

Engagement frequency and C-section rates among users of a smartphone-based pregnancy application

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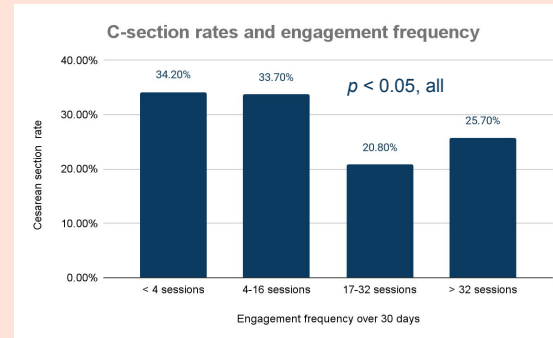
Introduction

An enterprise-level benefits mobile solution in the United States allows pregnant members to track daily symptoms during their pregnancy to detect adverse conditions earlier. It provides written educational content about evidence-based approaches to reducing the risk of a Cesarean section, such as building a birth team, selecting certified nurse-midwives as providers if appropriate, understanding elective vs. medically-necessary Cesarean sections, and managing conditions like preeclampsia or gestational diabetes. Members can interact with licensed clinicians to answer clinical questions through the app.

Objective

To assess how engagement frequency with a smartphone-based pregnancy tracking application impacts cesarean section rates.

Pregnant people who engaged more frequently with a digital health solution exhibited significantly lower Cesarean section rates.



Number of sessions	Sample size (n)
<4 per month	38
4 to 16 per month	187
16 to 32 per month	154
> 32 per month	140
Total	519

Methods

Participants qualified for inclusion if they were enrolled in the pregnancy solution at any gestational age, were enrolled into a qualifying insurance plan, and were between 15 and 44 years of age. Engagement frequency was defined as the average number of times a user used the solution in a 30-day period throughout their pregnancy, stratified into four cohorts: less than 4 sessions, 4-16 sessions, 17-32 sessions, and greater than 32 sessions. Cesarean section rates were sourced from insurance claims data. A Chi-square test was performed to assess statistical significance between engagement cohorts and Cesarean section rates.

Conclusions

Given almost one in three pregnant people give birth by C-section in the United States annually, preventative approaches are required to reduce the national C-section rate. These results suggest that digital solutions designed to engage users can deliver evidence-based prevention interventions aimed at positively impacting behavior change to reduce personal risk of Cesarean section.