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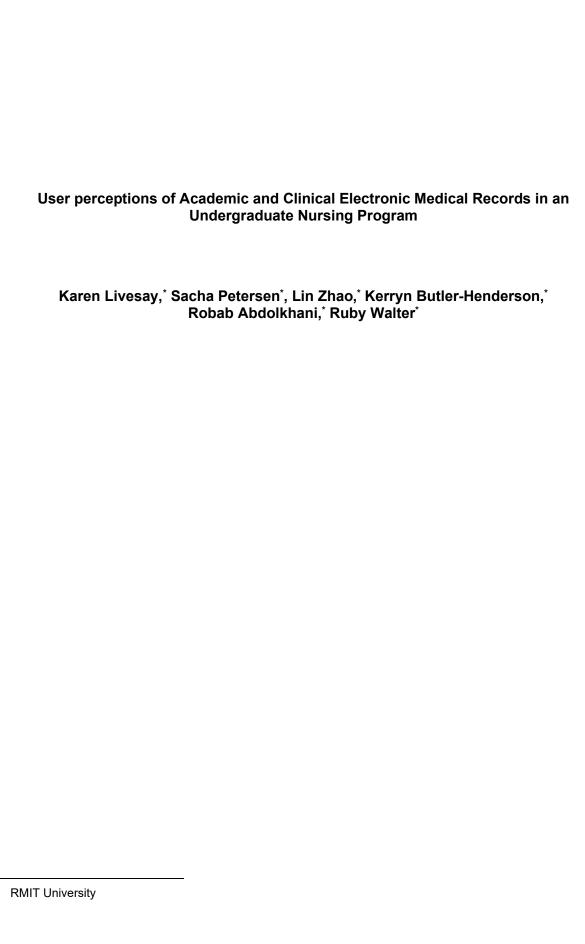RMIT University

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Abstract

Background: Electronic Medical Records (EMRs) are a widely used technology within health care. Nursing students require preparation during undergraduate education for the use of EMR. Nursing educators in universities also need to be proficient with EMR. This study reports the experiences and attitudes of nursing students and nurse educators using a simulated Academic Electronic Medical Record (AEMR) system within a nursing degree.

Aim: To determine nursing student and nursing educator experience with and attitudes towards EMR and AEMR.

Methods: Nursing students across three years of a Bachelor of Nursing program and nurse educators teaching with an AEMR system completed an online survey.

Results: Findings from participating nursing students (n=103) revealed a favourable view of the learning and clinical relevance of AEMR (87.5%). Less than half (45.5%) of the surveyed students had been exposed to EMR whilst on clinical placements. In contrast most of the students (38.8%) who had been employed in a health care setting within the previous five years had used an EMR. Nurse educator responses (n=7) showed that most (n=5) had experience with EMR and viewed AEMR as important for student learning, with fewer (n=3) regarding it as an easy system to use.

Conclusion: The survey revealed that both students and educators were satisfied with AEMR - and that AEMR use was acceptable for use in the University setting. However, the survey shows student exposure to EMR on placement is low. AEMR applications have the potential to bridge the gap in student experience however adequate support and training for academic staff in the use of AEMR is required.

I   INTRODUCTION

Technological advancements in health care provision have rapidly increased globally in recent decades, particularly in the area of digital health (Campanella et al., 2016). Digital health, according to Sharma et al. (2018), includes the use of digital information, data, and communication technologies in the collection, sharing and analysis of patients' health information, with the goal of improving both care delivery and patient health. Examples of digital health include electronic medical records, telehealth/virtual health, wearable devices, robotics and artificial intelligence.   Arguably, the most widely adopted form of digital health is the Electronic Medical Record (EMR). Electronic medical records (EMRs) have been used instead of paper-based records since the early 1990's with increasing use being possible as technology has become more affordable and efficient (Evans, 2016). EMR has had significant positive impact in health care, allowing for greater standardisation of care, improved and more efficient communication of clinical data, while reducing the risk of documentation errors. However, EMR use is not without its risks, including concerns about alarm/alert fatigue, privacy, loss of interpersonal communication skills and an overreliance on technology for decision making (Menachemi & Collum, 2011).

