (either positively or negatively)	104 (57.8)	67 (64.4)	17 (89.5) <sup>a</sup>	15 (60.0)	35 (58.3) <sup>a</sup>	6.39*
Student placement experience was impacted	103 (57.2)	47 (45.6)	13 (68.4)	10 (41.7)	24 (40.0)	4.90
Student caseload was not enough (less than usual practice)	103 (57.2)	33 (32.0)	9 (47.4)	8 (32.0)	16 (27.1)	2.71
Impacted the quality of student placement	104 (57.8)	43 (41.3)	10 (52.6)	9 (36.0)	24 (40.0)	2.67
Quality and quantity of student supervision was impacted	102 (56.7)	14 (13.7)	5 (26.3)	3 (12.5)	6 (10.2)	3.20
Impacted the work readiness of students	93 (51.7)	42 (45.2)	8 (42.1)	9 (50.0)	25 (44.6)	<1

Note: The total valid data column contains only the complete data available for that question from 167 participants.

\* $p < 0.05$ , \*\* $p < 0.01$ . <sup>a,b</sup>Same superscript = significant differences between groups after applying Bonferroni adjustments of  $\alpha$  levels.

<sup>†</sup>Total valid N (%) = number of respondents providing a valid response to the question. Percentage represents a per cent of respondents who provided valid responses/total sample N.

<sup>‡</sup>The number and percentage of respondents in the profession who responded 'yes' to the question.

provide a comprehensive view, comments that best illuminate quantitative findings are utilised from any section of the survey and not confined to specific questions.

### 3.1 | Impact on health service delivery and work practice

Results indicated that 85% ( $n = 142$ ) of respondents reported experiencing an impact to their service delivery and work practice as a result of the COVID-19 pandemic. Analysis of free-text comments indicated that health care workers were impacted in the following ways: physical distancing requirements limiting the number of staff and carers in the room with a patient; travel restrictions impacting home visits and professional development opportunities; cancellation of elective surgeries, procedures and outpatient appointments resulting in a backlog of waitlists; changes in caseload due to reduced services and re-deployment of staff to COVID-related services; changes to telehealth due to limitations on face-to-face engagement; increased focus on hand hygiene and infection control education to patients, carers, visitors and students; anxiety from continually changing information around COVID-19 developments and expectations; and extensive mask wearing hindering the ability to develop rapport, teach and model nonverbal communication with students. One participant, an experienced doctor who had supervised nine students in the preceding year, when commenting on the impacts, summarised these challenges:

PPE, additional training, avoidance of routine pharyngeal examination, avoidance of nebulisers, need to be comprehensive in a single assessment to minimise PPE changes, more time off work for minor URTI (Upper Respiratory Tract Infection) symptoms, increased reliance on professional networks and organisational bulletins for up-to-date information, increased reliance on telehealth, cancelled face-to-face training, occasional increased stress due to additional demands on time, less focus on other areas of professional development and workplace improvement due to focus on COVID.

### 3.2 | Impact on the provision of clinical supervision, student learning, placement experience and caseload

Over 62% ( $n = 98$ ) of respondents reported that their clinical supervision provision to students was directly affected

as a result of the pandemic. Analysis of textual data highlighted the following impacts: postponement, cancellation, modification and shortening of student placements due to restrictions in PPE, office space, travel and staff resources; negative impact on learning from reduced volume, breadth and variety of presentations; impact of extensive mask wearing on communication, teaching and rapport building; and mental health challenges faced by students and supervisors. An experienced nurse supervisor commented regarding their clinical supervision with students:

Significantly less opportunities for face-to-face engagements with consumers. This made it exceptionally difficult to assist students in building rapport with consumers. Masks almost made it impossible to communicate effectively. Phone and video consultations restricted the number of people involved in the direct care of clients.

An experienced allied health supervisor noted:

Increased mental health presentations - anxiety associated with the COVID pandemic.

Findings also indicate that 64.4% ( $n = 67$ ) of respondents reported that the pandemic impacted on the student learning experience. However, only 32% ( $n = 33$ ) of respondents believed that the pandemic directly impacted on the number of patients that students would normally see as per usual practice. While over 45% ( $n = 47$ ) of respondents reported negative impacts of the pandemic on student placement experience, some also noted positive impacts. Specifically, learning telehealth skills; experiencing different models of service delivery; and having an opportunity to be flexible, adaptable and resilient were noted. An experienced allied health supervisor who had been in their role for over 10 years said:

The experience of being involved in direct health service provision during an unprecedented pandemic was both challenging and rewarding for the student. It provided a unique opportunity for learning and growth.

