



# KY-MOMS MATERNAL ASSISTANCE TOWARDS RECOVERY (MATR)

# PROJECT **ACKNOWLEDGMENTS**

## PRESENTED BY

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Postnatal assessments completed between July 2023 and June 2024 for women who were pregnant when they entered KY-Moms MATR and gave birth between January 2023 and December 2023.

Post birth assessments completed between January 2023 and December 2023 for women who had their babies prior to entering KY-Moms MATR.

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## EXECUTIVE SUMMARY

*KY-Moms MATR is a state-funded prevention and case management program aimed at reducing substance use and increasing positive birth outcomes for Kentucky women who are at risk for negative birth outcomes.*

## EVALUATION METHODS

The KY-Moms MATR outcome evaluation includes a face-to-face evidence-based assessment by case management program staff from KY-Moms MATR to assess substance use, mental health symptoms, intimate partner violence, and other factors such as education, employment status, and living situation prior to pregnancy and while involved in the program.<sup>1</sup>

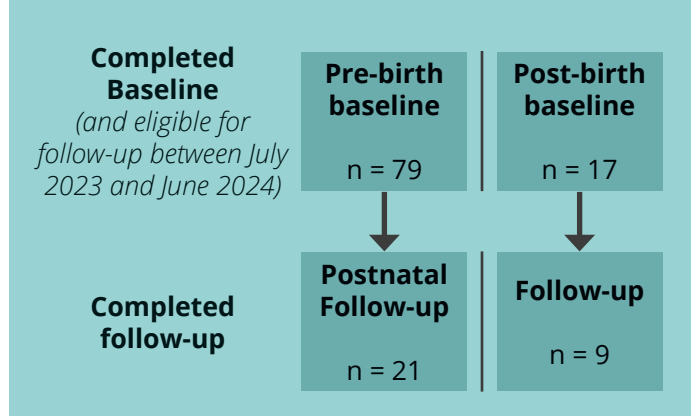
This report presents information on two groups of women who completed a baseline and were eligible for follow-up between July 2023 and June 2024 (see figure in next column):

- (1) women who participated in the KY-Moms MATR program prior to the birth of their babies (i.e., pre-birth, n = 79; postnatal follow-up, n = 21), and
- (2) women who participated in the KY-Moms MATR program after their babies were born (i.e., post-birth baseline, n = 17; follow-up interview, n = 9).

The information presented on these two groups includes: (a) demographic and targeted factors before participating in the program, (b) self-reported birth and infant outcomes, (c) changes in targeted risk factors from baseline to follow-up, and (d) participants' perceptions of the program and satisfaction.

<sup>1</sup> For more information, see: Scrivner, A., Logan, T., Cole, J., & Miller, J. (2020). *Evidence Base for the KY-Moms MATR Evaluation Assessment and Methods*. Lexington, KY: University of Kentucky, Center on Substance and Alcohol Research.

**BREAKDOWN OF BASELINE AND FOLLOW-UP SAMPLE SIZES FOR TWO GROUPS OF KY-MOMS MATR WOMEN**



## DESCRIPTION OF PRE-BIRTH RESPONDENTS AT BASELINE

Overall, 79 pregnant women participated in the KY-Moms MATR program and completed a pre-birth baseline assessment.<sup>2</sup> The majority of pregnant respondents coming into the program were White (86.1%), about 28 years old, and never married (43.0%) or either married or cohabiting with a partner (40.5%). Of the respondents who were married or cohabiting (n = 32), the majority (87.5%) reported that their current partner was the father of the baby. The majority of respondents (72.2%) had a high school diploma or GED or greater education and two-thirds (65.8%) were not currently employed. Close to half of respondents (48.1%) were referred to KY-Moms MATR through a Community Mental Health

<sup>2</sup> Respondents who completed a prenatal baseline (n = 79) entered the KY-Moms MATR program between June 2022 and December 2023 with an average of 9.8 days between when the respondent entered the program and when the baseline assessment was completed.

Center (CMHC) or health care provider. A small proportion (8.9%) were referred to the case management program through the KY-Moms MATR prevention program. The remaining respondents were referred by a treatment facility other than CMHCs (8.9%), or were referred by their OB/GYN, primary care doctor or health department (5.1%).

Respondents were an average of 24 weeks pregnant when they completed the baseline assessment and 86.1% reported that they had previously been pregnant. Respondents reported an average of 6.2 prenatal visits with a health care professional. Close to half of respondents (45.6%) were planning to breastfeed their babies.

KY-Moms MATR respondents reported on several specific behavioral health risks associated with negative birth outcomes before becoming involved in the program. In the six months before pregnancy, 73.3% of respondents reported illicit substance use, 40.0% reported alcohol use, and 72.0% reported smoking tobacco. In the past 30 days at baseline (while pregnant), 6.3% of respondents reported illicit substance use, 7.6% reported alcohol use, and 65.8% reported smoking tobacco.

At baseline, respondents were asked about Adverse Childhood Experiences (ACE). Overall, respondents reported an average of 5.7 adverse childhood experiences. Results indicated that only 3.8% of respondents reported no ACEs while 69.6% reported experiencing between 4-9 ACEs. Specifically, 69.6% experienced emotional neglect, 63.3% experienced emotional maltreatment, 49.4% of respondents reported experiencing physical maltreatment, 45.6% experienced sexual violence,

and 44.3% reported physical neglect as a child before the age of 18. More than three-quarters of respondents reported their parents were divorced or separated (78.5%) and 74.7% reported they had a household member with substance use disorder symptoms. Almost 65% reported they had a household member with a mental illness or had attempted suicide and 48.1% witnessed intimate partner violence of a parent before the age of 18. Over one-third (35.4%) of respondents reported a household member had been incarcerated.

Respondents were also asked about situations in which the respondent may have ever experienced violence, harmed by someone else, or felt unsafe by someone other than a parent or guardian. Overall, 86.1% of respondents reported ever experiencing any type of violence and in the 6 months before pregnancy, 39.2% reported any experience with violence. Less than three-quarter of respondents (73.4%) reported they had ever been attacked or assaulted, 63.3% had ever experienced violence from a dating or intimate partner, 51.9% reported they had ever been sexually assaulted/raped, 41.8% reported they had ever been stalked by someone who scared them, and 41.8% were directly or indirectly threatened with a gun or held at gunpoint. Further, 44.3% of respondents in the 6 months before pregnancy and 21.5% in the past 30 days reported that they had experienced any intimate partner violence (including psychological violence, control, physical assault, and sexual assault) perpetrated by a current or ex-partner.

In the six months before pregnancy, 69.6% of respondents met study criteria for depression and/or anxiety and 45.6% met study criteria for co-morbid

depression and anxiety. In addition, 35.4% met study criteria for post-traumatic stress disorder (PTSD) in the 6 months before pregnancy.

### BIRTH EVENTS AND OUTCOMES OF KY-MOMS MATR PRE-BIRTH RESPONDENTS

Even with increased risk factors for negative birth outcomes before participating in the program, women who participated in the KY-Moms MATR program prior to the birth of their babies had birth outcomes that were positive overall. According to Kentucky Vital Statics Data, around 5% of respondents reported any labor and delivery complications such as premature rupture of membranes, short and fast labor, or prolonged labor. About 62% of KY-Moms MATR mothers reported experiencing at least one maternal health condition such as previous C-section (38.1%), previous poor birth outcome (19.0%),

previous preterm pregnancy (19.0%), or hypertension (14.3%). Over one-quarter of respondents (28.6%) reported a sexually transmitted infection and 38.1% reported hepatitis B or C. Nineteen percent of the babies were born prematurely and 19.0% were low birthweight babies (less than 5lbs, 8oz). Babies were born with an average APGAR score of 8.7 and none of the babies were born with birth defects.

### CHANGE IN TARGETED FACTORS FROM BASELINE TO FOLLOW-UP

At baseline, respondents are given the opportunity to participate in the follow-up portion of the study and to be contacted by the University of Kentucky Center on Drug and Alcohol Research (UK CDAR) for a follow-up assessment approximately 6 months after the birth of the baby. When UK CDAR staff contact KY-Moms MATR respondents, the respondent must not be in jail or another controlled environment (e.g.,

## KY-MOMS MATR BIRTH EVENT OUTCOMES



**PRENATAL VISITS**

**9.7**

average number of visits



**ANY LABOR/DELIVERY COMPLICATIONS**

**5%**

reported any complications



**PAYMENT SOURCE FOR DELIVERY**

**89%**

Medicaid



**GESTATIONAL AGE**

**37.7**

average weeks



**BIRTH WEIGHT**

**6lbs, 12oz**

average birth weight



**APGAR SCORE**

**8.7**

average score



**BABIES BORN WITH BIRTH DEFECTS**

**0%**

born with defects



**MOTHER BREASTFED BABY**

**52%**

reported breastfeeding

residential SUD program). During FY24, the follow-up analysis included 21 postnatal follow-up assessments with respondents who had not had their babies prior to entering the program.<sup>3</sup>

Respondents were asked how their baby was doing at postnatal follow-up and all the mothers indicated the baby was “great” or “good.” Of the women who reported planning on breastfeeding at baseline (n = 11), 90.9% reported having breastfed their baby at postnatal follow-up. Of the respondents who reported at prenatal baseline they were not planning on breastfeeding or had not decided yet (n = 8), 12.5% reported having breastfed at follow-up, though none were still breastfeeding.

## **SUBSTANCE USE**

Overall, in the six months before the follow-up interview, significantly fewer respondents (5.6%) reported using illicit substances and/or alcohol compared to the 6 months before pregnancy (77.8%). A trend analysis from report year 2015 to the present shows a steady increase in respondents reporting illicit substance use in the 6 months before pregnancy, suggesting the program is increasingly reaching high risk pregnant women with regard to substance use disorder. At baseline, over half of respondents (55.6%) reported having ever received buprenorphine/naloxone, naltrexone, or methadone as part of medication-assisted treatment for their substance use disorder symptoms and 33.3% of respondents reported participating in medication-assisted treatment (MAT) in the 6 months before pregnancy.

<sup>3</sup> Respondents who completed a postnatal follow-up assessment (n = 21) were admitted to the KY-Moms MATR program and completed baseline assessments between July 2022 and September 2023.

Smoking tobacco rates also decreased significantly (from 83.3% of respondents in the 6 months prior to pregnancy to 44.4% of respondents in the past 6 months at follow-up) as did the number of cigarettes smoked among those who did smoke in the 30 days before pregnancy. About 28% of respondents reported using e-cigarettes in the 6 months before pregnancy compared to 50.0% of respondents in the 6 months before the follow-up, which was a significant increase.

## **MENTAL HEALTH**

The percent of women who met study criteria for depression decreased significantly from 52.4% in the 6 months before pregnancy to 19.0% in the 6 months before the follow-up. Among mothers with any depression symptoms, there was a reduction in the number of reported depression symptoms after participation in the KY-Moms MATR program. Specifically, among women who met study criteria for depression in the 6 months before pregnancy (n = 11), they reported an average of 7.1 symptoms at baseline and 1.8 symptoms in the past 6 months at postnatal follow-up. In addition, the number of respondents who met study criteria for depression and/or generalized anxiety in the past 6 months decreased significantly from 61.9% at baseline to 19.0% at follow-up. A trend analysis of mental health shows that rates of depression and/or anxiety at baseline were fairly consistent from 2015 to 2018, and increased after 2019. In addition, 47.6% of respondents met study criteria for post-traumatic stress disorder (PTSD) in the six months before pregnancy. At follow-up, 28.6% of respondents met study criteria for PTSD.

**Overall, evaluation results indicate that the KY-Moms MATR case management program has been successful in facilitating positive changes in respondents in a variety of inter-related risk factors including:**



REPORTED ANY ILLICIT SUBSTANCE USE\*\*\*

**78%** **6%**  
at baseline at follow-up



REPORTED NO SLEEP DIFFICULTIES\*\*\*

**26%** **74%**  
at baseline at follow-up



MET STUDY CRITERIA FOR DEPRESSION\*\*

**52%** **19%**  
at baseline at follow-up



REPORTED ANY FORM OF INTIMATE PARTNER VIOLENCE

**52%** **38%**  
at baseline at follow-up

## INTIMATE PARTNER VIOLENCE AND OTHER EXPERIENCES WITH VIOLENCE

The percent of mothers who reported experiencing any form of intimate partner violence perpetrated by a current or ex-partner decreased, but not significantly, from the 6 months before pregnancy (52.4%) to 38.1% in the past 6 months at postnatal follow-up. Trends show that the percent of respondents who reported any intimate partner violence at prenatal baseline was fairly consistent from 2015 to 2019. In 2020, however, the percent of respondents who reported experiencing any partner violence was higher compared to report year 2019 and has remained higher. Around one-quarter to over two-fifths of respondents reported any form of intimate partner violence each year in the six months before pregnancy. Overall, the number of respondents who reported intimate partner violence in the 6 months since the birth of the baby was also fairly consistent over the previous 7 years but decreased slightly in 2022 before increasing again in 2023 and into 2024. In 2025, the percent of respondents who reported intimate partner violence at prenatal baseline and follow-up was higher than in previous 10 years.

The percent of respondents who reported experiencing any violence (i.e., any harassment or any assault) by a partner, ex-partner, acquaintance, or family member decreased significantly from 52.4% the 6 months before pregnancy to 9.5% the past 6 months at follow-up.

## ECONOMIC HARDSHIP, LIVING SITUATION, AND CRIMINAL LEGAL INVOLVEMENT

Women in the KY-Moms MATR program

reported improved economic conditions. Forty percent of respondents reported they had difficulty meeting basic living needs (such as food, shelter, utilities, and telephone) at follow-up compared to the 6 months before pregnancy (60.0%). One-third of respondents reported their household had difficulty meeting health care needs (such as not going to the doctor, not having a prescription filled, or not going to the dentist) for financial reasons in the 6 months before pregnancy. At follow-up, 9.5% of respondents reported they had difficulty meeting health care needs in the 6 months since the baby was born. There was a significant change in living situation at follow-up, where the 40% of respondents at prenatal baseline and a majority at postnatal follow-up (75.0%) reported living in a private residence (i.e., their own or someone else's home or apartment). Forty percent of respondents at baseline and none of the respondents at follow-up reported being arrested in the past 6 months. Thirty-five percent of respondents reported spending at least one night in jail or prison in the 6 months before pregnancy and none of the respondents spent at least one night in jail at follow-up.

## **PHYSICAL HEALTH**

Four-fifths of respondents (81.0%) reported having at least one chronic health problem at prenatal baseline. Only 14% of respondents reported experiencing chronic pain in the 6 months before pregnancy compared to 9.5% of respondents at postnatal follow-up. The average number of days respondents reported their mental health was not good decreased significantly from 11.2 days at prenatal baseline to 3.0 days at postnatal follow-up. The number of days respondents

reported their physical health was not good decreased from 6.1 days in the past 30 days at prenatal baseline to 0.8 days in the past 30 days at postnatal follow-up. Trend analysis shows that each year, the average number of days respondents reported their physical health was not good decreased from baseline to follow-up. While the average number of days of their mental health was not good at baseline has been relatively steady, the average number of days at follow-up has increased from 2015 to 2018, then decreased in 2019. In 2024, however, the average number of days their mental health was not good decreased compared to previous years to 1.4 before increasing to 3.0 in 2025.

## **QUALITY-OF-LIFE AND EMOTIONAL SUPPORT**

On a scale of 1 = 'Worst imaginable' to 10 = 'Best imaginable', respondents reported a significantly higher quality-of-life at follow-up (8.8) compared to prenatal baseline (6.3). In addition, respondents reported they could count on more (but not significantly more) people for emotional support in the past 30 days at follow-up (8.2 people on average) compared to the past 30 days at baseline (7.7 people on average). The majority of women at both baseline and follow-up were fairly or extremely satisfied with the level of emotional support they received from others.

## **MULTIDIMENSIONAL RECOVERY**

The multidimensional recovery measure examines multiple dimensions of individuals' lives and functioning. None of respondents who reported alcohol and/or illicit substance use in the 6 months before pregnancy had all 8 positive dimensions of recovery at baseline. By follow-up, 46.7%



of respondents had all 8 positive dimensions of recovery.

## RESPONDENT SATISFACTION WITH PROGRAM EXPERIENCE

On a scale of 0 = “not at all right for me” to 10 = “exactly right for me,” respondents rated their overall KY-Moms MATR experience, on average, as 8.6 with 76.2% rating the program between 8 and 10. In addition, the majority of respondents reported that the KY-Moms MATR program worked pretty well or extremely well for them (95.2%) and that they would refer a friend or family member to their treatment provider (85.7%). Close to 95% of respondents agreed that the program staff believed in them and that the treatment would work for them, they had input into treatment goals, plans, and how they were progressing over time, and they discussed everything with their case manager and held nothing back. Fifty-five percent of respondents reported that the program and the respondent mutually agreed that the respondent was ready to leave the program.

## AREAS OF CONCERN

Despite significant improvements in many areas of respondents’ lives, there was a minority of respondents who had not had their babies before entering the KY-Moms MATR program who continued

**"It helped me, overall. I had someone who was there for me. I felt comfortable and they helped me reach my goals I needed. And kept me on track, I loved the program."**

- KY-MOMS MATR RESPONDENT

to struggle with targeted risk factors at follow-up.

## TOBACCO USE

The majority of respondents smoked during pregnancy (73.7% in the past 30 days at prenatal baseline and 42.1% in the 30 days before the baby was born), both of which are considerably higher than the 4.8% of pregnant women in the United States. Additionally, a high percentage of KY Moms-MATR mothers reported smoking tobacco in the 30 days before pregnancy (73.7%), and in the 30 days before postnatal follow-up (42.1%). These percentages were considerably higher than either the national estimate of 13.2% of women aged 15-44 who are self-reported smokers. In addition, while fewer women who gave birth to their babies before entering the KY-Moms MATR program reported tobacco use at follow-up, 55.6% still reported use in the past 6 months.

## MENTAL HEALTH

Close to one-quarter of KY-Moms MATR pre-birth respondents (19.0%) reported meeting study criteria for depression and/or anxiety in the 6 months after the baby was born. In addition, 33.3% of respondents who already had their babies before entering the program met study criteria for comorbid depression and/or anxiety.

## INTIMATE PARTNER VIOLENCE AND PTSD

At baseline, 52.4% of respondents reported any form of intimate partner violence in the 6 months before they found out they were pregnant. At follow-up, 38.1% of KY-Moms MATR respondents reported experiencing intimate partner violence in the past

6 months, which suggests that the intimate partner violence is an ongoing concern through the pregnancy and after the baby is born. In addition, 28.6% of respondents met study criteria for post-traumatic stress disorder in the six months since the baby was born.

## **ADVERSE CHILDHOOD EXPERIENCES**

At baseline, 96.2% of respondents reported at least one adverse childhood experience such as neglect or violence before the age of 18. The average number of ACE in the sample of KY Moms-MATR respondents was 5.7, with 77.2% of women reporting 4 or more ACE.

## **FINANCIAL ISSUES**

With 47.6% of KY-Moms MATR women reporting being currently unemployed and 40.0% of women reporting difficulty meeting basic needs for financial reasons in the 6 months since the baby was born, economic hardship is a continuing problem for many of these new mothers. At baseline, none of mothers who had their babies before entering the program reported they were currently working full-time and at follow-up, only one of the post birth mothers reported they were currently working full-time.

## **MULTIDIMENSIONAL RECOVERY STATUS**

Even though there were more respondents who had all positive dimensions of recovery at follow-up when compared to baseline, 53.3% of KY-Moms MATR respondents were still classified as not having all eight positive dimensions of recovery. At follow-up, the factor with the lowest percent

of individuals reporting the positive dimensions of recovery were for no partner violence. In addition, 88.2% of women who entered the program after the birth of their baby reported at least one type of ACE included in the assessment.

## **SUMMARY**

Overall, results indicate that the KY-Moms MATR program has been successful in facilitating positive changes in many respondents including illicit substance use, mental health symptoms, and intimate partner violence. Results also indicate respondents appreciate their experiences in the program and have a better quality-of-life after participation. These changes suggest there would be significant benefit in sustaining and expanding the KY-Moms MATR program to serve more high-risk pregnant women across the state.

## **RESPONDENTS WHO GAVE BIRTH TO THEIR BABIES PRIOR TO ENTERING KY-MOMS MATR**

Respondents who had already had their baby when they entered the program and completed a postnatal baseline (n = 17) reported an average of 12.4 visits with a healthcare professional during pregnancy and 2.7 visits since the baby was born. Close to one-quarter of respondents (23.5%) reported they had breastfed their baby and 11.8% had been told by a doctor of any special health care needs since the baby was born. The majority of respondents reported illicit substance use (62.5%) and tobacco use (75.0%) during pregnancy. In addition, the majority of respondents (88.2%) reported at least one type of adverse childhood experience and

many of the respondents reported experiencing emotional neglect (52.9%), emotional maltreatment (47.1%), physical maltreatment (47.1%), and physical neglect in childhood (47.1%). About 35% of respondents in the 6 months before pregnancy and 23.5% of respondents during pregnancy reported experiencing any type of intimate partner violence. A little more than one-third of respondents (35.3%) who already had their baby met study criteria for depression and/or anxiety during pregnancy and 23.5% met study criteria for PTSD in the past 6 months.

### **BIRTH EVENTS AND OUTCOMES OF KY-MOMS MATR POST-BIRTH RESPONDENTS**

All women who entered the KY-Moms MATR program after the birth of the baby and completed a follow-up interview (n = 9) gave permission to access their Vital Statistics birth data. Post-birth respondents in the birth event data reported an average of 7.3 prenatal visits during their pregnancy. The majority of respondents (66.7%) reported that they received the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) during pregnancy and 77.8% of respondents had Medicaid as the source of payment for delivery of the baby. About 67% of KY-Moms MATR mothers reported experiencing at least one maternal health conditions at birth, none reported having a sexually transmitted infection, and one respondent reported having Hepatitis B or C. In the Kentucky Vital Statistics data, 66.7% of KY-Moms MATR mothers reported smoking tobacco and among those mothers (n = 6), respondents reported an average of 18.3 cigarettes per day before pregnancy, 16.7 in the first trimester, 11.7 in the second trimester, and 10.0 in the last trimester.

Less than one-quarter of the babies (22.2%) were born prematurely and 11.1% of babies were born with low birthweight (less than 5lbs, 8oz). Specifically, the average birth weight of babies born to post-birth mothers was 6lbs, 14oz. Two babies were taken to NICU, but 55.6% were born with a birthing problem such as inflammation of fetal membranes, intolerance to labor, or being placed on a ventilator (not including being admitted to the neonatal intensive care unit).

### **CHANGE IN TARGETED FACTORS FROM BASELINE TO FOLLOW-UP**

#### **SUBSTANCE USE**

In the 6 months before pregnancy, 88.9% of post-birth respondents reported using illicit substances and/or alcohol and when they were pregnant 66.7% of post-birth respondents reported using illicit substances and/or alcohol. In the 6 months before the post-birth follow-up interview, 33.3% of respondents reported using illicit substances and/or alcohol. At post-birth baseline, 25.0% of respondents reported ever injecting any substances and none of the respondents reported injecting a substance in the past 30 days. At post-birth follow-up, none of the respondents reported injecting substances in the past 6 months. Two-thirds of respondents reported they had ever received buprenorphine/naloxone, naltrexone, or methadone as part of a medication-assisted treatment for their substance use symptoms at post-birth baseline and of these respondents (n = 6), none participated in medication-assisted treatment in the past 6 months. Three respondents reported receiving medication-assisted treatment in the past 6 months at follow-up. The majority of post-birth respondents (88.9%) reported they used tobacco in the 6

months before pregnancy and during pregnancy. At post-birth follow-up, 55.6% of respondents reported tobacco use.

## **MENTAL HEALTH**

About 44% of post-birth KY-Moms MATR respondents in the 6 months before pregnancy and 33.3% of respondents in the past 6 months at post-birth follow-up met study criteria for depression and/or anxiety. One-third of post-birth women met study criteria for post-traumatic stress disorder at baseline and 22.2% met study criteria at follow-up. One-third of respondents at baseline and 44.4% of respondents at follow-up reported they used substances to reduce stress. At post-birth baseline 25.0% of respondents, and at follow-up, 37.5% of respondents were classified as having moderate to severe insomnia.<sup>4</sup>

## **INTIMATE PARTNER VIOLENCE**

Including fear of a current or ex-partner, none of the respondents who had their babies prior to entering KY-Moms MATR reported they felt unsafe at baseline or at follow-up. In addition, 33.3% of post-birth respondents in the 6 months before pregnancy and 22.2% of post-birth respondents during pregnancy, reported experiencing any form of intimate partner violence. About 11% of the respondents reported experiencing any form of intimate partner violence at follow-up.