This paper explores the perceptions of nursing students and educators of an Academic Electronic Medical Record (AEMR). The AEMR referred to in the study was a cloud based, simulated Electronic Medical Record (EMR) application. Students and educators were provided with an account which gave them access to the application remotely and within the simulated health environment. The AEMR evaluated in this study has all the functionality of a typical EMR. That is, it can be used for the collection, entry, analysis, interpretation, and synthesis of clinical data within the context of simulated health care. The AEMR application is used in both the simulated health environment (clinical skills-based sessions) and during theoretical case-based learning activities (online and face to face). The system was also used in assessment tasks across all year levels. Throughout the paper, the terms AEMR and EMR will be used. The AEMR refers to the simulated EMR application that was used in the education setting, EMR refers to the application used in clinical practice. Other terms and their definitions that were used in the survey are presented in Table 1.

Table 1
Definitions of key terms used in surveys

Term	Definition
Paper health record	Clinical information captured on paper. This may be used alongside a computerised patient administration system, which captures administrative information.
Hybrid health record	Clinical information recorded both on paper and in a digital clinical information system. For example, a paper record may capture inpatient notes, but all pathology information is in a clinical information system.
Digital health/medical record	Also known as a computerised health/medical record. Clinical information captured on paper and then scanned and stored digitally. May be part of a hybrid system. For example, the inpatient notes are captured on paper and following discharge are scanned into a digital health record, and all pathology information is in a clinical information system.
Electronic medical record (EMR)	Clinical information captured in an electronic health record, from one health organisation into one record
Electronic health record (EHR)	Clinical information is captured in an electronic health record, from multiple organisations into one record, and is holistically focused on the provision of care and support.
Personal health record	Also called a personally controlled (electronic) health record. Managed and controlled by an individual, with both the person and clinician potentially contributing to the content.

II   LITERATURE REVIEW

According to Manca (2015), EMRs have resulted in better informed health care professionals, enhanced communication and relationships between the interdisciplinary health care team, and improved workflow. This is due to the facilitation and integration of patient health information including health history, medication orders, vital signs, diagnostic information such as pathology reports and imaging, scans, and x-rays (Campanella et al., 2016). Benefits of EMRs include improved health care efficiency, due to ease of access to patient information at the point of care, as well as the ability to share a patient's care information instantly and securely amongst the health care team (Ayaad et al., 2019). Patient information is also able to be generated in formats not previously possible with paper records (Manca, 2015), such as in graphs and charts that can track patient changes over time and admissions. Patient safety benefits from EMR due to improved adherence by clinicians to clinical guidelines and a reduction in medication errors and adverse drug reactions are also reported (Campanella et al., 2016). In addition to the use of EMR in clinical settings, there are significant plans to continue to increase the digitisation of health services in Australia (Victorian Government, 2021; Miles et al., 2019).

Health care practitioners, particularly nurses, have been required to adopt digital health technologies such as EMR in the clinical setting. Simultaneously, the importance of preparing nursing students for future practice has increasingly been noted in the literature (Mollart et al., 2020; see also Booth et al., 2021; Kleib et al., 2021; Peacock et al., 2022; Sorenson & Campbell, 2016; Williams et al., 2021). However, there is seemingly little guidance on the nature and content of how students should be prepared. The Australian Nursing & Midwifery Accreditation Council (ANMAC) for Entry to Practice Nursing programs has stated that accreditation of nursing programs requires "program content to support the development and application of knowledge and skills in health informatics and technology" (2015, para.1). Whilst this explanatory note was published in 2015, it remains the current stance on the ANMAC website. Nursing programs within Australia are therefore required to integrate a curriculum that prepares undergraduate nursing students both theoretically and practically for engaging with digital health in the practice setting. As Mollart et al. (2020) reported, this integration has been piecemeal to date. Kleib et al. (2021) suggested there are challenges in nursing programs that have contributed to this piecemeal integration. Theoretical education on digital health can provide information about the principles of EMR, however gaps remain in the practical application of navigating EMR systems for nursing students, exacerbated in part by limited hands-on opportunities (Kleib et al. 2021). Recent Australian studies by Peacock et al. (2022) and Mollart et al. (2021) found that nursing (and midwifery) students described feeling underprepared to engage with EMR on placement. In addition to challenges with practical opportunities, a lack of nurse educators who are proficient and/or familiar with EMR also exists within Entry to Practice Nursing programs (Sorenson & Campbell, 2016). Senior nurse educators may not have worked clinically in recent years when the use of EMRs has increased, particularly in Australia, and therefore require some hands-on training and experience themselves.

