

Impact of Electronic Medical Records Within the Maternity Environment: An Ethnographic Exploration of Midwifery Practice

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Abstract. Integration of care through digitalisation of paper records is important for childbearing women who may see multiple clinicians both within the hospital and the community. It is important that in the implementation of an EMR, the established benefits of a paper and handheld records are transferred and not lost. Acceptance and positive use of digital records in maternity settings has occurred despite concerns regarding workload interrupting women centred care.

Keywords. Digitalisation, maternity, ieMR, electronic health records, patient safety, data quality

1. Introduction

Paper hand-held records have been successfully used in maternity care for many years with the benefits of facilitating woman-centred care, women's participation in their care and improving communication between clinicians. Integration of care is particularly important for childbearing women who may see multiple clinicians both within the hospital and the community, so the introduction of the electronic health record (EMR) held much promise. Yet, the experience of digitalisation in maternity services in the United Kingdom calls into question claims of the usability, effectiveness and cost-efficiency of an EMR [1]. It is important that in the implementation of an EMR, the established benefits of a paper and handheld records are transferred and not lost.

In Queensland, Australia, a rolling implementation of an integrated electronic medical record (ieMR) has occurred across the state with the sites involved in the study having implementations in 2016 and 2019. The ieMR digitalised all previous paper patient records including medications allowing simultaneous access to update patient information [2]. It is critical to establish the quality, safety and efficiency aspects of such large change to inform ongoing best practice. The aim of this multi-site, mixed methods research project is to inform the use of the ieMR in a maternity services environment.

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Specifically in terms of the relationship between a woman and her midwife, women's experience of care, clinician practice, autonomy, decision making, and impact on quality, safety, teamwork and efficiency of care for health professionals.

2. Approach

We took an ethnographic approach to facilitate exploration of behaviours, perspectives, attitudes and interactions between health professionals in maternity settings and childbearing women. We used mixed methods across two regional hospital sites to observe, survey, audit ieMR records and interview midwives and childbearing women. Interview questions were developed from the observation outcomes. Only preliminary findings from the survey (n=49 from one site only), observation (n=32 sessions) and interviews (health professionals n= 10; women n=8) are presented here. All approvals from both sites and informed consent were gained before data collection.

3. Preliminary Results

The survey revealed positive feedback on the convenience of having only one record, simultaneous access for multiple clinicians and legibility. Challenges related to reduced face-to-face communication between professionals, time consuming ieMR documentation and concern with the copy and paste function creating risk of new errors. Observation completed at one site in birth suite found that 23%-64% of each observation episode saw the midwife at the computer using ieMR compared to 46-52% in antenatal clinic. Additional technology other than ieMR was in use such as IntelliSpace [3] for cardiotocographic monitoring of the foetus, and non-integrated intravenous pumps result in dual recording of data. Midwives used both bedside and desk computers to be with women whenever possible while maintaining contemporaneous data input. Long stretches of time with women were observed where midwives took notes on paper for later transcribing to ieMR. Student Midwives without logins enter data under other staff login.

During interviews with midwives in birth suite, they expressed that the sheer volume and regularity of recording of data into ieMR interrupted them from adequately providing for woman's needs. They felt that historically recording data onto the paper partogram could be done anywhere while providing care. For multiple experienced midwives, this created a lack of confidence in their ability to continue to provide quality care. Instances of compromised safety where midwives missed events during labour due to focusing on ieMR compounded this belief. Both Midwives and Women (interviewed postnatally) thought the one location of all records in the ieMR was advantageous. Postnatal women were unanimous in seeing migration to digital records as embracing the future.

4. Discussion and Conclusions

These early findings point towards acceptance and positive use of ieMR in maternity settings. This has occurred despite concerns regarding ieMR workload interrupting women centred care particularly in the early hours post birth. Pressure to complete

documentation and move women and their newborns out of birth suite impacts midwives' confidence in their ability to provide quality care. Interoperability between multiple digital technologies in birth suite remains poor. Recommendations from midwives for ways to improve workflow with ieMR needs prioritising by health services [4].

References

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