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Maternal and Child Health Nursing education before and during COVID-19: An exploratory descriptive study

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ABSTRACT

Background: Major disruptions to higher education during COVID-19 resulted in a rapid shift to online learning and associated adaptations to teaching and assessment practices, including for postgraduate programs requiring practical skill development such as nursing and midwifery. Educator perspectives of this transition have not been widely studied.

Purpose: This qualitative descriptive study aimed to describe Australian postgraduate Maternal, Child and Family Health nurse educators' perceptions of COVID-19 impacts on student knowledge of theory and practice, and lessons learned through their responses.

Method: Semi-structured interviews were reflexively thematically analyzed.

Results: All participants recognized struggles, opportunities and innovations within three key themes: *"We've learned how to be flexible": Grappling with COVID-safe teaching and assessment; "Chat rooms and Zoomland": Learning in a virtual community;* and *"We've had a few struggles": Clinical placement tensions*. Educators described a sense of uncertainty, increased flexibility, opportunities for change and new ways of connecting. They adapted by developing new online resources and broadening clinical practicum and assessment requirements to address new practice approaches including telehealth.

Conclusions: Rapidly changing practice requirements and concerns about risk of disease transfer between workplace and placement venues restricted placement opportunities. Educators learned and incorporated new skills and strategies into their teaching, while aiming to meet professional expectations and maintain quality of education. Some strategies are likely to be maintained for future education programs.

Introduction

The COVID-19 pandemic caused worldwide disruption to higher education through widespread job losses, anxiety and uncertainty (de Oliveira Araújo et al., 2020; Kuliukas et al., 2021). In response, higher education providers needed to rapidly transition from face-to-face to online teaching platforms while striving to maintain continuity, educational quality and positive learning environments (Karalis & Raikou, 2020; Kim et al., 2022; Pierce et al., 2020). Although many educators were experienced in online teaching, this rapid transition often proved difficult (Ali, 2020; Dedeilia et al., 2020; Son et al., 2020). Despite comparatively low community COVID-19 transmission, stringent physical distancing restrictions and border closures also profoundly impacted Australian education (Thatcher et al., 2020; Universities Australia, 2020). To date, the impact of the pandemic on postgraduate teaching and learning has received little attention, including for specialist Maternal, Child and Family Health nursing.

Background

Maternal, Child and Family Health is a community-based preventative health service for families with children from birth to school age (Grant et al., 2017). Maternal, Child and Family Health nursing students are qualified nurses undertaking advanced practice education in child

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and family health in order to provide community-based care of women and children. Australian services and education requirements vary and are summarized in Tables 1 and 2.

Although variations in education requirements reflect jurisdictional differences, graduates are expected to have the relevant knowledge and skills for local service provision.

COVID-19 restrictions meant face-to-face aspects needed to move online or occur in smaller, physically distanced groups. While there are many positive aspects of online learning, it requires time to develop and implement well (Peddle et al., 2020) and reported experiences vary (Pei & Wu, 2019; Regmi & Jones, 2020; Sarli et al., 2021). The rapid pace of implementation necessitated by the pandemic is likely to have impacted both student and faculty experiences (Vandenberg & Magnuson, 2021; Waddington & Porter, 2021).

Experiential placements and education workshops foster clinical skill development. Clinical competence is supported and assessed by experienced preceptors and university lecturers (Mitchell et al., 2018). Concerns about virus transmission across health settings and reduced staff availability during the pandemic limited clinical placements opportunities (Adams et al., 2020; Cai et al., 2020; Persky et al., 2020; Vandenberg & Magnuson, 2021). Delays in clinical practicum potentially delayed program completion and transition to the health workforce at a time when staff were in high demand (Bogossian et al., 2020). Postgraduate students already employed as nurses and midwives were often directly involved in the pandemic response or needed to backfill colleagues (Luyben et al., 2020; Sarli et al., 2021), further impacting their education.