More recently, nursing programs are investing in simulated EMR programs or AEMR, that can be delivered within nursing education settings. AEMRs provide opportunities for students to interact with and navigate an EMR system within a low-risk teaching environment. Sorenson and Campbell (2016) identified that AEMR simulate an EMR for teaching purposes and incorporate features such as case studies and simulated scenarios. Nursing students learn about the principles and experience the practical elements of EMR as they interact with the technology and complete activities such as documenting and/or interpreting previously recorded patient information and patient assessment findings.

This paper reports on a research project that was undertaken at an Australian University that purchased an AEMR to assist in the preparation of its nursing students to understand and use EMR in their future practice. The AEMR involved was a cloud based simulated medical record system that the students use within the University's simulated health facility, and during online or face to face learning experiences. This cross-sectional study was designed to determine both

nursing students' and nursing educator's perceptions of EMR. The study was conducted during the initial implementation of the AEMR within the University's simulated health facility. It was considered important to determine the perceptions at baseline to provide an opportunity for future comparison and explore the current and future capability needs of students and nurse educators.

III   METHODS

The study used a survey that was developed by the research team who were nursing academics with experience of the AEMR system, as well as informed by expert opinion and relevant literature on digital health and education. The research group then invited a small sample of nurse educators (N=4) to assess the face validity of each individual item. All survey items were retained as over half of the experts reported the questions to be essential. Minor changes were made to overcome ambiguities of expression. Within the survey the term 'AEMR' was not used as students and educators were not familiar with this term.

The surveys were based on a mixture of multiple-choice questions that asked for participant demographics and past EMR usage history, and five-point Likert scales that assessed the participants' perceptions of paper health records, the AEMR system, and EMRs broadly. The survey also assessed participants' perceptions of usefulness and accuracy of data retrieval. The research project was granted ethics approval from the University's Human Ethics Research Committee.

All students actively enrolled in the Bachelor of Nursing and nursing educators who interacted with the AEMR during teaching or learning in semester one, 2021, were invited to participate. The survey was distributed via email which linked to the Qualtrics™ survey platform. The survey was available between May and September 2021. The survey was anonymous and survey completion implied consent. Data were analysed using SPSS 26 (Statistical Package for the Social Sciences). Frequency tables and descriptive analyses were conducted to summarise demographics and users' experiences, and percentages were based on the number of completed values. The chi-square difference test comparing the experience of using paper health records and the AEMR was conducted. Due to the small number of educators who participated in the survey, testing conditions were limited, and results associated with Likert scales from the educator survey were regrouped to enable statistical analysis and interpretation.

IV   RESULTS

Out of 764 actively enrolled students in early 2021 and 13 permanent and casual nursing academics, 103 students and seven nursing educators completed the online survey. The demographics of 103 students is outlined in Table 2. Female nursing students outnumbered their male counterparts and over half of all students (52.4%, N=54) were second year students. Forty (38.8%) students reported they had taken paid employment within a health care setting in the past five years as Enrolled Nurses (65%, N=26), Personal Care Assistants (20%, N=8), Registered Undergraduate Students of Nursing (12.5%, N=5) and 'other' (2.5%, N=1) and most (95%) used EMRs within that employment. Less than half of the of the surveyed students (38.8% N=34) had been exposed to EMR during clinical placements. The Chi-square analysis indicated no statistically significant difference in the distributions of nursing students' level of experience and confidence between paper health records and the AEMR (Table 3). This indicated the students perceived that the paper and electronic records were equally applicable to their learning. Students' attitude to AEMR training and the use of new technology were positive, as shown in Table 4, with 87.5% (N=70) of participants reporting favourably on the clinical relevance of AEMR training within their program.

