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The impact of the COVID-19 pandemic on Australian hospital-based nursing and midwifery educators

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ABSTRACT

Background: The COVID-19 pandemic significantly disrupted health services and their staff, including nursing and midwifery educators. Nursing and midwifery educators were tasked with meeting nurses' and midwives' rapidly-changing educational requirements, and supporting the nursing and midwifery workforce through the pandemic. Thus, nursing and midwifery educators were pivotal to the pandemic response.

Aim: To assess the impact of the COVID-19 pandemic on nursing and midwifery educators across four large, multisite Australian health services.

Methods: Qualitative descriptive study. All nursing and midwifery educators from public health services in Melbourne, Victoria (n = 3) and Adelaide, South Australia (n=1) were invited to participate in a semistructured interview (July – November 2020). Interviews were audio-recorded and transcribed verbatim. Data were analysed thematically.

Findings: Forty-six nursing and midwifery educators participated in interviews. Across the health services, two similar themes and six sub-themes were identified. In the first theme, "Occupational impacts of COVID-19," participants described adjusting to providing education during the pandemic, managing increased workloads, concerns about not being able to carry out their usual education activities and the importance of support at work. The second theme, "Psychological impacts of COVID-19," included two sub-themes: the negative impact on participants' own mental health and difficulties supporting the mental health of other staff members. Participants from all health services identified unexpected positive impacts; online education, virtual meetings and working at home were perceived as practices to be continued postpandemic.

Conclusions: Hospital-based nursing and midwifery educators demonstrated agility in adjusting to the fast-changing requirements of providing education during the pandemic. Educators would benefit from continued occupational and psychosocial support during the COVID-19 pandemic, and inclusion in discussions to inform hospitals' preparedness for managing the education of nurses and midwives during future pandemics.

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Summary of relevance

Problem or Issue

Little is known about the impact of the COVID-19 pandemic on hospital-based nursing and midwifery educators

What is already known

The pandemic was associated with significant mental health problems among nurses and midwives, and substantially impacted their educational requirements.

What this paper adds

Educators demonstrated agility in adjusting to the rapid changes to the content and format of the education which they were required to deliver. They reported significant occupational and psychological impacts, but also some unexpected positives and new practices which they intend to maintain following the pandemic

1. Introduction

In Australia in 2020, the impact of the Novel Coronavirus, SARS-CoV-2, and the resulting COVID-19 pandemic varied across states and territories. Of all the states and territories, the state of Victoria experienced the highest number of COVID-19 cases and COVID-19 related deaths, and the most severe restrictions enacted as part of the public health response. In Victoria, the first “lockdown” was implemented from 24 March 2020 until 11 May 2020 and included the closure of nonessential services and schools and physical distancing (ABC News, 2020; Wahlquist, 2020). Similarly, in South Australia, the first “lockdown” was declared on March 22, 2020 (Government of South Australia, 2020). The capital city of Victoria, Melbourne, experienced a “second wave” of the pandemic with an increased number of COVID-19 cases and deaths, and as a result, more stringent lockdown restrictions were implemented from 7 July 2020 for 112 days (BBC News, 2020). During these lockdowns, state government-operated health services implemented measures aimed at ensuring employee safety and providing best care for patients. These measures included infection control strategies such as the use of personal protective equipment (PPE), restrictions on employee gatherings, restricted visiting hours and visitor numbers, cancellation of elective surgeries, implementation of telehealth services for outpatient clinics, introduction of working-from-home policies, upskilling of nurses in ventilation and critical care skills, and symptom screening for hospital employees and visitors (Western Health, 2020). These changes had implications, not only for the healthcare workforce, but also for the delivery of nursing and midwifery education in health services. However, little is known about the impact of the COVID-19 pandemic on nursing and midwifery educators who are employed by hospitals and provide theoretical and clinical education in the clinical practice setting.

2. Background

In March 2020, the World Health Organization (WHO) released a press statement suggesting the COVID-19 pandemic could potentially have substantial impacts on the mental health and psychosocial wellbeing of healthcare workers (World Health Organization, 2020). Since then, studies have provided evidence about the negative impact on healthcare workers' psychosocial wellbeing in Australia (Holton et al., 2020) and other countries (De Kock et al., 2021; Muller et al., 2020; Vindegaard & Benros, 2020). Nurses (Al Maqbali, Al Sinani, & Al-Lenjawi, 2021; Holton et al., 2020) and nursing students on clinical placement (Swift et al., 2020; Ulenaers, Grosemans, Schrooten, & Bergs, 2021) are reported to be particularly vulnerable to mental health symptoms as a result of their more frequent and sustained contact with patients with confirmed or suspected COVID-19.

Nursing and midwifery educators working in a hospital environment, in both clinical and nonclinical capacities, may have been exposed to similar psychosocial impacts to those experienced by their nursing and midwifery colleagues. In addition, although not yet empirically reported, commentaries (Choi, Skrine Jeffers, & Cynthia Logsdon, 2020; Lake, 2020; Peneza, White-Edwards, Bricker, Mahabee-Betts, & Wagner, 2021) have suggested that nursing and midwifery educators' daily work was substantially impacted during the pandemic, as face-to-face education sessions and other professional development activities at health services were cancelled or restricted as a result of physical distancing policies. Worldwide, nursing and midwifery educators were required to develop flexible strategies and use a variety of modalities (including online), for delivering education (Peneza, White-Edwards, Bricker, Mahabee-Betts, & Wagner, 2021). In addition, new education and training resources had to be rapidly developed to prepare nurses and midwives for caring for patients in a pandemic and preventing transmission of COVID-19 (Lake, 2020). Hospital-based nursing and midwifery educators undertook the intensive (re)training of new clinical nurses and midwives and those redeployed to areas of greatest need (Lake, 2020; Peneza, White-Edwards, Bricker, Mahabee-Betts, & Wagner, 2021) as health services employed additional health care workers, including nurses and midwives (Lake, 2020). These additions and changes happened as, based on media reports of overwhelmed health services in other countries, Australian health services also planned for a potential surge in the number of patients with confirmed or suspected COVID-19 being admitted to health services and requiring critical care.

