Table 2. Diabetes-specific mHealth features preferred by low-income pregnant women

| Theme | Illustrative quotation |
|---|---|
| Glucose tracking | "I don't know if you've seen like the calendars where they have like the times where you can just keep track of [blood glucose readings], that would be nice, and if you skip it, you can write in there you skip for what reason because usually your sugar does go high when you're sick..." |
| Support for self-regulation | "Like if I had an app where I can go in and I can say okay at 1:00 I had my lunch and then it would let me know in four hours like hey, or it would let me know in two hours, hey, snack time or something like that. Just to kind of give me a reminder that you know maybe you should eat something or I didn't...if I put it that I had my lunch at 1, if it gives me like a little buzz...say at 2:00, hey it's time to check your blood sugar." |
| Responsive nutrition information | "[If you] took your blood sugar and you put it in [the app] and then it'll ask you okay what did you eat and then you say okay, this is what you ate, this is what I ate and then maybe if then gave like a recommendation like if it noticed okay, like you ate this type of food and your blood sugar was this high, then also suggest okay maybe lower, I don't know your carb intake or maybe try something else because that's what I have the biggest problem with. Knowing what food is triggering what and then also like to tell me okay, these foods are triggering the blood sugar spikes." |
| Communication with providers | "Like that would be awesome if I can just input my blood sugars or input things that my doctor can see and we can communicate through this app...Like if I can put all my information in here, maybe the times that I'm eating maybe what I'm eating, maybe my blood sugar, and they can see that." |

## 303 Maternal or paternal race: which is most associated with a risk of prematurity?

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**OBJECTIVE:** Black maternal race is a known risk factor for preterm birth (PTB). However, the contribution of paternal race is not as well established. We sought to evaluate the risk of PTB among non-Hispanic (NH) black, white, and mixed NH black/white couples.

**STUDY DESIGN:** We conducted a population-based cohort study of all live births in the US, 2015-2017 using live birth records from the National Vital Statistics System. We included women carrying singleton, non-anomalous fetuses, who self-reported their race and that of the father of the pregnancy as either NH white or NH black. The primary outcome was PTB < 37 weeks; secondary outcomes included PTB < 34 and < 28 weeks, and delivery gestational age (GA). Data were analyzed using chi-square, t-test, ANOVA, and logistic regression.

**RESULTS:** Of 11,376,439 singleton, non-anomalous births during the study period, 3,857,004 (33.9%) women met inclusion criteria; maternal/paternal race was reported as white/white (80.2%), white/black (2.7%), black/white (0.8%), and black/black (16.3%). Maternal characteristics are presented in Table 1. Overall, 6.8% delivered < 37, 1.8% < 34, and 0.4% < 28 weeks' gestation; rates of PTB at each gestational age cutoff were higher when at least one parent was black, and highest for black/black pairs. In addition, white/white pairs delivered at a mean 38.8 ± 1.7 weeks' gestation, while white/black, black/white, and black/black pairs delivered progressively earlier (38.6 ± 1.9, 38.5 ± 2.2, and 38.3 ± 2.4 weeks', respectively, p< 0.001). In adjusted regression models, the odds of PTB at each GA cutoff remained higher when at least one parent was black, and were highest for black/black pairs as compared with white/white pairs (Figure 1).

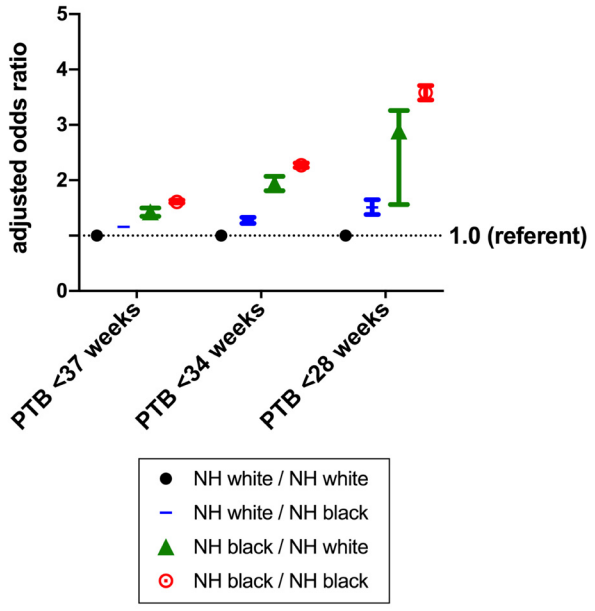
**CONCLUSION:** Paternal race should be considered when evaluating maternal *a priori* PTB risk. Among mixed-race pairs, maternal NH black race/paternal NH white race is associated with a higher PTB risk compared to maternal NH white race/paternal NH black race. Future research should investigate whether other factors — e.g., racism, genetics, epigenetics are at the root of racial disparities in PTB.

**Table 1.** Baseline and demographic characteristics by delivery gestational age. All data presented as n(%) or as median (IQR), as applicable, unless otherwise noted.

| Characteristic | PTB < 37 wks N=161,518 | Delivery ≥37 wks N=2,182,645 | P - Value |
|---|---|---|---|
| **Parental race (Maternal/Paternal)** | | | |
| NH white / NH white | 111,431 (6.0) | 1,743,119 (94.0) | <0.001 |
| NH white / NH black | 5,424 (8.2) | 61,084 (91.8) | |
| NH black / NH white | 1,627 (9.2) | 16,009 (90.8) | |
| NH black /NH black | 43,036 (10.6) | 362,433 (89.4) | |
| **Smoked during pregnancy** | 22,092 (13.7) | 190,133 (8.7) | <0.001 |
| **Medicaid or self-pay** | 76,200 (47.5) | 813,979 (37.5) | <0.001 |
| **Previous preterm birth*** | 28,637 (17.8) | 85,561 (3.9) | <0.001 |
| **Male fetus** | 86,431 (53.5) | 1,113,918 (51.0) | <0.001 |
| **Married** | 107,427 (66.5) | 1,659,793 (76.1) | <0.001 |
| **Chronic hypertension** | 8,580 (5.3) | 36,627 (1.7) | <0.001 |

*Among 3,325,230 multiparous women

**Figure 1.** Regression results. Shown is the adjusted* odds ratio (95% CI) of PTB by self-reported maternal and paternal race.