During the pandemic, experiential aspects of Maternal, Child and Family Health nursing education were disrupted by physical distancing restrictions and, in some areas, the replacement of face-to-face consultations with telehealth (Adams et al., 2020; Byrne, 2020). Telehealth includes asynchronous (such as electronic referrals and text messaging) and synchronous (telephone and video) communication (Abimbola et al., 2019). While telehealth consultations were slowly being implemented in Australia before the pandemic, they were rarely used in Maternal, Child and Family Health services. Recent commentary indicates the rapid transition to new ways of working necessitated a review of teaching and assessment strategies to ensure students still gained necessary skills for independent practice (Adams et al., 2020).

To date, advanced practice Maternal, Child and Family Health nurse educators' perspectives of the impact of the pandemic on education have not been examined for this specialized field of clinical nursing. Hence, this qualitative descriptive study aimed to describe Australian postgraduate Maternal, Child and Family Health nurse educators' perceptions of COVID-19 impacts on student knowledge of theory and practice, and lessons learned through their responses.

Table 1
Summary of maternal, child and family health nursing in Australia.

Key service elements	
Service structure	Free for all children Community based Nature and location of services, legislation, scope of practice, and assessment tools vary by jurisdiction.
Key elements (Department of Education and Training, 2019)	Health promotion Parental support Health and developmental monitoring Referral Child-focused, family-centered approaches
Policy oversight	Federal government (National and individual Territories) State government (Individual States) Local government (One State which has joint service provision) Professional standards of practice (National and some States)
Service providers	Hospitals Community Health Services Aboriginal Health Organizations Local Government Areas

Methods

This paper addresses one of two components of a qualitative study about Maternal, Child and Family Health nursing education for family-centered care. As the study was conducted during COVID-19, education experiences in the context of the pandemic are presented here, and findings regarding family-centered care education will be presented in a subsequent paper.

A qualitative descriptive approach was chosen to examine educators' perspectives of the impact of the pandemic. This type of approach is suited to research seeking to explore and describe aspects of a phenomenon, without requiring a specific theoretical foundation or building a new theory (McKenna & Copnell, 2020).

Approval to conduct the study was obtained through the La Trobe University Ethics Committee (HEC-20444).

Eligibility criteria

Maternal, Child and Family Health nurse educators with program oversight, knowledge of the curriculum in 2019 and impact of COVID-19 restrictions during 2020 were eligible to participate in the study. Although 12 institutions were listed as offering the program throughout 2020, this number had fallen to nine by the end of the year when invitations were distributed. COVID-19 was partially responsible for program closure in at least one institution (personal communication with education institution representative who was not eligible for participation).

Recruitment

Purposeful recruitment of educators in all Australian institutions that offered Maternal, Child and Family Health nursing education in 2020 was carried out. The person listed as the contact person on the program information webpage was emailed an invitation to participate in a semi-structured video interview. As the contact may have been administrative staff, the invitation also requested they forward the invitation to the relevant educator if that was not them. Participants were provided information about the research and asked to complete a brief online registration survey to determine study eligibility, provide informed consent and confirm contact details and availability. No incentives to participate were offered. Interviews were scheduled and any questions addressed via email. Due to the relatively small number of Maternal, Child and Family Health nurse educators in Australia, participants may have previously met or worked with the interviewer (LR), a Maternal, Child and Family Health nurse and recent educator. Participants were reassured she was no longer employed in postgraduate education, all information would be kept private and confidential and data would be de-identified.

Data collection

Prior to data collection, interviews were piloted with two Maternal, Child and Family Health nurse educators who were longer working in the role, to ensure questions were relevant and clear (Liamputtong, 2017). Participant interviews were videorecorded using secure video-conferencing software and ranged from 50 to 70 min.

To support credibility, contemporaneous notes were provided to study participants for member checking (Connelly, 2016; Nowell, et al., 2017) and any feedback addressed. COVID-19 related questions formed the second part of the interview schedule (see Table 3). The first part of the interview related to family-centred care education and will be reported separately.