To date, no published studies have been identified on the impact of an infectious disease outbreak or a pandemic such as COVID-19 on hospital-based nursing and midwifery educators. The aim of this study was to assess the impact of the COVID-19 pandemic on nursing and midwifery educators across four large, multisite Australian health services; three in metropolitan Melbourne, Victoria, and one in Adelaide, South Australia.

3. Methods

The multi-site study used a qualitative descriptive design, which is suitable when the study requires information directly from those experiencing the phenomenon under study; in this case nursing and midwifery educators (Bradshaw, Atkinson, & Doody, 2017). Purposive sampling was used to ensure participants were able to provide insight into the phenomenon being explored (Birks & Mills, 2011). The methods and findings are reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (Tong, Sainsbury, & Craig, 2007).

3.1. Setting and participants

In Australia, public hospitals are organised into and managed by health services. A health service typically includes a number of hospitals located in a specific geographical or government area and is governed by a single board. Educators from four health services participated. Three health services (HS1, HS2 and HS3) are in Melbourne, Victoria, and one (HS4) is in Adelaide, South Australia. All health services include acute hospitals, as well as rehabilitation, mental health, drug and alcohol, and community health services. HS1 and HS3 also provide maternity services. At the time of the study, the number of acute beds in HS1, HS2, HS3, and HS4 was 990, 950, 1,660, and 990 respectively.

As at 1 August 2020, a total of 17,282 cases of COVID-19 had been reported in Australia, this included 200 deaths and 10,201 people who had recovered from COVID-19 (Australian Government Department of Health, 2020). To put this into context, Australia's

population is approximately 25 million people. The first COVID-19 wave peaked in March 2020 with 60 positive inpatients at HS1, 3 at HS2, 13 at HS3, and 30 at HS4. Only Melbourne experienced a second wave; the number of positive inpatients peaked at 405 at HS1 in July 2020, 48 at HS2 in August 2020 and 92 at HS3 in August 2020.

In Australia, nursing and midwifery educators, also known as Clinical Nurse or Midwife Educators (CNEs, CMEs), are registered nurses and midwives who provide education to undergraduate and postgraduate students and staff within a hospital setting (Sayers & DiGiacomo, 2010). At the time of the study, the number of nursing and midwifery educators at each health service was 59, 130, 110, and 47, and the total number of nurses and midwives employed was approximately 3,000, 4,500, 8,400, and 4,000 respectively.

3.2. Data sources

A semi-structured interview guide was developed (see Appendix 1), informed by the research team which had expertise in nursing and midwifery education, health services research and psychology. To summarise the employment characteristics of the sample, participants were asked two fixed-response questions: 1. about the area they were allocated to support; and 2. how long they had worked as an educator. These questions were followed by the open-ended questions outlined in the interview guide about their experiences and perspectives of providing nursing and midwifery education during the COVID-19 pandemic (with prompts if required). The questions were reviewed by expert nursing and midwifery educators on the team, and minor changes to wording were subsequently made.

3.3. Procedure

All nursing and midwifery educators employed at the study health services were invited to participate in an interview via an email sent to nursing and midwifery educator distribution lists. Attached to the email was a participant information sheet outlining the reasons for the research and introducing the interview facilitator at each health service. The information sheet indicated that participation in the research was voluntary. Interested participants contacted a member of the research team, who communicated with potential participants by email to arrange a suitable interview time. According to Malterud, Siersma, & Guassora, 2016, a sample of 6 – 10 participants with diverse experiences is likely to provide sufficient information power for descriptions of different experiences, if participants hold characteristics which are highly specific for this study; however, given the broad aim of the study (to assess the impact of the COVID-19 pandemic on nursing and midwifery educators), it was anticipated that an approximate sample of 10 – 15 educators from each health service would provide sufficient information power for descriptions of different educator experiences and perspectives during the COVID-19 pandemic, and contribute new knowledge (Malterud, Siersma, & Guassora, 2016).

Nursing and midwifery educators participated in audio-recorded semistructured interviews, which were conducted by experienced qualitative researchers (KW, JC, AH, RM) who did not have educator roles in the health services; a relationship with participants was established solely for the purpose of undertaking the research. Depending on the local COVID-19 restrictions, interviews were conducted either via Zoom (Victoria) or face-to-face in participants' places of work (South Australia). Other than participants and interviewers, nobody else was present during the interviews. Each participant was interviewed once only. The interviews were held from July to November 2020. Interviews were audio-recorded and transcribed verbatim by a professional transcription service. No field notes were taken as interviews were recorded. Participants

were given the option to review their transcripts. Nineteen participants chose to review their transcripts; of those, 11 made minor edits to correct transcription errors.

3.4. Data analysis

Interview transcripts were analysed using reflexive thematic analysis techniques commonly practised in qualitative research. Reflexive thematic analysis allows examination of the perspectives of different participants, and identification of similarities and differences as well as unexpected findings (Braun & Clarke, 2006). It enables researchers to take a structured approach to analysing data (King, 2004). Reflexive thematic analysis includes six phases (Braun & Clarke, 2006). (i) Transcripts were repeatedly read and re-read ("familiarisation"). (ii) Codes were developed separately by members of the research team from each health service (KW, SH, JB, JC, AH, RW, RB, BR) and subsequently discussed and integrated into higher-level meaningful categories. Once these initial themes were (iii) generated and (iv) reviewed, (v) themes were created, named, and defined (in order to explain and interpret the content). (vi) Finally, the analytic narrative was written up. Interpretations were discussed within the research team until consensus was reached. Example quotations of the constructed themes were selected and are presented to illustrate the findings. Data analysis was supported using NVivo version 12.

