The 4th Trimester Model: A New Approach to Improving Perinatal Care

Amundam Mancho; Sara Peterson; Lauren Cowen MD, Alix Snow MD, Rachel Bian MD, Scott Hartman MD
University of Rochester School of Medicine and Dentistry; Department of Family Medicine

INTRODUCTION

The goal of this project was to develop and implement a 4th trimester pilot study to further address perinatal outcomes and gaps in care. When looking at Rochester data, 88% of white patients establish early prenatal care, compared to 69% of Black and 71% of Latinx patients, according to the New York State Department of Health. Innovative delivery of care models in the preconception, pregnancy, and postpartum periods can be utilized in their ability to potentially reduce disparities. Both the WHO and ACOG recommend that clinicians evaluate newly delivered patients earlier than the traditional 6-week postpartum visit. Most birthing persons in the United States do not have health care appointments scheduled for themselves until 6 weeks postpartum; even then, the visits are poorly attended and do not adequately address maternal concerns. Furthermore, significant racial/ethnic disparities exist in breastfeeding initiation and duration in the United States among birthing persons. While the 6-week postpartum visit seeks to address such domains such as postpartum depression, breastfeeding, and postpartum birth planning and contraception, new parents typically encounter these issues within the first 3-weeks after delivery. The lack of timely and patient-focused postpartum medical care is problematic, especially for those with limited resources or social support. Screening and appropriate intervention for postpartum depressive symptoms at the 2-week postpartum interval has shown some success at targeting health disparities among Black and Latinx birthing persons .

COMMUNITY PARTNER

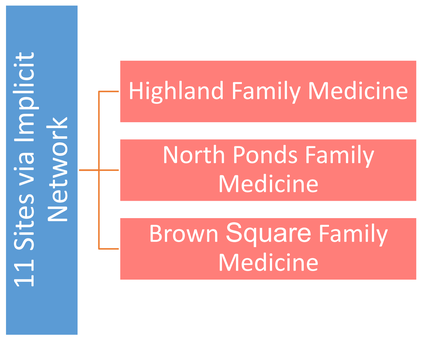
- Highland Family Medicine, an outpatient residency site that serves over 25,000 patients from over 7,000 families, coming from diverse neighborhoods throughout Rochester. This clinic contains a patient panel that represents a spectrum of age, races, and socioeconomic backgrounds, including refugees.
- Brown Square Health Center, a residency site that is a part of the Jordan Health system. It serves patients from some of the poorest neighborhood, in addition to families from the suburbs of Rochester. It has been recognized as a NCQA PCMH Level 3 site.
- North Ponds Family Medicine & Maternity Care is a practice in a Rochester suburb. We expanded to this site in early 2021. Overall, 70% of the maternity care patient population of these practices identifies as Black, 10% as Asian American/Pacific Islander and 20% as Latinx.

COMMUNITY PROJECT

Our pilot of 4th Trimester Care began in July 2020 and ran through July 2021, for all obstetric patients who received prenatal care at three URMC family medicine practices starting in July and November of 2020, respectively. Data collection was completed through July of 2021. Per protocol from IMPLICIT's 4th trimester project, the three clinics began scheduling and conducting mother infant dyad visits about 2 weeks from delivery. Primary measures for this research include:

1) percentage of patients who attended the 2 week and the 6-week postpartum visits,
2) intention and actual infant feeding method,
3) intention and initiation of postpartum contraception,
4) postpartum maternal depression screening and intervention.

Data was collected by retroactive chart review of prenatal, hospital, 2-week and 6-week postpartum visit encounter documentation in the electronic medical record using a pre-formed smart phase. Questions were verbally asked and recorded in a Microsoft excel spreadsheet.



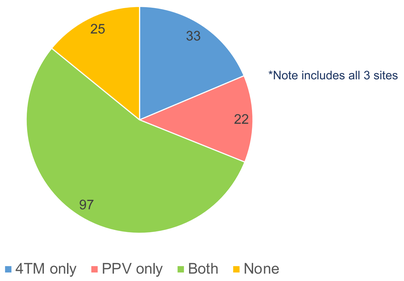
4th Trimester Visit	
Contraception	**Tier 1:** IUD, Nexplanon **Tier 2**: Permanent Sterilization **Tier 3:** Depo, pills, patch, ring, diaphragm **Tier 4**: Barrier, Withdrawal, Sponge, Fertility Awareness **N/A:** Visit not done
Feeding Method	Breast, Formula, or Both
Depression Screening	Positive/Negative Screen (PHQ2/9) Recommended/Receiving Treatment?