Table 2
Demographic characteristics of students

Students' Characteristics	Category	N (%)
Age (%)	18– 24 years	44 (42.7)
	25-29 years	15(14.6)
	30-34 years	17(16.5)
	35-39 years	9(8.7)
	40-44 years	7(6.8)
	45 – 49 years	3(2.9)
	> 50 years	8(7.8)
Gender (%)	Female	85 (82.5)
	Male	17 (16.5)
	Not stated	1 (1.0)
Speak a language other than English (%)	Yes	73 (70.9)
	No	30 (29.1)
	- Arabic, Cantonese, Hindi, Mandarin, Nepalese, Vietnamese, Filipino and many others	
Level of Undergraduate Nursing (%)	Year 1	18 (17.5)
	Year 2	54 (52.4)
	Year 3	28 (27.2)
Experience with paper-based documents in the lab (%)	Yes	96 (93.2)
	No	5 (4.9)
Paid work within a health care setting in the past 5 years (%)	Yes	40 (38.8)
	- Enrolled Nurse (26)	
	- Personal Care Assistant (8)	
	- Registered Undergraduate Student of Nursing (5)	
	- Others (1)	
	No	46 (44.7)
Experience with EMR as paid work (%)	Yes	38 (36.9)
	No	51 (49.5)
Placement using EMR (%)	1 venue	21 (20.4)
	2 venues	7 (6.8)
	3 venues	2 (1.9)
	4 venues	4 (3.9)
	Not applicable or used	56 (54.5)
Types of records been exposed to (%)	Paper health record	20 (19.4)
	Hybrid health record	3 (2.9)
	Digital health record	11 (10.7)
	EMR	21 (20.4)
	EHR	13 (12.6)

Table 3
Students' experiences with paper health records and AEMR

	Paper health record N(%)			AEMR N(%)			X^2	P
	Agree to strongly agree	Disagree to strongly disagree	Neutral	Agree to strongly agree	Disagree to strongly disagree	Neutral		
Easy to use	66 (81.5)	4 (4.9)	12 (14.6)	52 (69.4)	5 (6.7)	18 (24.0)	2.665	0.264
Useful to learning task	70 (85.4)	3 (3.6)	9 (11.0)	60 (80.0)	3 (4.0)	12 (16.0)	0.888	0.642
I understood how to use it	78 (95.1)	2 (2.4)	2 (2.4)					
Relevant to my learning	76 (92.7)	2 (2.4)	4 (4.9)	60 (80.0)	3 (4.0)	12 (16.0)	5.782	0.056
Information I got from was accurate	67 (81.7)	3 (3.6)	12(14.6)	59 (78.7)	2 (2.7)	14 (18.7)	0.551	0.759
I could retrieve information I needed easily	65 (79.3)	8 (9.7)	9 (11.0)	54 (82.0)	5 (6.7)	16 (21.3)	3.364	0.186
easy to learn				52 (69.3)	6 (8)	17 (22.7)		
Easy to understand				55 (73.3)	3 (4)	17 (22.7)		
The information is presented in a useful format				56 (74.7)	3 (4)	16 (21.3)		
Overall satisfaction	63 (76.9)	8 (9.7)	11 (13.4)	52 (69.4)	5 (6.7)	18 (24.0)	3.128	0.211