Participants were sent a summary of the findings once data analysis was complete but were not invited to provide feedback on the findings.

3.5. Ethical considerations

Ethics approval was granted by the Western Health Low Risk Ethics Panel (HREC/20/WH/64044, 29 June 2020), Eastern Health Low & Negligible Risk Ethics Committee (LR20/050, 3 July 2020), Central Adelaide Local Health Network Human Research Ethics Committee (13542, 17 August 2021), Monash Health Human Research Ethics Committee (RES-20-0000680A – 68216, 24 September 2020) and the Deakin University Human Ethics Research Committee (2020-243, 9 July 2020). Participation was voluntary. All potential participants were sent a participant information sheet, with information about the study. Verbal consent was sought from each participant at the beginning of their interview and audio-recorded.

4. Results

Of the 346 nursing and midwifery educators employed at the health services at the time (247.7 full time equivalent), 46 participated. A description of participants, including number of years of experience as an educator, is summarised for each health service in Table 1. Table 1 also shows the timing and duration of interviews.

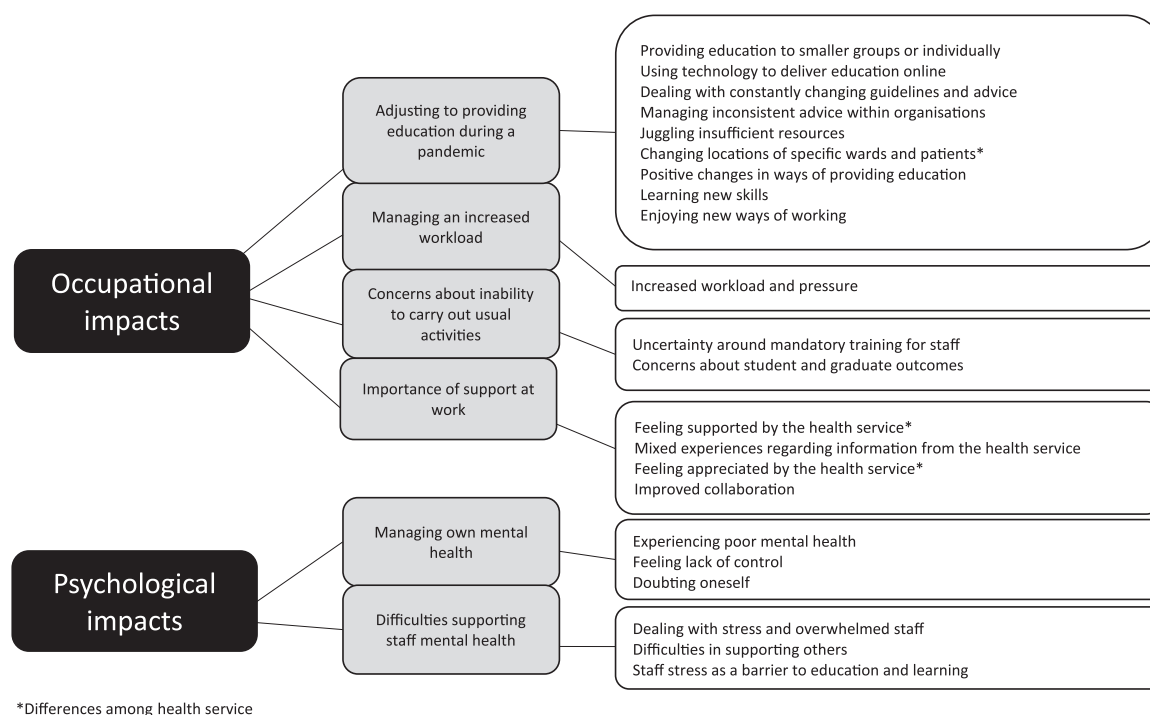
Two main themes and six sub-themes were identified (See Fig. 1) and are presented with illustrative quotes in Table 2. Participants reported substantial occupational and personal impacts of COVID-19.

4.1. Theme 1: Occupational impacts

Participants described changes to education provision during the COVID-19 pandemic impacting on their workloads. They also reported concerns about the impact of prioritising new COVID-19 related education over fundamental education, on nurses and midwives, graduates (nurses within the first year following graduation from university) and undergraduate and postgraduate students. They identified support from the health service and from colleagues as important in helping them manage the occupational impacts of the pandemic. This theme included four sub-themes (Table 2).

Table 1
Educator and interview characteristics

Location (Health Service #)	Number of participants / number of educators approached	Participants' departments or units	Mean (range) years of experience as an educator	Mean (range) interview duration in minutes	Data collection time frame
Melbourne (#1)	18/59	Maternity, ICU, ED, nursing education management, COVID wards and other wards.	6.4 (0.5 – 18)	25.6 (12.5 – 49)	July – August 2020
Melbourne (#2)	9/130	COVID wards, operating theatres, ambulatory home care services, renal care, subacute care and other wards.	8.3 (1 – 24)	35.4 (27 – 50)	July – August 2020
Melbourne (#3)	7/110	Community, peri-operative, undergraduate students, cancer services, ED, medical-surgical ward and small hospital site.	6.4 (0.5 – 18)	37.4 (25 – 49)	October – December 2020
Adelaide (#4)	12/47	ED, ICU, theatre and the central education team.	6.5 (0.8 – 13)	42 (26 – 61)	September – October 2020

**Fig. 1.** Themes, sub-themes and codes within sub-themes
*Differences among health service

4.1.1. Sub-theme 1.1: Adjusting to providing education during a pandemic

In the South Australian health service, a blended learning approach was adopted for nursing and midwifery education during the pandemic, incorporating both online and face-to-face education. Face-to-face education included a limited numbers of participants and was therefore offered more frequently than pre-pandemic; nurses and midwives were also required to complete on-line preparation (for example, reading of content related to theory) prior to attending a face-to-face session to learn a practical skill. In Victoria, due to physical distancing restrictions in the early stages of the first wave, participants also reported providing education to smaller groups than was usual before the pandemic: “Despite face-to-face education being sidelined, they [nurses] wanted to see what it looked like to put on your PPE and take it off. So, we did a lot of socially-distanced, reduced numbers PPE donning and doffing practice.” (HS2 #8). The content for face-to-face education seemed to be focused on infection control measures (such as using PPE) or essential practical skills for new staff: “So the only thing

we’re doing face to face now is for staff, new staff to the organisation that need like newborn life support or basic life support credentialing” (HS1 #16).