Touchpoint for patients with healthcare providers
Compare attendance vs 6wk postpartum visit

RESULTS AND ANALYSIS

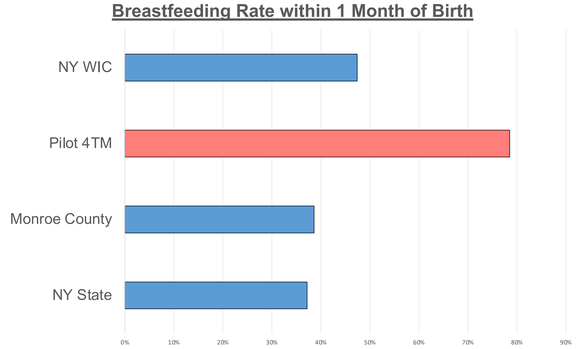
- 177 Obstetrics Patients with 249 total visits between July 2020 – July 2021
- 25 not included in analysis regarding depression screening, feeding, and contraception rates as they did not attend a visit
- 76 patients (43%) of the study population attended a 4th trimester visit, a total of 152 patients (85%) attended at least 1 visit after delivery (including 4th trimester, acute visits or 6-week visit)
- Feeding intention goals were met in 88% of our study population by 6-weeks postpartum.
- 66% of patients who attended an "early new parent visit," or "4th trimester visit," met their contraception intent at 6 weeks, while only 20% of patients who did not attend an early visit met this goal.
- Positive depression screen in study population was 19% (consistent with 20% Rochester, NY but higher than the 10-15% national prevalence)
- 4TM visit identified 83% of those positive by PPV

Which Appointments Were Attended?



	Total Met	Met with 4TM	Met without 4TM
Breastfeeding goals met	51%	79%	21%
Contraception goals met	43%	84%	16%

Breastfeeding Rate within 1 Month of Birth



CONCLUSIONS

- Initial data from the 4th trimester program pilot demonstrates good opportunity to promote achievement of breastfeeding and contraception intention as well as improve depression screening and interventions.
- Small sample size limits the ability to perform sub-analysis of clinic site differences as well as ethnic, racial and socioeconomic differences.
- For example, in Monroe County, breastfeeding rates are known to be 2 times lower in Blacks & Latinos compared to Whites, and Medicaid enrollees compared to those not on Medicaid. Our study is limited in its ability to address this drastic statistic.
- The 4th Trimester Program launch took place during the COVID-19 pandemic that had unique challenges including hesitancy for patients to leave their homes to attend medical visits, significant staff shortages that likely limited patient outreach, decreased in-person social support networks and higher burden of mental health illness.
- Despite efforts to schedule an additional touchpoint, 26 patients (15%) did not attend any visits after delivery. Future efforts should be made to provide additional postpartum outreach.
- Interpretation of aggregate data from three clinic sites is limited by differences in work-flow, two different EMR systems as well as differences in documentation of prenatal intention and postpartum visit (4TM template was universally applied).

IMPACT & SUSTAINABILITY

- The IMPLICIT Network began recruiting and identifying sites to administer the 4th Trimester project in November 2019; 11 participating sites entered the pilot phase and will continue to collect data until November 2021
- From this point, aggregate data will be analyzed, workflow will be evaluated, and tools will be revamped to continue to move forward with the project.
- The execution of this project at 3 clinical sites utilizing a standardized note template in the EMR in Rochester has been incorporated into visit workflow.
- Two medical students have taken on the project and are currently managing data collection. Two team members cross check every data entry point.
- Long term goals include collaboration with IMPLICIT Network to trouble shoot best practices of implementation
- Patient centered data on perceived benefits and patient experience

ACKNOWLEDGEMENTS

- Special thanks to my team Sara Peterson MS4, Lauren Cowen MD, Alix Snow MD
- FMEC IMPLICIT Network
- Dr. Scott Hartman and Dr. Rachel Bian from North Ponds Family Medicine
- Dr. Dawn Pruett and Dr. Elizabeth Brown from Highland Family Medicine
- Dr. Sarah Hudson from Brown Square Health Center