

Student Access to Electronic Medical Records: Missing an Opportunity to Prepare Our Workforce

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Abstract. The use of an electronic medical record (EMR) during a student's clinical placement is intricately linked with student learning and skill development necessary to become a competent healthcare professional. However, significant variation currently exists in student EMR access and use within healthcare. In this study, we bring to light evidence of this variability amongst medical, nursing, pharmacy, and allied health student placements, both in policy and in practice. We found some health districts lack student policies on EMR use, as well as prohibiting important tasks including record writing capabilities. There was also variation in exposure to EMR training. In order to provide healthcare students with optimal education that includes technological competency, we identify a need for changes to both policies and practices.

Keywords. electronic medical record, information systems, technology literacy, patient safety, student development, teaching and learning, medical teaching, medical placements, allied health training

1. Introduction

The use of an electronic medical record (EMR) during a student's clinical placement is intricately linked with student learning and skill development necessary to become a competent healthcare professional. Research has shown that the benefits of EMR training and exposure during placements extend beyond student years. For example, a US study of family medicine students not only demonstrated that less EMR exposure led to poorer development of clinical communication skills, but that this detrimental impact persisted for some time [1]. Greater clinical documentation efficiency during a doctor's intern year has also been linked with increased familiarity with the EMR system prior to beginning practice in the field [2].

Training programs for EMR systems are not standardised within university degrees during pre-clinical years, or for student clinical placements, and research indicates that

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some students are dissatisfied with the EMR training programs available to them while completing their degree [3]. Additionally, the EMR functions available to students vary across different placement sites, resulting in different degrees of exposure. Cuddy et al. found that, for example, stark inconsistencies exist in the opportunities provided to students across medical student placements when using a given EMR function, such as entering notes into the system [4].

Policies are integral to defining the bounds and expectations of student use of an EMR system; indeed, a lack of relevant policy has been identified as a key barrier to EMR student access [5]. US and Canadian studies reveal that less than half of internal medicine training institutions have a policy in place on student documentation, and policy variation exists between clinical sites of the same education institution [6]. As many health jurisdictions emerge from the COVID-19 pandemic seeking to improve or adopt EMR systems [7-9], an urgent need now exists to ensure student education supports EMR skill development.

Limited information is available on student EMR policies in Australia. The aim of this study was to identify and review health district policies for EMR training and access for medical, nursing, pharmacy, and allied health students in New South Wales (NSW), Australia’s largest state.

2. Methods

In 2021, an email was circulated to contacts and colleagues known to the research team across the state’s 17 Local Health Districts (LHDs). Participants were asked: (1) if the LHD has a policy for student EMR use; (2) if the LHD offers students their own EMR login credentials; (3) if the LHD provides students with read and write access to the EMR; and (4) the type of EMR training available to students. Responses were collated and tallied.

3. Results

Of the 17 LHDs contacted, 13 responses were received. A summary of participant responses is shown in Figure 1.

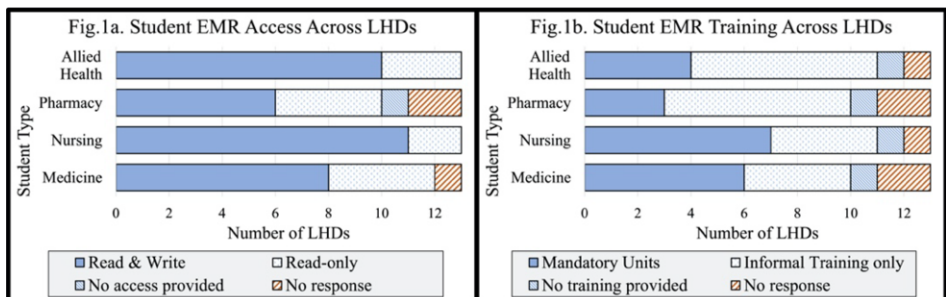


Figure 1. Summary of total LHD responses.

Figure 1a. Student access types permitted across 13 LHDs; Figure 1b. Training available across 13 LHDs.

Six of the 13 responding LHDs indicated that they had a formal policy on student EMR use, and these LHDs granted students permission to write within the EMR more frequently than those without a policy (18/24 vs 17/28). There were no LHDs that did not provide medical, nursing, or allied health students with their own EMR login credentials, however one LHD did not provide this for pharmacy students.