Table 2
Requirements of maternal, child and family health nurse education in Australia.

	Nursing	Midwifery	C&F Health[b]
Education	Either … Bachelor of Nursing (3y) or Bachelor of Nursing and Midwifery (Double degree, 4y)	Either … Bachelor of Midwifery (3y) or Postgraduate Degree (1y) if also holds a BN	Either … Postgraduate Certificate (6m) Postgraduate Diploma (12m) or Masters Degree (2y)
National registration[a]	Nurse[b]	Midwife Required in one state (Victoria), recommended in other states.	Registration not available Education required in one state (Victoria), recommended in other states.
Clinical practicum	Supernumerary (as unpaid, additional staff) placements. Employment models may be available through individual placement agencies.		
Didactic education	Online or face-to-face lectures, workshops, tutorials and assessment Simulation strategies used in some institutions.		

[a] Similar to national licensure requirements in USA, practitioners must meet national registration requirements to practice as nurses or midwives. States then add their local requirements over these (Australian Health Professional Regulaton Agency [AHPRA], 2022).
[b] All Advanced Practice Maternal, Child and Family Health Nurse programs require students to hold current Nursing registration and require a minimum 6–12 months recent professional experience.

Table 3
Interview schedule - questions related to impact of COVID-19

Effect of COVID-19 restrictions
1. Thinking about COVID-19, how did the restrictions introduced in March 2020 impact on teaching and assessment?
(Prompts) • personal/students • education program/student learning • more/less explicit • changes to teaching/technology • practice/clinical placements/supervision • assessments/student interactions/identification with the profession
2. What would you say were the most important impacts on education?
Facilitators and barriers of MCFH education during COVID-19
3. Was there anything that worked particularly well or particularly poorly? Can you tell me more about why this was the case?
4. What, if any, of these changes would you like to see continue as we go into 'COVID-normal'?
5. Is there anything else you'd like to do differently for future programs?

Analytic approach

Interviews were conducted and transcribed verbatim by LR, using NVivo (QSR International, 2020) and MS-Word. As a recent maternal and child health nurse educator, LR brought an awareness of current concerns and constraints to the study. Inductive, reflexive thematic analysis of the transcripts was informed by Braun and Clarke's (2006, 2019) phases of analysis. Using an iterative process, two nurse educators and researchers (LR and LM) familiarized themselves with the data, generated initial codes, searched for and identified themes which were then discussed, reviewed, defined and named. Discussion with other team members and refinement of the themes occurred regularly throughout this process. These steps, combined with record keeping and reflective journaling, helped ensure final themes and subthemes were a credible and accurate reflection of the concepts discussed by participants (Nowell, et al., 2017). Due to the small number of eligible participants, data saturation was not feasible. Data are reported in ways that protect institutional and individual identities.

Results

Interviews were conducted between December 2020 and February 2021 with six educators, representing three Australian states or territories. All were experienced Maternal, Child and Family Health nurses and working clinically. Their experience as educators varied from two to over 25 years (median = 7). Five were responsible for oversight of the entire program, and two were employed on short-term contracts (Table 4).

A broad range of program structures were in place prior to COVID-19 including fully online or blended learning, and a mix of synchronous and asynchronous delivery.

Despite differences in COVID-19 restrictions across the country, there were many similarities in educator experiences. The greatest impact determinants seemed to be whether programs were already taught online or not, types of and access to placement opportunities, and how strongly restrictions affected community nursing practices. From the interviews, three themes emerged related to teaching decisions, their impact on learning, and clinical placement constraints:

1. *"We've learned how to be flexible": Grappling with COVID-safe teaching and assessment;*
2. *"Chat rooms and Zoomland": Learning in a virtual community;* and
3. *"We've had a few struggles": Clinical placement tensions.*

Theme 1: 'We've learned how to be flexible': grappling with COVID-safe teaching and assessment

This theme describes the many changes and adaptations required to maintain education. It is divided into three subthemes: Adapting to online teaching and technology; Adapting assessment; and Crisis as opportunity: new perspectives.

