Benefits derived from a prenatal telehealth program are associated with lower cesarean delivery rates

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BACKGROUND

- Recent WHO recommendations (2018) cite birth education as a key intervention for improving maternal health outcomes by reducing cesarean delivery rates.
- Digital health programs offer the opportunity for wide dissemination of pregnancy education interventions.
- Research supports the feasibility of implementing and engaging pregnant women in digital health programs, but evidence for their clinical impact is lacking.
- We assessed associations between resource utilization, benefits, and delivery outcomes among women enrolled in a prenatal digital health program (Maven).

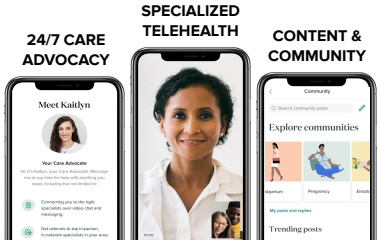
METHOD

SAMPLE. A subset of Maven pregnancy program members (n = 280) who initially indicated preference for *cesarean delivery* (40%) or *no preference* (60%) and delivered between 01/2020 - 03/2021.

DATA COLLECTION. Maven utilization data included resource reads and virtual appointments. Self-reported data were as follows:

- Demographic data & medical history
- Initial delivery preference
- Delivery method
- Subjective benefit: Member learned from Maven medically-accurate information about pregnancy or complications; Maven influenced member's birth plan or delivery method preference

Maven's pregnancy program is an employee or health plan benefit designed to supplement in-person prenatal and postpartum care.



- **Provider matching** based on member preferences
- **On-demand access** to providers across **30+ specialties**
- **Personalization** through **risk stratification & care planning**

RESULTS

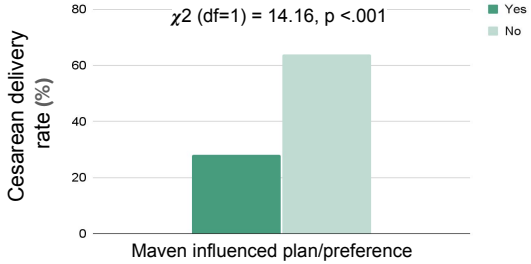
CLINICAL CHARACTERISTICS.

- *Med* age = 34 years (*IQR* = 30-36)
- *Med* BMI = 24.5 (*IQR* = 21.6 -28.3)
- 56% primiparous
- 31% history of cesarean delivery

RESOURCE UTILIZATION. Members who endorsed learning and/or influence read more resources (prenatal health, labor and delivery; *p*s <.001) and attended more virtual visits (OBs, MFMs, doulas; *p*s < .014).

EDUCATION & DELIVERY. **Learning medically-accurate information** about pregnancy or complications was associated with a **2.9x** greater likelihood of **vaginal delivery** (*p* <.001).

BIRTH PLAN & CESAREAN DELIVERY. **Cesarean delivery rates** were **significantly lower** when Maven **influenced birth plan / delivery** method preference.



In a logistic regression, **learning significantly predicted lower cesarean rate** (B = -0.813, p = 029, e^B =.443); birth plan influence approached significance (p = 058).

Model χ^2 (df=7) = 107.044, p < .001; sensitivity = 81%; specificity = 75%; covariates: age; BMI; multiple gestation; history of cesarean delivery; trimester at program entry.

CONCLUSION

- Education and birth-planning may reduce cesarean deliveries, including among women who formerly preferred cesarean delivery.
- Telehealth can broaden the impact of educational interventions by increasing their dissemination and reducing barriers to care.
- Replication is needed with larger samples.