

# Enhancing First Trimester Obstetrical Care: The Addition of Point-of-Care Ultrasound

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## THE INNOVATION

Our family medicine clinic launched a bimonthly Early Pregnancy Dating & Risk Assessment Clinic (EPD-RA) on September 1, 2022. Point-of-care ultrasound (POCUS) is utilized to assess the presence of a viable intrauterine pregnancy, allowing for early pregnancy dating, prompt management of abnormal pregnancies, and counseling about first trimester concerns. Retrospective chart review 6 months before and after EPD-RA establishment uncovered evidence of “disruptive innovation” in clinical outcomes.<sup>1</sup>

## WHO & WHERE

M Health Fairview Bethesda Family Medicine clinic is in St Paul, Minnesota. A large proportion of our patients are non-English-speaking refugees, and nearly all patients are Medicaid recipients. Our typical prenatal census is 55 to 80 patients. The associated Woodwinds Family Medicine Residency has 24 residents and 10 core faculty, including 2 fellowship-trained in family medicine obstetrics (FMOBs).

The EPD-RA clinic leverages the skills of a fellowship-trained FMOB faculty working together with a family medicine resident and OB RN care coordinator to improve patient care, patient experience, and resident learning surrounding first trimester obstetrical care. Patients estimated to be less than 14 weeks gestation are referred to the EPD-RA clinic from their pregnancy confirmation visit.

## HOW

Before initiating the combined early pregnancy dating and risk assessment clinic, each element of first trimester ultrasound, communication of results, risk assessment, and patient education was done in accord with American Academy of Pediatrics/American College of Obstetricians and Gynecologists (AAP/ACOG) guidelines,<sup>2</sup> but with each element performed separately. The innovation that led to improvement in

outcomes was the integration of first trimester POCUS into a multidisciplinary visit, as it allowed for results of the ultrasound to be reviewed with the patient in real time and acted upon promptly.

EPD-RA visits involve risk assessment, including symptom review and detailed history, and we utilize POCUS to evaluate the uterine contents including confirming the presence and gestational age of intrauterine pregnancies.<sup>3-4</sup> At the visit's conclusion, we assign a due date, initiate appropriate medical management, and our clinic OB RN care coordinator reviews first trimester precautions and arranges care for relevant medical conditions.

POCUS is known to expedite diagnosis of high-risk maternal medical conditions and abnormal pregnancies, such as failed, ectopic, and molar pregnancies.<sup>5-6</sup> POCUS at EPD-RA facilitates timely counseling on miscarriage management options and safe home management of vaginal bleeding. Medication management of miscarriage is provided for appropriate candidates in a familiar clinic setting, allowing the patient to be maximally supported. Additionally, EPD-RA provides standard, consistent care and education around common first trimester concerns including vaginal bleeding and nausea.

## LEARNING

While the overall miscarriage rates were similar, patients that did not miscarry made 81% fewer first trimester emergency department trips, urgent clinic appointments, and telephone calls for first trimester concerns after EPD-RA implementation. For patients experiencing miscarriage, the mean days from initial concern to diagnosis decreased from an average of 5.8 days to 1.7 days after implementation. Bimonthly EPD-RA clinic frequency was adequate to maintain timely access to ultrasound (**Supplemental Appendix**).

Point-of-care ultrasound integration within the Early Pregnancy Dating and Risk Assessment Clinic at Bethesda Family Medicine Clinic in St Paul, Minnesota, led to a significant reduction in emergency department visits, urgent clinic visits, and telephone calls for first trimester pregnancy concerns. Clinic implementation led to more timely diagnosis of abnormal pregnancy. The clinic also provides improved education and support for all patients, including those that ultimately experience miscarriage.

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**Key words:** Point of Care Ultrasound (POCUS); pregnancy dating; prenatal care; miscarriage management; pregnancy risk assessment; first trimester complications

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 **Supplemental materials, including acknowledgments and references**

*Conflicts of interest: authors report none.*

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