## **ECONOMIC HARDSHIP, LIVING CIRCUMSTANCES, AND CRIMINAL LEGAL INVOLVEMENT**

At baseline, none of post-birth mothers

<sup>4</sup> One respondent at post-birth follow-up was missing data on sleep measures.

reported they were currently working full-time and at follow-up, only one of the post birth mothers reported they were currently working full-time. The majority of post-birth respondents (88.9%) received public assistance at baseline and all respondents received public assistance at follow-up. In the 6 months before becoming pregnant, 77.8% of respondents reported they had difficulty meeting at least one of the basic living needs for financial reasons and 33.3% of respondents reported difficulty meeting basic living needs in the past 6 months at postnatal follow-up. In addition, 22.0% of post-birth respondents in the 6 months before pregnancy and none of the respondents in the past 6 months at follow-up reported their household had difficulty meeting health care needs (such as not going to the doctor, not having a prescription filled, or not going to the dentist because of financial reasons). None of the respondents who entered KY-Moms MATR after they had their babies considered themselves homeless at baseline or follow-up. The majority of respondents at baseline (66.7%) and all respondents at follow-up reported living in their own home or someone else's home for most of the past 30 days. One respondent in the 6 months before pregnancy and none in the past 6 months at follow-up spent at least one night incarcerated. Likewise, one respondent in the 6 months before pregnancy and none of the respondents in the past 6 months at follow-up reported having been arrested for any offense.

## **PHYSICAL HEALTH**

Over three-quarters of post-birth respondents (77.8%) reported at least one chronic health problem. None of the respondents at baseline and one respondent at follow-up reported having a major physical health problem that was not being currently treated. At baseline,

only one respondent reported their overall physical health was very good or excellent compared to three respondents at follow-up. One respondent in the 6 months before pregnancy and three respondents at follow-up reported experiencing chronic pain.

Respondents reported an average of 8.3 days out of the past 30 days their physical health was not good at post-birth baseline and 7.8 days at follow-up. In addition, respondents reported an average of 9.8 days at baseline and 9.1 days at follow-up that their mental health was not good in the past 30 days. Respondents reported at baseline that there was an average of 4.8 days out of the past 30 days their poor physical or mental health limited their activities compared to 4.6 days at follow-up.

### **QUALITY-OF-LIFE AND EMOTIONAL SUPPORT**

Post-birth respondents rated their current quality-of-life at baseline as a 6.8, on average. The average rating of quality-of-life at postnatal follow-up was an average of 7.7. In the past 30 days at baseline, respondents reported an average of 6.3 people they could on for emotional support, and in the past 30 days at follow-up, respondents reported an average of 7.9 people they could on for emotional support. The majority of respondents were satisfied with the level of emotional support they received from others in the past 30 days. The majority of post-birth respondents (88.9%) in the past 30 days at baseline and postnatal follow-up reported they were extremely or fairly satisfied with the level of emotional support they received from others.

### **MULTIDIMENSIONAL RECOVERY**

Of respondents who reported alcohol and/or illicit substance use in the 6

months before pregnancy (n = 8), 25.0% of post-birth respondents were classified as having all positive dimensions of recovery. At follow-up, 62.5% of post-birth respondents were classified as all positive dimensions of recovery.

### **RESPONDENT SATISFACTION WITH PROGRAM EXPERIENCE**

Half of respondents reported that the program and the respondent mutually agreed that the respondent was ready to leave the program. On a scale of 1 to 10, respondents rated the KY-Moms MATR program as an average of 9.4 with 88.9% of respondents giving the highest possible rating of a 10. All of the post-birth respondents agreed that the case management program worked pretty well or extremely well and would refer a close friend or family to the program. One-third of respondents would warn the friend or family member about certain things or tell them who to work with in the program or who to avoid.

### **UPDATED BASELINE DATA**

In February 2024, the KY-Moms MATR pre-birth and post-birth baseline and follow-up assessments were completely revised to reflect changes to the program (e.g., extended participation time, change in eligibility), and to document more of what caseworkers do with respondents (e.g., referrals). This extensive revision included combining the two previous pre-birth and post-birth baselines and two pre-birth and post-birth baselines previous follow-up assessments. While the new follow-up data collection is in its infancy, the baseline data for FY24 (n = 43) was analyzed in this report and is included in Appendix C.

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## OVERVIEW OF THE REPORT

This report presents the results of an outcome evaluation of the KY-Moms MATR program. This outcome evaluation was conducted by the Behavioral Health Outcome Study team at the University of Kentucky Center on Drug and Alcohol Research (UK CDAR) in collaboration with the Division of Substance Use Disorder in the Department for Behavioral Health, Developmental and Intellectual Disabilities. The evaluation results are organized into 6 main sections as outlined below.

**Section I: Introduction and Evaluation Method.** This section briefly describes the KY-Moms MATR program and how cases are selected into the analysis for the outcome evaluation.

**Section II: A Description of All Respondents Served by the KY-Moms MATR Case Management Program.** This section describes the KY-Moms MATR respondent characteristics for 79 women who participated in the KY-Moms MATR program before the baby was born, completed a baseline assessment between July 2022 and December 2023, and were eligible for follow-up in FY 2024 (pre-birth respondents). Characteristics examined include: (1) demographics, (2) self-referral status, (3) information about the pregnancy, (4) risk status, (5) substance use, (6) adverse childhood experiences and violence, (7) mental health, stress, and sleep difficulty, and (8) intimate partner violence. Respondents who entered the program (n = 17) after the birth of their child (post-birth respondents) are also described separately in this section.

**Section III: Birth Events and Outcomes.** This section uses the Kentucky Vital Statistics birth data to examine: (1) maternal behavior and health characteristics of 21 KY-Moms MATR case management respondents who entered the program before the baby was born and who had baselines and follow-ups as well as information in the vital statistics dataset, and (2) infant health characteristics for their 21 babies. Respondents who entered the program (n = 9) after the birth of their child (post-birth respondents) are also described separately in this section.

**Section IV: Change in Targeted Factors from Baseline to Follow-up for Pre-Birth Respondents in the Postnatal Follow-up Sample.** This section examines change among women with a pre-birth baseline and a completed postnatal follow-up interview (n=21) for FY24 in: (1) information about the baby, (2) substance use, (3) mental health, sleep, and post-traumatic stress disorder, (4) intimate partner violence and other experiences with violence, (5) economic and living circumstances, economic hardship, and criminal legal involvement, (6) physical health, (7) quality-of-life and emotional support, and (8) multidimensional recovery status. Past-30-day and past-6-month measures are examined separately where applicable. Respondents who entered the program (n = 9) after the birth of their child (post-birth respondents) are also described separately in this section.

**Section V: Respondents' Experience and Satisfaction with KY-Moms MATR Case Management.** This section describes the experience of the KY-Moms MATR case management program assessed by respondents who completed a postnatal follow-up (n = 21): (1) manner in which the respondent left the program, and (2) satisfaction with KY-

Moms MATR case management. Respondents who entered the program (n = 9) after the birth of their child (post-birth respondents) are also described separately in this section.

**Section VI: Conclusion and Study Limitations.** This section summarizes the report findings, discusses study limitations, and describes implications of the main findings.



## SECTION I | INTRODUCTION AND EVALUATION METHOD

*This section briefly describes the KY-Moms MATR program and the program evaluation methodology.*

KY-Moms: Maternal Assistance Towards Recovery (MATR) is a state-funded prevention, outreach, and case management program aimed at reducing substance use risk during pregnancy. Alcohol, tobacco, and illicit substance use during pregnancy have been shown to negatively influence fetal development (including significantly decreased birth weight and shorter gestational age) and women's health.<sup>5, 6, 7, 8, 9</sup> In addition, substance use is often related to mental health problems and an increased risk of intimate partner violence and sexual assault.<sup>10, 11</sup> All three of these interrelated risk factors increase the likelihood of negative birth outcomes.<sup>12, 13</sup> Additionally, risks of negative birth outcomes are increased when women who use alcohol and illicit substances avoid obtaining prenatal care due to lack of access, fear of losing custody of their babies, or fear of being arrested.<sup>14</sup> Because the KY-Moms MATR program focuses on at-risk mothers, it is unique as it is a preventive program and offers mothers education, support, and referrals to help facilitate healthy mothers and babies.

The KY-Moms MATR program is set within the state of Kentucky, which has one of the highest rates in the nation for women experiencing intimate partner violence in their lifetime (ranked 2nd) with 45.3% of women reporting psychological, physical, and sexual violence.<sup>15</sup> Kentucky ranks 11th highest in mortality rate for women and 2nd highest for maternal mortality. Further, Kentucky is one of the highest in the nation for rates of tobacco use during pregnancy (2nd), illicit substance use deaths among females (2nd),

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<sup>5</sup> Bailey, B. A., McCook, J. G., Hodge, A., & McGrady, L. (2012). Infant birth outcomes among substance using women: why quitting smoking during pregnancy is just as important as quitting illicit substance use. *Maternal and Child Health Journal, 16*(2), 414-422.

<sup>6</sup> Gouin, K., Murphy, K., & Shah, P. S. (2011). Effects of cocaine use during pregnancy on low birth weight and preterm birth: systematic review and metaanalyses. *American Journal of Obstetrics and Gynecology, 204*(4), 340-e1-12.

<sup>7</sup> Behnke, M., Smith, V. C., Levy, S., Ammerman, S. D., Gonzalez, P. K., Ryan, S. A., ... & Watterberg, K. L. (2013). Prenatal substance abuse: short-and long-term effects on the exposed fetus. *Pediatrics, 131*(3), e1009-e1024.

<sup>8</sup> Pinto, S. M., Dodd, S., Walkinshaw, S. A., Siney, C., Kakkar, P., & Mousa, H. A. (2010). Substance abuse during pregnancy: effect on pregnancy outcomes. *European Journal of Obstetrics & Gynecology and Reproductive Biology, 150*(2), 137-141.

<sup>9</sup> Young, N.K., Gardner, S., Otero, C., Dennis, K., Chang, R., Earle, K., & Amatetti, S. (2007). *Substance-Exposed Infants: State Responses to the Problem*. National Center on Substance Abuse and Child Welfare.

<sup>10</sup> Logan, T., Walker, R., Jordan, C. & Leukefeld, C. (2006). *Women and victimization: contributing factors, interventions, and implications*. Washington, DC: American Psychological Association Press.

<sup>11</sup> Kessler, R., McGonagle, K., Zhao, S., Nelson, C. Hughes, M., Eshleman, S., Wittchen, H., & Kendler, K. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry, 51*, 8-19.

<sup>12</sup> Shah, P. S., & Shah, J. (2010). Maternal exposure to domestic violence and pregnancy and birth outcomes: a systematic review and meta-analyses. *Journal of Women's Health, 19*(11), 2017-2031.

<sup>13</sup> Schetter, C. D., & Tanner, L. (2012). Anxiety, depression and stress in pregnancy: implications for mothers, children, research, and practice. *Current Opinion in Psychiatry, 25*(2), 141-148.

<sup>14</sup> Roberts, S.C & Nuru-Jeter, A. (2010). Women's perspectives on screening for alcohol and substance use in prenatal care. *Women's Health Issues, 3*, 193-200.

<sup>15</sup> Domestic Violence by State, 2024. <https://worldpopulationreview.com/state-rankings/domestic-violence-by-state>.

depression (3rd), and multiple chronic health conditions (2nd).<sup>16</sup>

Kentucky also ranks 9th highest in the nation for adverse childhood experiences with 19.6% of children experiencing two or more adverse conditions (compared to 14.5% nationally). In 2017, 2018, and 2019, Kentucky had the highest rate of child victims of indicated or substantiated maltreatment in the U.S. according to the National Child Abuse and Neglect Data System: 22.2, 23.6, and 20.0 per 1,000 children.<sup>17</sup> Moreover, in 2023, Kentucky ranked 12th for child mortality, 19th in the nation for infant mortality, and 17th in the nation for babies born with low birthweight.<sup>16</sup>

The overall goal of the KY-Moms MATR program is to educate and support at-risk mothers as well as increase positive birth outcomes for pregnant women in Kentucky. The program is administered by the Division of Substance Use Disorder in the Department for Behavioral Health, Developmental and Intellectual Disabilities.<sup>18</sup> The program has two components including providing: (1) substance disorder prevention education to pregnant women at all risk levels, and (2) respondent-centered intensive case management services to pregnant and parenting women who are referred to in this report as KY-Moms MATR program. This report focuses on outcomes for mothers who are involved with the intensive case management services component of the program.

The KY-Moms MATR program case managers provide support, referrals, information, and other needed services (e.g., transportation) in a respondent-centered format. More specifically, this intervention focuses on meeting clients' needs as they evolve over time, as different risks manifest, and needs change as the pregnancy progresses.<sup>19</sup> By focusing on respondents' needs, client-centered intensive case management encourages continued engagement in clinical services and helps with a variety of practical needs.<sup>20,21</sup> KY-Moms MATR case managers use evidence-based practices, including Motivational Interviewing, to promote engagement in vital services such as substance use disorder and mental health treatment, partner violence services, and to encourage consistent prenatal care.<sup>22,23</sup>

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<sup>16</sup> United Health Foundation. (2024). *2024 Health of Women and Children Report*. Minnetonka, MN: United Health Foundation. Retrieved on October 24, 2024 from <https://www.americashealthrankings.org/learn/reports/2024-health-of-women-and-children-report>

<sup>17</sup> U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2023). *Child Maltreatment 2021*. Available from <https://www.acf.hhs.gov/cb/data-research/child-maltreatment>.

<sup>18</sup> Since 2015, all of Kentucky's regional community mental health centers except Bluegrass participate in the KY-Moms MATR program.

<sup>19</sup> Austin, L. (2013). Treatment Planning and Case Management in Community. *The Praeger Handbook of Community Mental Health Practice: Working in the Local Community*, 1, 83.

<sup>20</sup> Center for Substance Abuse Treatment. Comprehensive Case Management for Substance Abuse Treatment. Rockville (MD): Substance Abuse and McLaughlin, C. P., & Kaluzny, A. D. (2000). Building respondent centered systems of care: choosing a process direction for the next century. *Health Care Management Review*, 25(1), 73-82

<sup>21</sup> Sheedy C. K., and Whitter M. (2009). *Guiding Principles and Elements of Recovery-Oriented Systems of Care: What Do We Know from the Research?* HHS Publication No. (SMA) 09-4439. Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration.

<sup>22</sup> Ingersoll, K. S., Ceperich, S. D., Hetteema, J. E., Farrell-Carnahan, L., & Penberthy, J. K. (2013). Preconceptional motivational interviewing interventions to reduce alcohol-exposed pregnancy risk. *Journal of Substance Abuse Treatment*, 44(4), 407-416.

<sup>23</sup> May, P. A., Marais, A. S., Gossage, J. P., Barnard, R., Joubert, B., Cloete, M., et al. (2013). Case management reduces drinking during pregnancy among high-risk women. *The International Journal of Alcohol and Substance Research*, 2(3), 61-70.

Further, the curriculum has been standardized across the sites as of 2017 with updates to the curriculum in 2020.

Pregnant women who are referred to the KY-Moms MATR program are first screened for eligibility. Typically, women are referred by community organizations such as health departments, private OB/GYN providers, child welfare caseworkers, pregnancy crisis centers, domestic violence shelters and community mental health center CMHC clinicians. The screening tool used by KY-Moms MATR referral sources is the “Pregnancy Behavioral Health Risk Assessment Screening” tool, which assesses a variety of risks including substance use, mental health, and intimate partner violence, any of which make a woman eligible for prevention education services. Women that screen positive for substance use risk factors are referred to a therapist for a substance use assessment for a diagnosis. Once a diagnosis is reached (mild, moderate, or severe substance use disorder), they are eligible for case management services.

## EVALUATION METHOD

The KY-Moms MATR outcome evaluation includes a face-to-face evidence-based assessment by program staff from CMHCs to assess substance use, mental health symptoms, intimate partner violence, and other factors such as education, employment status, and living situation prior to pregnancy and while involved in the program.<sup>24</sup> Overall, a total of 79 pre-birth baselines were completed between July 2022 and December 2023 with women who had due dates that would result in target months for a follow-up interview between July 2023 and June 2024. In addition, there were 17 women who gave birth to their babies prior to entering the KY-Moms MATR program, completed a post-birth baseline, and who were targeted for follow-up in FY24.

At baseline, respondents are offered the opportunity to be contacted for a postnatal follow-up interview. KY-Moms MATR respondents are eligible to be included in the sample to be followed up if: (1) the respondent consents to be contacted by UK CDAR BHOS staff, (2) the baseline is submitted to UK CDAR within 30 days of completion, (3) the respondent is in the program at least 30 days before the birth of the baby, and (4) adequate contact information is provided for follow-up staff to use to attempt to locate and contact them for the follow-up interview. If any of these criteria are not met, the respondent is not included in the sample to be followed up.<sup>25</sup> If the respondent who entered KY-Moms MATR prior to the birth of her baby is included in the follow-up sample, an interviewer at UK CDAR contacts the respondent about 6 months after the birth of their baby (based upon estimated due date reported by the respondent at prenatal baseline). If this respondent entered KY-Moms MATR after the birth of their baby (post-birth respondents), respondents eligible for follow-up are contacted approximately 6 months after baseline. The UK CDAR team begins their efforts to locate and conduct follow-up interviews with women who are eligible for follow-up one month before their target month (i.e., six months after the due date of their baby) and continues their efforts until the women have

<sup>24</sup> For more information, see: Scrivner, A., Logan, T., Cole, J., & Miller, J. (2020). *Evidence Base for the KY-Moms MATR Evaluation Assessment and Methods*. Lexington, KY: University of Kentucky, Center on Substance and Alcohol Research.

<sup>25</sup> As a result of the prenatal baseline criteria, 51 respondents were not eligible for the follow-up sample. See Appendix A for information on each category of ineligibility.

completed the follow-up interview or for two months after the target month, whichever comes first. When the follow-up team contacts women, the respondent must not be living in a jail or controlled environment. UK CDAR interviewers obtain verbal consent to complete the follow-up interview. Responses to the follow-up interviews are kept confidential to facilitate accurate reporting of respondent outcomes and satisfaction with program services. During FY24, 21 postnatal follow-up assessments were completed (a 75.0% follow-up rate) on women who entered the program before giving birth.<sup>26</sup> In addition, during FY24, 9 women who gave birth to their babies before entering the program completed a 6-month follow-up.<sup>27</sup> See Appendix A for more details about follow-up methods and eligibility.

To be included in the analysis for the birth event outcome section of this report, however, respondents had to have given permission for the research team to access and to have had matching information from the Kentucky Vital Statistics birth event data set. Out of the 21 respondents who completed a follow-up, all respondents gave permission to access their data and were matched to the birth event data set. Out of the 9 post-birth respondents who completed a follow-up, all were able to be matched to the birth event data set. None of the mothers who entered KY-Moms MATR after the birth of their baby had more than one child in the dataset.<sup>28</sup>

**"Because of my background of homelessness, they helped me with resources (baby stuff) and took the time to help me one-on-one with my learning disorder as well."**

- KY-MOMS MATR RESPONDENT

<sup>26</sup> Respondents who completed a postnatal follow-up assessment (n = 21) were admitted to the KY-Moms MATR program and completed baseline assessments between June 2022 and September 2023.

<sup>27</sup> Of the 17 women who gave birth to their babies prior to entering the KY-Moms MATR program, 5 did not consent to being contacted for follow-up, one respondent had their baseline submitted over 30 days from when the baseline assessment was complete, one respondent was incarcerated, and one respondent could not be located during the targeted window. As a result, only 9 post-birth respondents completed a follow-up.

<sup>28</sup> Post-birth women gave birth to their babies between October 2022 and November 2023.

## A CLOSER LOOK AT PRE-BIRTH RESPONDENTS WHO DID NOT HAVE A POSTNATAL FOLLOW-UP INTERVIEW

When women with a postnatal follow-up interview (n = 21) were compared with women who did not have a postnatal follow-up interview (n = 58)<sup>29</sup> on a variety of prenatal baseline variables, there were a couple of significant differences. Respondents who completed a follow-up reported smoking significantly more cigarettes in the 30 days before pregnancy. In addition, significantly more respondents who completed a follow-up reported sexual violence in the six months before pregnancy and in the past 30 days (see Appendix B).

	Not followed up (n = 58)	Followed up (n = 21)
Demographics	No difference	
Living situation	No difference	
Employment	No difference	
Physical health	No difference	
Illicit substance use		Reported smoking significantly more cigarettes in the 30 days before pregnancy
Alcohol use	No difference	
Tobacco use	No difference	
Mental health	No difference	
Intimate partner violence		Significantly more reported sexual violence in the 6 months before pregnancy and in the past 30 days

<sup>29</sup> See Appendix A for details reasons why respondent did not complete a follow-up interview.

## SECTION II | A DESCRIPTION OF ALL KY-MOMS MATR RESPONDENTS AT BASELINE

*The KY-Moms MATR outcome evaluation includes a face-to-face baseline interview by program staff to assess targeted factors such as substance use, mental health symptoms, intimate partner violence, and other factors such as education, employment status, and living situation prior to pregnancy and while involved in the program. Between July 2022 and December 2023, 79 pregnant women completed a prenatal baseline interview and 17 women who gave birth prior to entering KY-Moms MATR and were eligible for a six-month postnatal follow-up within FY24 completed baseline interviews.<sup>30, 31</sup>*

### RESPONDENTS WHO ENTERED THE PROGRAM BEFORE THE BIRTH OF THEIR CHILD

#### DEMOGRAPHICS

Table II.1 shows that the majority of respondents were White (86.1%) and were an average of 28.0 years old. In addition, 40.5% were married or living with an intimate partner at baseline. Of the respondents who were living with an intimate partner (n = 32), 87.5% reported this partner was the father of the baby. Close to one-quarter of the KY-Moms MATR women (24.1%) reported at prenatal baseline they were currently homeless. Of those who indicated they were homeless (n = 19), 36.8% were staying temporarily with friends/family, 21.1% were staying in a hotel/motel, 21.1% were staying in transitional living, 5.3% were staying on the street or living in their car, 5.3% were staying in a shelter, and 10.5% considered themselves homeless for other reasons.

<sup>30</sup> Respondents who completed a prenatal baseline (n = 79) entered the KY-Moms MATR program between June 2022 and December 2023 with an average of 9.8 days between when the respondent entered the program and when the baseline assessment was completed.

<sup>31</sup> Because the KY-Moms MATR evaluation only analyzes respondents who completed a baseline, it is not known how many women were served by the KY-Moms MATR program but did not complete a baseline assessment.

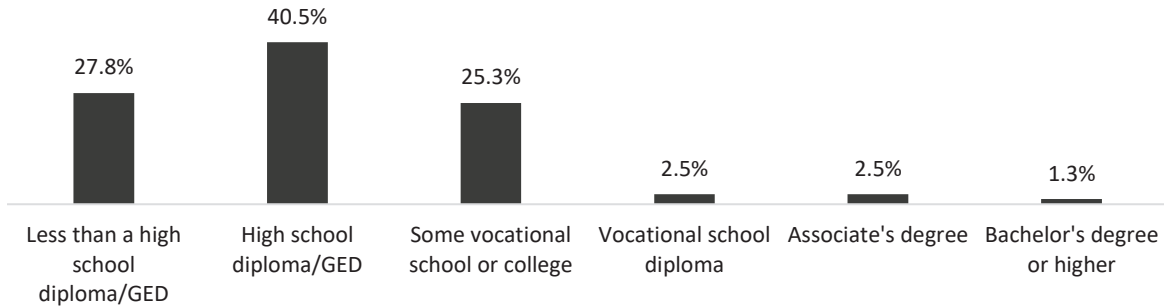
TABLE II.1. DEMOGRAPHICS FOR KY-MOMS MATR RESPONDENTS AT PRENATAL BASELINE (N = 79)

<b>Age</b> .....	28.0 years ( <i>range of 13-41</i> ) <sup>32</sup>
<b>Race</b>	
White.....	86.1%
African American.....	10.1%
American Indian.....	1.3%
Mexican.....	0.0%
Puerto Rican.....	0.0%
Other Hispanic.....	0.0%
Multiracial.....	2.5%
<b>Marital status</b>	
Married or cohabiting.....	40.5%
Never married.....	43.0%
Separated or divorced.....	15.2%
Widowed.....	1.3%
Of those married or cohabiting	(n = 32)
Partner is the father of the baby.....	87.5%
<b>Homeless</b> .....	24.1%
Of those homeless	(n = 19)
Staying temporarily with friends/family.....	36.8%
Staying in a hotel/motel.....	21.1%
Staying in transitional living.....	21.1%
Staying on the street or living in your car.....	5.3%
Staying in a shelter.....	5.3%
Other.....	10.5%

About 28% of respondents had less than a high school diploma or GED at baseline (see Figure II.1). Close to 40% of respondents reported their highest level of education was a high school diploma or GED. Twenty-five percent of respondents had completed some vocational/technical school or college. A small minority of respondents (2.5%) had completed a vocational school diploma, or an associate’s degree. Very few respondents (1.3%) had a bachelor’s degree or higher.