Adapting to online delivery and technology

Although the transition to COVID-safe teaching and assessment impacted each participant differently, educators' experiences shared much in common. Understandably, the impact was greatest where pre-COVID teaching was predominantly face-to-face. One participant noted "I found that transition into Zoomland very easy …I'm okay with technology, though." (4). However, most participants found the transition to working and teaching from home to be difficult and, at times, chaotic.

> "The minute we marched out of there with all our computers under our arms and everything else to take home, we had to suddenly move everything online…that for us was, that was huge." (5)

This participant felt the requirement for online teaching provided a prompt to learn new technologies: "Some of us were dragging our feet with IT" and had to "upskill enormously" (5). They also noted: "…it

Table 4
Participant experience characteristics.

Practice experience in MCFH nursing (median 30)		Education experience at institution (median 9.5)		Employed in current role (median 5)		Employment status		Academic responsibilities	
<25 yrs	2	0–10 yrs	3	0–10 yrs	4	Permanent *(tenured)*	4	Program oversight	5
>25 yrs	4	>10 yrs	3	>10 yrs	2			Subject oversight	6
						Short term (*limited, casual*)	2	Lecturer	6
								Clinical educator	3
								Oversee placement	5
								Organize placement	2

wasn't just us learning how to do it for ourselves, but it was learning how to do it for the students." (5).

University and health service decisions regarding software were sometimes disruptive, requiring multiple changes to platforms and extra time learning to use them:

> "Zoom wasn't considered safe … there were a lot of firewalls between the Health Department and the University with Teams. That took a bit of getting used to." (2)

Moving from face-to-face to online teaching meant not only putting lectures online, but creating new learning strategies and using unfamiliar technology, while maintaining program integrity. This necessitated reworking previously face-to-face interactions, such as tutorials and clinical skills workshops.

> "How do you do [tutorials] online? …the students were very quiet [and] a bit shell-shocked as to how they were going to learn in this environment." (5)

> "I shifted a lot of that hands-on practical learning [for example, child physical assessment techniques and screening tools] to the placement." (1)

> "There's a whole new level of skills that we need to learn…[such as] assessing body language in the Zoom environment." (4)

Sensitive content also constrained moves to online teaching. For example, education about child abuse that could be safely presented on campus now required: "…special permission and signed disclaimers that students would watch the presentation by themselves, closed door, no children around, things like that." (4)

Working through issues encountered during the transition helped participants support students and colleagues who were also struggling to adapt.

Adapting assessment

A key area discussed by participants was the need for flexibility in student assessments. Educators reported that students were often employed in hospitals or taking on additional work to support the crisis response. This meant additional shifts, longer workdays and reduced capacity for study.

> "Some students asked for extensions [because they were] looking after COVID patients or supporting units that were looking after COVID patients by doing other aspects of the work." (3)

Many services closed or moved to telehealth consultations, limiting placement opportunities. In response, educators described needing to be more flexible with assessment timelines, while ensuring learning outcomes were met:

> "[Students were] trying to write essays but they'd had no placement so they couldn't place what they were doing…they got extensions for everything." (1)

To ensure clinical relevance of theoretical content, educators added content highlighting aspects of practice students would normally gain through observational placements such as childcare and allied health placements:

> "Because [these placements] were purely observational, I got together a suite of videos off YouTube of children at play, children in childcare and speech pathologists at work, OTs [occupational therapists] at work, developmental peds [pediatricians] at work. And they were able to watch the videos and write a reflection and that was worth eight hours." (1)

Closure of some inpatient Early Parenting Centers meant students missed valuable focused experience working with the most vulnerable families. To overcome this, one educator added an outreach component to a pre-existing 'follow-through' activity where students attended a series of routine consultations with one family and reflected on child development, health assessments and care.

