

PROJECT NAME: Kalamazoo County Healthy Babies-Healthy Start

TITLE OF REPORT: Reproductive Health Choices; variation by race

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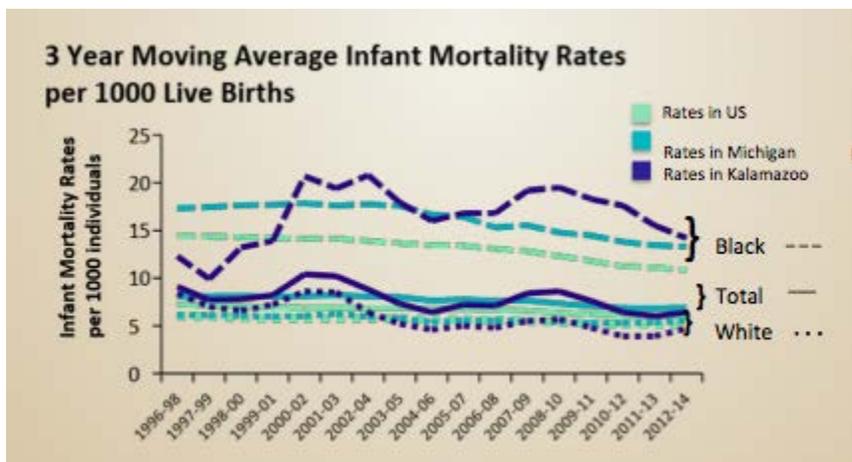
FUNDING: HRSA Healthy Start, United Way of Battle Creek-Kalamazoo Region

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### Section I: Introduction

Infant mortality is the death of a baby in the first year of life. The infant mortality rate (IMR) is the number of infant deaths for every 1000 live births. Infant mortality is often used as an indicator of the overall health of a community, particularly that of our most vulnerable citizens. It is also a reflection of ease of access to health care, maternal health, and socio

Within Kalamazoo County the overall infant mortality rate (IMR) has dropped significantly over the last decade, from 10.2 (per 1,000 births) during the 2001-2003 period to 6.0 (per live births) during the 2011-2013 period. However during this same period, the racial disparity between White and Black infant deaths has grown: from a Black-White ratio of 2.3 during the 2001-2003 period (19.5 Black IMR and 8.4 White IMR) to a ratio of 4.0 during the 2011-2013 period (15.5 Black IMR and 3.9 White IMR). This disparity is nearly double the nation's Black-White ratio of 2.2 and the state of Michigan's ratio of 2.3 (in 2013).<sup>12</sup>



Rapid repeat pregnancies (RRP) are associated with higher rates of poor birth outcomes. Having a short interpregnancy interval has an increased risk of preterm birth, birth defects, and

overall infant mortality. The mechanism by which this happens is not fully understood. It is proposed that right after a woman has a baby, she is nutritionally depleted, and therefore this affects the outcome of a rapid subsequent pregnancy.

RRP are more likely in African American women and those of lower socioeconomic status. Contraception is a vital aspect of postpartum care that assists women to avoid RRP. The type of birth control women use influences the probability of having a rapid repeat pregnancy. Specifically, women using an implant or IUD as a birth control method have a much lower risk of having a rapid repeat pregnancy compared to women using less effective methods such as condoms.

This study investigated the impact of race on birth-control choices for postpartum mothers in Kalamazoo County.

### Key Questions:

How do the contraception choices vary between women of color and white women in a community where infants of color die at a rate four times higher than white infants?

What are the barriers that exist for women of color compared to white women that may explain differences in birth control choice?

### Section II: Process / Methodology:

A prospective study was used to assess the health experiences of mothers, enrolled 244 of 471 eligible women, between April and November of 2017. Variables collected included demographic information, social determinants of health, and reproductive health methods. A bivariate analysis with Chi-squared tests was conducted to evaluate the impact of these variables on utilization of postpartum birth-control, stratified by race.