In Victoria, the provision of education transitioned to an on-line format only as the pandemic progressed into a second wave. Nursing and midwifery educators felt the health services were not technologically prepared for the transition to online education and many educators required rapid professional development to develop online learning material. Participants also perceived that on-line learning had disadvantages compared to face-to-face learning, for example reduced social connection during learning: “[Online], you don’t get that interaction in the same way, you can see people on the video, but you can’t really read all their body language, because you can’t see their whole body” (HS2 #4).

Constantly changing guidelines and advice from government sources and health service management, for example about how to use personal protective equipment (PPE), were reported as a barrier to effectively delivering education: “You’d get information one day and then you’d be trying to teach to that and then the next

Table 2
Themes and sub-themes with additional illustrative quotes

Theme	Sub-theme	Additional illustrative quotes
Occupational impact of COVID-19 on nursing and midwifery educators		
Adjusting to providing education during a pandemic		
	Providing education to smaller groups or individually	"...we made a lot of modified sessions so programmes that were running for two hours got condensed to half an hour..., instead of having 10 students in an education session it was reduced to 3...so we had to upskill quite a lot of nursing staff and when we can only have 3 people in a class as opposed to 10. It was a lot of extra sessions that were going on. So we went from running a course once a fortnight to running it 6 times a week, so big change" HS4 #2
	Using technology to deliver education online	"So we went from an organisation that had never used anything like Zoom or anything of this standard before, so I'm trying to throw all these study days online and the free Zoom gives you the 45 minutes– so you've got to have the paid Zoom... we now have access to a paid Zoom licence...so that's great, but that took time. Literally months" HS1 #5 "The floor nurses have been somewhat reluctant to uptake in-servicing via video conferencing. They're used to traditional face-to-face method. Yeah, the pick-up has been really slow. We're in November and I'm still begging them to log on." HS3 #4 "It's the discipline of a Webex...I could tell at times, I thought are you really listening to me or are you doing something else at the same time? staff have their cameras off so you think, hmm, right, are they there or...?" HS3 #2
	Dealing with constantly changing guidelines and advice	"And at that point in time you know I didn't necessarily have all that info either, and yeah it was really challenging to make sure you gave the right info. And everyone looks to the educator for that, well you're the educator you should know. But you know we don't always know" HS4 # 6
	Managing inconsistent advice within organisations	"I think making sure that at higher levels there's that real integration and everyone's - that the left hand knows what right hand's doing before any sort of communication goes out" HS3 #3
	Juggling insufficient resources	"I was just stretched too thin to follow everybody up, because we were trying to get them through very quickly as well to make sure they could perform those skills it was – I don't know – I don't think it was a nice process for them either like it was just they're a number, come on keep moving keep moving" HS4 #2
	Changing locations of specific wards and patients	"...there were a lot of wards that closed or that were moved and so there were TPPPs [Transition to Professional Practice Program, equivalent to graduates] in their first rotation who didn't have a home ward – so they had no stability, they were relieving every day, which would be my absolute worst nightmare now let alone as TPPP" HS4 #11
	Positive changes in ways of providing education	"Previously we'd be delivering the same content to three different sites so many times...The PowerPoint presentations that we do, it's such an easy way to present it and give it to the masses rather than a small cohort. Things like that have been fantastic" HS3 #6 "Silver lining, the moving to online portals.... I don't understand we've been trying to do it for years, and it's always like too hard....within two weeks everything moved and yes I think we can deliver a much better education" HS4 #2
	Learning new skills	"Before, I would just do a standard flyer or something, but now I'll likely do a nice little infographic, because I can do it in the same time that it takes now, so a little bit more eye-catching stuff" HS3 #5
	Enjoying new ways of working	"For me the major silver lining is it's given permission to work from home, for me in my role I can do so much more work at home than here... whereas when I work here [onsite] my concentration span would be out of an 8 hour day, 30 minutes – you know working in a mask and goggles, hot, it's dehydrating, and when I'm doing a lot of my work is writing, researching, evaluating, computer work, I can't do it here" HS1 #6 "I think having the aid in technology of this sort of stuff has been great, because normally we would have team meetings and we'd all have to drive...once a month for a meeting. Now that we're meeting up once a week, we are a lot more connected with our teams, even if we're not in the same space, which is nice" HS3 #4
Managing an increased workload		
	Increased workload and pressure	"[Laughs]. My official hours, there was no change [to the number of hours I worked]...Unofficially, yes" HS3 #4 "...it was constantly fighting for "this is not appropriate, I don't want to teach this skill in this timeframe, I don't think I can assess someone to say whether they can do it or not" not only as you're putting them at risk for not being able to do it (the skill) but then also if they can't perform a skill competently the infection risk for the patients out there" HS4 #2
Concerns about inability to carry out usual activities		
	Uncertainty around mandatory training for staff	"There are so many components in the [educator], role, but at the same time I think educating ...is one of the main components and not being able to educate people, staff, it has been very, very frustrating like six months that, you know - and you don't have that sense of satisfaction" HS2 #7
	Concerns about student and graduate outcomes	"...for the next couple of years we'll be playing catch up with a lot of the students" HS1 #17 "... so we were trying to support the TPPPs plus.... we were working with less clinical nurse educators to be supporting the TPPPs out on the floor" HS4 #12
Importance of support at work		
	Feeling supported by the health service	"The support from the organisation has been phenomenal, it's been very positive providing us with the PPE, making sure that messages are getting out across to say you must wear your PPE..." HS1 #3 "The infectious diseases director, he came up to the ward quite often as well. I think people liked it. One day...he was there for 15 minutes while we were doing a bit of a huddle and talking about different things." HS2 #1
	Mixed experiences regarding information from the health service	"I think that the daily bulletin that they send out every day is really helpful and the fact that we have one source of truth, that's really helpful because then when people start this rumour-mill I'm like 'No that's not the case go back to the source of truth which is the daily bulletin and the Covid-19 micro-site and then you've got definitely the right information'" HS1 #8 "...the hospital I felt should have had far more forums....they should have had an expert there every second day saying there's an open staff forum, we're going to tell you the latest, the news, what's happening in the State, what's happening with the borders so when you're admitting patients that you know who's over the border treated, ... because that changed every second day for a while, it did people's heads in.... I know they were all busy in their little command centre but I felt there should have been a face standing up – you know the emails we got yeah they were great but I can tell you half the staff don't even read their emails, they don't have time to. So once again apart from senior staff the message gets to there and then there is often a crunching halt" HS4 #9
	Feeling appreciated by the health service	"The support that I had from both my manager and my manager's manager and the fact that they told me, you did a really good job, well done, was nice" HS3 #3
	Improved collaboration	"The teamwork that comes together supporting each other has been a benefit, as well. We've become more engaged online...especially across campuses. We'd meet maybe face-to-face once every couple of months, whereas we were able to use Webex for meetings where we previously wouldn't have collaborated...we can share the documents and work on things a bit more collaboratively" HS3 #7