> "[The 'follow-through' mimics] what they would see in an Early Parenting Centre with a [highly vulnerable family]. So over 4 weeks, say, you would attend all of the home visits with [a nurse]. Purely observational… in lieu of the Early Parenting Centre. A lot of students actually loved it." (1)

Strategies for assessing student clinical competence varied, often depending on whether students were employed in the specialty or not. Restrictions meant educators could no longer conduct onsite assessments. In areas where this had been the norm, new strategies for assessing student competence were introduced.

> "For students in the metropolitan area and the ones who could travel from near country, they came up and we did our clinical skills workshop in groups of four. We had our four-meter rule. And we gave them as much content as we could online. So, it was very much a hybrid." (2)

Workshops supporting preceptors to assess clinical practice were similarly moved online.

Crisis as opportunity: new perspectives

The need for alternative clinical experiences and assessment strategies created opportunities to implement new teaching strategies and develop innovative responses to the crisis. While two described a sense of "panic" (4, 5), others were pragmatic about its effect, illustrated by comments such as: "never waste a good crisis" (1) and "the crisis can be an opportunity" (3). Despite difficulty transitioning to online environments, educators also noted they had good workplace supports and appreciated the opportunity to develop skills with new technology and improve digital literacy. One commented: "I was a bit pleased that I got to learn how to manage that [interactive software]." (5)

Education for clinical practice often involved adaptations to the well-established blend of online theoretical content combined with on-campus tutorials and clinical skills workshops. The pandemic provided an opportunity to implement new and innovative approaches to teaching. Pre-COVID, three universities held face-to-face clinical skills workshops and two held preceptor training sessions. In one instance, lengthy workshops were redesigned as virtual conferences:

> 'We went from [virtual] room to room, [with] guest speakers for each session." (1)

Access to online content was often limited in rural and remote areas due to slower internet speeds. Students and preceptors in these areas faced additional burdens of limited access to face-to-face content due to travel restrictions and border closures.

Other educators continued face-to-face teaching, although group size was reduced to comply with COVID-19 restrictions. Through collaboration with clinical preceptors and placement agencies, innovative solutions were implemented, including regional skills workshops run by clinicians or preceptors taking responsibility for teaching hands-on skills, such as pediatric developmental assessments.

> "[We asked] our expert presenters if they would record and do it online and all of them said, yes. They couldn't perhaps sustain it over many semesters, but they all did it for this one. Students who could not cross restriction zones to attend workshops were supported by clinicians in their local area." (2)

Participants often discussed how they would interact with clinicians and preceptors to ensure consistency and foster appropriate clinical skill development in students. For example, although educators could not observe student practice, combined student-preceptor-educator discussions by phone or video replaced on-site visits. Two educators felt additional opportunities afforded by COVID-19 to interact with lecturers and each other provided students with enriched experiences that directly impacted their performance. Reflecting on the addition of drop-in online sessions, one commented:

> "I've never seen marks like I saw last year…I think that had a lot to do with the [drop-in sessions]. They were able to meet with me every week. They were able to discuss the content. They were able to feel supported, and that reflected in their grades and their understanding." (4)

The need for flexibility around student assessments and extensions raised concerns for potential inequities between students.

> "The quality of some of the later essays was outstanding. So, whether they were advantaged by having a lot more time, like when you've got a due date, you've got to get it in and you just get in what you've done. But some of them were just amazing." (1)

This participant reflected any inequity would need to be taken into consideration for future planning.

Theme 2: 'Chat rooms and Zoomland': learning in a virtual community

All participants used online teaching and learning strategies during COVID-19 restrictions. For most, this was new or expanded on what had previously been in place. This theme reflects changing dynamics of interactions between students, lecturers and families. It consists of two sub-themes: New types of engagement; and Connecting with families.

New types of engagement

Participants were conscious of the need to maintain connections with and between students during the pandemic, particularly when previous teaching had been predominantly on campus. Virtual meeting rooms enabled group work and informal conversations to continue.