### 3.3 | Impact on the quality of student placement and quality of clinical supervision

Overall, 43 (41.3%) respondents felt that the quality of student placements was negatively affected by the

pandemic. Twenty-three (22.1%) respondents were unsure. A doctor, also holding management responsibilities, explained:

The art of medicine relies on pattern recognition and information gathering...information gained from the examination is much more important in the earlier formative years as a student. Decreased face-to-face clinical time will mean students will take longer to learn this art...

Supervisors assessed placement quality through informal check-ins, discussions and formal surveys and evaluations. Those that reported lower quality of placements cited reasons such as disruptions to student learning from reduced exposure to the usual breadth, volume and variety of case-load, and mental health challenges. A senior nurse working in a role that supported student supervisors noted:

Nursing staff were stressed out from the challenges from COVID resulting in them having less time to support students. Too many students were rushed through at once with no extra support...students had to do training via online resulting in a huge decrease in work readiness.

Notably, only 13.7% ( $n = 14$ ) of respondents reported that students did not continue to receive adequate quantity and quality of clinical supervision, despite these other potential impacts associated with the pandemic. All three health care professions reported relatively high (>70%) levels of adequate clinical supervision practices through the pandemic.

### 3.4 | Impact on work readiness of students

Over 45% ( $n = 42$ ) of health care workers reported that the pandemic would likely affect the work readiness of students following graduation. This was largely linked to the impacts on student learning due to the variations in how the wards ran, teams functioned and case presentations experienced. Two experienced allied health supervisors summarised the impacts of the pandemic on student work readiness:

Less exposure to clients, less opportunity to practice skills, less opportunities for multidisciplinary shadowing and team work due to room size and number restrictions.

The students' exposure to a more varied case-load has been affected to the point where common injuries may only be relatable to a book or theoretical case instead of seeing it in reality.

## 4 | DISCUSSION

This study investigated the perceived impact of COVID-19 on student clinical placements in health care settings. Data were collected during a period where access to health care workers was premium due to the pandemic. As such, findings provide valuable information on health care workers' experiences on the provision of student clinical education and supervision during the thick of the pandemic. Two questions revealed significant differences among professions, suggesting that medicine and allied health were more impacted than nursing and midwifery, both in their work roles and in relation to the provision of student supervision. However, for the majority of questions, the trends were similar across all the professional groups. The overall trend indicates that the quality of clinical supervision provision was perceived to remain at a high level as reported by 86.3% of respondents. Despite this, many respondents raised concerns about the impacts of the varied case presentations and team interactions, and lack of regular opportunities at the workplace (e.g. student attendance at ward rounds), on student learning. This may be reflective of the importance supervisors ascribe to team and patient interactions on student learning, as learning cannot be facilitated by the supervisor alone in a didactic manner. Supervisors also reported the mental health impacts of the pandemic on themselves and on students, including fears and anxieties. A previously reported qualitative study in the same study population has validated these concerns.<sup>19</sup>

A key finding of this study is the adverse impact of the pandemic on student learning during placement and the subsequent negative impact on their work readiness. While the current study was with student supervisors, other studies have validated these concerns from a student point of view. Therefore, this study has provided an important triangulation point. A mixed methods Australian study of over 1500 allied health, nursing and medical students documented student concerns of the impact of cancelled and adapted placements on their learning, timely graduation and future employment.<sup>8</sup> These findings were also echoed in a study of 124 medical students from rural Queensland.<sup>12</sup> A recent systematic review documented successes and challenges with various academic and mental health support strategies implemented with medical students

through the COVID-19 pandemic.<sup>20</sup> Learnings from this current study build on such efforts and can help inform future planning to preserve student clinical placement learning and support in the event of a future pandemic. Reduced work readiness of graduating health care workers is likely to burden an already stretched health care workforce given the increased support needs and warrants further investigation.

Although no questions specifically asked about the impact of mask wearing on student learning, findings indicate that student supervisors perceived masks as barriers to learning as it hampered access to nonverbal communication and hindered rapport building of students with supervisors and patients. Interestingly, this concept has not been explored extensively in the literature, especially within health professional education. One study on the impact of COVID-19 on 163 individuals with hearing and visual disabilities revealed that facemasks caused the greatest discomfort to those with hearing impairments due to the communication barriers imposed. Respondents in this study called for the use of transparent masks to mitigate this barrier.<sup>21</sup> In another study of over 100 Spanish early childhood education teachers, use of masks on literacy learning was rated as very negative.<sup>22</sup> A further study compared the cognitive and psychophysiological response of 50 university students in two comparable 150 min delivered in-person using masks and remotely without masks. The group that used the surgical mask had significantly higher heart rate and significantly lower oxygen saturation, although not significantly affecting other cognitive and psychophysiological responses (e.g. mental fatigue perception and reaction time).<sup>23</sup> There is a need for further studies to understand the impact of extensive mask wearing on student clinical placements in health care settings.

