Improving medication error identification with an inpatient maternal-fetal medicine pharmacist

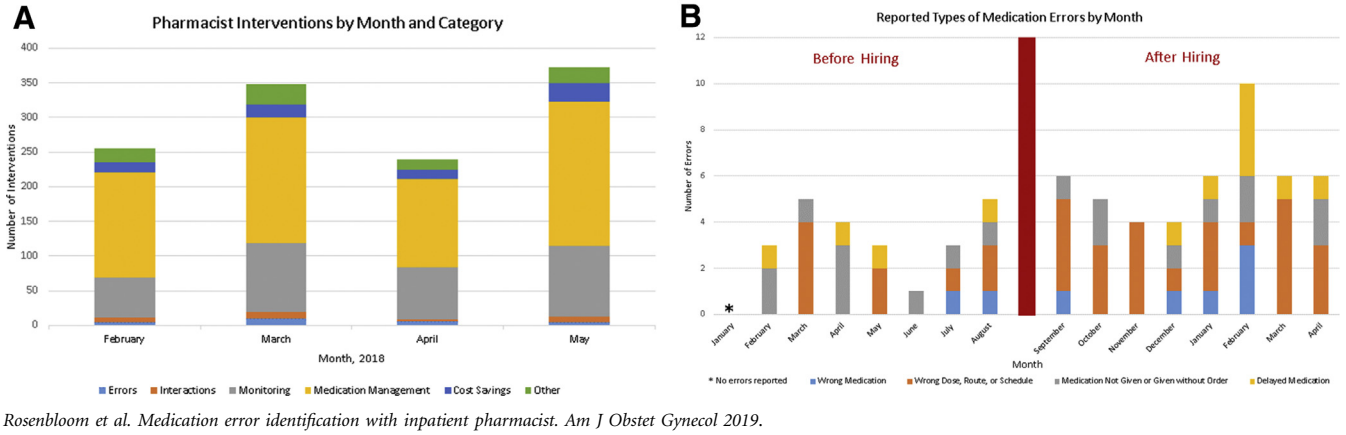
OBJECTIVE: Although the role of an inpatient clinical pharmacist in the intensive care unit and other hospital wards is well established, there are few reports of such personnel in obstetrics, despite the fact that there is a high rate of inpatient obstetric medication errors.[1–5] In September 2017, our Midwestern level IV hospital hired a dedicated inpatient maternal-fetal medicine clinical pharmacy specialist. The pharmacist attends daily board rounds on labor and delivery and rounds on all antepartum patients, and monitors medication orders. The objectives of this study were to quantify the number and types of interventions made by the pharmacist and to compare rates of reported errors before and after hiring. We hypothesized that the rate of identified medication errors would be increased in the time period after the pharmacist was employed.

STUDY DESIGN: After an initial orientation period to become familiar with the hospital, obstetrics ward, pharmacy department, and electronic medical record system, the pharmacist began recording interventions on a daily basis. These were tabulated from February 1, 2018 through May 31, 2018, under the categories of medication error, drug interactions, monitoring, medication management, cost savings, and other. Additionally, the pharmacist began entering medication errors into our institutional event reporting system shortly after being hired. The number and types of medication errors reported to this system in the 8 months prior to and first 8 months after the pharmacist's hiring were compared. As a quality improvement study, the study was exempt from review by the Institutional Review Board.

RESULTS: The Figure (Figure, A) depicts the number of interventions (n = 1217) within the different categories per month. The most frequent interventions were (1) medication management (n = 670), including providing drug information/education of clinical staff (n = 251), providing initial dose recommendations (n = 116), and other types of medication management interventions (n = 303); and (2) monitoring (n = 334), including discontinuation of medications that were no longer indicated (n = 232), providing recommendations based on drug lab monitoring (n = 45), and other (n = 57). There were 74 cost-saving interventions. The number of reported medication errors (n = 71) to the centralized reporting system doubled (3/month to 6/month, P = .007) after the pharmacist's hiring (Figure, B), and the majority of these were reported by the pharmacist. The most frequent types of errors were wrong dose, route, or schedule (n = 33) and medication not given or given without order (n = 18).

CONCLUSION: In the initial months after hiring, the pharmacist provided more than 1000 direct clinical interventions to improve patient care in a high-risk environment. Furthermore, medical errors can only be systematically addressed when they are noticed, and this study highlights that a significant proportion of medication errors (50% in this study) are not reported by providers. These results suggest that the addition of a pharmacist to the obstetric team may lead to interventions that ultimately improve medication safety. Further work is needed to define the role

FIGURE
A, Pharmacist interventions by month and category. B, Reported types of medication errors by month.



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of the inpatient obstetric pharmacist and determine the cost-effectiveness of this intervention. ■

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