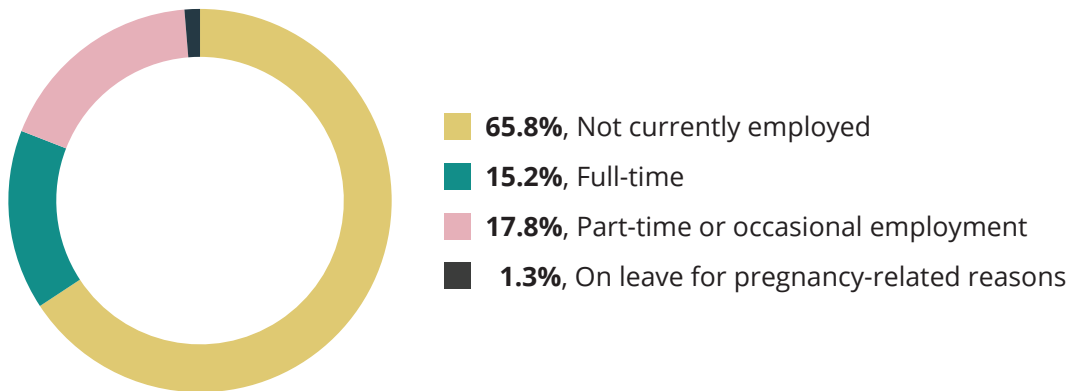
<sup>32</sup> Two respondents were missing a birthdate and, therefore, age could not be calculated.

FIGURE II.1. HIGHEST LEVEL OF EDUCATION COMPLETED AT PRENATAL BASELINE (N = 79)



Close to two-thirds of the women in KY-Moms MATR case management were unemployed (65.8%) at the time of the pre-birth baseline interview. Only 15.2% of respondents were employed full-time and 17.8% either worked part-time or had occasional/seasonal work. Close to 1% reported they were currently on leave from their job due to pregnancy-related reasons.

FIGURE II.2. CURRENT EMPLOYMENT STATUS AT PRENATAL BASELINE (N = 79)

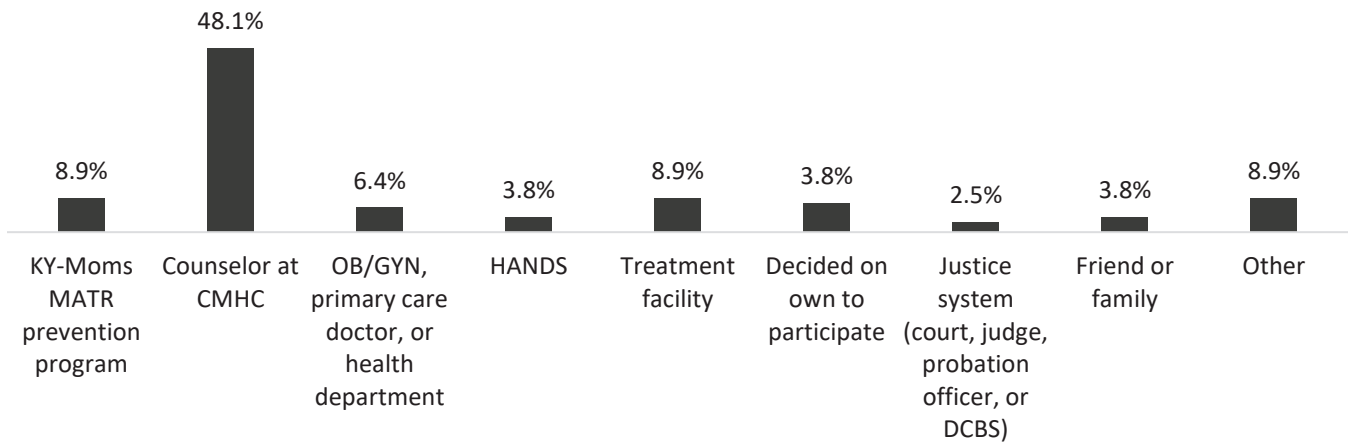


## SELF-REPORTED REFERRAL STATUS

Figure II.3 shows the self-reported referral source for all KY-Moms MATR respondents at baseline. Almost half of respondents (48.1%) were referred to the program by a counselor at CMHC, 6.4% of client were referred by an OB/GYN, primary care doctor, or health department, and 8.9% were referred by the KY-Moms MATR prevention program. Less than one-third of clients reported they were referred to KY-Moms MATR by other sources such as HANDS, a treatment facility, the justice system, a family or friend, or on their own.



FIGURE II.3. SELF-REPORTED REFERRAL SOURCE FOR KY-MOMS MATR RESPONDENTS AT PRENATAL BASELINE (N = 79)



## INFORMATION ABOUT THE PREGNANCY

Overall, at the time respondents completed the prenatal baseline, they were an average of 24 weeks into their pregnancy (ranging 4 weeks to 38 weeks). All respondents reported they were going to maintain custody of the baby.

At the time of prenatal baseline, respondents had been to an average of 6.2 visits (range of 0-36 visits) with their prenatal health care provider and 45.6% reported they were planning on breastfeeding. Overall, 86.1% of respondents reported they had been pregnant before.

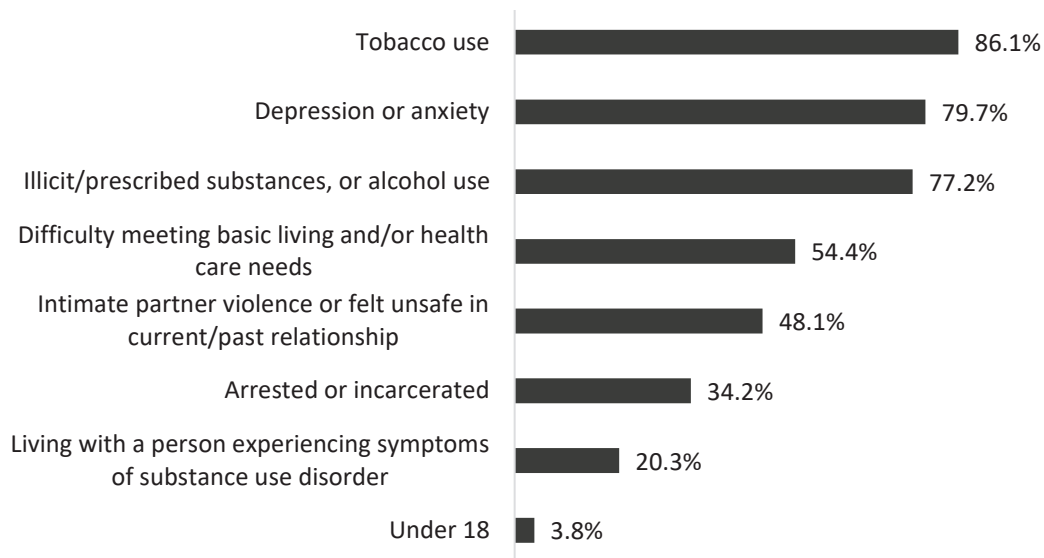
TABLE II.2. PREGNANCY STATUS FOR KY-MOMS MATR RESPONDENTS AT PRENATAL BASELINE (N = 79)

Average weeks pregnant .....	24.2 weeks (range of 4-38)
Plan to keep the baby.....	100%
Average number of visits with a healthcare professional.....	6.2 (range 0-36)
Plan to breastfeed .....	45.6%
Had a prior pregnancy .....	86.1%

## RISK STATUS

Figure II.4 shows that of the 79 respondents who completed a KY-Moms MATR prenatal baseline, 98.7% fit into at least one of the major risk factor categories assessed in the baseline interview. Overall, 86.1% of respondents reported tobacco use (cigarettes, e-cigarettes, or smokeless tobacco) and 79.7% reported they had symptoms of depression or anxiety for at least two weeks in a row at baseline (in the 6 months before pregnancy or in the past 30 days). Over three-quarters of respondents (77.2%) reported illicit substance or alcohol use at baseline (in the 6 months before pregnancy, in the 30 days before pregnancy, or in the past 30 days). About 54% of respondents reported difficulty meeting basic living and/or health care needs and 48.1% reported intimate partner violence and/or feeling unsafe in either their current relationship or because of a partner from a previous relationship in the 6 months before pregnancy or in the past 30 days. Over one-third of respondents (34.2%) reported having been arrested and/or incarcerated in the 6 months before pregnancy. About 20% of respondents reported currently living with someone who experienced symptoms of a substance use disorder, and 3.8% were under the age of 18 at the time of the baseline interview.

FIGURE II.4. PERCENT OF RESPONDENTS FALLING INTO AT LEAST ONE TARGETED RISK FACTOR IN THE 6 MONTHS BEFORE PREGNANCY OR IN THE PAST 30 DAYS AT PRENATAL BASELINE (N = 79)



## SUBSTANCE USE

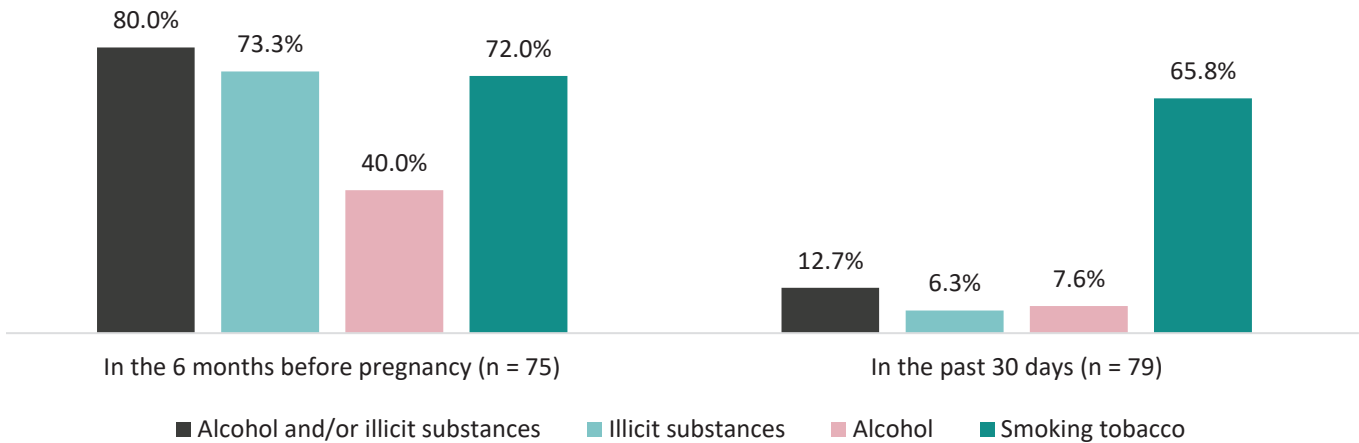
The majority reported using alcohol and/or illicit substances (80.0%) in the 6 months before pregnancy. Overall, a higher percentage of individuals reported using illicit substances (73.3%) compared to the percent of individuals who reported using alcohol (40.0%) in the 6 months before pregnancy. The majority of respondents reported smoking tobacco (72.0%) in the 6 months before pregnancy.

None of the respondents were in a controlled environment all 30 days before baseline. About 13% reported using alcohol and/or illicit substances.<sup>33</sup> Specifically, 6.3% reported

<sup>33</sup> This period includes while they were pregnant, but may not have known they were pregnant yet.

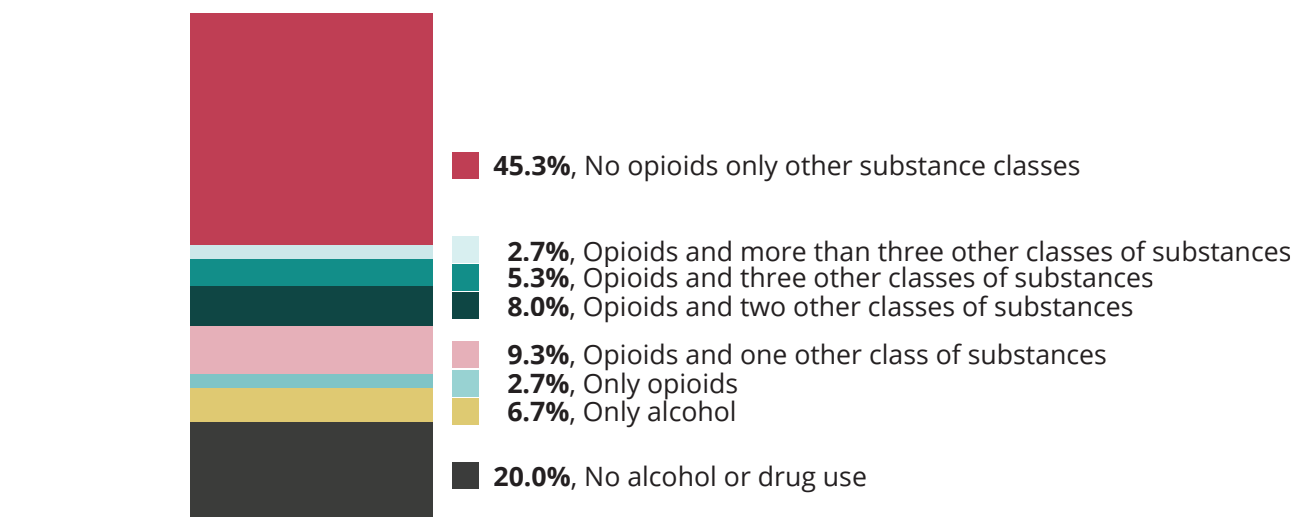
illicit substance use and 7.6% reported alcohol use. Also, 65.8% reported smoking tobacco in the 30 days before baseline (see Figure II.5).

FIGURE II.5. PERCENT OF RESPONDENTS REPORTING ILLICIT SUBSTANCES, ALCOHOL, AND SMOKING TOBACCO AT PRENATAL BASELINE<sup>34</sup>



Among the individuals who were not incarcerated or in a controlled environment all 180 days before they were pregnant (n = 75), Figure II.6 shows the percent of respondents who used no alcohol and or illicit substances (20.0%), alcohol only (6.7%), no opioids and other illicit substance classes only (45.3%), and opioids only (2.7%). Additionally, Figure II.6 shows the percent of respondents who reported using opioids with one other illicit substance class (9.3%), opioids with two other illicit substance classes (8.0%), opioids with three other substance classes (5.3%), and opioids with three or more other illicit substance classes (2.7%).

FIGURE II.6. OPIOID AND OTHER SUBSTANCE CLASS USE IN THE 6 MONTHS BEFORE PREGNANCY (N = 75)<sup>35</sup>



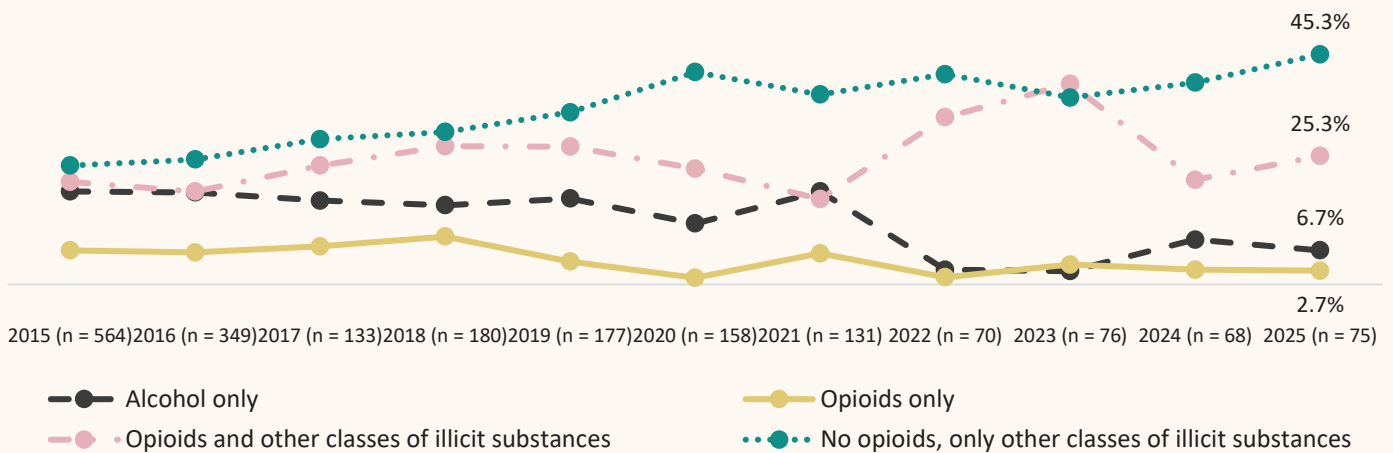
<sup>34</sup> Because being in a controlled environment decreases opportunities for substance use, individuals who were incarcerated all 180 days in the 6 months before pregnancy (n = 4), or in a controlled environment/incarcerated all 30 days before entering the program (n = 0) are not included in the analysis of substance use in the corresponding period.

<sup>35</sup> The broad substance classes examined were (1) Marijuana/cannabis, (2) Opioids including heroin, (3) CNS depressants, (4) Cocaine and stimulants, and (5) Other substances (hallucinogens, inhalants, synthetic substances).

## TRENDS IN ALCOHOL AND SUBSTANCE USE CLASSES<sup>36</sup> IN THE 6 MONTHS BEFORE PREGNANCY AT BASELINE

In all but the 2023 report year, more respondents who were not incarcerated all 180 days before pregnancy reported not using opioids, but reported using other classes of illicit substances in the 6 months before pregnancy. The percent of respondents reporting using classes of illicit substances other than opioids in the 6 months before pregnancy almost doubled from 23.4% in the 2015 report to 41.8% in 2020. In 2025, 45.3% of respondents reported using classes of illicit substances other than opioids in the 6 months before pregnancy while 25.3% reported using opioids and other illicit substance classes.

FIGURE II.7. TRENDS IN CLASSES OF SUBSTANCES USED IN THE SIX MONTHS BEFORE PREGNANCY, 2015-2025



*In the current report (2025), among respondents who reported using only classes of illicit substances other than opioids in the six months before pregnancy (n = 34), 64.7% reported cannabis use, 58.8% reported stimulant use, 17.6% reported cocaine use, and 5.9% reported sedative use.*

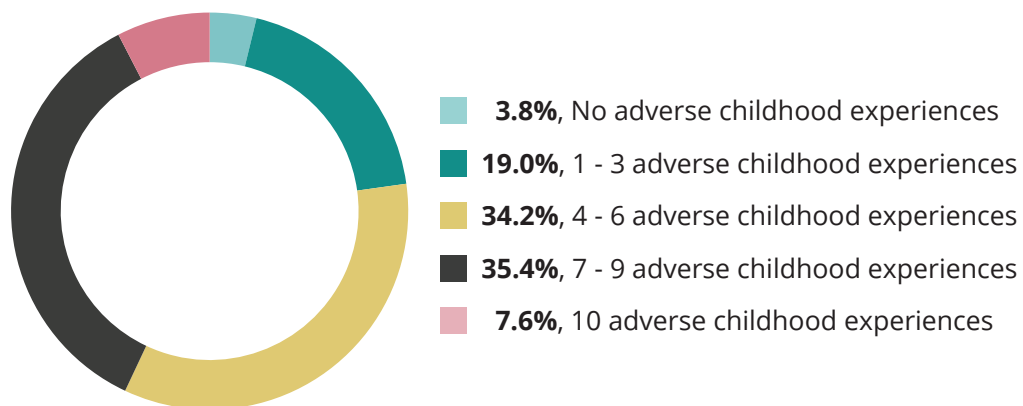
In addition, 34.2% of respondents reported having ever overdosed (which required intervention by someone to recover, including suicide attempts) in their lifetime. In the 6 months before pregnancy, 5.1% of respondents reported an overdose.

<sup>36</sup> Five classes: 1. Marijuana, 2. Opioids (prescription opiates, Suboxone, heroin, methadone), 3. Stimulants (amphetamines, methamphetamine, prescription stimulants, cocaine), 4. CNS depressants (barbiturates, tranquilizers), 5. Other illicit substances (inhalants, hallucinogens, synthetic substances).

## ADVERSE CHILDHOOD EXPERIENCES (ACE) AND VICTIMIZATION

At baseline, respondents were asked sixteen items about ten types of adverse childhood experiences from the Adverse Childhood Experiences (ACE).<sup>37, 38, 39</sup> In addition to providing the percent of women who reported each of the ten types of adverse childhood experiences before the age of 18 years old captured in ACE, the number of types of experiences was computed such that the number of items respondents answered affirmatively to were added to create a score equivalent to the ACE score. A score of 0 means the respondent answered “No” to the five maltreatment and neglect items and the five household dysfunction items in the baseline interview. A score of 10 means the respondent reported all five forms of child maltreatment and neglect, and all 5 types of household dysfunction before the age of 18. Figure II.8 shows that only 3.8% reported they did not experience any of the ACE included in the baseline assessment, which means 96.2% of respondents reported at least one type of ACE. Specifically, 19.0% reported experiencing 1 – 3 ACE, 34.2% reported experiencing 4 – 6 ACE, and 35.4% reported experiencing 7 – 9 ACE. Close to 8% of respondents reported experiencing all 10 types of adverse childhood experiences. Overall, respondents reported an average of 5.7 adverse childhood experiences.

FIGURE II.8. NUMBER OF TYPES OF ADVERSE CHILDHOOD EXPERIENCES REPORTED AT PRENATAL BASELINE (N = 79)



Close to 70% of all respondents at baseline reported that they had experienced emotional neglect (e.g., felt that no one in the family loved them, or they weren't special/important, or did not feel close to each other or supported) and 63.3% experienced emotional

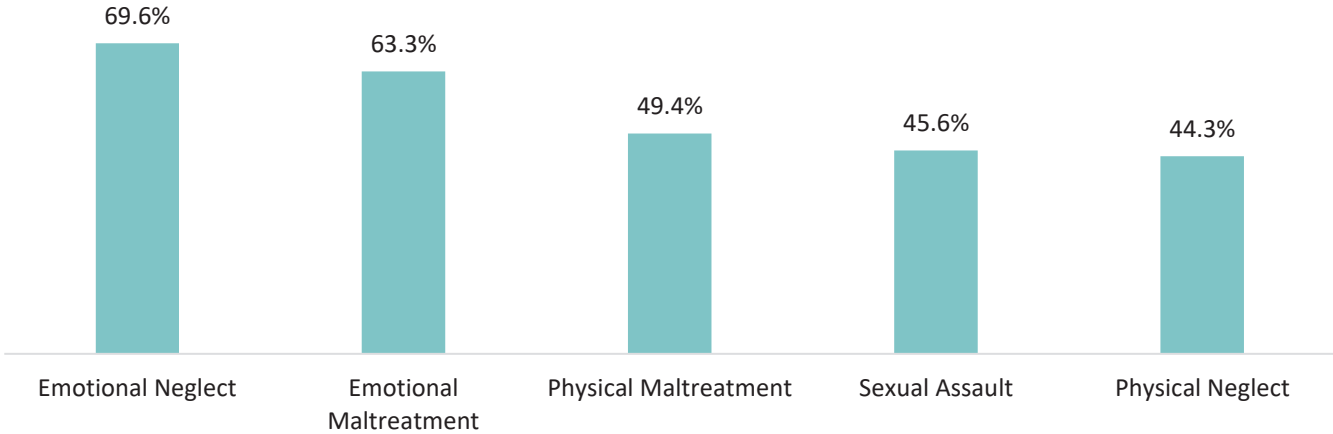
<sup>37</sup> Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245-258.

<sup>38</sup> Centers for Disease Control and Prevention. (2014). *Prevalence of individual adverse childhood experiences*. Atlanta, GA: National Center for Injury Prevention and Control, Division of Violence Prevention. <http://www.cdc.gov/violenceprevention/acestudy/prevalence.html>.