### Study Design:

We used the Mom's Health Experiences survey designed to document the psychosocial issues faced by perinatal women and its health impact. This is an observational prospective study of postpartum women, with mixed methods data collection, combining telephone surveys and administrative record review. Recently-delivered women were recruited from the postpartum floors of Borgess and Bronson Hospitals. Study eligibility included: residence in Kalamazoo County, medical clearance by hospital staff, and fluency in English. A total of 345 women were recruited in two stages: (1) Two hundred and eighty five women for the representative sample, and (2) An additional 60 women to ensure a sub-sample of 75 women with a previous poor birth outcome (prematurity, low birth weight, still-birth, infant death).

The telephone survey was conducted between six and eight weeks after delivery. It lasted an estimated 30 minutes, and included questions about psychosocial conditions (mental health, housing, safety, etc), about treatment within the community and within health care settings, and about how this treatment affects them (stress, health behaviors like smoking, healthcare usage).

They were compensated \$25. Supplemental demographic, healthcare and health outcomes data was abstracted from vital record birth abstracts and from medical records.

#### Population & Study Sample:

There are 3,100 births in Kalamazoo County per year on average. Among these births, an estimated 1750 are women in the target population with risk factors such as, being of color, low income or having a previous poor birth outcome. Around 80% of women have all three risk factors.

Study inclusion criterion was being a resident of Kalamazoo County at the time of delivery. Study exclusion criteria were (1) Not medically cleared by hospital staff at the time of recruitment, (2) Primary language was not English and (3) Cognitively impaired with a legal guardian, as indicated by hospital staff.

#### Data Collection & Measurement:

#### Statistical Analysis:

The statistics were done in SPSS and were simple frequencies and distributions with Pearson Chi square for comparison.

### Section III: Findings

#### Results:

By the second postpartum month, 85.6% of 243 surveyed women report having a birth control method. Reasons for not having a birth control method include not yet having a postpartum visit (31.4%), ambivalence about becoming pregnant (25.7%) or not wanting to use birth control (22.9%). These reasons do not vary by race or by income. Both postpartum visit and use of a medically prescribed birth control method were significantly lower among women of color compared to white women ( $p=.003$  and  $p=.021$ , respectively).

Contraception Choice	Total N = 243	Black( n%) N = 96	White (n%) N = 148	P Value
Nothing	14.4% (35)	12.6% (12)	15.5% (23)	.529
Condom	21.3% (49)	17% (17)	23.6%(35)	.268
Abstinence	18.4% (45)	25% (24)	14.2% (21)	.033*
Birth Control Pill	16.4% (40)	8.3% (8)	21.6% (32)	.006*
Tubal Ligation	7.8% (19)	11.5% (11)	5.4% (8)	.085
Injection	7% (17)	9.4% (9)	5.4% (8)	.234
IUD	6.6% (16)	3.1%(3)	8.8% (13)	.081
Withdrawal	5.7% (14)	5.2%(5)	6.1% (9)	.775
Vasectomy	3.7% (9)	1% (1)	5.4% (8)	.077
Implant	2.5% (6)	5.2% (5)	.7% (1)	.026*

Among women who reported using birth control postpartum the three leading methods were: condoms (21.3%), abstinence (18.4%) and birth control pills (16.4%). Interestingly, there were differences in the use of each of these methods between white women and women of color; condoms (23.6% vs. 17.7%), birth control pills (21.6% vs. 8.3%), or abstinence (14.2% vs. 25%).

These top 3 results were fairly comparable to women across Michigan. According to PRAMS (Pregnancy Risk Assessment Monitoring System) in Michigan, the leading three methods are Condoms, Birth Control Pills and Withdrawal, Even though the results were pretty comparable, Kalamazoo County still has higher poor birth outcomes than the rest of Michigan. The rate of abstinence as a postpartum birth control method was only 10.3% for all of Michigan responses. However, abstinence in Kalamazoo County is being utilized by 18% of women as a birth control method, particularly 25% of black women. And this is something that potentially be seriously impacting our poor birth outcomes.