Table 4
Perceptions of AEMR by students

	Strongly agree N (%)	Agree N (%)	Neutral N (%)	Disagree N (%)	Strongly disagree N (%)
I embrace new technology	27 (34.2)	43 (54.4)	6 (7.6)	3 (3.8)	
I am scared of new technology	3 (16.3)	13 (12.6)	14 (17.5)	34 (42.5)	16 (20.0)
I think paper health records are less effort than EMR	4 (5.1)	18 (23.1)	28 (35.9)	25 (24.3)	3 (2.9)
I think education on EMR belongs in university	16 (20.3)	32 (40.5)	25 (31.6)	6 (7.6)	
I value that this training is available to me at RMIT	25 (31.6)	39 (49.5)	14 (17.7)	1 (1.3)	
I can see how this training is important to my clinical practice	24 (30.0)	46 (57.5)	10 (9.7)		
I would have chosen another university if I knew I would need to do this training	1 (1.3)	11 (14.1)	14 (17.9)	28 (27.2)	24 (30.8)

All seven participating nurse educators were female and over 40 years of age (Table 5). Four of the educators were working clinically at the time of the survey, and in total five educators (71.4%) had experience with using EMR clinically. Most educators reported a positive experience of using paper records, however three (42.9%) agreed the AEMR is an easy system to work with. Nevertheless, all nursing educators showed a positive attitude towards AEMR training for students with the majority (71.4%; N=5) believing training is important to students in preparation for clinical placement. However, in response to the question "The AEMR is easy to use", a majority (71.4%; N=5) of educators responded either neutrally or disagreed with the item assessing how easy retrieval of information from the AEMR was, while more than half of the educators (N=4) chose a neutral response.

Table 5
Demographic characteristics of educators

Educator Characteristics	Category	N (%)
Age in years (%)	40-45	2(28.6)
	45-49	1(14.3)
	>50	4(57.1)
Gender (%)	Female	6(100)
Level of teaching	Year 1	1
	Year 2	3
	Year 3	3
Current clinical practice (%)	Yes	4 (57.1)
	No	3 (42.9)
Experience with EMR (%)	Yes	5 (71.4)
	No	2 (28.6)
Experiences with types of record	Paper health record	4
	Hybrid health record	1
	Digital health	2
	EMR	4

V   DISCUSSION

The key findings from the descriptive survey showed general satisfaction with the use of AEMR however both student and educator participants were also satisfied with using paper records. Participants found the AEMR useful and deemed it appropriate for learning although some (31.6%) students demonstrated neutrality about whether the training belonged in the university setting. This study highlights an existing disconnect between student exposure and interaction with EMR on placements, the requirement that nursing students be familiar with the digital health technologies in broad use clinically, the need for nursing educators within the university sector who are familiar with EMR, and the degree of embedded digital health curricula that familiarises students with the digital health environment of their future workplace.

A   *Satisfaction with AEMR*

While most nurse educators were satisfied with AEMR used for teaching, they did not find it uniformly easy to use or feel they could easily retrieve information. However, their response indicated a higher degree of satisfaction with the use of paper records. This may reflect nurse educator familiarity with paper records in clinical practice, as widespread introduction of EMR technology only occurred during the last decade. Although Australian healthcare settings have implemented the EMR systems, AEMR systems for educational purposes were not widely adopted in tertiary education settings in Australia at the time of the study, and the system in

place at the research site had only been operational for 10 months and within one semester of teaching. Kowitlawakul et al. (2014), observed that faculty did not have widespread knowledge and experience of different EMR systems in practice. A lack of exposure to an AEMR system was also a limitation to integrating these systems into educational curricula. Nevertheless, positive regard for the AEMR amongst nurse educators was reported which could be cultivated through supported integration learning and orientation to the AEMR system (Kowitlawakul et al., 2014). Similarly, Ellis at al. (2020) reported that digital literacy influenced attitudes toward EMR systems and was more likely to be positive amongst nurses with previous computer use. This study may indicate more work needs to be done to expose students to the use and reasons for EMR use in clinical settings before they are trained on how to use it. This exposes a gap in digital health preparation of nursing students that needs to be explored with further research.