(continued on next page)

Table 2 (continued)

Theme	Sub-theme	Additional illustrative quotes
Psychological impact of COVID-19 on nursing and midwifery educators		
Managing own mental health		
	Experiencing poor mental health	"Some days you wanted to sit and sort of rock in your chair" HS2 #8 "I guess reflecting on it (COVID-19) the impact was quite significant although at the time we just kind of tried to cope the best we could and just kind of had to put our heads down and work through it" HS4#12
	Feeling lack of control	"Feeling like things are being planned behind the scenes that will perhaps affect us but perhaps we're not included during the planning stages...so more transparency that would be helpful as well" HS1 #13
	Doubting oneself	"You self-doubt about what you have educated on, have you educated well enough on PPE, hand hygiene?, you know has the message gotten through to all staff, have we reached all areas? So it's been quite stressful to say the least, just to make sure that you know we've done enough" HS1 #1 ".....at that point in time you know I didn't necessarily have all that info either...and everyone looks to the educator for that, 'well you're the educator you should know'. But you know we don't always know" HS4 #6
Difficulties supporting the mental health of health service staff		
	Dealing with stressed and overwhelmed staff	"...mainly our role...is to allay fears and anxiety, and answer questions and be a source of information and resources for people to be able to obtain information that they can rely on." HS1 #3 "...it was a really stressful time, you know the stress of all the teams was palpable, and so some days you know as the educator I might not have necessarily done any teaching but I made sure I went to all the wards, and a lot of people just wanted to talk or debrief with someone that perhaps wasn't directly part of their team" HS4 #6 "...there was a patient in ICU here that had to come for a tracheostomy and they were Covid positive so they had a high viral load, everybody went into psycho mode almost – so all of the training went out the door, people actually forgot the basics and that was quite an eye-opening experience that under extreme duress people – clever people – people who do this all day every day were unable to think clearly..." HS4 #9
	Difficulties in supporting others	"My role is always about counselling in some way, shape or form, but it's not a supported role and I don't know if I'm saying or doing the right things...I just want to make sure that I'm trying to help support people as best I can... I don't feel that I'm equipped to do it" HS1 #15 "When you're working in that stressful environment there's only so much that you can give out as well while trying to preserve your own sanity and emotions" HS3 #1
	Staff stress as a barrier to education and learning	"...we didn't always necessarily get to the education with some people, or you could just tell they didn't have the head space, you know whereas previously we probably would've pushed on, it would've been like 'no we're doing this thing, come on you need to come and do it'. Whereas I guess I kind of changed that mantra a bit and just backed right off" HS4 #6

day it would all change again" (HS2 #3). Advice about restrictions within health services (for example about moving between campuses) was also sometimes perceived by educators to be inconsistent across disciplines, areas, or sites: "It's hard because we do a lot of inter-disciplinary, multi-disciplinary training and something that perhaps we're being guided to do or not do – other disciplines are not necessarily have that same guidance, so then that's making our relationship difficult" (HS1 #13).

As noted, in South Australia, and during the first part of the first lockdown in Victoria, educators were required to deliver education and training sessions multiple times, thus increasing their workloads and reducing their capacity to engage in other work tasks. In addition, participants reported that during the pandemic they were frequently required to take on additional tasks because of reduced numbers of educators as a consequence of colleagues being on leave (for example, awaiting COVID-19 test results) or re-deployed to clinical roles or other tasks: "We all have our days off, but then whoever's on site that day is then covering the other areas where the educators aren't. Plus still trying to cover their own area. So it becomes a huge challenge. For example on Friday I was covering 6 wards, how do I do that effectively and actually educate?" (HS1 #15).