Barriers	Black Women N = 96	White Women N = 148	Chi Square P Value
Lack of reliable Transportation	11.5%	0%	<.001*
Non-Private Insurance	62.5%	25.7%	<.001*
Poverty	42.7%	16.2%	<.001*
Medical Home	88.4%	95.9%	0.32
Primary Doctor	34.7%	54.7%	.002 *

To determine if there are differences in what factors impact access to birth control we looked at a number of barriers, and there are statistically significant differences between white women and black women in Kalamazoo County. Furthermore, significantly fewer women of color report having a medical home compared to white women (88.4% and 95.9%, respectively  $p=.032$ ), and even fewer report having a primary doctor (one they could name) (34.7% and 54.7%, respectively,  $p=.002$ ).

Women of color are significantly more likely to report the following socioeconomic barriers compared to white women: lack of reliable transportation (11.5% vs 0%,  $p<.001$ ), non-private insurance (62.5% vs 25.7%,  $p<.001$ ), or poverty (42.7%, 16.2%,  $p<.001$ ). Poverty, was determined to be less than \$20,000 total household income per year.

### Conclusions:

Our data suggests there are differences in postpartum birth control choice between white women and women of color in Kalamazoo county. Furthermore, women of color experience more barriers that may impact contraception choice. When we looked at the top 3 most commonly used postpartum birth control methods used by women, the top 3 choices are some of the least effective options available. Abstinence only sexual education has been shown to be one of the least effective means to prevent intended pregnancies, interestingly, this is one of the leading postpartum birth control methods chosen by women in this study. It is also the primary sexual education taught in Kalamazoo County. Further investigation into the factors that impact postpartum birth control choice by women may address the race-related and socioeconomic disparities seen in infant mortality.

### Resources

Bocanegra HTD, Braughton M, Bradsberry M, Howell M, Logan J, Schwarz EB. Racial and ethnic disparities in postpartum care and contraception in California's Medicaid program. *American Journal of Obstetrics and Gynecology*. 2017;217(1). doi:10.1016/j.ajog.2017.02.040.

McKinney D, House M, Chen A, et al. The influence of interpregnancy interval on infant mortality. *Am J Obstet Gynecol* 2017;216:316.e1-9.

Sundstrom, Beth, et al. "My Body. My Choice: A Qualitative Study of the Influence of Trust and Locus of Control on Postpartum Contraceptive Choice." *Journal of Health Communication*, vol. 23, no. 2, 2018, pp. 162–169., doi:10.1080/10810730.2017.1421728.

Sundstrom B, Ferrara M, Demaria AL, Baker-Whitcomb A, Payne JB. Integrating Pregnancy Ambivalence and Effectiveness in Contraceptive Choice. *Health Communication*. 2016;32(7):820-827. doi:10.1080/10410236.2016.1172294.

Thiel de Bocanegra H, Chang R, Howell M, et al. Interpregnancy intervals: impact of postpartum contraceptive effectiveness and coverage. *Am J Obstet Gynecol* 2014;210:311.e1-8.

Weisband YL, Keder LM, Keim SA, Gallo MF. Postpartum intentions on contraception use and method choice among breastfeeding women attending a university hospital in Ohio: a cross-sectional study. *Reproductive Health*. 2017;14(1). doi:10.1186/s12978-017-0307-4.

Kramer Renee D., Higgins Jenny A., Godecker Amy L., Ehrenthal Deborah B., Racial and Ethnic Differences in Patterns of Long-Acting Reversible Contraceptive Use in the United States, 2011–2015, *Contraception* (2018), doi: 10.1016/j.contraception.2018.01.006

K Baldwin, Maureen & B Edelman, Alison. (2013). The Effect of Long-Acting Reversible Contraception on Rapid Repeat Pregnancy in Adolescents: A Review. *The Journal of adolescent health* : official publication of the Society for Adolescent Medicine. 52. S47-53. 10.1016/j.jadohealth.2012.10.278.