<sup>39</sup> The baseline assessment asked about 10 major categories of adverse childhood experiences: (a) three types of maltreatment/violence (e.g., emotional maltreatment, physical maltreatment, and sexual violence), (b) two types of neglect (e.g., emotional neglect, physical neglect), and (c) five types of family risks (e.g., witnessing partner violence of parent, household member who was an alcoholic or substance user, a household member who was incarcerated, a household member who was diagnosed with a mental disorder or had committed suicide, and parents who were divorced/separated).

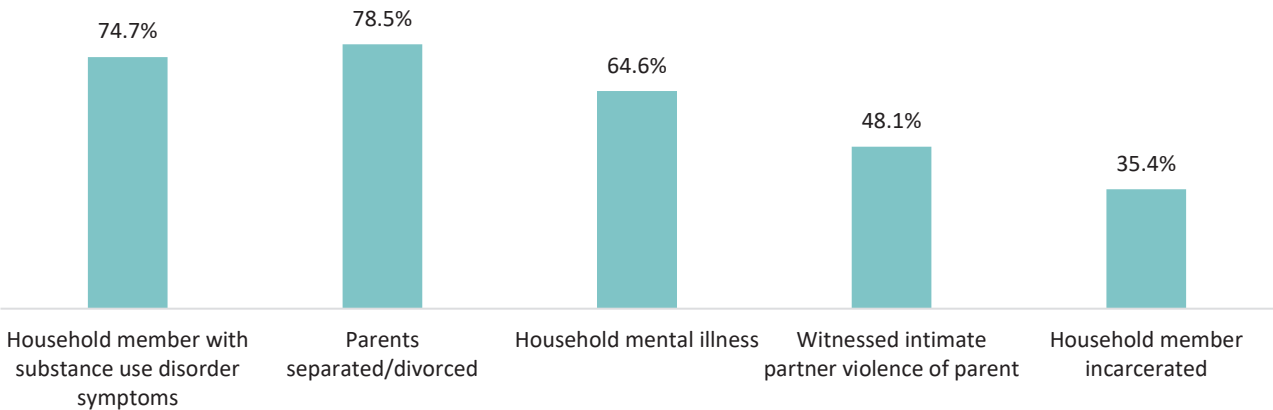
maltreatment (e.g., insults, put down, humiliation, parent acted in a way that made the child believe they would be physically hurt). A little less than half of respondents (49.4%) reported experiencing physical maltreatment (e.g., being pushed/grabbed/slapped, or being hit so hard that it left marks) and 44.3% experienced physical neglect (e.g., didn't have enough to eat as a child, had no one to protect them, parents too high/drunk to take care of them) before the age of 18. Around 46% of respondents reported sexual assault as a child (e.g., touched inappropriately by someone at least 5 years or older, or someone 5 years or older tried to or actually had sex with respondent).

FIGURE II.9. SPECIFIC MALTREATMENT AND VIOLENCE EXPERIENCES IN CHILDHOOD (N = 79)



Close to three-quarters of respondents (74.7%) had a household member who experienced substance use disorder symptoms and 78.5% of respondents reported their parents were divorced or lived separately and (see Figure II.10). Almost two-thirds of respondents (64.6%) reported they had a household member with a mental illness or had attempted suicide, 48.1% witnessed intimate partner violence of a parent before the age of 18, and 35.4% reported a household member who had been incarcerated.

FIGURE II.10. HOUSEHOLD RISKS IN CHILDHOOD (N = 79)

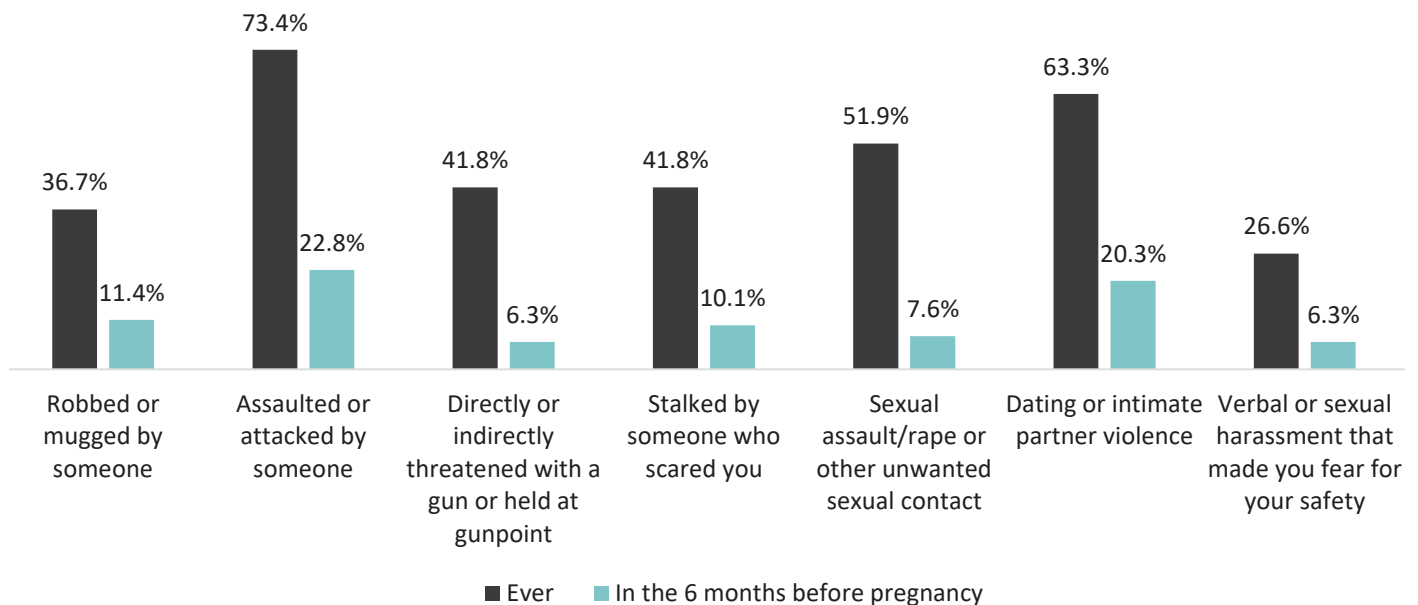


## VICTIMIZATION EXPERIENCES

At prenatal baseline, respondents were also asked about situations in which they had experienced violence, been harmed by someone else, or made to feel unsafe by someone other than a parent or guardian in their lifetime (including adulthood). Overall, 86.1% of respondents reported having ever experienced any type of violence. Figure II.11 shows that, 36.7% of respondents reported having ever been robbed or mugged (of these respondents (n = 29), 55.2% reported an acquaintance or family member was the perpetrator). Less than three-quarters of respondents (73.4%) reported having ever been assaulted or attacked by someone (of these (n = 58), 70.7% reported that a partner/ex-partner was the perpetrator) and 41.8% of respondents reported they had been directly or indirectly threatened with a gun or held at gunpoint (of these (n = 33), 51.5% reported that a partner/ex-partner was the perpetrator, 39.4% reported an acquaintance or family member, and 30.3% reported a stranger). Close to 42% of respondents reported having ever been stalked by someone who scared them; and among the 33 women, 84.8% reported that a partner/ex-partner was the perpetrator. About 52% reported having ever experienced sexual assault, rape, or other unwanted sexual contact and of these respondents (n = 41), 51.2% reported an acquaintance or family member was the perpetrator and 41.5% reported a partner/ex-partner. The majority of women (63.3%) reported having ever experienced dating or intimate partner violence (i.e., partner physically assaulted, controlled, or emotionally violated the respondent). Over one-quarter of respondents (26.6%) reported they were ever verbally, sexually, or otherwise harassed in some way that made them afraid for their safety; among these respondents (n = 21), 66.7% reported a partner/ex-partner was the perpetrator and 42.9% reported an acquaintance or family member.

In the 6 months before pregnancy, 39.2% reported any experiences with violence. Specifically, 22.8% reported they were assaulted or attacked by someone and 20.3% of respondents reported experiencing dating or intimate partner violence.

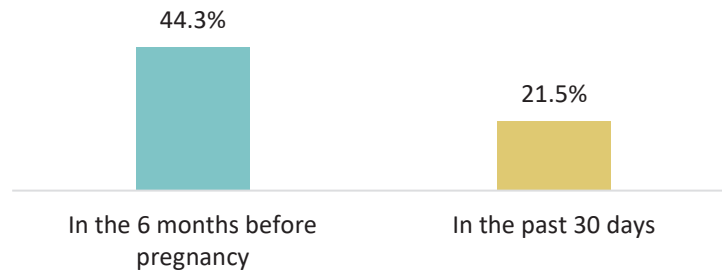
FIGURE II.11. PERCENT OF RESPONDENTS HAVING ANY EXPERIENCES WITH VIOLENCE (N = 79)



## ANY INTIMATE PARTNER VIOLENCE

Figure II.12 shows that in the 6 months before pregnancy, 44.3% of respondents reported experiencing some type of intimate partner violence (including psychological violence, control, physical violence, and sexual violence)<sup>40</sup> perpetrated by a current or ex-partner and 21.5% of respondents reported experiencing intimate partner violence in the past 30 days.

FIGURE II.12. ANY TYPE OF INTIMATE PARTNER VIOLENCE IN THE 6 MONTHS BEFORE PREGNANCY AND IN THE PAST 30 DAYS (N = 79)

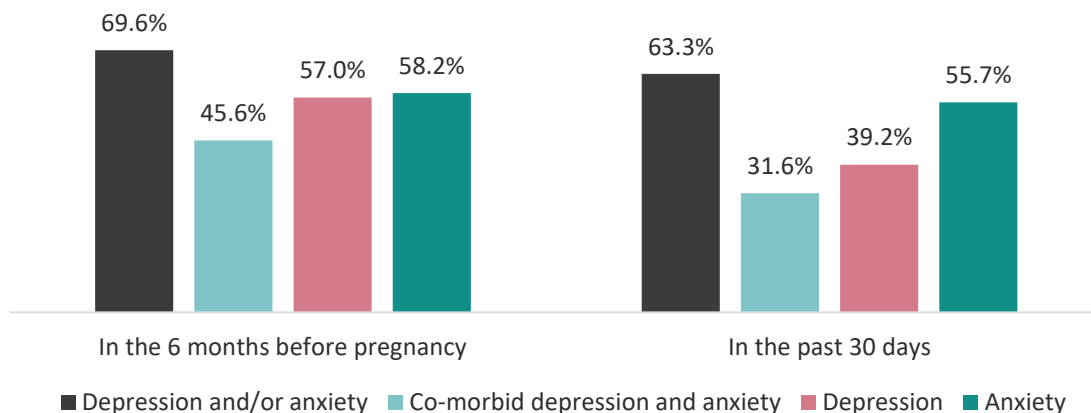


## MENTAL HEALTH

In the 6 months before pregnancy, 69.6% of respondents met study criteria for depression and/or anxiety and 45.6% of respondents met criteria for co-morbid depression and anxiety. Fifty-seven percent of respondents met study criteria for depression and 58.2% of respondents met study criteria for anxiety (see Figure II.13).

In the previous 30 days before the baseline, 63.3% of respondents met criteria for depression and/or anxiety and 31.6% met criteria for both depression and anxiety.

FIGURE II.13. PERCENT OF RESPONDENTS MEETING STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY AT PRENATAL BASELINE (N = 79)



Over one-third of respondents (35.4%) met study criteria for post-traumatic stress disorder (PTSD) in the 6 months before pregnancy (not represented in a figure).

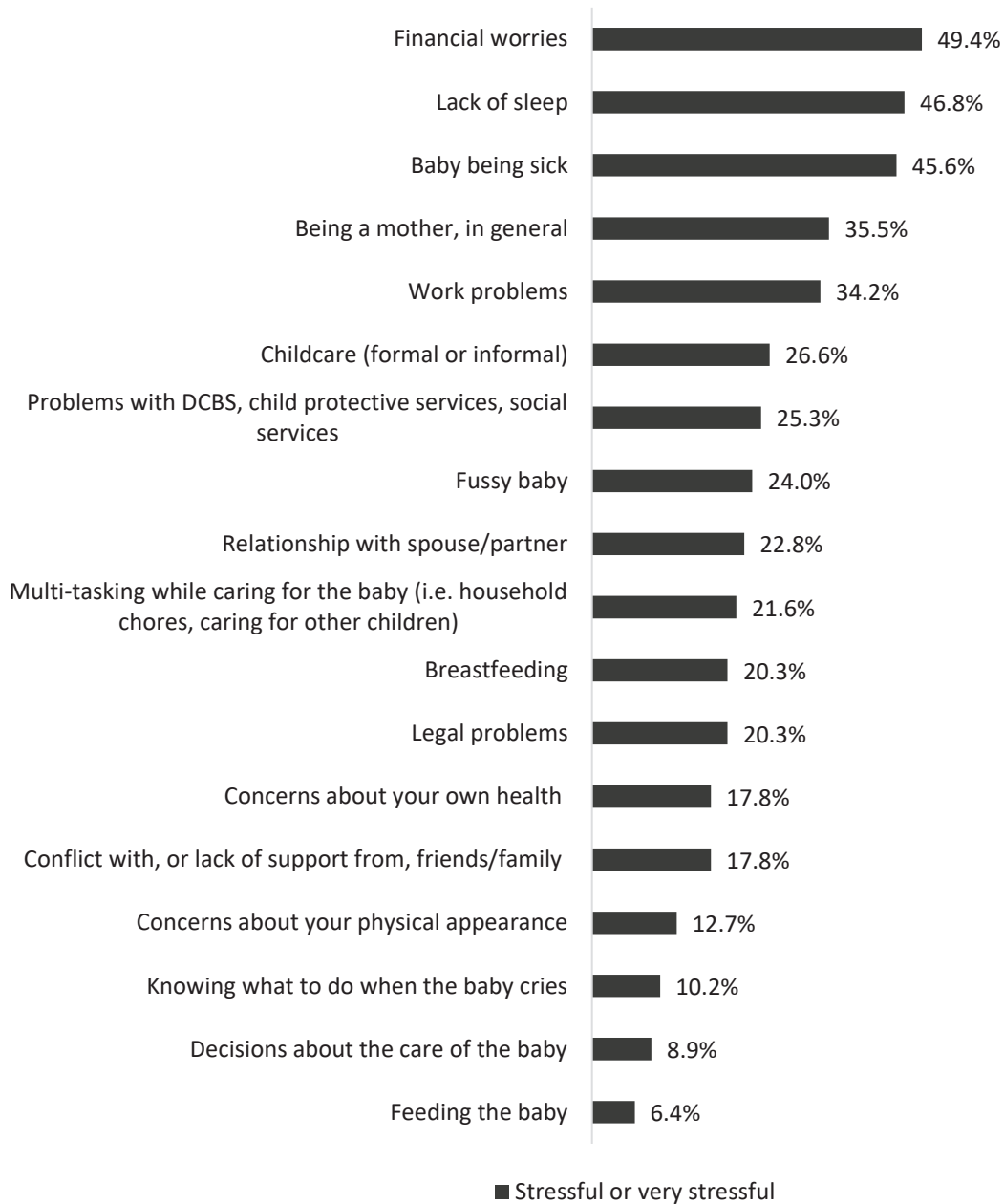
<sup>40</sup> Any violence was defined in this study as a respondent indicating “yes” to any of the intimate partner violence questions asked in the survey (e.g., verbal and psychological violence, extreme jealousy and control, threats of violence towards respondent and others close to them, physical violence, stalking, partner purposely damaging or destroying property, sexual assault/threats of assault) at each period.



## STRESS

At baseline, respondents were asked a series of questions regarding their expectations about how stressful certain events will be after they have their baby.<sup>41</sup> Responses included 1- not at all stressful, 2- a little stressful, 3 - stressful, and 4 - very stressful. The majority of respondents (87.3%) rated at least one item as stressful or very stressful. Specifically, the three items reported most frequently as being stressful or very stressful were financial worries (49.4%), lack of sleep (46.8%), and the baby being sick (45.6%).

FIGURE II.14. RATING OF EVENTS AFTER THE BIRTH OF THE BABY AS STRESSFUL/VERY STRESSFUL (N = 79)

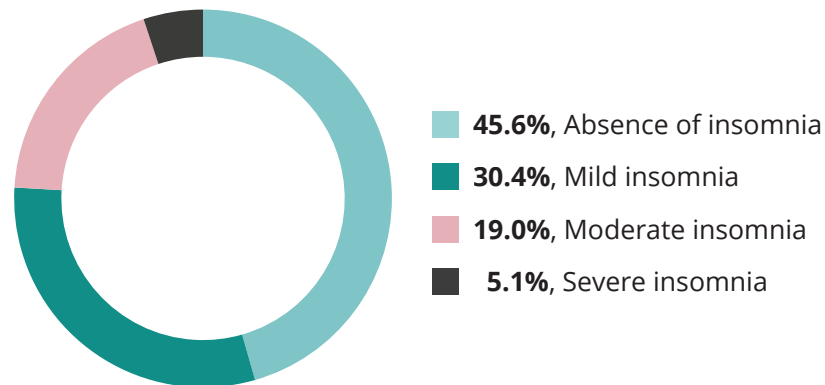


<sup>41</sup> Questions regarding stress are adapted from the Postpartum Stressor Scale, which includes a 9-item scale highlighting baby care, well-being, and work problems. Park, E. R., Psaros, C., Traeger, L., Stagg, A., Jacquart, J., Willett, J., Alert, M. D., LaRoche, K. L., & Ecker, J. L. (2015). Development of a postpartum stressor measure. *Maternal and Child Health Journal*, 19(10), 2094–2101. <https://doi.org/10.1007/s10995-015-1731-0>.

## SLEEP DIFFICULTY

Sleep difficulty in KY-Moms MATR assessments is measured using the Insomnia Severity Index (ISI).<sup>42, 43</sup> The ISI consists of 7 self-reported items that measure the nature, severity, and impact of insomnia during the current period. A 5-point Likert scale is used to rate each question on a scale of 0 (no problem) to 4 (very severe problem) where the total score can range from 0 to 28. A total score of 0-7 indicates an absence of insomnia, 8-14 indicates mild insomnia, 15-21 indicates moderate insomnia, and a score total of 22-28 indicates severe insomnia. Figure II.15 shows that 45.6% of respondents were classified as having an absence of insomnia. In addition, 30.4% of respondents were classified as having mild insomnia and 19.0% of respondents were classified as having moderate insomnia. Only 5.1% of respondents (4 respondents) were classified as having severe insomnia. Overall, respondents scored an average of 9.4 on the Insomnia Severity Index.

FIGURE II.15. LEVEL OF INSOMNIA REPORTED AT PRENATAL BASELINE (N = 79)



## SUMMARY

Almost half of pre-birth respondents (48.1%) reported they were referred to the KY-Moms MATR program by a counselor at a community mental health agency. The majority of respondents coming into the program before giving birth were White (86.1%), 40.5% were either married or cohabiting with a partner, and the average age was 28 years old. Of the respondents who were married or cohabiting, the majority (87.5%) reported that their current partner was the father of the baby. Close to 28% had less than a high school diploma/GED and 65.8% were unemployed.

**"My case manager was wonderful and so sweet. Worked with her on her goals, and tried new things if it didn't work."**

- KY-MOMS MATR RESPONDENT

<sup>42</sup> Bastien, C. H., Vallières, A., & Morin, C. M. (2001). Validation of the Insomnia Severity Index as an outcome measure for insomnia research. *Sleep Medicine*, 2(4), 297-307. [https://doi.org/10.1016/s1389-9457\(00\)00065-4](https://doi.org/10.1016/s1389-9457(00)00065-4).

<sup>43</sup> Morin, C., Belleville, G., Belanger, L., and Ivers, H. (2011). The Insomnia Severity Index: Psychometric indicators to detect insomnia cases and evaluate treatment response. *Sleep*, 24(5), 601-608.

Overall, respondents were an average of 24 weeks into their pregnancy when they completed a prenatal baseline assessment and the majority (86.1%) reported that they had been pregnant before. At baseline, respondents reported an average of 6.2 prenatal visits with a health care professional. Almost half of respondents (45.6%) were planning to breastfeed their babies.

KY-Moms MATR respondents reported behavioral health risks associated with negative birth outcomes in the time before becoming involved in the program including high rates of smoking, alcohol and illicit substance use, depression or anxiety, financial difficulties, and intimate partner violence. In addition, the majority of respondents (96.2%) reported at least one adverse childhood experience and almost two-thirds (63.3%) reported experiencing emotional maltreatment, over two-thirds (69.6%) reported emotional neglect, and 49.4% reported physical maltreatment in childhood.

# RESPONDENTS WHO ENTERED THE PROGRAM AFTER THE BIRTH OF THEIR CHILD

## DEMOGRAPHICS

Table II.B.1 shows that the majority of respondents who entered KY-Moms MATR after the birth of their baby were White (76.5%) and an average of 29.5 years old.<sup>44</sup> In addition, over half had never been married (52.9%) and 29.4% were married or cohabiting at baseline. Of those respondents who were living with an intimate partner (n = 5), 100.0% reported this partner was the father of the baby. Almost one-quarter (23.5%) of the KY-Moms MATR mothers reported at post-birth baseline they were currently homeless. Among the 4 women who reported they were homeless, 50.0% were staying in transitional living, 25.0% were living in another situation, and 25.0% considered themselves homeless because they were staying temporarily with family/friends.

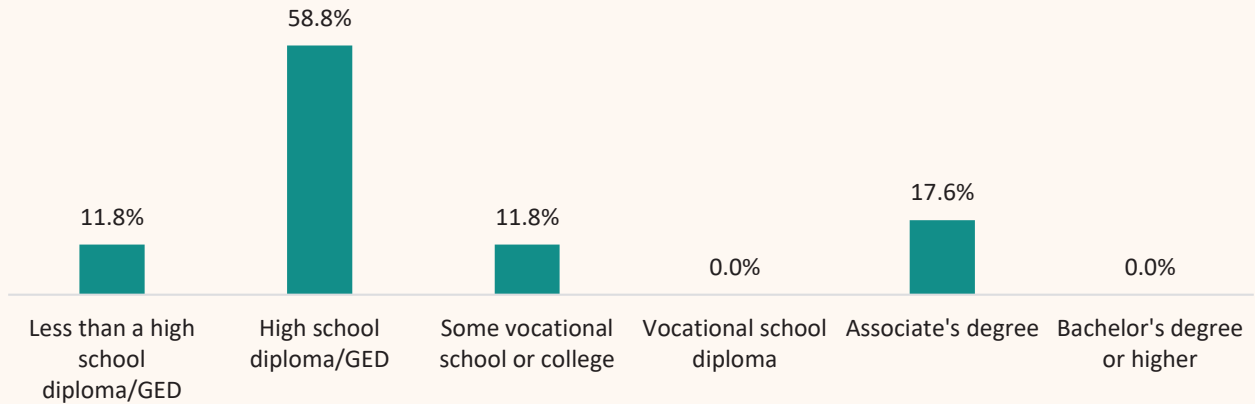
TABLE II.B.1. DEMOGRAPHICS FOR KY-MOMS MATR RESPONDENTS WHO HAD THEIR BABY BEFORE BASELINE (N = 17)

<b>Age</b> .....	29.5 years (range of 18-38)
<b>Race</b>	
White.....	76.5%
African American.....	11.8%
Other Hispanic.....	5.9%
Multiracial.....	5.9%
<b>Marital status</b>	
Married or cohabiting.....	29.4%
Never married.....	52.9%
Separated or divorced.....	17.6%
Widowed.....	0.0%
Of those married or cohabiting	(n = 5)
Partner is the father of baby.....	100.0%
<b>Homeless</b> .....	23.5%

About 12% of respondents had less than a high school diploma or GED at baseline (see Figure II.B.1). Over half of respondents (58.8%) reported their highest level of education was a high school diploma or GED. Close to 12% of respondents had completed some vocational/technical school or college and 17.6% had completed an associate’s degree. None of the respondents had completed vocational/technical school, or a bachelor’s degree.