In South Australia, designated wards became COVID-specific wards (as the hospital is designed to have a wing of the hospital vented separately to the rest of the hospital). Some of the wards originally located in these spaces had their specialities moved to other wards in the hospital, which required the educator to upskill original ward staff with new skills for a different speciality: "one of the cardiac wards had been shut in preparation for ICU patients going in there....the cardiothoracic patients were now in the medical cardiology wards that aren't used to seeing those patients. So again, that placed an educational stress...can we come and do some cardiothoracic surgery education?" (HS4 #6)

Positive aspects of the adjustments made to the delivery of education during the pandemic were also reported; participants indicated they hoped that some of these adjustments would continue after the pandemic. These changes included the provision of flex-

ible and online education which often made it more accessible to employees, particularly those doing shiftwork: "Yeah I think I'll continue doing education via Zoom even if I was doing a face to face, I would still have the option for Zoom because we do have a cohort of staff who are permanent night shift, they're able to join if they choose to from home" (HS1 #13). Educators also valued acquiring new skills and knowledge, for example infection control knowledge and technological skills in platforms such as Zoom: "I imagine that I think there's a lot of things that I have the capacity to put together. I think my IT skills are a lot better than I realised they were. Which I think is also silver lining" (HS2 #5). New ways of working were perceived as enhancing educators' productivity, such as working remotely (in Victoria, where this was permitted or even required during the lockdowns) and attending virtual meetings: "I think there was a lot of cross-campus driving to meetings and things, which is really not productive, whereas now, there is a lot more Zoom capability being built in, because it had to. I think moving forward, that's something that's something that's going to be much more time beneficial for everyone" (HS2 #3).

4.1.2. Sub-theme 1.2: Managing an increased workload

Participants reported other occupational changes during the pandemic, including substantially increased workloads and the need to work longer hours: "... I worked stupid hours, we all did, everyone on the Covid team did, like it was just crazy hours for probably a solid 3 months and to get the projects up and running, get the staff educated" (HS1 #4). Participants felt the increased workload had an impact on their psychological wellbeing (see Theme 2): "We were kind of pulled in a million and one directions, trying to make sure everybody was okay with their PPE, manage those anxieties, try and get the best experiences for our learners and manage ourselves at the same time" (HS2 #4)

4.1.3. Sub-theme 1.3: Concerns about inability to carry out usual activities

Participants expressed concern about usual education activities that were suspended or reduced during the pandemic, such

as mandatory training for nurses and midwives and clinical support for graduates and students. Participants felt uncertain about whether and how they were to deliver mandatory education: “We had no clarification for a long time with what we had to do for people’s mandatory training that we weren’t allowed to do face to face anymore” (HS1 #16). They were also concerned that students and graduate nurses and midwives, for whom educators were responsible, would not necessarily achieve the educational and clinical outcomes required to progress their careers: “I do think in the future we are going to see some of the effect of that, where maybe somebody, they’ve gone from their grad(uate) program and they’re into their second year and you just go, ‘I would have thought that they would be at a bit of a higher level than that’...They’re just lost opportunities, and maybe the grads will just bumble through, and they’ll learn it other ways...” (HS3 #5).

4.1.4. Sub-theme 1.4: Importance of support at work

Participants in Victoria reported that they felt well-supported and well-informed by their health services: “I have had a very positive experience, yeah. I was well supported and I’m still well supported. I really have nothing to complain about, yeah, it is a great place to work” (HS2 #7). Victorian participants also indicated that they felt appreciated by the executive management team at their health service; several participants indicated that the pandemic had highlighted the value of educators to the health services: “The fact that we’re always called upon is amazing and I think that we really stepped up to the plate from an education and learning point of view...and we’re probably the team that’s been the most adaptive in this pandemic, so from that point of view that’s been really good and it shows the organisation that they need us” (HS1 #8). Participants in Victoria reported satisfaction with the organisational communication about the COVID-19 pandemic: “I think the regular emailing from the CEO was useful, and I think that was a way of trying to see what the key messages were for that particular time” (HS3 #7). However, in both Victoria and South Australia communication from the middle management team was often perceived to be inconsistent, ambiguous or insufficient: “... you know the emails we got yeah they were great but I can tell you half the staff don’t even read their emails, they don’t have time to. So once again apart from senior staff the message gets to there and then there is often a crunching halt” (HS4 #9). Across all four health services, participants reported positive experiences such as a strong sense of support from colleagues and the broader community, as well as collaboration across teams: “I think that the staff in my unit especially I think they felt very much that they needed to look after each other, look there were hiccups don’t get me wrong, but I think there was almost like an unofficial support network which I’ve never seen amongst the staff before....So people did look out for each other a lot more, which I think was great” (HS4 #9).

4.2. Theme 2: Psychological impact of COVID-19

Psychological impacts of COVID-19 were also discussed by nursing and midwifery educators, amongst themselves and observed in other health service employees. Two sub-themes were identified, related to the impact on participants’ own mental health (including symptoms of depression, anxiety, stress and burnout) and having to manage the impact on the mental health of other people, especially nurses and midwives for whom they were providing education (Table 2).

4.2.1. Sub-theme 2.1: Managing own mental health

The impact of the COVID-19 pandemic on nursing and midwifery educators’ own mental health was reflected in self-reports of stress, anxiety and depression symptoms and exhaustion: “In March just as it was really kicking off and I had that moment, a true

moment of darkness where it was like ‘Oh my goodness, how are we going to continue, like how can I do my job in this way?’...there was literally like a night of horribleness” (HS1 #5). Participants also described feeling a lack of control owing to the uncertainty of the situation and constant changes: “[It’s a] very stressful environment, you know in my 37 years of nursing and midwifery I’ve never experienced anything like this at all. Yeah I think the, why it’s so stressful, you’ve got no control” (HS1 #6). Some expressed feelings of self-doubt in fulfilling their role as educators: “I feel that I am equipped to support emotionally and psychologically for people in a clinical environment but again I don’t think anyone can be sure of what they were doing was the right response, I don’t think there is any evidence around that at the moment, so again that does affect your confidence when you are approaching a situation” (HS4 #11).

