Impact of the Electronic Medical Record on Nurse’s Time Allocation During Cesarean Delivery

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Introduction

Potential benefits of the Electronic Medical Record (EMR) include serving as a centralized hub for legible patient data, a platform for interdisciplinary communication, and a medium to store and transfer information. However, the impacts on provider workflow are poorly studied and less understood. The objective of this study was to collect data on the time that nurses spend on the EMR in the operating room during cesarean deliveries.

Methods

This prospective, observational study was conducted at Lucile Packard Children’s Hospital at Stanford (Palo Alto, California). From June-July 2015, 20 scheduled cesarean deliveries were observed in the Labor and Delivery operating rooms. An observer timed how long the circulating nurse spent on the EMR during the case. The nurse was not aware they were being observed or timed. Immediately after the cesarean delivery, the nurse completed a questionnaire to determine their perception of time utilization in the operating room on direct patient care, assisting the healthcare team, EMR usage, and other activities. They were also asked about their perceived time allocation to the EMR pre- and post-operatively, and their desired time allocation for EMR. Data presented as mean ± standard deviation and percentage.

Results

The time spent on the EMR by the circulating nurse was 36 ± 12 minutes per cesarean delivery; 40% of the duration of the cesarean deliveries observed (Figure 1). The nurses perceived the proportion of time spent on the EMR during the case as greater than the actual time spent; (55% compared to 40%, p=0.020; Figure 1). There was no difference in the nurse’s reported average time spent on EMR pre-, intra- and postoperatively (p=0.511; Figure 2). Nurse’s reported desired proportion of time spent on the EMR during cesarean delivery was 22 ± 15%, significantly less than both actual and perceived intraoperative time spent on the EMR (p = 0.007).

Conclusion

To our knowledge, this is the first study that demonstrates nurses spend 40% of their inoperative time during cesarean delivery on the EMR; nearly twice the amount of time nurses desire to spend on EMR. A large proportion of time is also spent on the EMR pre- and post-operatively. Future studies are needed to better understand the impact of time spent with EMR on patient safety, and how the EMR can be optimized to limit time requirements.

References

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