> "I left a room open [so that] if they were doing a group assignment, they could meet in that room and it was open and they could just do their, whatever they're going to do there. That was quite useful." (5)

Even those already teaching online increased opportunities for discussion, so students could:

> "… talk about the issues they were experiencing, from their home life, disruption to their work practices, disruption to childcare, disruption to school for their children and them having to be doing at-home teaching for their children. That impacted on their ability to study and have time out to do research." (6)

Most participants used asynchronous online spaces to connect with students, such as discussion boards. These were used as places for students to post reflections on learning and placement and sometimes included graded components. Spaces were also set up to enable synchronous online discussions with or between students, via video and/or text.

> "[Nurses] love to come together and share their experiences and learn from 'What did you do? What did you do?' It's just about creating that safe place [and] promote that collective intelligence of postgraduate students in an online learning community." (4)

These opportunities were not always present before the pandemic, particularly for students in rural or remote locations.

> "I found that [using videoconferencing software] opened up my world to connect to the students…on a level that I hadn't been able to do before." (4)

Whether previously in place or newly implemented in response to campus closures, virtual discussion spaces proved useful in supporting student interactions and helping educators connect with students in new ways.

Connecting with families

Participants felt online learning strategies enabled better understanding of students' family circumstances through more opportunities to interact. They also noted a sense of community with and between students due to sharing broader impacts of COVID-19, such as limited access to supports, interacting online, and working, teaching or learning at home.

> "…these are the things that are impacting on [students]. This is also what's happening with the families or as an educator…there was much more openness and acceptance that everybody was going through this together. It was a real community." (3)

Some health services replaced clinic visits with telehealth for older children and supplemented telehealth with brief in-clinic visits for growth and development checks of very young infants. This impacted how students learned to interact with children and families. While gaining skills in telehealth, students had fewer opportunities for valuable hands-on experiences to support communication skills and dexterity. The need to recognize telehealth as a practice strategy, and accept it as a clinical experience, raised concerns and highlighted opportunities for student learning. This participant's comments illustrate this ambivalence:

> "We've had to accept telehealth [as practical experience]." (5)

> "Some [students] saw the value of learning telehealth because they were then able to…see the little babies up to eight weeks [in combined online and clinic visits]. But then [due to health service restrictions] a lot of the students were saying, I'm nearly at the end and I haven't seen anybody older than eight weeks." (5)

Theme 3: 'We've had a few struggles': clinical placement tensions

All participants reported difficulties ensuring constructive and equitable placement experiences, compounded by individual variation across local health service providers. This theme describes these difficulties under the subthemes: Challenges with physical placements; and Professional practice insights. Strict physical distancing and travel restrictions in Australia varied from five weeks to five months during 2020, depending on location. However, clinical practice experiences

were affected by COVID-19 in all three states represented by participants.

Challenges with physical placements

In line with government directives, the services implemented physical distancing restrictions, increased hygiene measures and personal protective equipment (PPE) requirements. However, impacts on students varied at a local level, reducing capacity to accommodate students in some areas, such as nurses conducting telehealth consultations from home.

> "From the clinical placement point of view, we've had a few struggles. You could go to ten different [service providers], and you could find it being managed slightly differently in each area." (3)

> "There was at least one [health service] I can think of that almost kept the service going, albeit with masks and PPE, as it was before. And the students who were at that [service] were very lucky because they actually got to do their clinical." (5)

Participants noted that in some areas all consultations were conducted by telephone or video, regardless of the child's age or vulnerability. While services negotiated how to deliver services using telehealth, ensuring student access to placements became challenging:

> "[Placements were] difficult because a lot [stopped the] service and then of course they struggled. They had to work out how they were going to [provide the service via telehealth]. […They said] we're not having students at the moment. [Others] allowed them to sit in on telehealth and…start to do the telehealth calls, [and] discuss things with parents." (5)

Lack of physical space in clinics was often prohibitive to maintaining distancing requirements:

> "A lot of the [clinic rooms] are quite small, so they couldn't fit in with social distancing an extra person, a student. And how do you supervise the students, say, filling in [the electronic health record], for example, and sit over the other side of the room while they're doing it?" (1)

The emotional toll of the pandemic on educators and students was evident throughout all interviews including one stating "Last year nearly killed me!" (4). However, there were also positives to come from the struggles:

> "It's almost like going through a war together. They've come through it at the other end feeling as a cohesive group." (1)

Most participants described significant teaching and placement issues. Institutional responses depended on local constraints, professional requirements and restrictions. Adaptations to practice and assessment requirements included extensions to due dates, altered elective offerings and allowing telehealth experience in lieu of in-clinic experiences.

Professional practice insights

One aim of clinical placements is to model professional roles and responsibilities. It became apparent during interviews that nurses' capacities to practice in line with professional guidelines was impacted by the shift to telehealth. Participants noted a lack of guidelines and practice constraints impacted working with highly vulnerable families. Half of the participants raised concerns that reduced or paused services during lockdowns could compromise education in specialist areas of practice, child safety and professional identity, as reflected by these statements:

> "How do you tell if a mother is experiencing [domestic violence] in a Zoom environment? How do you assess the baby for bruises? Undressing the baby in the Zoom environment? How do you actually do partnership and practice in the virtual environment? I mean, everyone's still learning about this." (4)

> "As a service, initially we weren't doing much during COVID…we were really in grave danger of being a pretty useless service." (5)

Participants reported an initial lack of clear communication with service managers, as well as a sense of chaos and anxiety for participants and students.

> "I think it was [individual local services] making these decisions [to reduce or stop services]. [Service managers said] "I can't get nurses to come to work. They're too scared to come to work. They don't want to wear the PPE. How can we possibly do this? We'll just stop seeing children." (1)

Strong relationships with government and service managers enabled educators to present their institutional perspectives while also gaining broader insights into "… struggles of the nurses on the ground" (4), enabling them to appropriately support students.

As a profession, new ways of practicing were developed in response to constraints nurses faced. Although graduate outcomes remained the same, teaching online, telehealth and alterations to clinical placements highlighted new ways of thinking about teaching and practice. These were then incorporated into curricula, preparing students for independent, specialist practice in the future.

> "We've had students who've been not able to see families face-to-face. However, I believe that has opened up a whole new avenue of experience for students [to understand] there can be other ways of seeing clients if they can't see them face-to-face. As there's been innovations in education, there's also been innovations in practice itself." (3)

Discussion

This study explored educator perspectives of how COVID-19 changes impacted postgraduate education programs for Maternal, Child and Family Health nursing, a unique sub-set of mature aged students. Their experiences of rapid change and uncertainty reflect previous reports from nursing and midwifery (Adams et al., 2020; Dewart et al., 2020; Luyben et al., 2020; Ramelet et al., 2022; Sarli et al., 2021) and other health service settings (Pierce et al., 2020). Similarities included challenges of working at home with reduced access to services and support networks (Pierce et al., 2020; Usher et al., 2020; Vandenberg & Magnuson, 2021). For these educators, impacts were particularly evident in three key areas: grappling with COVID-safe teaching and assessment; learning in a virtual community; and clinical placement tensions. Education providers learned to use new technology, adapted assessments, created new simulation resources and responded to clinical practice constraints in innovative ways. Despite differences in restrictions across the country, participants responded to COVID-19 in similar ways. Advantages were identified when strategies to enhance collaboration and connection between students and lecturers were implemented. These were particularly evident when teaching was already online and live interactions with and between students increased. Positive outcomes included improved grades and greater insight into the stressors students faced in their non-student lives.

Rural students often enroll in online programs as access to face-to-face teaching may be limited. However, they may also experience reduced access to online technologies, such as poorer broadband connectivity (Muthuprasad et al., 2021). This study suggests the move to online teaching increased access to all aspects of programs for rural students, although limited internet access remained an issue.