In this study, nurse academics were equivocal regarding usefulness but positive regarding accuracy of the new AEMR. Kowitlawakul (2014) reported that acceptance of an EMR system is influenced by the ease of its use rather than the nurse academics attitude towards the system. Our findings may suggest a lack of familiarity with the AEMR and EMR systems in practice or a need for further training. Clearly, training in the AEMR system implemented at the study site, was important for nurse educator familiarity and uptake and this had not been adequate at the time of the study. Burke and Ellis (2016) found technological stress related to teaching EMR was associated with a lack of training materials and the level of student knowledge. Sorenson and Campbell (2016) reported providing simple teaching strategies for faculty promoted ease of integration of AEMR teaching and was appreciated by nurse educators. The results of our survey and the evidence provided by existing literature suggest further resources for nurse academics to use in teaching should be developed and could be beneficial to uptake and engagement with AEMR.

B   *Acceptance of AEMR in nursing education*

The current study demonstrated that most students and nurse educators were supportive of including EMR education and experience into the teaching design. They described the AEMR as useful to the learning task and relevant to learning. This is in keeping with the findings of Mollart et al's. (2020) integrative review which identified that students' satisfaction and feedback on using AEMR was generally positive and led to improved knowledge compared with students who had not used the AEMR. In a further theme identified in this review, Mollart et al. reported that the use of realistic simulated case studies was highlighted as a useful and appropriate way to learn. Simulated learning should be realistic and authentic to enhance deep learning (Parker & Grech, 2018). Kowitlawakul et al. (2015), found that ease of use and perception of utility were key factors in students' acceptance of the AEMR and that senior students showed more intention to use the AEMR than junior students in the program. Proximity to clinical practice was thought to be the underpinning reason. Again, this reinforces the suggestion that attention needs to be paid to resources that can be provided by nurse academics. This may increase awareness of the application of what is learnt about AEMR when students transition to using an EMR in the clinical setting.

Despite positivity about using the AEMR, approximately one third (31.6%, Table 4) of the surveyed students selected the neutral response that this training should belong in the university setting. This is an important finding, when considered in relation to the clinical practice exposure to EMRs that was reported by students. More than half had not been exposed to a clinical EMR through paid work and, similarly, more than half of respondents had not undertaken clinical placement in a venue using an EMR. Students may have considered the need to develop skill in this area was not significant based on their current lack of exposure to EMR. This could be seen as a naïve effect of adult learning (Bradley et al., 2022) where the opportunity to apply EMR knowledge in real life was not immediately apparent. Potentially those students who were ambivalent about learning EMR skills in university may have believed the learning could be achieved readily in future practice or on graduation. This suggests the extent of learning required may be underestimated. The use of EMR is not without risk, especially for those who are not

familiar with the system or at risk of overestimating their performance through cognitive bias. Whitt et al. (2017) linked increasing EMR use to adverse patient events, potential for data loss and patient safety problems linked with increased human-computer interaction. This strongly supports increased need for self-reflection, meta cognition, and feedback on performance with EMR systems as a key component of increasing safety of system users (Bradley et al., 2022). The findings of this survey may indicate a lack of awareness of the AEMR and, in turn, EMR. This lack of awareness may signal potential clinical safety issues as healthcare continues to become digitised.

Mollart et al. (2020), identify that slow integration of AEMR in Australian universities risks students being underprepared for clinical practice. More than half the students in this study had not had exposure to EMR technology on placement and most students who had experienced EMRs had only seen a system operate at one placement venue. This exposure suggests that reliance on learning in real practice will leave some students underprepared. Further, those students who indicated they had used EMR in practice did not identify the extent of use, and this could have been interpreted differently by each respondent and incorporated activity from watching to documenting and retrieving data. Students are often not prioritised for training on electronic systems in practice and most students requested further training after practice (Ellis et al., 2020). Nearly all students (98.5%) in Mollart et al's. (2020) study felt they needed to learn about EMR use in simulated environments ahead of practice and that learning both paper-based documentation and using EMR would be useful. The potential for a student to complete their pre-registration education without experiencing an EMR was recognised by participants in Mollart's study and is indicated as a potential outcome in this study despite the research being conducted in different Australian states.