#### 4.1 | Strengths and limitations

This is the first known quantitative study to investigate student supervisors' perspectives and experiences of the impact of the COVID-19 pandemic on student supervision in health care settings across one Australian state. The study was inclusive of a broad range of professional groups, namely allied health, medicine, and nursing and midwifery. As most studies in this space have been conducted with students, this study provides a triangulation point from the student supervisor perspective. Availability of both numerical and textual data in this study provides more in-depth information on the pandemic impacts on student supervision. Although the

study was conducted in regional and rural health services, given the similarities in student placements across regional, rural and metropolitan settings, the findings may be applicable to all health care settings. The study is limited by the use of a self-reported survey that was developed for this purpose, and as it was administered, online response rates are unable to be estimated. The survey was administered during a very busy period in health care settings, which could have impacted completion rates, producing a biased sample of respondents. This may affect the generalisability of study findings. Regardless, the study is strengthened by accessing a broad range of health care workers from several health care settings at a critical time. Thus, it provides valuable information in understanding the impact of the pandemic on student supervision. Further studies can investigate the effects of extensive mask wearing on learning in clinical environments, and the impacts of perceived reduced work readiness of affected students on employment and work practice.

## 5 | CONCLUSION

This study investigated student supervisors' experiences of the impact of COVID-19 on clinical supervision provision. While several respondents reported cancellation of student placements, the placements that went ahead were adapted to maximise learning opportunities for students. Regardless of the high rates of clinical supervision provision reported across professions, supervisors largely believed that student learning was impacted, attributing it to reduced exposure to cases and team functioning. Respondents raised concerns about the impact of the pandemic on their mental health, students' mental health, and students' learning and work readiness. Some supervisors also reported positive impacts of the pandemic on student learning such as the use of telehealth. Mask wearing was noted as a barrier to rapport building and learning. This study provides evidence of the pandemic impacts on student clinical placement learning from a supervisor point of view. It provides valuable information that can be triangulated with the existing literature that predominantly contains student reports. The findings can also assist in future-proofing student clinical placement learning and support in the event of a future pandemic by enhancing access of students to patients and the care team, making efforts to mitigate the negative impacts of mask wearing on student learning, providing additional mental health support to supervisors and students and ensuring students have access to a wide range of learning opportunities.

## AUTHOR CONTRIBUTIONS

**Priya Martin:** Conceptualization; formal analysis; funding acquisition; investigation; methodology; project administration; writing – original draft; writing – review and editing. **Adam Hulme:** Formal analysis; writing – original draft; writing – review and editing. **Tony Fallon:** Formal analysis; writing – original draft; writing – review and editing. **Saravana Kumar:** Conceptualization; formal analysis; funding acquisition; methodology; writing – review and editing. **Matthew McGrail:** Formal analysis; writing – original draft; writing – review and editing. **Geoff Argus:** Conceptualization; funding acquisition; methodology; writing – review and editing. **Tiana Gurney:** Conceptualization; methodology; writing – review and editing. **Srinivas Kondalsamy-Chennakesavan:** Conceptualization; funding acquisition; methodology; writing – review and editing.

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## CONFLICT OF INTEREST STATEMENT

The authors do not have any conflicts of interest to declare.

## ETHICAL APPROVAL

The ethics approval for this study was obtained from Darling Downs Health Human Research Ethics Committee for multisites (Ref: HREA/2020/QTDD/69958; Date: 10/11/2020), followed by site-specific approvals from all the participating organisations.

## DATA AVAILABILITY STATEMENT

All data are protected by ethics. Reasonable requests to access de-identified data can be made to the first author and is subject to ethics approval.

## ORCID

*Priya Martin*  <https://orcid.org/0000-0002-2092-6551>  
*Adam Hulme*  <https://orcid.org/0000-0002-3305-8538>  
*Tony Fallon*  <https://orcid.org/0000-0002-9833-912X>  
*Saravana Kumar*  <https://orcid.org/0000-0002-4003-4411>  
*Matthew McGrail*  <https://orcid.org/0000-0002-6901-8845>  
*Geoff Argus*  <https://orcid.org/0000-0001-6849-1262>  
*Tiana Gurney*  <https://orcid.org/0000-0003-1183-4759>  
*Srinivas Kondalsamy-Chennakesavan*  <https://orcid.org/0000-0002-1333-374X>