4.2.2. Sub-theme 2.2 Difficulties supporting the mental health of nurses and midwives and other staff members

Symptoms of poor mental health were observed by the participants in employees from a range of disciplines. Participants reported that supporting nurses and midwives who were stressed and overwhelmed became a major part of their role as educators during the pandemic: “I think the biggest change that I found was managing people’s anxieties. That was a huge shift in focus for us because normally we might be managing one or two learners’ anxieties or their difficulties with their learning program. But this was the whole operating suite. It wasn’t just nurses, it was doctors as well and ancillary staff” (HS2 #4). They reported that often they did not feel adequately equipped to provide this support: “I think counselling staff in a crisis is a special skillset, and a lot of our junior staff, a lot of our pregnant staff were highly anxious, very very anxious – I don’t personally feel that we were given the support that we probably warranted especially with being such high risk area” (HS4 #9). They also discussed the impact that feelings of stress and fear had on nurses’ and midwives’ ability to learn: “The staffing stress levels – the staff don’t absorb information as easily I feel, if you’re stressed your body just doesn’t absorb” (HS1 #9).

5. Discussion

In this study, nursing and midwifery educators reported considerable occupational and psychological impacts of the COVID-19 pandemic. There is a growing body of evidence demonstrating the psychosocial impacts of working during pandemics (Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS), H1N1 influenza, COVID-19) on nurses, midwives, and other healthcare workers (Al Maqbali, Al Sinani, & Al-Lenjawi, 2021; De Kock et al., 2021; Holton et al., 2020; Muller et al., 2020; Vindegaard & Benros, 2020) and the focus of studies to date has been the impact on the clinical workforce. This study represents one of the first to focus on hospital-based nursing and midwifery educators.

Based on a limited number of commentaries (Choi, Skrine Jeffers, & Cynthia Logsdon, 2020; Lake, 2020; Peneza, White-Edwards, Bricker, Mahabee-Betts, & Wagner, 2021), it was expected that nursing and midwifery educators would report that face-to-face education sessions at health services were impacted by physical distancing policies, and that new pandemic-related educational content had to be developed rapidly and delivered in a variety of modalities (including online). Indeed, interview participants reported rapidly developing content using unfamiliar online technologies, delivering content multiple times to small groups or individuals and having to adjust educational content (sometimes daily) as government, health service or department guidelines changed. All of these changes were made with limited resources; educators’ workloads were covered by other educators when they were on

leave or redeployed to other tasks or clinical roles. Perhaps unsurprisingly, participants reported working long hours, with multiple simultaneous demands, which led to experiences of burnout, stress and depression.

The psychological impact and exhaustion reported by participants in this study is consistent with international evidence among nurses gathered during the COVID-19 pandemic (Al Maqbali, Al Sinani, & Al-Lenjawi, 2021; Holton et al., 2020). It is likely that educators' psychological wellbeing during the COVID-19 pandemic was additionally affected by substantially increased workloads and pressure, confounded by a limited, sometimes insufficient, educator workforce. In addition, participants reported spending a substantial amount of their time managing stress and anxiety among employees of all disciplines. Educators, therefore, faced multiple demands on their time, increased pressure and physical exhaustion that may have contributed to (or perhaps exacerbated) decreased psychological wellbeing.

Nursing and midwifery educators' roles are sometimes poorly defined (Sayers & DiGiacomo, 2010; Sayers, DiGiacomo, & Davidson, 2011). In our study, participants' perceptions of their role as educators during the pandemic were perceived as particularly varied during the COVID-19 pandemic. On the one hand, some educators perceived the pandemic highlighted the importance of their role as educators and made them feel valued by their health services and communities. On the other hand, participants reported perceptions of not being able to adequately fulfil their roles as educators. Clinical practice guidelines changed rapidly during the pandemic as a result of advice from the health services and the government. Consequently, educators often found it difficult to keep up with the changes, with some reporting feelings of inadequacy and uncertainty about their role. As health services prioritised other activities such as training specific to COVID-19 infection prevention, educators were often not able to provide mandatory training for workforce compliance requirements; provision of mandatory training is usually one of the core aspects of their role in supporting workforce competency (Sayers & DiGiacomo, 2010). Consistent with existing evidence among nurses and midwives (Reynolds, Attenborough, & Halse, 2020), participants in this study perceived that feelings of stress prevented effective learning among employees, students, and graduates.

The participants in this study also reported unexpected positive aspects of the pandemic. Support from peers was reported to be an important factor which enabled and encouraged participants to continue their work during the pandemic. In Victoria but not in South Australia, participants also reported feeling supported and appreciated by executive management of their health services. Such organisational and social support can protect nurses and midwives from negative psychological impacts of the pandemic (Nie, Su, Zhang, Guan, & Li, 2020; Sirois & Owens, 2020). Participants also regarded the transition to online delivery (Victoria) or blended learning (South Australia) as an opportunity to change their education delivery permanently (Langlois et al., 2020) for at least some content.

5.1. Strengths and limitations

This study provides an understanding of the experiences of Australian hospital-based nursing and midwifery educators during the COVID-19 pandemic across several health services in two states. As educators play a key role in preparing nurses and midwives to deliver best care to patients (Sayers & DiGiacomo, 2010), these findings make an important contribution to existing evidence about the impact of the COVID-19 pandemic on health services and healthcare workers. The themes constructed were similar across the health services in this study, despite one health service not ex-

periencing a 'second wave' of the pandemic during the study period.

Limitations include the collection of data at only one-time point. At the time the interviews were conducted, Melbourne had experienced its highest number of COVID-19 cases and deaths in 2020; this was the 'second wave' of the pandemic and participants' accounts spanned five months of changes and challenges. Overall, the state of South Australia experienced fewer cases and deaths. It is likely that during the study period, the experiences and perspectives of nursing and midwifery educators may have changed several times over this time period; the data do not capture any possible trends or changes. While the sample of educators from some of the health services was adequate to provide sufficient information power for descriptions of different educator experiences and perspectives, this was not the case for all health services; however, given that the study was unfunded and the potential participants were experiencing significant workloads, email reminders were limited at some health services and avoided at others. The findings also may not apply to educators not working in large, metropolitan health services.