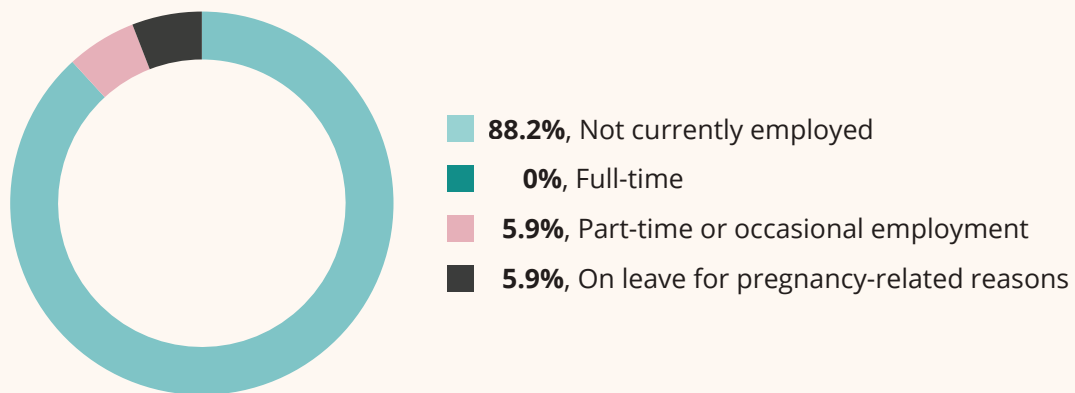
<sup>44</sup> Respondents who completed a postnatal baseline (n = 17) entered the KY-Moms MATR program between December 2022 and December 2023 with an average of 71.6 days between when the baby was born and when the baseline assessment was completed.

FIGURE II.B.1. HIGHEST LEVEL OF EDUCATION COMPLETED AT BASELINE (N = 17)



The majority of women in KY-Moms MATR case management were unemployed (88.2%) at the time of the post-birth baseline interview. None were employed full-time and only 5.9% worked part-time or had occasional/seasonal work. About 6% reported they were currently on leave from their job due to pregnancy-related reasons.

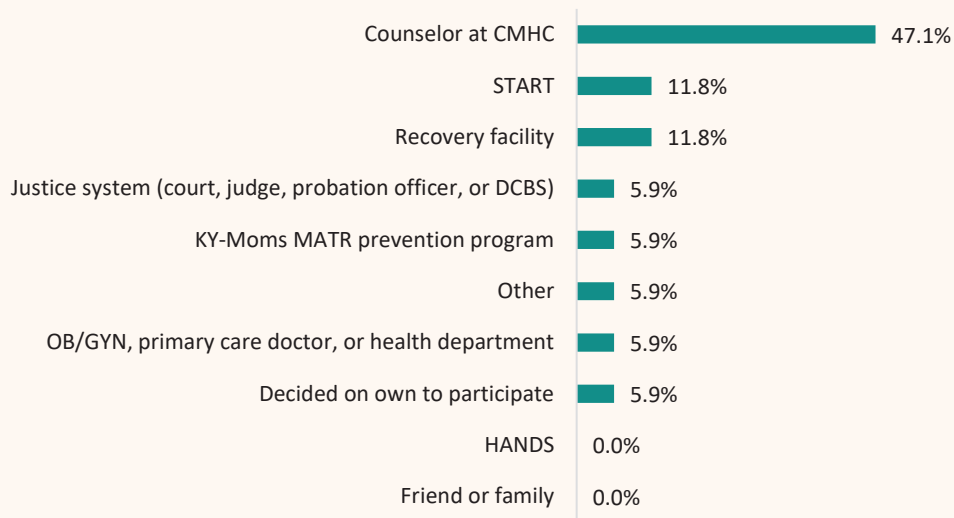
FIGURE II.B.2. CURRENT EMPLOYMENT STATUS AT BASELINE (N = 17)



## SELF-REPORTED REFERRAL STATUS

Figure II.B.3 shows the self-reported referral source for KY-Moms MATR respondents who entered the program after the birth of their baby. Almost half of respondents were referred by a counselor at one of the community mental health centers (47.1%), 11.8% were referred by the START program, and 11.8% were referred by a recovery facility. Six percent of respondents were referred by the justice system (e.g., judge, court, probation officer, or DCBS), the KY-Moms MATR program by the prevention program, other sources, health care provider, or they decided on their own to participate in the program. None of the respondents reported they were referred to KY-Moms MATR by friends or family.

FIGURE II.B.3. SELF-REPORTED REFERRAL SOURCE FOR KY-MOMS MATR RESPONDENTS WHO ENTERED THE PROGRAM AFTER THE BIRTH OF THEIR BABY (N = 17)



## INFORMATION ABOUT THE PREGNANCY/BABY

Respondents reported they were an average of 37.4 weeks pregnant when the baby was born. At the time of post-birth baseline, 82.4% of respondents had a regular OB/GYN and had been to an average of 12.4 visits (range of 0-50 visits) with their prenatal health care provider during pregnancy and an average of 2.7 times (range of 0-10 visits) since the birth of the baby (see Table II.B.2). Less than one-quarter of respondents (23.5%) reported they had breastfed and, of those respondents (n = 4), 50.0% were still breastfeeding. Less than one-third of respondents (31.3%) reported that they had been told by a doctor that there were special health care needs that directly impacted their pregnancy or the baby while pregnant such as gestational diabetes, hepatitis C, and pre-eclampsia. Since the baby was born, 11.8% of respondents reported that they had been told by a doctor of any special health care needs such as dairy allergy and A1C testing. Overall, 76.5% of respondents reported they had been pregnant before.

TABLE II.B.2. PREGNANCY STATUS FOR KY-MOMS MATR RESPONDENTS AT BASELINE (N = 17)

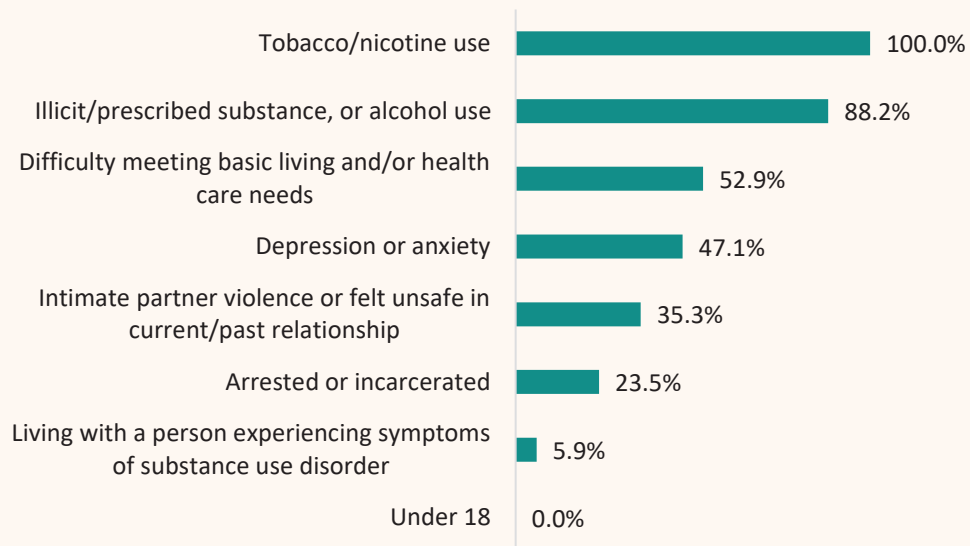
Average weeks of pregnancy when the baby was born.....	37.4 (range 34 – 40)
Have a regular OB/GYN.....	82.4%
Average number of visits with a healthcare professional during pregnancy .....	12.4 (range 0-50)
Average number of visits with a healthcare professional since baby was born.....	2.7 (range 0-10)
Have breastfed baby .....	23.5%
Among women who reported breastfeeding (n = 4)	
Still breastfeeding.....	50.0%
Had a prior pregnancy .....	76.5%
Told by a doctor of any special health care needs that directly impacted pregnancy or baby while pregnant .....	31.3% <sup>45</sup>
Told by a doctor of any special health care needs since the baby was born .....	11.8%
Visited the ER for your baby since the baby was born.....	29.4%

## RISK STATUS

Figure II.B.4 shows that all respondents who completed a KY-Moms MATR post-birth baseline fit into at least one of the major risk factor categories assessed in the baseline interview. Overall, all respondents reported tobacco/nicotine use (cigarettes, e-cigarettes, or smokeless tobacco) and 88.2% reported illicit substance or alcohol use at baseline (in the 6 months before pregnancy, during pregnancy, or in the past 30 days). Over half of respondents (52.9%) reported difficulty meeting basic living and/or health care needs and 47.1% reported they had symptoms of depression or anxiety for at least two weeks in a row at baseline (in the 6 months before pregnancy, during pregnancy, or in the past 30 days). About 35% of respondents reported intimate partner violence and/or feeling unsafe in either their current relationship or because of a partner from a previous relationship in the 6 months before pregnancy, during pregnancy, or in the past 30 days. Close to 24% of respondents reported having been arrested and/or incarcerated in the 6 months before entering the program. Approximately 6% of respondents reported currently living with someone experiencing symptoms of substance use disorder, and none were under the age of 18 at the time of the baseline interview.

<sup>45</sup> One respondent was missing data for having been told they had a special health care needs that impacted the pregnancy.

FIGURE II.B.4. PERCENT OF RESPONDENTS FALLING INTO AT LEAST ONE TARGETED RISK FACTOR AT BASELINE (N = 17)



## SUBSTANCE USE

The majority reported using alcohol and/or illicit substances (87.5%) in the 6 months before pregnancy. Overall, a higher percentage of individuals reported using illicit substances (75.0%) compared to the percent of individuals who reported using alcohol (37.5%) in the 6 months before pregnancy. The majority of respondents reported smoking tobacco (93.8%) in the 6 months before pregnancy.

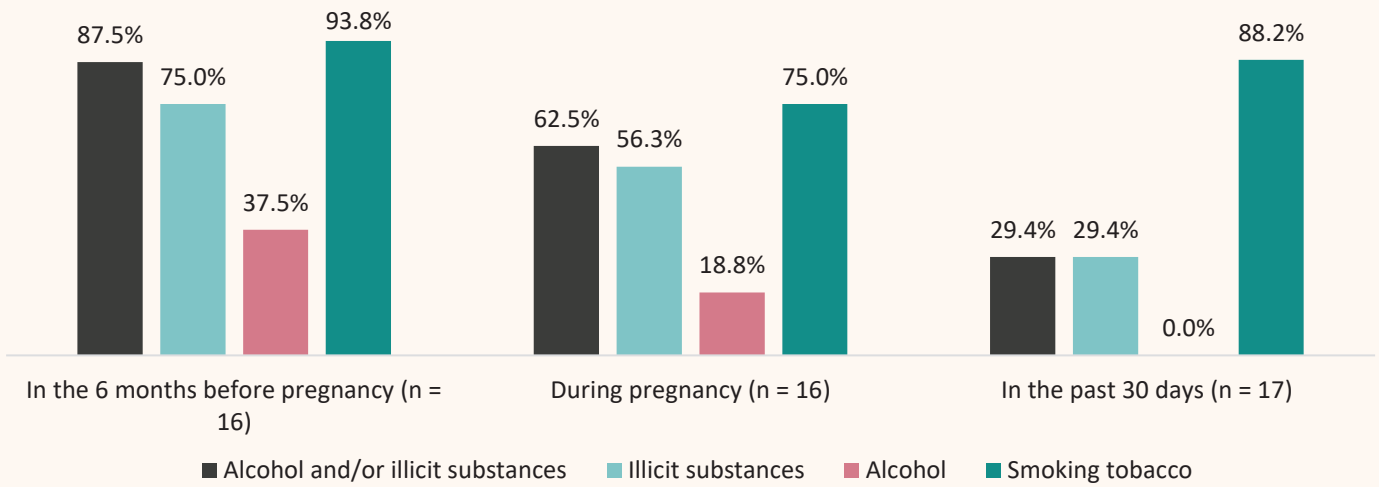
Almost 63% of respondents reported using alcohol and/or illicit substances during pregnancy. Specifically, 56.3% reported they used illicit substances and 18.8% reported alcohol use during pregnancy. The majority of respondents (75.0%) reported smoking tobacco during pregnancy.

In the 30 days before baseline, 29.4% reported using alcohol and/or illicit substances.<sup>46</sup> Specifically, 29.4% reported illicit substance use and 88.2% reported smoking tobacco in the 30 days before baseline (see Figure II.B.5).

<sup>46</sup> This period includes while they may or may not have still been pregnant.



FIGURE II.B.5. PERCENT OF RESPONDENTS REPORTING USE OF ILLICIT SUBSTANCES, ALCOHOL, AND SMOKING TOBACCO AT BASELINE<sup>47</sup>

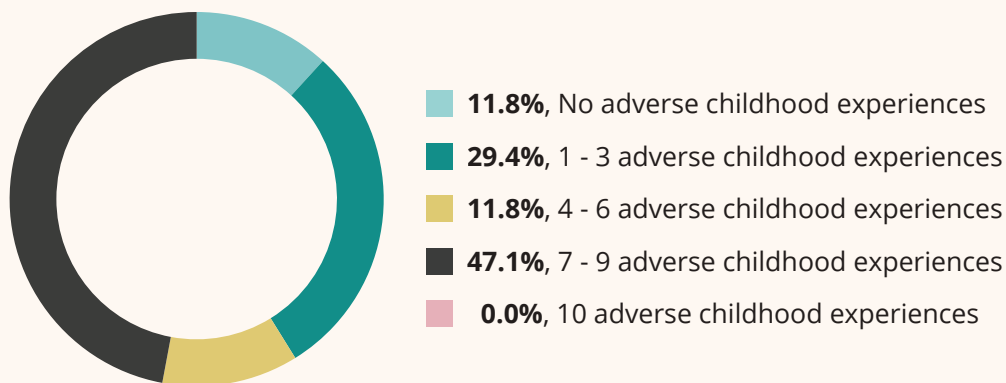


Among respondents who reported using illicit substances during pregnancy (n = 9), 88.9% reported stimulant use, 66.7% reported cannabis use, and 22.2% reported cocaine use.

## ADVERSE CHILDHOOD EXPERIENCES AND OTHER EXPERIENCES WITH VIOLENCE

Figure II.B.6 shows that the majority of respondents who entered the program after the birth of their baby reported at least one type of ACE included in the assessment. Specifically, 29.4% reported experiencing 1 to 3 ACE, 11.8% reported experiencing 4 – 6 ACE, and 47.1% reported experiencing 7 – 9 ACE. None of the respondents reported experiencing all 10 types of adverse childhood experiences. Overall, respondents reported an average of 4.8 adverse childhood experiences.

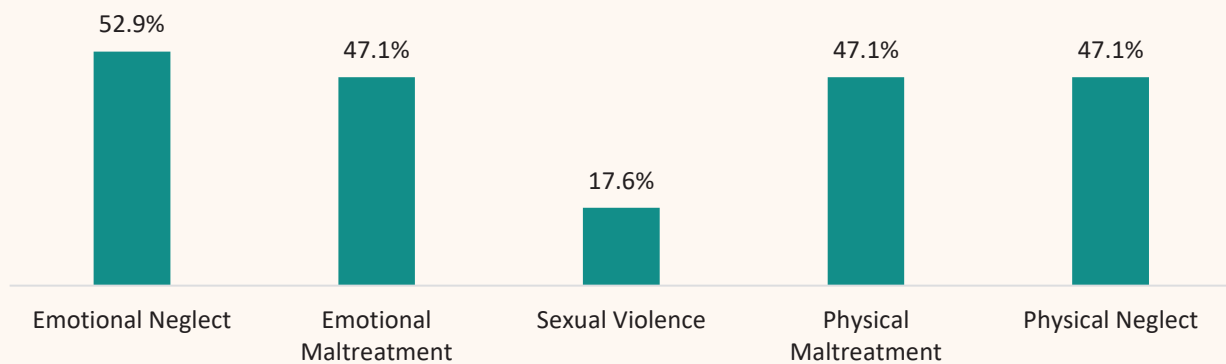
FIGURE II.B.6. NUMBER OF TYPES OF ADVERSE CHILDHOOD EXPERIENCES REPORTED AT BASELINE (N = 17)



<sup>47</sup> Because being in a controlled environment (one where the respondent was not able to come and go as they pleased including a hospital, jail, or residential treatment) decreases opportunities for substance use, individuals who were in a controlled environment all 180 days in the 6 months before entering the program, or in incarcerated all 30 days before entering the program are not included in the analysis of substance use for the corresponding period. This year, one respondent was in a controlled environment all 180 days in the 6 months before entering the program, and none were in a controlled environment or incarcerated all 30 days before entering the program.

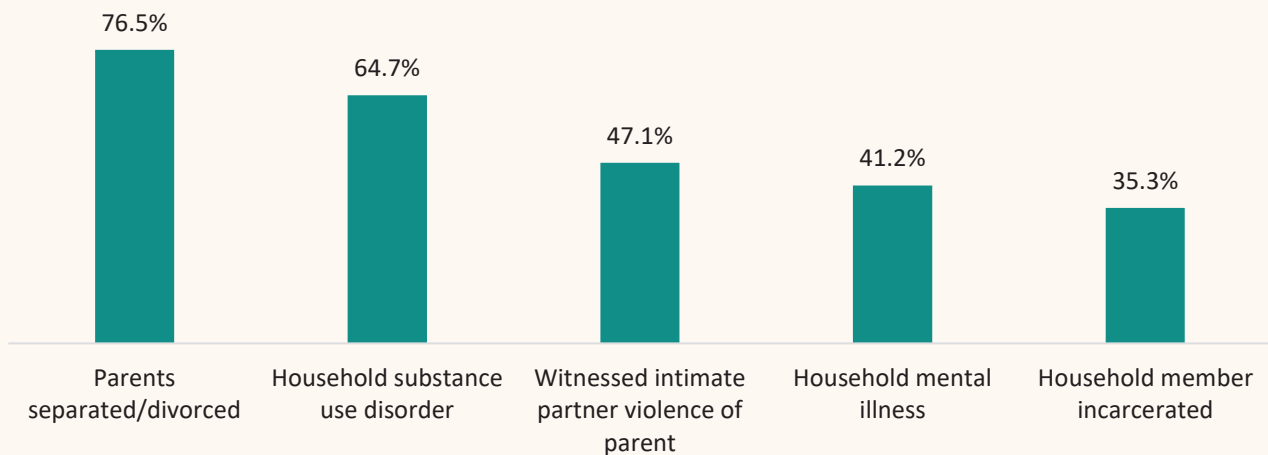
Figure II.B.7 shows that 52.9% of respondents reported that they had experienced emotional neglect (e.g., felt that no one in the family loved them, or they weren't special/important, or did not feel close to each other or supported) and 47.1% experienced emotional maltreatment (e.g., insults, put down, humiliation, parent acted in a way that made the child believe they would be physically hurt). Almost half of respondents (47.1%) reported experiencing physical maltreatment (e.g., being pushed/grabbed/slapped, or being hit so hard that it left marks) and 47.1% experienced physical neglect (e.g., didn't have enough to eat as a child, had no one to protect them, parents too high/drank to take care of them) before the age of 18. About 18% of respondents reported sexual assault as a child (e.g., touched inappropriately by someone at least 5 years or older, or someone 5 years or older tried to or actually had sex with respondent).

FIGURE II.B.7. SPECIFIC MALTREATMENT AND VIOLENCE EXPERIENCES IN CHILDHOOD (N = 17)



The majority of respondents (76.5%) reported that their parents were divorced or lived separately and 64.7% reported they had a household member who experienced symptoms of substance use disorder (see Figure II.B.8). Less than half of respondents reported they witnessed intimate partner violence of a parent before the age of 18 (47.1%), had a household member with a mental illness or had attempted suicide (41.2%), and 35.3% reported a household member had been incarcerated.

FIGURE II.B.8. HOUSEHOLD RISKS IN CHILDHOOD (N = 17)

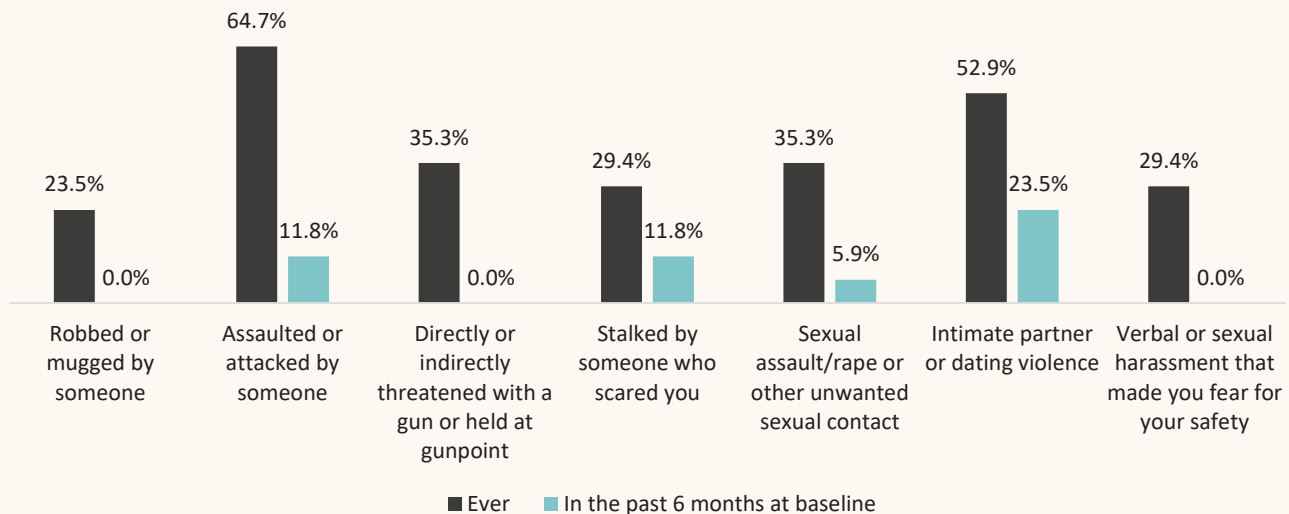


## OTHER EXPERIENCES WITH VIOLENCE

At post-birth baseline, respondents were also asked about situations in which they had experienced violence, been harmed by someone else, or made to feel unsafe by someone other than a parent or guardian in their lifetime. Overall, 76.5% of respondents reported ever experiencing any type of violence. Figure II.B.9 shows that, 23.5% of respondents reported having ever been robbed or mugged. Less than two-thirds of respondents (64.7%) reported having ever been assaulted or attacked by someone and 35.3% of respondents reported they had been directly or indirectly threatened with a gun or held at gunpoint. Over one-quarter of respondents (29.4%) reported having ever been stalked by someone who scared them. Over one-third (35.3%) reported having ever experienced sexual assault, rape, or other unwanted sexual contact and 52.9% reported having ever experienced dating or intimate violence (partner physically assaulted, controlled, or emotionally assaulted the respondent). About 29% of respondents reported they were ever verbally, sexually, or otherwise harassed in some way that made them afraid for their safety.

In the past 6 months, 35.3% reported any experience with violence. Specifically, 11.8% reported being assaulted or attacked by someone, 11.8% reported being stalked by someone who scared them, and 23.5% of respondents reported experiencing intimate partner violence. A small percent of clients reported having ever experienced sexual assault, rape, or other unwanted sexual contact (5.9%).

FIGURE II.B.9. PERCENT OF RESPONDENTS HAVING EXPERIENCED VIOLENCE (N = 17)



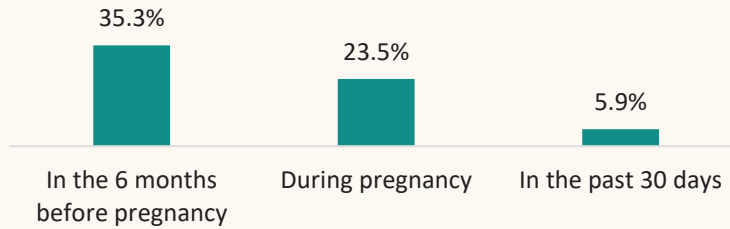
## ANY INTIMATE PARTNER VIOLENCE

Figure II.B.10 shows that in the 6 months before pregnancy, 35.3% of respondents reported experiencing any type of intimate partner violence (including psychological violence, control, physical assault, and sexual violence)<sup>48</sup> perpetrated by a current or ex-

<sup>48</sup> Any intimate partner violence was defined in this study as a respondent indicating “yes” to any of the intimate partner violence questions asked in the survey (e.g., verbal and psychological violence, extreme jealousy and control, threats of violence towards respondent and others close to them, physical violence, stalking, partner purposely damaging or destroying property, sexual assault/threats of assault) at each period.

partner, 23.5% of respondents reported experiencing intimate partner violence during pregnancy, and 5.9% of respondents reported experiencing intimate partner violence in the past 30 days.