* all models are adjusted for marital status, Medicaid/self-pay, history of PTB, chronic HTN, smoking, and male fetus.

## 305 The effect of standardized discharge prescriptions on opioid use and pain experience after cesarean delivery

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**OBJECTIVE:** To evaluate opioid use following cesarean delivery (CD) and determine the effect of standardized discharge prescriptions as part of an Enhanced Recovery After Surgery (ERAS) pathway on patients' pain experience and opioid use.

**STUDY DESIGN:** We conducted a baseline survey of women who underwent CD from Jan- March 2017 at an urban academic hospital. Patients were called after discharge to assess their pain and opioid use. In July 2017, we implemented an ERAS pathway, including consistent use of non-opioid pain medications and standardization of opioid prescriptions on discharge to ≤25 tabs of oxycodone. From Nov-Jan 2019, a post-implementation survey was conducted.

**RESULTS:** Data was obtained from 102 women pre-implementation (PRE) and 104 women post-implementation (POST). On a 0-10 scale, mean reported pain scores at discharge were significantly lower in the POST group (PRE 6.61 vs POST 4.84, p=0.0001). 90% of discharge prescriptions were combined oxycodone/acetaminophen PRE, compared to 90% oxycodone alone POST. In the PRE group, 96% of patients were prescribed ≥30 pills, whereas POST, 97% were prescribed ≤25 pills. The mean number of pills consumed was significantly lower PRE vs. POST (24 vs 16, p=0.001). The number of patients who consumed all pills prescribed (43% vs 40%, p=0.691) and the mean number of leftover pills (7 vs 7, p=0.832) were not different between groups. Number of pills consumed was not associated with any patient factors, but was associated with pills prescribed. For each additional pill prescribed, 0.467 more pills were consumed (p< 0.05). Refills did not differ between groups (6% vs 3%, p=0.786). Mean pain scores the week after discharge were lower in the POST group, at 4.0 vs 3.3, p=0.02.

**CONCLUSION:** Implementing an ERAS pathway with standardized discharge prescriptions after CD led to a significant decrease in the mean number of opioid pills taken while also improving patients' reported pain. The similar number of unused pills in both groups suggests that even fewer pills could be prescribed. Standardized discharge prescriptions should be incorporated into ERAS protocols.

Table 1. Maternal characteristics by group

| Maternal Characteristic | Pre-implementation group N= 102 | Post-implementation group N= 104 | p-value |
|---|---|---|---|
| Age[a] | 27.44 (±0.60) | 30.46 (±0.59) | 0.001 |
| Prenatal care<br>Resident clinic<br>Attending clinic<br>Other | <br>n= 57 (55.8)<br>n= 33 (32.2)<br>n= 12 (11.7) | <br>n= 52 (50.0)<br>n= 32 (30.7)<br>n= 20 (19.2) | 0.334 |
| Race<br>African- American<br>White<br>Other | <br>n= 66 (64.7)<br>n= 24 (23.5)<br>n= 12 (11.7) | <br>n= 68 (66.7)<br>n= 27 (26.0)<br>n= 9 (8.6) | 0.584 |
| BMI >/= 35 | 35 (34.3) | 48 (46.2) | 0.061 |
| Hypertension (chronic or pregnancy related) | 34 (33.3) | 47 (45.7) | 0.0635 |
| Diabetes (pre-gestational or gestational) | 12 (11.8) | 20 (19.2) | 0.141 |
| Mental health disorder<br>Depression<br>Anxiety<br>Substance use disorder | <br>10 (9.8)<br>1 (1.0)<br>7 (6.9) | <br>17 (16.3)<br>0<br>0 | 0.008 |
| Number of cesarean deliveries[a] | 1.67 (±0.87) | 1.52 (±0.80) | 0.12 |
| History of chronic pain | 4 (3.92) | 2 (1.92) | 0.3962 |
| Scheduled cesarean | 38 (37.25) | 34 (32.69) | 0.4947 |
| Anesthesia at cesarean<br>Spinal<br>Epidural<br>General | <br>41 (40.2)<br>10 (9.8)<br>51 (50.0) | <br>47 (45.2)<br>6 (5.8)<br>51 (9.6) | 0.499 |

*All data are presented as n(%) unless otherwise indicated. °mean (SD). BMI: body mass index.*

## 306 Fetal growth trajectory in spontaneous and indicated preterm births: perhaps more similar than different

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**OBJECTIVE:** Abnormal fetal growth is seen among indicated preterm births (iPTB) due to placental dysfunction. Recent studies suggest a relationship between abnormal growth and spontaneous preterm birth (sPTB), which is less intuitive as placental dysfunction is not as characteristic of sPTB. If placental dysfunction differentially underlies iPTB and sPTB, then biometric differences could predict subtype of PTB. Our objective was to determine differences in fetal growth patterns in sPTB versus iPTB.

**STUDY DESIGN:** This is a nested case control within prospective cohort study of pregnancies followed longitudinally at a tertiary care center. Fetal biometry was collected, including head circumference (HC), abdominal circumference (AC), biparietal diameter (BPD), femur length (FL), estimated fetal weight (EFW). sPTB was membrane