C   Perceived value of AEMR

The study survey reflected that students' perceived learning about EMR was valuable, with 80% of students reporting they thought it was useful to learn how to use EMR. This is comparable to student responses that learning a paper-based system was worthwhile (92.7%). The difference between these two formats may reflect the novelty of EMR and/or a limited awareness of what an EMR does, which may impact upon students' ability to form a judgement on the value of EMR. Interestingly, 20% of students were neutral or disagreed about the ease of retrieval of information reporting they found retrieval and accuracy of patient data to be similar between AEMR and paper records. It is difficult to determine the reason for this neutrality or disagreement. Indeed, the survey reflects that over half (54.5%) of the students had not worked with an EMR in a clinical setting and the survey included first semester students who had limited understanding of nursing practice. The results reflect that more work needs to be done to facilitate the students' understanding of EMR and its purpose, benefits, and pitfalls. This understanding is needed so that students, even without direct experience of the system, can recognise what is needed to access and use the EMR appropriately. The addition of qualitative data to explain the responses to this question would have been beneficial. Peacock et. al. (2020) present qualitative data on student perceptions of paper versus digital medical records. Students in this study commented that learning paper-based systems more closely matched the curriculum and that digital based systems were not as easy to navigate without prior learning (Peacock et. al., 2020).

In this study, the finding that students often do not get hands on experience with EMR when they are on placement was further confounded by many of the students not having been on placement. In addition, many of the students had not yet experienced a placement, therefore had limited context for understanding how EMR could be beneficial. It is important to note that the study was conducted during the COVID19 pandemic, which had disrupted and frequently resulted in cancellation of placements for all year levels. As a result, many students had limited to no opportunities to explore and understand this technology. This may demonstrate that context needs to be taught within the curricula of nursing degrees.

A further likely reason for students reporting that they have not had experience with EMR whilst on placement is that the facility they are on placement at may not provide sign in access to EMRs.

Due to the sensitive and private patient information stored upon EMR (Dubovitskaya et al., 2017) it is possible that student nurses may have account restrictions limiting their access to EMR data. It is also possible clinical educators on placement do not spend time explaining the EMR system to students due to EMR use and documentation not being explicitly stated as a learning outcome of the placements. This study has identified that there are several areas of focus for future research.

VI   FUTURE RESEARCH

This project has highlighted the requirement for a greater understanding of how to support and prepare nursing students and educators in the use of AEMR and ultimately EMR. The barriers to nursing students using EMR on placement is not well understood. Similarly, the education needs of nurse educators are likely to be dependent on their experience, and further research is required to develop an appropriate curriculum. Understanding industry expectations of a novice graduate nurse in relation to EMR is vital and needs to be reflected in the nursing curriculum.

VII   LIMITATIONS

The response rate of 12.7% (103 of a possible 810 students) was relatively low. However, the sample of participants who did respond represented a diverse group with most participants (70%) speaking a language other than English. The survey also received responses across the three-year levels of the program. There may be some bias in the sample responses as the survey recruitment may have attracted the more engaged students. It should be noted the survey was conducted during COVID-19 in Australia, in a state that mandated lockdowns and curfews. These were stressful and challenging times for students, which may have impacted recruitment.

VIII   CONCLUSION

In the context of growing transition to EMR utilisation in Australia this study identified students did not uniformly experience working with an EMR in clinical practice. There is potential for AEMR to fill the gap in this experience. Students reported willingness and ease of use of the AEMR introduced at the study site, but also exposed unconscious incompetence regarding the need for this experience to prepare them for practice. This finding demonstrated the need for integrated theory and practice experience to introduce this learning, coupled with understanding of the benefits and challenges that nurses are exposed to using EMRs.

The results highlight the potential for AEMR to be integrated into the curriculum but also exposes the need for teacher and students' resources. More training should be conducted with nurse academics to prepare them to teach using this AEMR system and integrate theory into practical simulations. Training should be augmented with lesson plans and other teaching resources to assist the academic staff and amplify ease of use.

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