Future programs are likely to include aspects of innovations brought about by the pandemic, including drop-in online 'rooms' where students can meet informally, opportunities for informal meetings with lecturers,

and alternatives to clinical placement experiences where they are difficult to access. However, further investigation into simulation and other methods for teaching practical skills in wholly online programs would be beneficial. While there is evidence that simulation is an appropriate tool for advanced practice nurse education (Lavoie & Clarke, 2017; Peddle et al., 2020), there are limited resources for this specialty, and further exploration of context and individual preparedness would be useful (Campbell et al., 2021; Kim et al., 2022). Needing to adapt to online technology is not unique to nurse education or health care, however, the pandemic often sped up this transition. Common assessment criteria and preceptor education have supported Maternal, Child and Family Health education in the past (Mitchell et al., 2018). COVID-19 restrictions have highlighted the value of agreed practice standards while encouraging communication and timely monitoring of student progress, no matter where students are located.

Education decisions were strongly impacted, not only by broader state and national restrictions, but by how local health service providers responded. Although practice and education programs have many similarities (Grant et al., 2017), responses to COVID-19 have highlighted differences in service provision, placement experiences and education requirements for Maternal, Child and Family Health nursing practice in Australia.

Changes to teaching strategies have fostered improvements to interactions with students and collaborations with clinicians. The pandemic has provided an impetus to develop new placement and assessment criteria and highlighted potential benefits of including simulation. Students and clinicians have gained experience in telehealth as an additional practice tool; however, support is needed to ensure educator and practitioner skill development for this different way of communicating and assessing wellbeing. Abimbola et al. (2019) described six factors affecting successful implementation of telehealth interactions in rural and remote areas of Australia that could be applied more broadly. These include a need for carefully planned, consultative, evidence-based, well supported, cost effective and efficient systems. Telehealth is relatively new in preventative health care and was rarely used in Maternal, Child and Family Health. Although quickly adopted during COVID-19, rapid introduction makes it likely some criteria were not met, foreshadowing the need for evaluation and refinement if telehealth is implemented long term. Some institutions were able to continue using preceptors for teaching and clinical skills assessments, although preceptors required additional support to supervise students in use of telehealth and the responsibility for teaching practical skills fell more heavily on clinicians than in the past.

Rapid introduction of telehealth in Maternal, Child and Family Health services may have led to improved services for some isolated families. Further investigation into strategies used and impact of telehealth on education and practice is likely to provide valuable information for education of future specialist practitioners. While valuable new experiences have been gained in some areas, employers and new graduates will need to ensure any gaps in education that may impact on a safe transition to independent practice are identified and addressed. Structured graduate programs which identify and review individual graduate knowledge, skills and need for further support such as those developed in collaboration with state government (Department of Health and Human Services [DHHS], 2019) are likely to be of particular benefit for this cohort of students.

Limitations

Study recruitment was impacted by university staff changes, paused program offerings, and the small pool of Maternal, Child and Family Health nurse educators in Australia. Intellectual property and confidentiality concerns may have also impacted recruitment. Although small and not designed to be a representative sample, participants represented the diversity of practice settings, educational platforms and qualification requirements seen in postgraduate nursing education more broadly. Furthermore, the study does not provide insights into student or clinician experiences. While participants consistently discussed impacts on students and clinicians, it is not clear how 'in tune' educators were with their experiences.

Conclusion

This study sought to explore educators' experiences of teaching postgraduate nurses during the coronavirus pandemic. While addressing the impact of broader community and health service concerns, educators rapidly adapted teaching in response to changed assessments and telehealth practice as well as supporting students who were part of COVID-19 health responses.

Three main themes were identified, relating to teaching, learning and professional practice. Within these, educators expressed a sense of uncertainty, increased flexibility, new ways of connecting with students and clinicians, and identified opportunities to innovate resulting from the pandemic. Future Maternal, Child and Family Health nursing education is likely to include many of these innovations, while also building on what has been learned during this time.

Declaration of competing interest

None.

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