FIGURE II.B.10. ANY TYPE OF INTIMATE PARTNER VIOLENCE IN THE 6 MONTHS BEFORE PREGNANCY AND IN THE PAST 30 DAYS (N = 17)



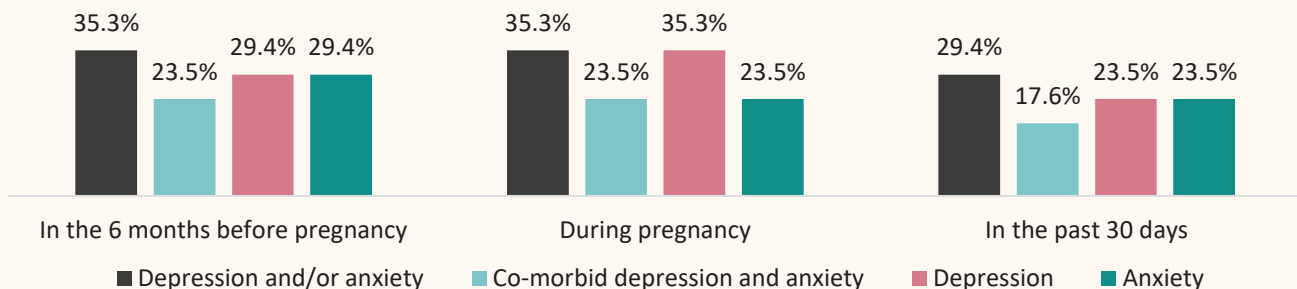
## MENTAL HEALTH

In the 6 months before pregnancy, 35.3% of respondents who entered the program after the birth of their baby met study criteria for depression and/or anxiety and 23.5% of respondents met criteria for co-morbid depression and anxiety. About 29% of respondents met study criteria for depression and 29.4% met criteria for anxiety (see Figure II.B.11).

During pregnancy, over one-third of respondents (35.3%) met study criteria for depression and/or anxiety and 23.5% of respondents met criteria for co-morbid depression and anxiety. About 35% of respondents met study criteria for depression and 23.5% met criteria for anxiety.

In the past 30 days at baseline, 29.4% of respondents met criteria for depression and/or anxiety and 17.6% met criteria for both depression and anxiety. Close to one-quarter of clients reported met criteria for depression and 23.5% met criteria for anxiety.

FIGURE II.B.11. PERCENT OF RESPONDENTS MEETING STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY AT BASELINE (N = 17)

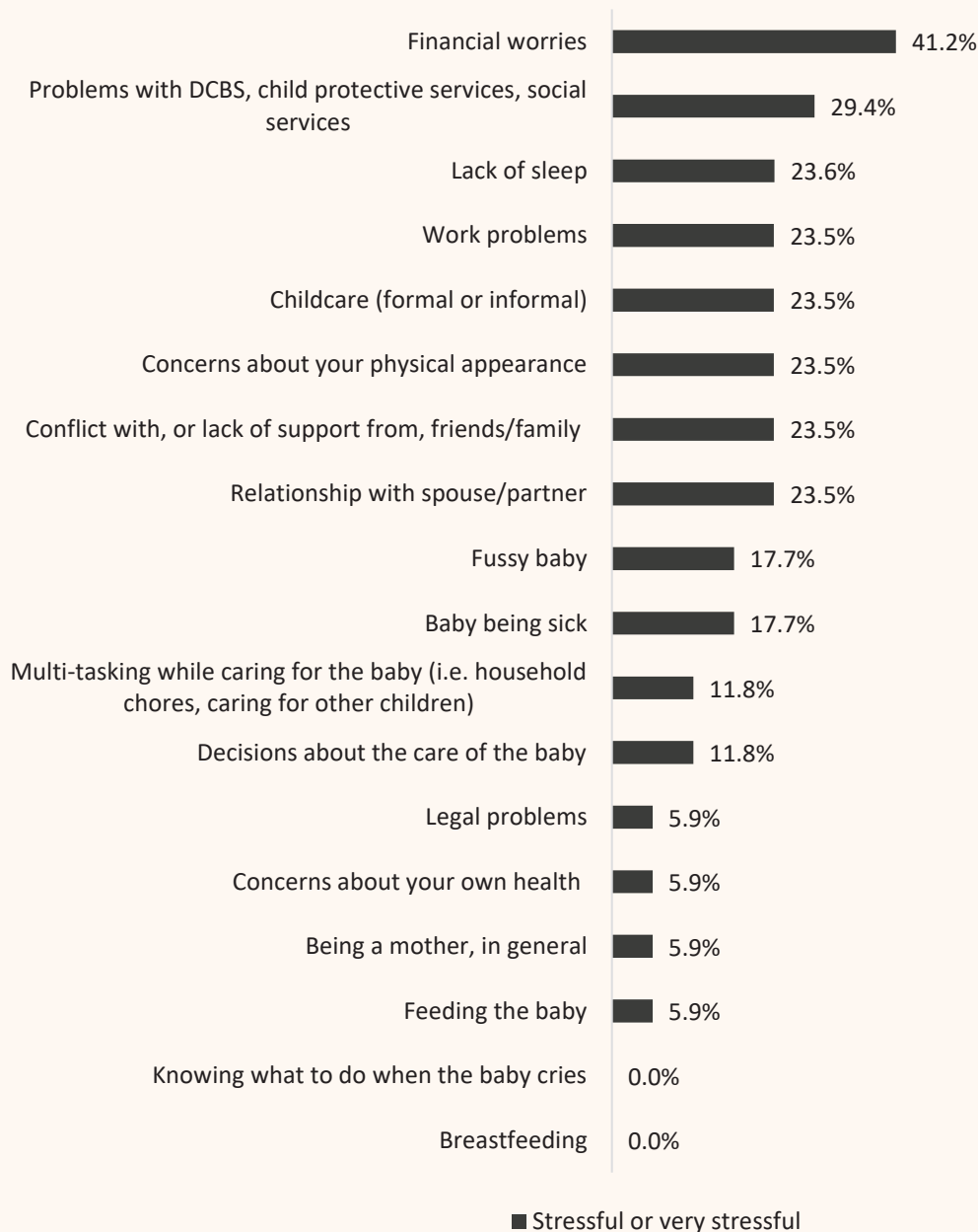


About 24% of respondents met study criteria for post-traumatic stress disorder (PTSD) in the past 6 months (not represented in a figure).

## STRESS

At postnatal baseline, respondents were asked a series of questions regarding how stressful certain events have been in the past 6 months.<sup>49</sup> Responses included 1- not at all stressful, 2- a little stressful, 3 - stressful, and 4 - very stressful. The top three most mentioned items as stressful were: financial worries (41.2%), problems with DCBS, child protective services, or social services (29.4%), and lack of sleep (23.6%).

FIGURE II.B.12. RATING OF EVENTS AFTER THE BIRTH OF THE BABY AS STRESSFUL/VERY STRESSFUL (N = 17)



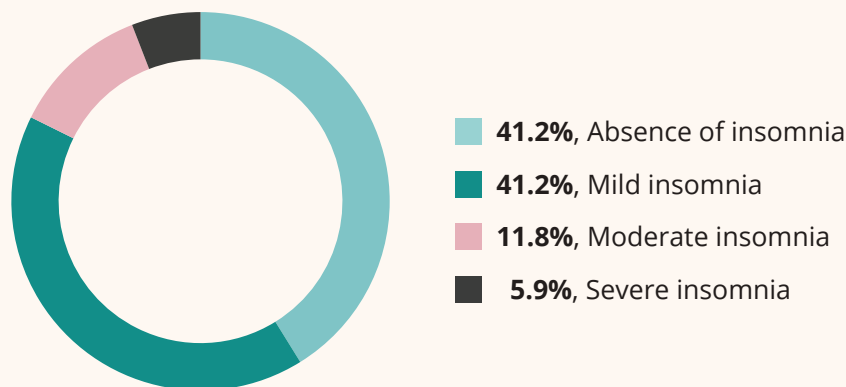
<sup>49</sup> Questions regarding stress are adapted from the Postpartum Stressor Scale which includes a 9-item scale highlighting baby care, well-being, and work problems. Park, E. R., Psaros, C., Traeger, L., Stagg, A., Jacquart, J., Willett, J., Alert, M. D., LaRoche, K. L., & Ecker, J. L. (2015). Development of a postpartum stressor measure. *Maternal and Child Health Journal*, 19(10), 2094–2101. <https://doi.org/10.1007/s10995-015-1731-0>.

Less than one-quarter of respondents (23.5%) reported that, in the past 30 days at baseline, they used alcohol, prescribed substances, or illicit substances to reduce stress, anxiety, worry, sadness, or fear (not depicted in a figure).

## SLEEP DIFFICULTY

Figure II.B.13 shows that 41.2% of respondents were classified as no insomnia symptoms at post-birth baseline. In addition, 41.2% of respondents were classified as having mild insomnia and 11.8% of respondents were classified as having moderate insomnia. Only 5.9% of respondents (one respondent) were classified as having severe insomnia. Overall, respondents scored an average of 8.2 on the ISI.

FIGURE II.B.13. LEVEL OF INSOMNIA REPORTED AT POST-BIRTH BASELINE (N = 17)



About 29% of post-birth respondents reported at intake that they took something (including prescribed, over the counter, or other) to help them sleep in the past 7 days.

## SUMMARY

Respondents who had already had their baby when they entered the program and completed a postnatal baseline (n = 17) reported an average of 12.4 visits with a healthcare professional during pregnancy and 2.7 visits since the baby was born. Close to one-quarter of respondents (23.5%) reported they had breastfed their baby and 11.8% had been told by a doctor of any special health care needs since the baby was born. The majority of respondents reported illicit substance use (62.5%) and tobacco use (75.0%) during pregnancy. In addition, the majority of respondents (88.2%) reported at least one type of adverse childhood experience and many of the respondents reported experiencing emotional neglect (52.9%), emotional maltreatment (47.1%), physical maltreatment (47.1%), and physical neglect in childhood (47.1%). About 35% of respondents in the 6 months before pregnancy and 23.5% of respondents during pregnancy reported experiencing any type of intimate partner violence. A little more than one-third of respondents (35.3%) who already had their baby met study criteria for depression and/or anxiety during pregnancy and 23.5% met study criteria for PTSD in the past 6 months.

# SECTION III | BIRTH EVENTS AND OUTCOMES

This section uses the Kentucky Vital Statistics birth data to examine: (1) maternal behavior and health characteristics, and (2) infant health characteristics for KY-Moms MATR case management respondents who entered the KY-Moms MATR program prior to the birth of their baby (n = 21).<sup>50</sup> Birth event data for respondents who entered the case management program after the birth of their baby (n = 9) are described separately.

## MATERNAL BEHAVIOR AND HEALTH CHARACTERISTICS

### MEDICAL AND PUBLIC SERVICES UTILIZATION

According to the birth event data, KY-Moms MATR women reported an average of 9.7 prenatal visits during their pregnancy (see Table III.1). In addition, the majority of respondents (89.4%) reported that they received the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) during pregnancy. The majority of respondents (89.4%) reported that the source of payment for delivery of the baby was Medicaid, 5.3% of respondents reported they had private insurance, and 5.3% self-paid to pay for the delivery. Only 5% of experienced any labor and delivery complications such as premature rupture of membranes, short and fast labor, or prolonged labor.

TABLE III.1. MEDICAL AND PUBLIC UTILIZATION (N = 21)

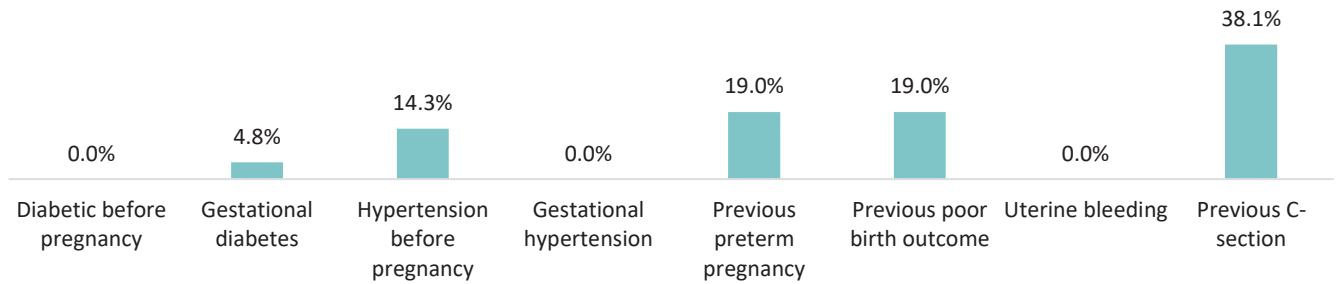
Average number of prenatal visits .....	9.7 (Range 0-17)
WIC food during pregnancy.....	90.5%
Payment source for delivery	
Medicaid.....	89.4%
Private insurance .....	5.3%
Self-pay.....	5.3%
Unknown.....	9.5%
Any labor and delivery complication	4.8%

### MATERNAL HEALTH RISK FACTORS

General health conditions of pregnancy that could cause harm to the baby or the mother were collected from the Kentucky Vital Statistics data set. About 62% of KY-Moms MATR mothers experienced at least one maternal health condition such as gestational diabetes (4.8%), hypertension before pregnancy (14.5%), previous preterm pregnancy (19.0%), previous poor birth outcome (19.0%), or a previous C-section (38.1%; see Figure III.1).

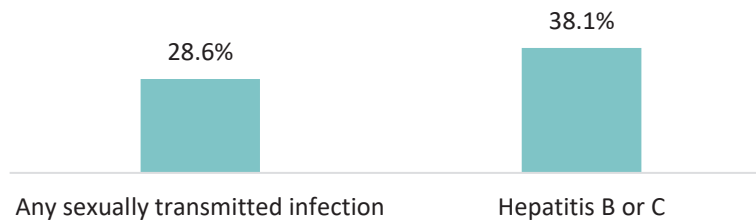
<sup>50</sup> Respondents gave birth between January 2023 and December 2023.

FIGURE III.1. OTHER MATERNAL HEALTH RISK FACTOR (N = 21)



Over one-quarter of KY-Moms MATR respondents (28.6%) had a sexually transmitted infection such as gonorrhea, syphilis, herpes, or chlamydia and 38.1% of respondents had hepatitis B or C (see Figure III.2).

FIGURE III.2. PERCENT OF WOMEN HAD A SEXUALLY TRANSMITTED INFECTION AND HEPATITIS B OR C (N = 21)

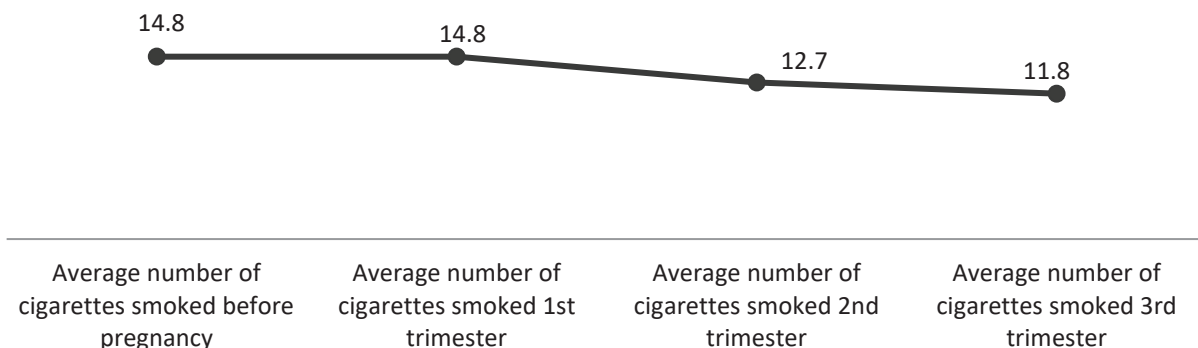


## SMOKING PATTERNS AND ALCOHOL USE

In the Kentucky Vital Statistics data, 57.1% of KY-Moms MATR mothers reported smoking tobacco and among those mothers (n = 12), respondents reported an average of 14.8 cigarettes per day before pregnancy and in the first trimester. In second trimester, respondents reported an average of 12.7 cigarettes and in the third trimester, respondents reported an average of 11.8 cigarettes.

None of the respondents reported drinking alcohol during their pregnancy (not depicted in a figure).

FIGURE III.3. AVERAGE NUMBER OF CIGARETTES SMOKED PER TRIMESTER, AMONG WOMEN WHO SMOKE (N = 12)





## INFANT HEALTH CHARACTERISTICS

The average weeks of gestation was 37.7 for the women with data in the Kentucky Vital Statistics dataset. In addition, 19.0% of the babies were born preterm (see Table III.2). Nineteen percent of babies were born with low birthweight (less than 5lbs, 8oz), but on average, babies born to KY-Moms MATR respondents weighed 6lbs, 12oz. Babies were born with an average APGAR score of 8.7. None of the respondents had babies with birth defects or anomalies (such as Down’s syndrome, cleft palates, anencephaly, congenital heart failure, spina bifida, etc.). About 38% of babies were taken to NICU and 28.6% of babies were born with a birthing problem such as inflammation of fetal membranes, intolerance to labor, or being placed on a ventilator (not including being admitted to the neonatal intensive care unit). According to the birth event data set, 52.4% of KY-Moms MATR respondents either did or intended to breastfeed their baby during the period from birth to hospital discharge.

TABLE III.2 INFANT HEALTH CHARACTERISTICS (N = 21)

Percent of babies born preterm .....	19.0%
Average weeks gestation .....	37.7 (Range 34-40)
Baby born with low birth weight.....	19.0%
Average weight of baby.....	6lbs, 12oz (Range 3lbs, 12oz – 9lbs, 10oz)
Highest average APGAR score.....	8.7
Babies born with birth defects or anomalies .....	0.0%
Baby taken to NICU.....	38.1%
Any problems for baby during birth (not including NICU)....	28.6%
Mother breastfed baby .....	52.4%

## SUMMARY

Respondents reported an average of 9.7 prenatal visits during their pregnancy and the majority of respondents reported that they received the Special Supplemental Nutrition Program for Women (SNAP), Infants, and Children (WIC) during pregnancy (90.5%) and that the source of payment for delivery of the baby was Medicaid (89.4%). About 62% of KY-Moms MATR mothers experienced at least one maternal health conditions at birth and 28.6% reported having a sexually transmitted infection. In the Kentucky Vital Statistics data, 57.1% of KY-Moms MATR mothers reported smoking tobacco and among those mothers (n = 12), respondents reported an average of 14.8 cigarettes per day before pregnancy and in the first trimester. In second trimester, respondents reported an average of 12.7 cigarettes and in the third trimester, respondents reported an average

of 11.8 cigarettes. Nineteen percent of babies were born preterm and 19.0% of babies were born with low birthweight (less than 5lbs, 8oz). About 38% of babies were taken to NICU and 28.6% of babies were born with a birthing problem such as inflammation of fetal membranes, intolerance to labor, or being placed on a ventilator (not including being admitted to the neonatal intensive care unit).

## **BIRTH EVENTS AND OUTCOMES FOR POST-BIRTH KY-MOMS MATR RESPONDENTS**

All women who entered the KY-Moms MATR program after the birth of the baby and completed a follow-up interview (n = 9) gave permission to access their Vital Statistics birth data. Post-birth respondents in the birth event data reported an average of 7.3 prenatal visits during their pregnancy. The majority of respondents (66.7%) reported that they received the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) during pregnancy and 77.8% of respondents had Medicaid as the source of payment for delivery of the baby. About 67% of KY-Moms MATR mothers experienced at least one maternal health conditions at birth, none reported having a sexually transmitted infection, and one respondent reported having Hepatitis B or C. In the Kentucky Vital Statistics data, 66.7% of KY-Moms MATR mothers reported smoking tobacco and among those mothers (n = 6), respondents reported an average of 18.3 cigarettes per day before pregnancy, 16.7 in the first trimester, 11.7 in the second trimester, and 10.0 in the last trimester. Less than one-quarter of the babies (22.2%) were born preterm and 11.1% of babies were born with low birthweight (less than 5lbs, 8oz). Specifically, the average birth weight of babies born to post-birth mothers was 6lbs, 14oz. Two babies were taken to NICU, but 55.6% were born with a birthing problem such as inflammation of fetal membranes, intolerance to labor, or being placed on a ventilator (not including being admitted to the neonatal intensive care unit).

## SECTION IV | CHANGE IN TARGETED FACTORS FROM PRE-BIRTH BASELINE TO FOLLOW-UP

*This section examines change from baseline to follow-up for respondents who entered the KY-Moms MATR program before the birth of their baby and who completed a postnatal follow-up (n = 21) for: (1) information about the baby, (2) substance use, (3) mental health, (4) intimate partner violence, (5) economic and living circumstances, economic hardship, and criminal legal involvement, (6) physical health, and (7) stress, quality-of-life, and emotional support. Past-30-day and past-6-month measures are examined separately where applicable. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up (n = 9) are described separately.*

It is important to keep in mind that because this section includes only those who completed a postnatal follow-up, the sample size is small and should be considered when interpreting the findings. To increase the statistical power to detect change in this small sample size, the alpha for statistical tests was increased to  $p < .10$ , instead of  $p < .05$ .

### A. INFORMATION ON THE PREGNANCY/BABY

When followed-up respondents completed a prenatal baseline they were an average of 23.8 weeks pregnant (Min. = 10 weeks, Max. = 36 weeks).<sup>51</sup> At follow-up, respondents reported being very involved in the KY-Moms MATR program an average of 4.0 months (Min. = 1, Max. = 9). Respondents also reported being in the program for 3.1 months after the birth of their baby (Min. = 0, Max. = 7).

**"It's very good resource to have and it's helpful to new moms and older moms."**

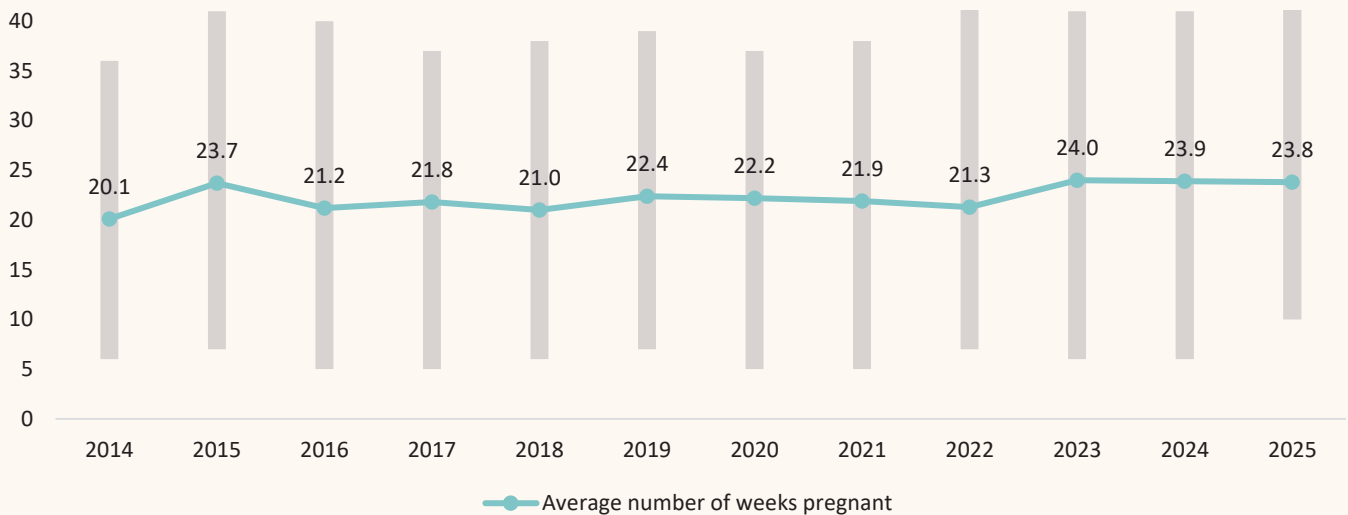
- KY-MOMS MATR RESPONDENT

<sup>51</sup> To be included in the analysis, there must be at least 30 days between the date of program entry and the birth of the baby. The average number of days between program entry and baseline completion was 8.1 (Min. = -2 and Max. = 39). Therefore, even though a respondent was at 36 weeks in her pregnancy when the baseline was completed, she entered the program more than 30 days before the due date

## TRENDS IN AVERAGE NUMBER OF WEEKS PREGNANT AT BASELINE BY REPORT YEAR

The average number of weeks in pregnancy when a respondent completed a prenatal baseline assessment was relatively stable over the past twelve years. In report year 2014, respondents were an average of 20.1 weeks into their pregnancies and in 2025 respondents were an average of 23.8 weeks into their pregnancies when they completed a prenatal baseline.