5.2. Implications for nursing and midwifery education

The results of this study can inform preparation for nursing and midwifery education and training responses to future outbreaks of infectious diseases and other adverse events. This may include specific content about infection control and prevention but also selfcare, building resilience and healthy coping strategies (Ruth-Sahd, 2020). Nursing and midwifery educators have not previously been required to specifically respond to nurses' and midwives' fears and concerns about caring for patients during a global pandemic (Ruth-Sahd, 2020); however, participants in this study indicated that managing stressed and overwhelmed colleagues took up a large amount of their time. Specific education and support should be provided to equip nursing and midwifery educators to manage these concerns and experiences among nurses and midwives. In addition, the findings of this study demonstrate that nursing and midwifery educators would benefit from continued occupational and psychosocial support from the health services at which they are employed.

Based on the experiences of the study participants, in the event of another 'wave' of the COVID-19 pandemic or similar adverse event in the future, educators' workload could be reduced by the development of 'shelf-ready' education packages (presented in flexible modalities); availability of additional educators; technology training and support for educators in the development of online, interactive and flexible learning; continued organisational support, and clear and transparent two-way communication between management and educators. Health services should consider providing debriefing and reflection opportunities with nursing and midwifery educators to identify innovations and initiatives that were implemented during the pandemic and would be useful to adopt on a continuing basis and to inform preparedness for future pandemics.

6. Conclusions

Nursing and midwifery educators experienced significant occupational and personal impacts during the COVID-19 pandemic. Although the required technological and human resources were not immediately available to assist them to adapt to delivering education in a pandemic, they reported substantial advantages of the online or blended learning modalities that were subsequently developed. These modalities and other aspects of working during the pandemic, such as virtual meetings and working remotely may improve efficiency, even when the pandemic is over. Nursing and midwifery educators are also ideally positioned to participate in

discussions about preparing health services for future pandemics and other adverse events, owing to the key role they played in delivering essential education during the COVID-19 pandemic.

Authorship contribution statement

Karen Wynter: Conceptualisation, Methodology, Investigation, Data Analysis, Validation, Resources, Writing – original draft; **Sara Holton:** Conceptualisation, Methodology, Data Analysis, Validation, Writing – review & editing; **Julie Considine:** Investigation, Data Analysis, Validation, Writing – review & editing; **Alison M Hutchinson:** Investigation, Data Analysis, Validation, Writing – review & editing; **Rebecca Munt:** Investigation, Data Analysis, Validation, Resources, Writing – review & editing; **Ruth Williams:** Data Analysis, Validation, Writing – review & editing; **Jessica Balson:** Conceptualisation, Methodology, Data Analysis, Writing – review and editing; **Valerie Dibella:** Conceptualisation, Methodology, Writing – review and editing; **Elisa McDonald:** Conceptualisation, Methodology, Writing – review & edit; **Melody Trueman:** Conceptualisation, Methodology, Writing – review & edit; **Shane Crowe:** Conceptualisation, Methodology, Writing – review & edit; **Sandy Schutte:** Conceptualisation, Methodology, Writing – review & edit; **Bodil Rasmussen:** Conceptualisation, Methodology, Data Analysis, Validation, Writing – review & edit

Ethical statement

We received ethics approval for our study from the Western Health Low Risk Ethics Panel (HREC/20/WH/64044, 29 June 2020), Eastern Health Low & Negligible Risk Ethics Committee (LR20/050, 3 July 2020), Central Adelaide Local Health Network Human Research Ethics Committee (13542, 17 August 2021), Monash Health Human Research Ethics Committee (RES-20-0000680A – 68216, 24 September 2020) and the Deakin University Human Ethics Research Committee (2020-243, 9 July 2020).

Conflicts of interest

The authors declare that they have no conflicts of interest.

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Appendix 1. Interview Guide

- Thank participant for taking the time to do an interview
- Confirm participant has read Participant Information Sheet and signed consent
- Remind participant that s/he can withdraw at any time, and can choose not to respond to specific questions
- Obtain consent to record interview
- Questions?

The outbreak of COVID-19 has had a considerable impact on health services in Australia. Over the past few months, [health service] has implemented a number of measures in response, including preparing their nursing and midwifery workforce for providing best care for patients under changed and unprecedented circumstances.

We are interested in hearing from you about your experiences as an educator at [health service] since [health service] began responding to COVID-19.

Ice-breakers and demographic questions (These will be reported in aggregated form only):

- What area/s are you allocated to support?
How long have you been an educator?
■ How long have you been an educator at [health service]?
Do you also work in a clinical role, as a nurse or a midwife?
■ At [health service]/ another health service?

Interview questions (most questions have prompts which will only be used if needed)

- Please tell me about the impact of COVID-19 on your work as an educator.
■ Location: Moved to a different site / restricted to one site?
■ Changes to graduate intake / student programs
■ Did your role / responsibilities as an educator change? How?
■ Did your workload / hours change? How?
Were there specific barriers or facilitators to you delivering education and support to nursing / midwifery staff?
■ In response to social distancing:
• If still face-to-face: Smaller group sizes? Wearing PPE?
• If online: Your experience of this
■ Additional ('psychological') support required by nursing / midwifery staff
• Did you feel equipped to provide this?

What was your experience of the support that [health service] provided you during this time?

- Support for you as an educator
- Support for you as a nurse / midwife (if applicable)
- Support for you as an employee
- (If you also work at another health services: Is your experience of support similar / different across health services?)

Please tell me about any "silver linings" – unexpected positives that came out of the situation.

When the health service returns to 'normal' after the COVID-19 situation, do you think any of the changes that were made to education practices may be sustained? Why?

- For example, might there be more education completed on WeLearn? Why?

If a similar situation arises in the future, another outbreak of a serious infectious disease, what suggestions do you have for Nursing and Midwifery education to prepare and response?

- "Lessons Learned" from the COVID-19 situation.

- Is there anything else you would like to say about the impact of COVID-19 on nursing/midwifery educators at [health service]?

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