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Improving anaesthetic maternity follow up through adoption of electronic maternity records

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Introduction

The routine follow up of postnatal women who received an anaesthetic intervention during their labour or delivery is vital for allowing patient feedback and assessment of complications.[1] Until recently, Cumberland Infirmary, Carlisle, used a paper follow up system for their maternity follow up. This system was isolated from the electronic maternity record used by the midwifery and obstetric teams.

Paper systems have limitations associated with their use, such as loss of records and the potential for errors relating to poor penmanship.[2] Electronic medical record systems reduce these issues leading to improvements in patient care and safety.

We assessed the effect of integrating anaesthetic documentation into an electronic maternity record and its impact on anaesthetic maternity follow up.

Methods

Retrospective analysis of electronic maternity records and anaesthetic paper follow up forms was performed for all cases between May 2020 and July 2020.

Data collected included the number of women who had an anaesthetic intervention, the number who received follow up (one follow up or more), the number with a complication and whether they had an anaesthetic review.

The findings were presented locally and training on how to use the electronic system was provided before adoption of the new system on 2/11/20. The same dataset was collected post-intervention from December 2020 to January 2021.

Results

Data were analysed for 204 women pre-intervention and 113 women post-intervention. Some women underwent more than one anaesthetic procedure, such as an epidural in labour and a spinal for caesarean section, therefore the total number of anaesthetic procedures were 247 pre-intervention and 127 post-intervention. Statistical significance was assessed using the Chi-squared test.

	Paper system	Electronic system	p-value
Interventions with follow up form created	225/247 (91%).	115/127 (91%).	0.86
Intervention follow up form completed correctly	196/247 (79%)	103/127 (81%)	0.69
Women who received anaesthetic follow up	128/204 (63%)	91/113 (81%)	0.001*
Women who received second follow up (if indicated)	3/12 (25%)	6/7 (86%)	0.01*
Women with potential anaesthetic complications in notes who received anaesthetic follow up	10/12 (83%)	5/10 (50%)	0.09
Clear documentation of who performed follow up	53/128 (41%)	90/91 (99%)	< 0.00001*

*p-value < 0.05 statistically significant

Discussion

The adoption of an electronic system for anaesthetic documentation significantly improved the number of patients receiving anaesthetic follow up, thus more women were reviewed to identify and promptly treat complications. Although the number of women who experienced a complication and did not receive anaesthetic follow up was higher in the post-intervention group, this was not statistically significant.

In addition to this, the electronic system provides clear and more traceable documentation to support patient care. This project has positively impacted the safety of maternity anaesthetic follow up at Cumberland Infirmary.

References

1. Association of Anaesthetists of Great Britain & Ireland and Obstetric Anaesthetists' Association. *Guidelines for Obstetric Anaesthetic Services*. 2013.
2. Job O, Bachmann LM, Schmid MK, Thiel MA, Ivic S. Assessing the efficacy of the electronic patient record system EDeR: implementation study—study protocol. *BMJ Open* 2013;**3**(4):e002478. Doi: 10.1136/bmjopen-2012-002478.