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327 Designing prenatal care for low-income, black patients in urban settings using human centered design

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OBJECTIVE: Black and low-income pregnant patients face significant inequities in health care access and outcomes in the United States. Yet, these patients' voices have been largely absent from designing improved prenatal care models. Our objective was to use Human Centered Design to examine patients' and health care workers' experiences with prenatal care delivery in a largely low-income, Black population, to inform future care innovations to improve access, quality, and outcomes.

STUDY DESIGN: Using snowball sampling, we conducted Human Centered Design-informed interviews with low-income, Black patients and health care workers in a large, urban setting. Interview questions addressed the first two Human Centered Design phases: 1) observation: understanding the problem from the end-user's perspective, and 2) ideation: generating novel potential solutions. We assessed these questions for the three key components of prenatal care: medical care, anticipatory guidance, and psychosocial support.

RESULTS: Nineteen patients and 19 health care workers were interviewed. All patients were Black, and the majority had public insurance (17/19, 89.5%). Health care workers included doctors, midwives, breastfeeding counselors, doulas, and social workers. Participants affirmed the three goals of prenatal care. Participants reported failures of current prenatal care delivery and potential solutions for each of the three goals (medical care, anticipatory guidance, and psychosocial support) and two overarching categories: maternity care professionals and care structure. Participants reported in an ideal model, patients would have strong relationships with their maternity care professional who would be at the center of all prenatal care services. Additionally, care would be tailored to individual patients and use care navigators, flexible models, and colocation of services, to reduce barriers.

CONCLUSION: Current prenatal care delivery fails to meet low-income, Black patients' needs. Ideal prenatal care delivery includes more comprehensive, integrated services tailored to patients' medical needs and preferences.

Table 1: Failures of prenatal care as identified by participants

Care domain	Care Failures
Medical care	1. Prenatal appointments often do not give patients clear medical benefit or reassurance 2. Prenatal visits are low-value to many patients
Anticipatory guidance	1. Inadequate reliable, easily accessible information 2. Health care workers lack time and educational resources to share with patients 3. Patients are not comfortable asking questions 4. Online resources and friends and family are readily available but unreliable
Psychosocial support	**Material Needs** 1. Screening for resource needs is not sufficient 2. Accessing resources is complex and requires significant assistance 3. Available resources are insufficient **Social Support** 1. Patients desire greater partner support (e.g. father of the baby, significant other) 2. Current prenatal care structure does not integrate psychosocial support
Overarching prenatal care	**Maternity care providers** 1. Short appointments, seeing multiple maternity care professionals in pregnancy, and administrative burden preclude strong relationships between patients and maternity care professionals 2. Maternity care professionals do not address patients' non-medical needs **Care structure** 1. Medical care, anticipatory guidance, and psychosocial support are poorly integrated 2. Patients struggle to receive care and balance other obligations 3. Prenatal care is one-size-fits-all and is not tailored for individuals

328 Mode of delivery for term breech fetuses and long-term pediatric respiratory morbidity of the offspring

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OBJECTIVE: We set out to compare the long-term respiratory morbidity offspring born via cesarean delivery due to breech presentation to those delivered vaginally.

STUDY DESIGN: A population-based cohort analysis including all singleton breech deliveries between the years 1991-2014, comparing long-term respiratory morbidity of offspring born in breech presentation, according to mode of delivery. Offspring with congenital malformations, perinatal deaths and instrumental deliveries were excluded. Respiratory morbidity included hospitalizations (up to age 18 years), as recorded in hospital records. A Kaplan Meier survival curve compared cumulative respiratory morbidity. A Weibull parametric survival model controlled for confounders and repeat deliveries.

RESULTS: 7,337 breech deliveries were included; 6,376 (86.9%) cesarean deliveries and 961 (13.1%) vaginal breech deliveries. The Kaplan Meier survival curve demonstrated higher cumulative incidence of respiratory morbidity in the cesarean delivery group, as compared with vaginal delivery (log rank test p=0.006). Utilizing a Weibull parametric survival model to control for confounders, cesarean delivery was found to be an independent risk factor for long-term respiratory morbidity of the offspring (adjusted HR 1.79, 95% CI 1.27-2.53, p=0.001).

CONCLUSION: Cesarean versus vaginal delivery for breech presentation is an independent risk factor for long-term pediatric respiratory morbidity of the offspring.

Selected pediatric respiratory morbidity of the offspring according to the mode of delivery

Respiratory Diagnosis at Hospitalization	Cesarean delivery (n=6376, 86.9%) n (%)	Vaginal delivery (n=961, 13.1%) n (%)	p value [a]
Asthma (n=187)	160 (2.5%)	27 (2.8%)	0.579
Bronchiectasis/ fibrosis/ siderosis (n=3)	3 (0%)	0 (0%)	0.501
Pneumonitis (n=1)	1 (0%)	0 (0%)	0.698
Pleural (n=7)	7 (0.1%)	0 (0%)	0.304
OSA (n=61)	59 (0.9%)	2 (0.2%)	0.023
Other respiratory morbidity (n=173)	158 (2.5%)	15 (1.6%)	0.081
Total respiratory hospitalizations (n=390)	351 (5.5%)	39 (4%)	0.062

[a] chi square
[b] Abbreviations: OSA- obstructive sleep apnea