## REFERENCES

- Huang L, Lei W, Xu F, Liu H, Yu L. Emotional responses and coping strategies in nurses and nursing students during Covid-19 outbreak: a comparative study. *PLoS One*. 2020;15(8):e0237303.
- Mirick RG, Davis A. Supporting social work students during the COVID-19 pandemic. *J Teach Soc Work*. 2021;41(5):484–504.
- Rasmussen B, Hutchinson A, Lowe G, Wynter K, Redley B, Holton S, et al. The impact of covid-19 on psychosocial well-being and learning for Australian nursing and midwifery undergraduate students: a cross-sectional survey. *J Nurs Educ Pract*. 2022;58:103275.
- World Health Organisation. Keep health workers safe to keep patients safe. [Internet]. 2020 [cited 2022 Sept 14]. Available from: <https://www.who.int/news/item/17-09-2020-keep-health-workers-safe-to-keep-patients-safe-who>
- Saragih ID, Tonapa SI, Saragih IS, Advani S, Batubara SO, Suarilah I, et al. Global prevalence of mental health problems among healthcare workers during the Covid-19 pandemic: a systematic review and meta-analysis. *Int J Nurs Stud*. 2021;121:104002.
- Shaukat N, Ali DM, Razzak J. Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review. *Int J Emerg Med*. 2020;13(1):1–8.
- Shreffler J, Petrey J, Huecker M. The impact of COVID-19 on healthcare worker wellness: a scoping review. *West J of Emerg Med*. 2020;21(5):1059.
- Hoang H, Jessup B, Obamiro K, Bourke L, Hellwege B, Podubinski T, et al. Impact of COVID-19 on rural and remote student placements in Australia: a national study. *Aust J Rural Health*. 2022;30(2):197–207.
- Ofori-Manteaw BB, Dzidzornu E, Akudjedu TN. Impact of the COVID-19 pandemic on clinical radiography education: perspective of students and educators from a low resource setting. *J Med Imaging and Radiat Sci*. 2022;53(1):51–7.
- Bacon R, Hopkins S, Kellett J, Millar C, Smillie L, Sutherland R. The benefits, challenges and impacts of telehealth student clinical placements for accredited health programs during the COVID-19 pandemic. *Front Med*. 2022;9:842685.
- Gasiea R, Gasiea R, Yip C. O36 the impact of the COVID-19 pandemic on undergraduate medical education: a survey of students' safety and satisfaction during breast surgery clinical placement. *BJS Open*. 2021;108(Supplement\_5):znab282-041.
- Martin P, McGrail M, Fox J, Partanen R, Kondalsamy-Chennakesavan S. Impact of the COVID-19 pandemic on



- medical student placements in rural Queensland: a survey study. *Aust J Rural Health*. 2022;14:478–87.
13. Benham A, Malone J, Duncan J. The experience of physiotherapy and occupational therapy students of pandemic teaching and its perceived impact on placement/practice. *J Physiother*. 2022;114:e233–4.
  14. Patel B, Parmar D, Gera R, Hannan SA, Saeed SR. Changes in the provision of undergraduate ENT clinical placements across the UK in response to the coronavirus disease 2019 pandemic. *J Lar Otol*. 2022;136(1):24–8.
  15. Wall K. COVID-19 pandemic: impacts on the work placements of postsecondary students in Canada. Ottawa, Ontario: Statistics Canada; 2020. <https://www150.statcan.gc.ca>
  16. Nemoto T, Beglar D. Developing Likert-scale questionnaires. In: Sonda N, Krause A, eds. *JALT2013 Conference Proceedings*. JALT: Tokyo; 2014.
  17. Qualtrics, Provo, UT, USA. Available from: <https://www.qualtrics.com>
  18. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res*. 2005;15(9):1277–88.
  19. Martin P, Lizarrondo L, Argus G, Kumar S, Kondalsamy-Chennakesavan S. Impact of the COVID-19 pandemic on clinical supervision of healthcare students in rural settings: a qualitative study. *Int J Environ Res Public Health*. 2022;19(9):5555.
  20. Ardekani A, Hosseini SA, Tabari P, Rahimian Z, Feili A, Amini M, et al. Student support systems for undergraduate medical students during the COVID-19 pandemic: a systematic narrative review of the literature. *BMC Med Educ*. 2021;1:1.
  21. Bubbico L, Bellizzi S, Ferlito S, Maniaci A, Leone Guglielmotti R, Antonelli G, et al. The impact of COVID-19 on individuals with hearing and visual disabilities during the first pandemic wave in Italy. *Int J Environ Res Public Health*. 2021;18(19):10208.
  22. Vergara D, Antón-Sancho Á, Maldonado JJ, Nieto-Sobrino M. Impact of using facemasks on literacy learning: the perception of early childhood education teachers. *Eur J Investig Health Psychol Educ*. 2022;12(6):639–54.
  23. Tornero-Aguilera JF, Clemente-Suárez VJ. Cognitive and psychophysiological impact of surgical mask use during university lessons. *Physiol Behav*. 2021;234:113342.

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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