FIGURE IV.A.1. AVERAGE NUMBER OF WEEKS RESPONDENT WAS PREGNANT AT BASELINE AMONG RESPONDENTS IN THE FOLLOW-UP SAMPLE, REPORT YEARS 2014-2025



## GENERAL INFORMATION REGARDING THE PREGNANCY/BABY

Respondents were asked how their baby was doing at postnatal follow-up and all the mothers indicated the baby was “great” or “good.”

At prenatal baseline, KY-Moms MATR respondents reported an average of 8.2 doctor visits about the pregnancy and at postnatal follow-up respondents reported an average of 11.2 visits to the pediatrician or nurse since giving birth.<sup>52</sup> One-third of respondents at baseline indicated they were told by a doctor that there were special health care needs that would directly impact the pregnancy or the baby at baseline. At postnatal follow-up, 8 respondents (38.1% of the postnatal follow-up sample) reported their doctor told them their baby had special health care needs.<sup>53</sup> For example, respondents reported their babies had reflux, breathing problems, trouble gaining weight, and heart problems.

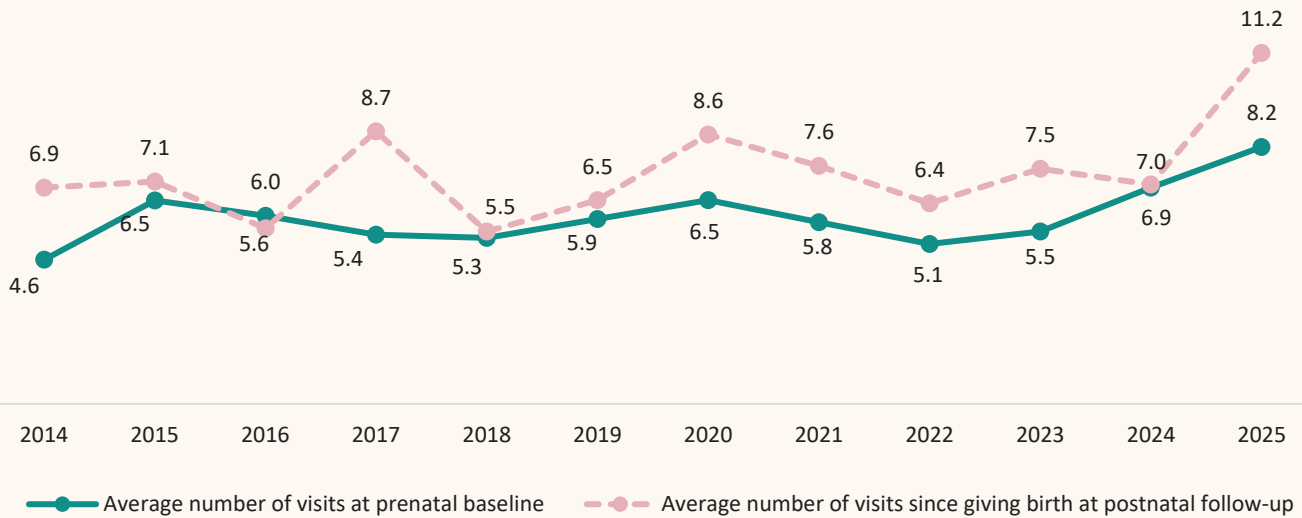
<sup>52</sup> Three respondents were missing the number of doctor visits at follow-up.

<sup>53</sup> Two respondents were missing data for having been told their baby has any special health needs.

## TRENDS IN AVERAGE NUMBER OF VISITS WITH A HEALTH CARE PROVIDER AT BASELINE AND FOLLOW-UP

In 2014, respondents reported an average of 4.6 doctor visits about the pregnancy and at postnatal follow-up respondents reported an average of 6.9 visits to the pediatrician or nurse since giving birth. In the 2017 outcomes report, respondents reported an average of 5.4 prenatal visits, but an average of 8.7 doctor visits after the baby was born. In 2025, respondents reported 8.2 doctor visits at prenatal baseline and 11.2 visits at postnatal follow-up.

FIGURE IV.A.2. AVERAGE NUMBER OF DOCTORS VISITS AT BASELINE AND FOLLOW-UP AMONG RESPONDENTS IN THE FOLLOW-UP SAMPLE, REPORT YEARS 2014-2025<sup>54</sup>



## EMERGENCY ROOM VISITS FOR THE BABY AT POSTNATAL

At postnatal follow-up, 42.9% of respondents reported they had taken their baby to the emergency room since giving birth (not depicted in a figure).<sup>55</sup> Of those respondents (n = 9), they reported taking their baby to the emergency room an average of 2.0 times (range of 1 to 4 times).

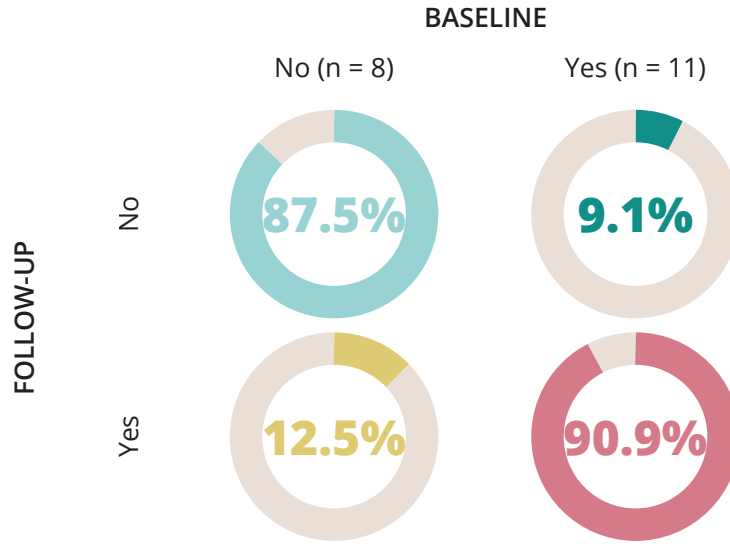
## BREASTFEEDING

In general, respondents followed through with their prenatal plans to breastfeed or not to breastfeed once the baby arrived. About 58% of respondents reported at prenatal baseline that they planned on breastfeeding their baby and at postnatal follow-up, 57.9% of respondents reported having breastfed their baby for any period. Of the 11 women who reported planning on breastfeeding at prenatal baseline, 90.9% (n = 10) reported having breastfed their baby at postnatal follow-up; yet, none reported still breastfeeding. Of the 8 respondents who reported at prenatal baseline they were not planning on breastfeeding or had not decided yet, 12.5% (or 1 respondent) reported having breastfed at follow-up, but was not still breastfeeding.

<sup>54</sup> These differences may be related to differences in gestational weeks and time since the baby was born.

<sup>55</sup> Three respondents were missing the number of times the baby has been to the emergency room at follow-up.

FIGURE IV.A.3. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING BREASTFEEDING PLANS AT PRENATAL BASELINE AND WHETHER THEY BREASTFED AT POSTNATAL FOLLOW-UP POSTNATAL FOLLOW-UP<sup>56</sup>



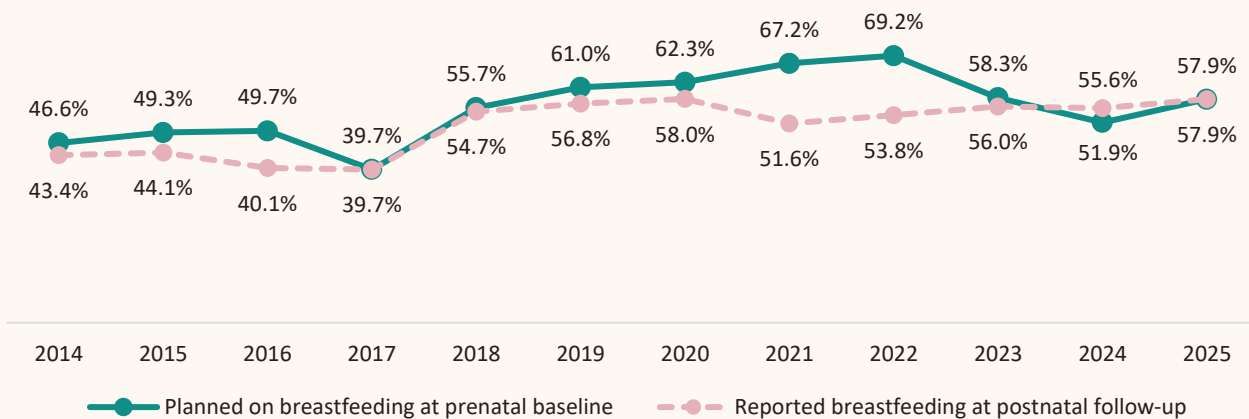
*Additional analysis was examined between respondents who planned on breastfeeding and respondents who did not plan on breastfeeding or were unsure on baseline measures such as: chronic health problems, chronic pain, substance use, mental health, experiences with violence, employment, fetal attachment, adverse childhood experiences, and highest level of education. More respondents who reported planning on breastfeeding met criteria for depression and/or anxiety in the 6 months before pregnancy ( $p < .05$ ). In addition, more respondents who did not plan on breastfeeding or were unsure reported alcohol and/or illicit substance use in the 6 months before pregnancy ( $p < .10$ ).*

<sup>56</sup> Two respondents were missing data for breastfeeding at follow-up.

## TRENDS IN BREASTFEEDING AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

Overall, the percent of KY-Moms MATR respondents who reported at prenatal baseline that they were planning on breastfeeding was fairly similar to the percent of respondents at postnatal follow-up who reported that they had breastfed their babies. In 2014, 46.6% of respondents reported at prenatal baseline they planned on breastfeeding their babies and, at follow-up, 43.4% of respondents reported that they had breastfed. In 2025, 57.9% of respondents planned at baseline on breastfeeding their babies and the same percent reported actually breastfeeding their babies at follow-up.

FIGURE IV.A.4. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING PLANNING ON BREASTFEEDING AT PRENATAL BASELINE AND ACTUALLY BREASTFED AFTER BABY WAS BORN, REPORT YEARS 2014-2025



## SUMMARY

Respondents were a little over halfway through their pregnancies when they completed a prenatal baseline interview and reported at follow-up that they had been very involved in the program for 4 months. Respondents remained in the program, on average, about 3 months after the baby was born. All the mothers in the follow-up sample reported their babies were “great” or “good” and had taken their babies to see a doctor an average of 11.2 times since the baby had been born, which is an average of a little over once per month. In addition, at baseline, 57.9% of respondents reported they were planning on breastfeeding their babies and 57.9% of mothers reported at postnatal follow-up they had breastfed their babies. Most women (90.9%) who indicated they planned to breastfeed their baby actually did breastfeed their baby; however, none of the mothers were still breastfeeding their babies at the 6-month follow-up interview.

## INFORMATION ON PREGNANCY/BABY FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

Respondents who gave birth to their baby prior to entering the KY-Moms program and completed a follow-up (n = 9) reported they were an average of 37.0 weeks pregnant when they had their babies (min. = 34, max. = 40). At follow-up, respondents reported being very involved in the KY-Moms MATR program an average of 4.4 months (Min. = 1, Max. = 8). At post-birth baseline, KY-Moms MATR respondents reported an average of 7.9 doctor visits about the pregnancy and at post-birth follow-up respondents reported an average of 8.0 visits to the pediatrician or nurse since giving birth. At post-birth baseline, 22.2% of respondents reported their doctor told them of any special health care needs since the baby was born and at follow-up, 33.3% of respondents reported their doctor had told them their baby has any special needs. Less than one-quarter of post-birth respondents (22.2%) reported at baseline that they had breastfed their baby and of those (n = 2), 100.0% reported breastfeeding their baby at follow-up.



## B. SUBSTANCE USE

*This section examines change from baseline to follow-up for respondents who entered the KY-Moms MATR program before the birth of their baby (n = 21) for: (1) overall substance use (illicit substance and alcohol use), (2) use of illicit substances, alcohol, and smoking tobacco, (3) experienced symptoms of substance use disorder, (4) readiness for substance use disorder treatment, (5) substance disorder treatment and self-help meetings, and (6) medication-assisted treatment. Past-30-day and past-6-month illicit substance use are examined separately where applicable. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up (n = 9) are described separately.*

Change in targeted risk factors was examined for two different periods over time:<sup>57</sup>

Six-month periods<sup>58</sup>

- **6 months before pregnancy.** Information collected from the respondent at prenatal baseline regarding the six months before she found out she was pregnant.
- **6 months since the birth of the baby.** Information collected at postnatal follow-up regarding the 6 months since the baby was born.

30-day periods<sup>59</sup>

- **30 days before pregnancy.** Information collected from the respondent at prenatal baseline regarding the 30 days before she found out she was pregnant.
- **30 days at prenatal baseline.** Information collected from the respondent at prenatal baseline regarding the past 30 days she has been pregnant.
- **30 days before the baby was born.** Information collected from the respondent at postnatal follow-up regarding the 30 days before giving birth while she was involved in KY-Moms MATR case management services.
- **30 days at postnatal follow-up.** Information collected at postnatal follow-up regarding the past 30 days.

## OVERALL SUBSTANCE USE (ILLICIT SUBSTANCE AND ALCOHOL USE)

### PAST-6-MONTH ILLICIT SUBSTANCE AND/OR ALCOHOL USE

In the 6 months before pregnancy, 77.8% of respondents reported using illicit substances and/or alcohol. In the 6 months before the follow-up interview, 5.6% of respondents

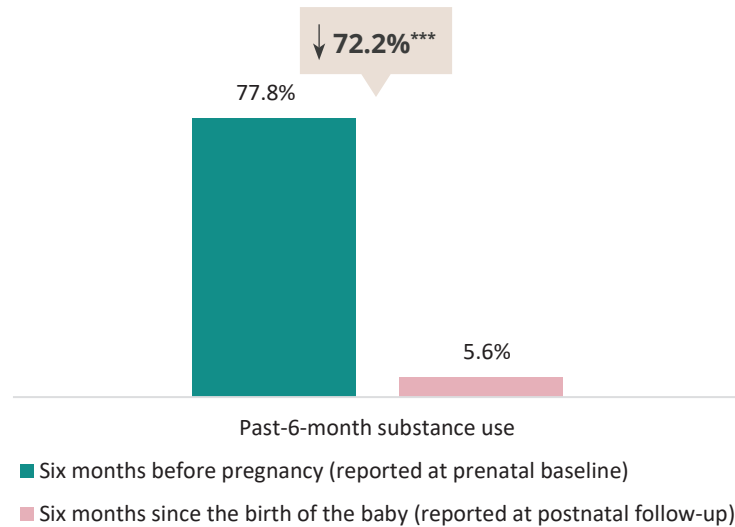
<sup>57</sup> Significance was determined by McNemar's test for substance use, mental health problems and intimate partner violence unless otherwise indicated.

<sup>58</sup> Because opportunities to use alcohol and substances are severely reduced while incarcerated this respondent was not included in this analysis; two respondents in this reporting year reported being in a controlled environment all 180 days before pregnancy and one respondent was missing the number of nights they were incarcerated at follow-up.

<sup>59</sup> Because some respondents were in a controlled environment (e.g., prison, jail, or residential facility) all 30 days before prenatal baseline changes in substance, alcohol, and tobacco use from baseline to follow-up were analyzed for only respondents who were not in a controlled environment all 30 days before prenatal baseline. The assumption for excluding respondents who were in a controlled environment all 30 days before entering treatment (n = 1) or all 30 days before the follow-up (n = 0 this year) from the change in past-30-day substance use analysis is that being in a controlled environment inhibits opportunities for alcohol and substance use. One respondent, however, was missing data for the number of nights they were in a controlled environment in the past 30 days at follow-up. As a result, n = 19 for past-30-day use.

reported using illicit substances and/or alcohol (a significant decrease of 72.2%; see Figure IV.B.1).

FIGURE IV.B.1. PAST-6-MONTH SUBSTANCE USE FROM PRENATAL BASELINE TO POSTNATAL FOLLOW-UP (N = 18)



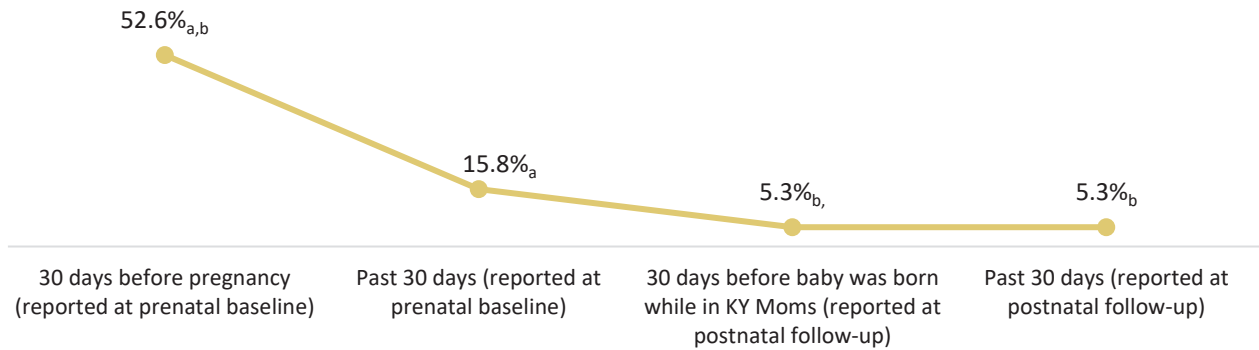
\*\*\*p < .01.

### PAST-30-DAY ILLICIT SUBSTANCE AND/OR ALCOHOL USE

Figure IV.B.2 shows the results for overall illicit substance and/or alcohol use across all four past-30-day periods. In the 30 days before pregnancy, 52.6% of respondents reported using illicit substances and/or alcohol. In the past 30 days at baseline, 15.8% of respondents reported using illicit substances and/or alcohol which was a significant decrease.

At postnatal follow-up, 5.3% of respondents reported using illicit substances and/or alcohol in the 30 days before the baby was born compared to 52.6% of respondents in the 30 days before pregnancy and 15.8% in the past 30 days at prenatal baseline. Finally, 5.3% of respondents reported illicit substance and/or alcohol use in the past 30 days at postnatal follow-up. Thus, the period when the smallest percentage of women reported using illicit substances and/or alcohol was the 30 days before the baby was born (i.e., while the respondents were pregnant and involved in KY-Moms MATR) and the past 30 days at postnatal follow-up.

FIGURE IV.B.2. PAST-30-DAY SUBSTANCE USE FROM PRENATAL BASELINE TO POSTNATAL FOLLOW-UP (N = 19)



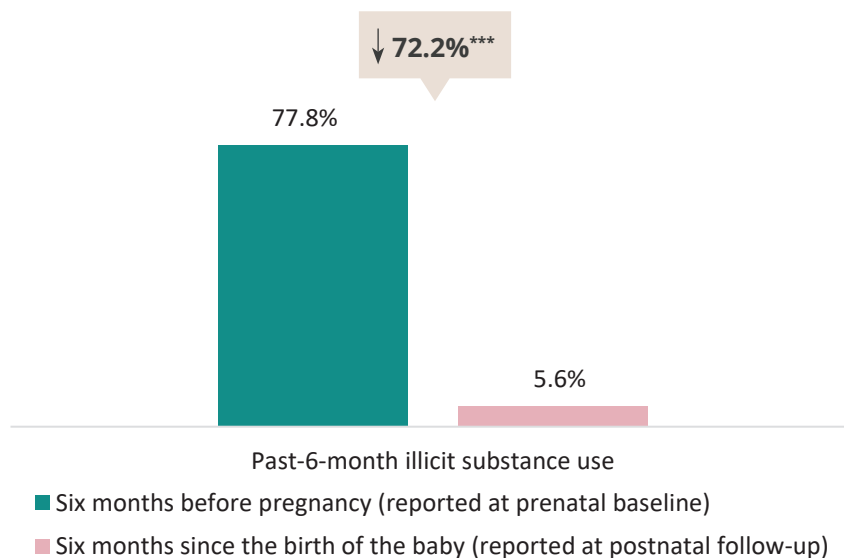
a- Values sharing the same subscript differ at  $p < .05$ .  
 b- Values sharing the same subscript differ at  $p < .01$ .

## ILLICIT SUBSTANCE USE

### PAST-6-MONTH ILLICIT SUBSTANCE USE

Figure IV.B.3 shows that in the 6 months before pregnancy, 77.8% of respondents reported using illicit substances<sup>60</sup> and in the past 6 months at follow-up 5.6% of respondents (one respondent) reported illicit substance use (a significant decrease of 72.2%).

FIGURE IV.B.3. PAST-6-MONTH ILLICIT SUBSTANCE USE FROM PRENATAL BASELINE TO POSTNATAL FOLLOW-UP (N = 18)



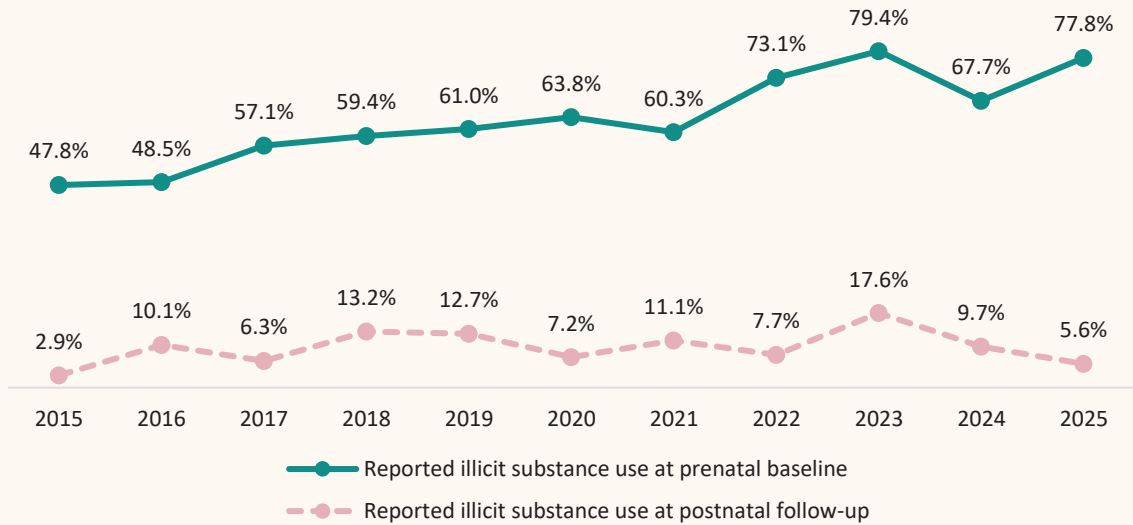
\*\*\*  $p < .01$ .

<sup>60</sup> Illicit substance use includes marijuana, sedatives, barbiturates, non-prescribed prescription opiates, cocaine, stimulants, heroin, hallucinogens, inhalants, non-prescribed methadone, and non-prescribed buprenorphine.

## TRENDS IN PAST-6-MONTH ILLICIT SUBSTANCE USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

Among respondents who were in the follow-up sample each report year, the percent of women who reported illicit substance use in the 6 months before pregnancy has increased since 2015 from 47.8% to a high of 79.4% in 2023. The percent of women who reported illicit substance use in the past 6 months at postnatal follow-up generally increased from 2.9% in 2015 to 12.7% in 2019 before decreasing to 7.2% in 2020. In 2025, 5.6% of respondents reported illicit substance use in the past 6 months at postnatal follow-up. Each report year, the percent of women reporting illicit substance use has been significantly lower for the 6 months before postnatal follow-up compared to the 6 months before pregnancy.