Four of the responding LHDs restricted medical student access to read-only, while fewer than half of the responding LHDs reported permitting read and write access for pharmacy students. In contrast, 10 and 11 of the responding LHDs permitted read and write access for allied health and nursing students, respectively.

Training ranged from mandatory units and training modules to no training at all. Most frequently, supervisors provided informal education when students needed it, while mandatory training varied for different health professional groups. The lowest rate of mandatory training was identified in pharmacy (3/13), and allied health (4/13), while roughly half of the responding LHDs provided mandatory training for medicine and nursing students. Mandatory units for EMR training for medicine and nursing students were more likely in LHDs that did not have a student EMR policy. The opposite was true for pharmacy and allied health, further exemplifying the disjointed approach to student development across the state.

4. Discussion

In this study, there was substantial variation in student EMR policies, exposure styles and training. This variation was present not only between LHDs, but also within LHDs across different student health professional groups.

4.1. Characteristics of Student EMR Use

This study showed inconsistencies in how students were allowed to use the system. Many Australian students are not permitted read and write access, which is also an increasing trend in some obstetrics and gynaecology settings in the US [10]. Providing students with read-only access may not be sufficient to achieve the benefits of EMR exposure, because the EMR system acts to enhance student history taking and physical examination skills [11]. This is partly because the way in which information is presented, accessed, and reproduced within the EMR calls for cognitive processing that may not necessarily come naturally to the student, yet is vital to the profession. Importantly, students value write-access to systems and see clear benefits, with a recent survey of over 100 Australian allied health students showing almost all (97%) agreed that providing students with both read and write access to EMRs during clinical placements was important [3]. Additionally, exposure may influence attitudes towards EMR. For example, students may develop positive perceptions toward the EMR when permitted to document into the system [12].

While most LHDs reported providing students with their own EMR login credentials, this was not always the case. A recent study investigating allied health students' experiences of EMRs in Australia showed that of those who had access to EMR systems, almost a third accessed the system using someone else's credentials [3]; a safety risk and a clear breach of policy and permitted EMR activity [13]. This finding suggests that EMR policies may not in fact reflect what occurs in practice within districts. The act of using someone else's login is not unique to Australia, with students accessing EMRs using

other people's logins or via physical printouts also reported in international studies [14]. It is interesting to also note that even when students receive their own login credentials, they still may log into a colleague's account for reasons such as EMR function permission restrictions, or to help the colleague complete their duties [15]. Complementing policy review with surveys or observations of students and staff would be valuable to understand how EMRs are accessed and used in practice.

4.2. Training and Policy

We found variable and often ad hoc education provided to students on how to use the EMR. Educator feedback on student notes and use of the system presents a teaching opportunity relevant to the skills needed on the job [11,16]. Alongside informal education, structured teaching is recognised by healthcare professionals to be invaluable to certain skill development [17]. Research has shown that students also find structured EMR training valuable. For example, following the implementation of a third year pharmacy EMR training program that was specifically designed to develop career-relevant skills, such as diagnosis confirmation and assessment documentation, 94% of study respondents agreed that the EMR training activities benefited them in preparing for their advanced pharmacy duties [18].

Policies detail access and training requirements for students, yet in this study we found that policies pertaining to student EMR use were inconsistent across Australian healthcare LHDs. Almost a third of Australian allied health respondents to a recent survey indicated that a lack of appropriate training was a direct hinderance to them using the EMR [3], therefore consistent policy inclusive of standard training may facilitate and support student EMR operation.

This study was limited in that it describes data from one Australian state, and responses reported by LHD representatives were not crosschecked by other staff within the LHD.

5. Conclusion

EMR access and training is viewed as critical for students to develop the necessary skills to deliver safe and efficient care as health professionals. The ability to master EMR functions becomes an efficiency and safety imperative as hospitals continue to move away from paper-based records in favour of new, large scale EMR innovations. This study, consistent with international findings, demonstrated student access and training is disjointed amongst Australian healthcare institutions. Policies are an opportunity to provide clear learning and teaching standards, and as such, we advocate for policies that provide clarity on the student's training and expected use of EMR systems during placements at a state and national level, with expectations formulated in a way that complements the diverse learning needs in the different professions. A student's learning and contribution to healthcare is directly related to their EMR use, and we recommend health service organisations take further steps to ensure read and write access is provided to all students, regardless of health profession, so that students are ready and equipped to enter the socio-technical system that is healthcare.

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