FIGURE IV.B.4. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING PAST-6-MONTH ILLICIT SUBSTANCE USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



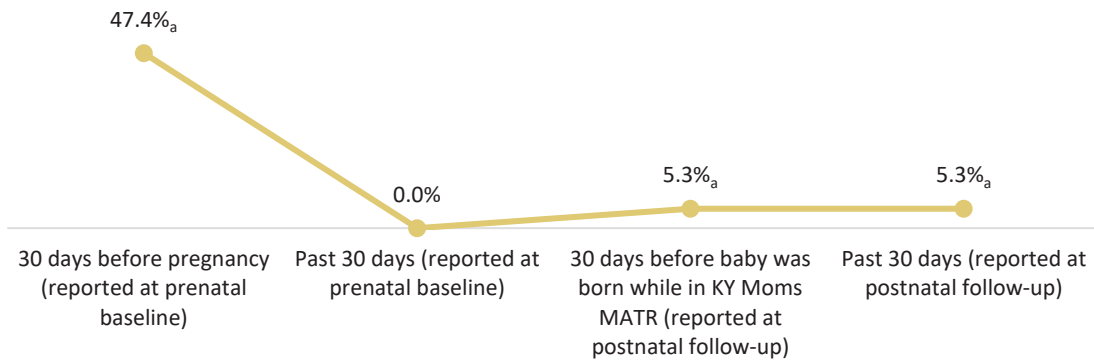
## PAST-30-DAY ILLICIT SUBSTANCE USE

A national survey of women indicated that in 2022, 21.0% of non-pregnant women age 15 - 44 reported using illicit substances in the past month.<sup>61</sup> Less than half of KY Moms-MATR respondents (47.4%) reported illicit substance use in the 30 days prior to becoming pregnant (see Figure IV.B.5). None of the KY Moms-MATR respondents reported using illicit substances in the past 30 days at baseline. In comparison, nationally, 9.6% of pregnant women age 15-44 reported using illicit substances in the past month.

At postnatal follow-up, 5.3% of the respondents reported using illicit substances in the 30 days before the baby was born and in the 30 days before the follow-up assessment.

<sup>61</sup> SAMHSA, Center for Behavioral Health Statistics and Quality. 2022 National Survey on Substance Use and Health. *Table 8.27B—Substance use in past month: among females aged 15 to 44; by pregnancy status, percentages, 2021 and 2022.* Retrieved from <https://www.samhsa.gov/data/sites/default/files/reports/rpt42728/NSDUHDetailedTabs2022/NSDUHDetailedTabs2022/NSDUHDetTabs8-27pe2022.pdf>

FIGURE IV.B.5. PAST-30-DAY ILLICIT SUBSTANCE USE FROM PRENATAL BASELINE TO POSTNATAL FOLLOW-UP (N = 19)



a – Values sharing the same subscript differ at  $p < .01$ .  
 Note. No test of statistical association could be computed for past-30 day illicit substance use because one of the cell values was 0 at baseline.

## INJECTION SUBSTANCE USE

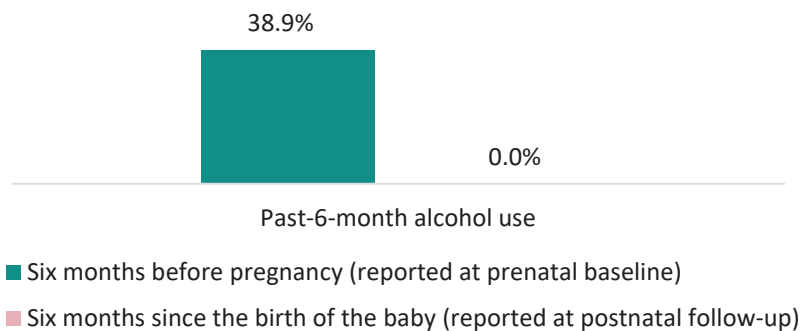
At prenatal baseline, 57.9% of respondents reported ever injecting any substances and none of the respondents reported injecting a substance in the past 30 days. At postnatal follow-up, none of the respondents reported injecting substances since they began KY-Moms MATR or in the past 30 days.<sup>62</sup>

## ALCOHOL USE

### PAST-6-MONTH ALCOHOL USE

Figure IV.B.6 shows that in the six months before pregnancy 38.9% of respondents reported alcohol use, and after the baby was born, none reported alcohol use in the past 6 months.

FIGURE IV.B.6. PAST-6-MONTH ALCOHOL USE FROM PRENATAL BASELINE TO POSTNATAL FOLLOW-UP (N = 18)<sup>a</sup>



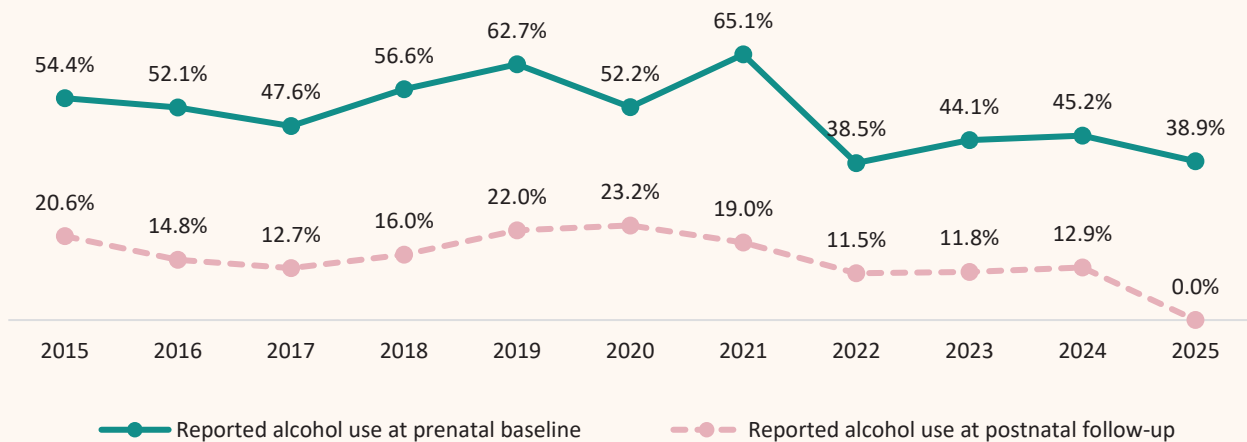
a--No test of statistical association could be computed for past-6-month postnatal alcohol use because one of the cell values was 0.

<sup>62</sup> One respondent was missing data for injection use since they began KY-Moms MATR.

## TRENDS IN PAST-6-MONTH ALCOHOL USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

For the majority of the past 11 years, around half of respondents reported alcohol use in the 6 months before pregnancy. In 2019 and 2021, however, around two-thirds of respondents reported alcohol use at prenatal baseline, and in 2025, 38.9% reported past-6-month alcohol use. In addition, alcohol use at follow-up was between 0% and 23%.

FIGURE IV.B.7. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING PAST-6-MONTH ALCOHOL USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025<sup>63</sup>



## PAST-30-DAY ALCOHOL USE

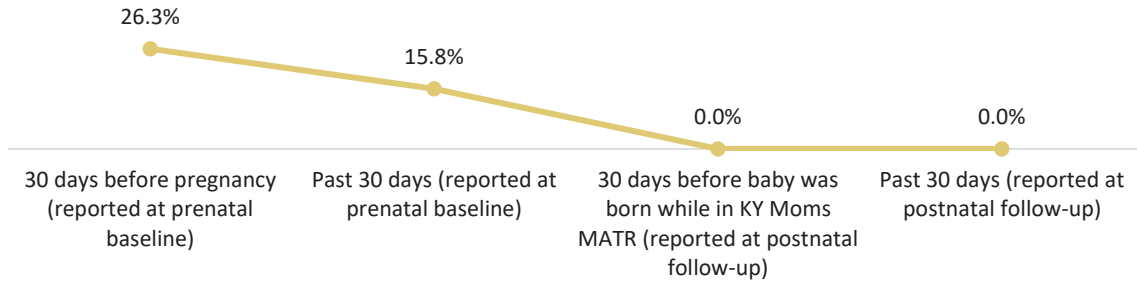
Figure IV.B.8 shows that 26.3% of respondents reported alcohol use in the 30 days prior to becoming pregnant. At the national level, 52.9% of non-pregnant women aged 15-44 reported drinking alcohol in the past 30 days.<sup>64</sup> In the past 30 days at prenatal baseline, 15.8% of respondents reported using alcohol. Nationally, 11.0% of women aged 15-44 reported using alcohol during pregnancy.

At postnatal follow-up, none of the respondents reported using alcohol in the 30 days before the baby was born while they were involved in KY-Moms MATR or in the past 30 days at follow-up.

<sup>63</sup> The small sample size in 2022 to 2025 could be affecting the decrease in alcohol use at baseline.

<sup>64</sup> SAMHSA, Center for Behavioral Health Statistics and Quality. 2022 National Survey on Substance Use and Health. *Table 8.27B—Substance use in past month: among females aged 15 to 44; by pregnancy status, percentages, 2021 and 2022.* Retrieved from [chrome-extension://efaidnbmninnibpcjpcglclefindmkaj/https://www.samhsa.gov/data/sites/default/files/reports/rpt42728/NSDUHDetailedTabs2022/NSDUHDetailedTabs2022/NSDUHDetTabs8-27pe2022.pdf](https://www.samhsa.gov/data/sites/default/files/reports/rpt42728/NSDUHDetailedTabs2022/NSDUHDetailedTabs2022/NSDUHDetTabs8-27pe2022.pdf)

FIGURE IV.B.8. PAST-30-DAY ALCOHOL USE FROM PRENATAL BASELINE TO POSTNATAL FOLLOW-UP (N = 19)

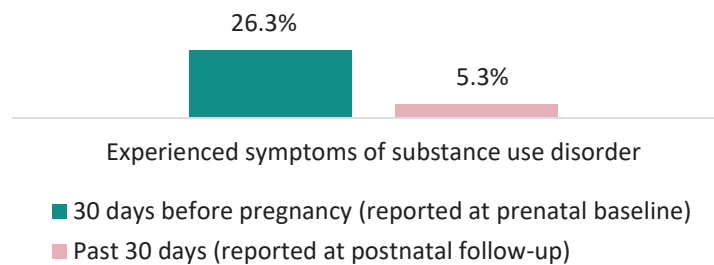


Note. No test of statistical association could be computed for past-30 day alcohol use because two of the cell values were 0 at follow-up.

## EXPERIENCED SYMPTOMS OF SUBSTANCE USE DISORDER

In the 30 days before pregnancy, 26.3% of respondents reported they experienced symptoms of substance use disorder such as craving, withdrawal, wanting to quit but being unable, or worrying about return to use (see Figure IV.B.9). In the past 30 days at follow-up, 5.3% of respondents reported they experienced symptoms of substance use disorder.

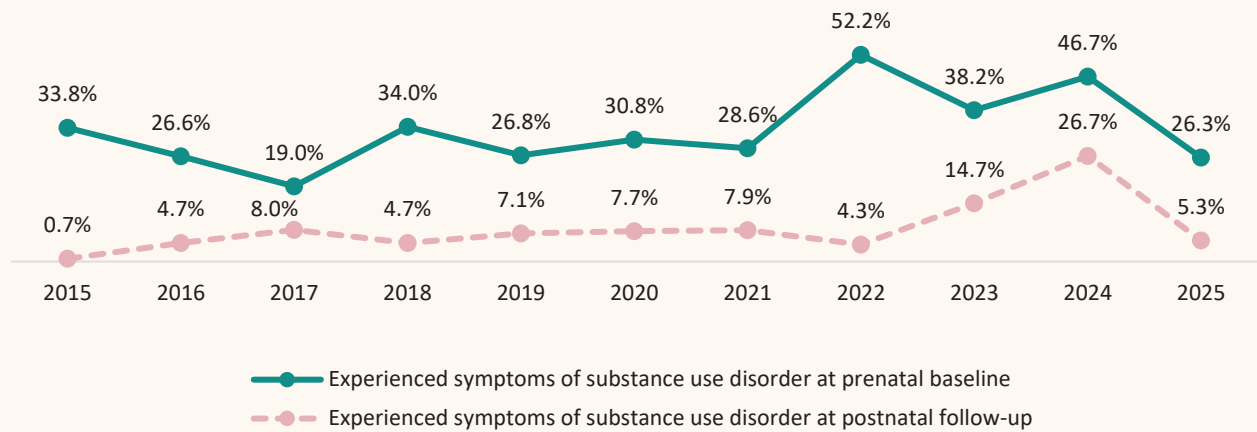
FIGURE IV.B.9. RESPONDENTS EXPERIENCING PROBLEMS WITH SUBSTANCE USE DISORDER IN THE PAST 30 DAYS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 19)



## TRENDS IN EXPERIENCING PROBLEMS WITH SUBSTANCE USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

In report year 2015, 33.8% of respondents reported they experienced symptoms of substance use disorder in the 30 days before pregnancy and in the past 30 days at follow-up, 0.7% of respondents experienced symptoms of substance use disorder. In report year 2025, over one-quarter of respondents (26.3%) experienced symptoms of substance use disorder in the 30 days before pregnancy compared to 5.3% of respondents in the past 30 days at the postnatal follow-up.

FIGURE IV.B.10. RESPONDENTS IN THE FOLLOW-UP SAMPLE EXPERIENCING SYMPTOMS OF SUBSTANCE USE DISORDER IN THE PAST 30 DAYS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025<sup>65</sup>



## READINESS FOR SUBSTANCE USE DISORDER TREATMENT

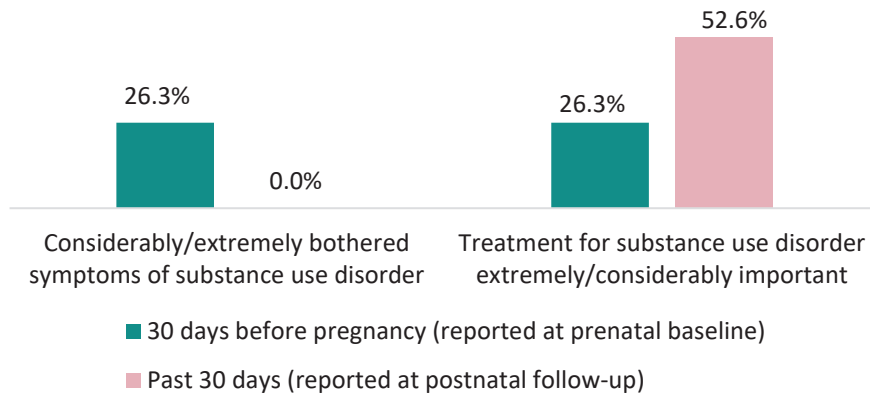
Figure IV.B.11 shows that 26.3% of respondents reported they were considerably or extremely troubled or bothered by symptoms of substance use disorder in the 30 days before pregnancy. In the past 30 days at postnatal follow-up, 0.0% of respondents reported that they were considerably or extremely troubled or bothered by symptoms of substance use disorder.

The figure below also shows that 26.3% of respondents in the 30 days before pregnancy and 52.6% of respondents in the past 30 days at postnatal follow-up reported that treatment for substance use disorder symptoms was considerably or extremely important, which was not a significant increase.

<sup>65</sup> The small sample size in 2022 to 2025 could be affecting the percent of respondents reporting experiences with substances or alcohol disorder at baseline.



FIGURE IV.B.11. READINESS FOR SUBSTANCE USE DISORDER TREATMENT IN THE 30 DAYS BEFORE PREGNANCY AND PAST-30-DAYS AT POSTNATAL FOLLOW-UP (N = 19)

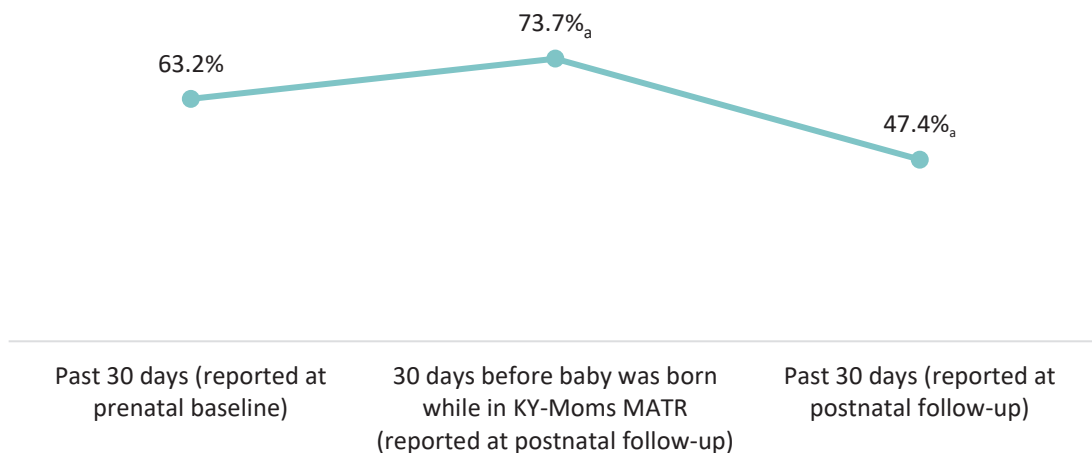


a--No test of statistical association could be computed for past-30-day postnatal follow-up for considerably/extremely bothered by symptoms of substance use disorder because one of the cell values was 0.

## TREATMENT FOR SUBSTANCE USE DISORDER SYMPTOMS

Figure IV.B.12 shows that in the past 30 days at baseline, 63.2% of respondents reported participating in treatment for their substance use disorder symptoms. At postnatal follow-up, 73.7% of respondents reported participating in treatment for their substance use disorder symptoms in the 30 days before the baby was born and 47.4% of respondents reported participating in treatment for their substance use disorder symptoms in the past 30 days (a significant decrease compared to the 30 days before the baby was born).

FIGURE IV.B.12. RESPONDENTS REPORTING TREATMENT FOR SUBSTANCE USE DISORDER SYMPTOMS IN THE PAST 30 DAYS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 19)



a- Values sharing the same subscript differ at  $p < .10$ .

## MUTUAL HELP RECOVERY MEETINGS

In the six months before pregnancy, 16.7% of women reported attending AA, NA, MA or other mutual help recovery group meetings. At postnatal follow-up, 63.2% of respondents reported participating in mutual help recovery group meetings in the 30 days before the baby was born and 36.8% of respondents reported participating in mutual help recovery group meetings in the past 30 days at follow-up (not shown in a figure).

## MEDICATION-ASSISTED TREATMENT

At baseline, over half of respondents (55.6%) reported having ever received buprenorphine/naloxone, naltrexone, or methadone as part of medication-assisted treatment for their substance use disorder symptoms and 33.3% of respondents reported participating in medication-assisted treatment (MAT) in the 6 months before pregnancy. Of those respondents who reported participating in MAT in the past 6 months before pregnancy (n = 6), 83.3% (n = 5) reported receiving Suboxone/Subutex (buprenorphine-naloxone), and 16.7% (n = 1) reported methadone. In addition, 50.0% of respondents reported obtaining the medication from a doctor in a specialty clinic, 33.3% were dispensed the medication in a methadone clinic, and 16.7% of respondents obtained the medication from a doctor in a general medical practice. On average, these respondents reported using these medications an average of 3.3 out of the 6 months before pregnancy, and for an average of 25.0 days in the last 30 days at baseline. The majority of these respondents at baseline (83.3%) reported they had used the prescribed medication within the past 48 hours and 83.3% respondents reported that the MAT helped treat their substance use disorder symptoms.

At follow-up, 38.9% of respondents reported participating in medication-assisted treatment (MAT) in the past 6 months. Of those respondents who reported participating in MAT in the past 6 months (n = 7), 71.4% (n = 5) reported receiving Suboxone/Subutex (buprenorphine-naloxone), and 28.6% (n = 2) reported Vivitrol. On average, these respondents reported using these medications 5.9 out of the past 6 months, and for 25.9 days in the past 30 days. All of these respondents at follow-up reported the MAT helped treat their substance use disorder symptoms.

Also, at follow-up, respondents were asked what the single biggest barrier to receiving MAT.<sup>66</sup> Over half of respondents (53.3%) reported that they had no issues with receiving MAT for their substance use disorder symptoms, 40.0% reported that they never thought about receiving MAT, and 6.7% reported it cost more than they could afford.

## TOBACCO USE

### PAST-6-MONTH TOBACCO USE

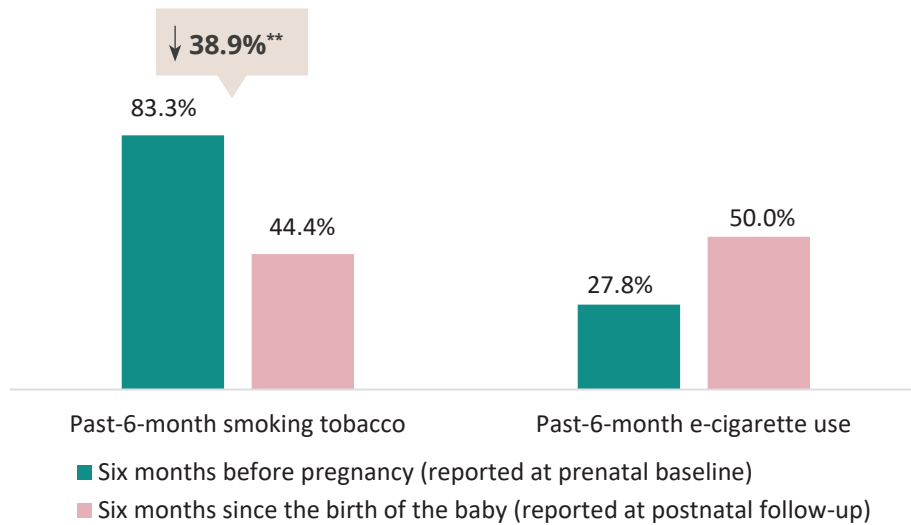
At prenatal baseline, 83.3% of respondents reported smoking tobacco in the 6 months prior to pregnancy (Figure IV.B.13). At postnatal follow-up, 44.4% of respondents reported

<sup>66</sup> Three respondents did not have an answer for the biggest issue for getting on MAT.

smoking tobacco in the past 6 months (a significant decrease of 38.9%). More than one-quarter of respondents (27.8%) reported using e-cigarettes (e.g., battery-powered nicotine delivery devices that vaporize a liquid mixture consisting of propylene glycol, glycerin, flavorings, nicotine, and other chemicals) compared to 50.0% of respondents in the past 6 months at follow-up.

Only two respondents in the 6 months prior to pregnancy and none in the past 6 months at postnatal follow-up reported smokeless tobacco use (not depicted in a figure).

FIGURE IV.B.13. PAST-6-MONTH SMOKING TOBACCO AND E-CIGARETTE USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP



\*\*p < .05.

*Seven respondents reported smoking tobacco at baseline, but reportedly quit smoking tobacco at follow-up. Of these women who quit smoking cigarettes at follow-up, 42.9% reported they used e-cigarettes at follow-up.*

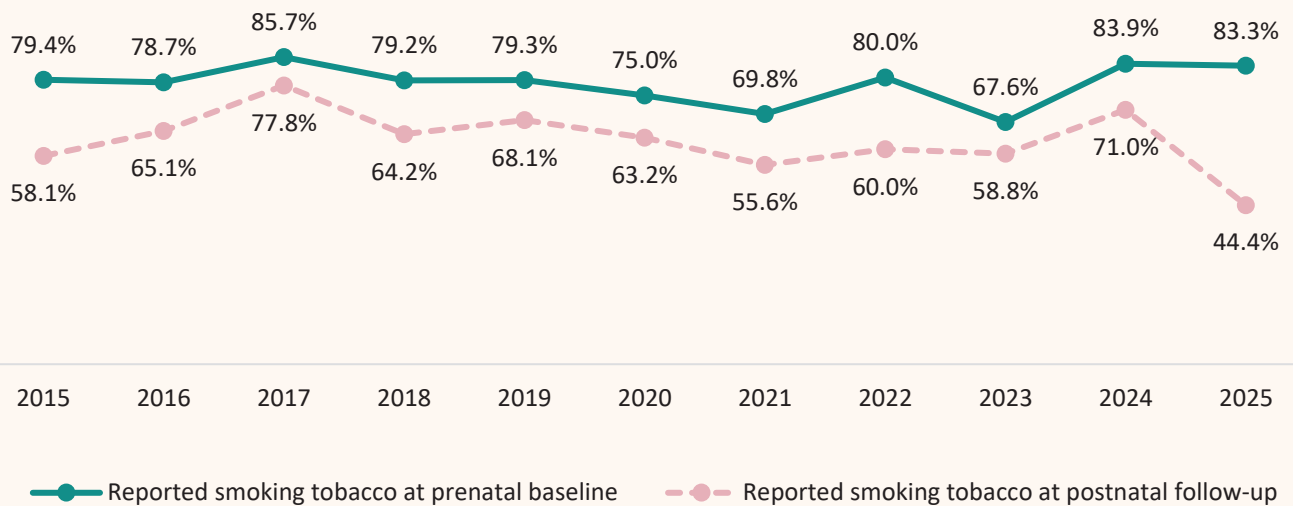
**"My case manager was really caring and non judgmental, [my CMHC] was really helpful and caring. Staff was there for the birth of my baby."**

- KY-MOMS MATR RESPONDENT

## TRENDS IN PAST-6-MONTH SMOKING TOBACCO USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

Smoking tobacco use was high at prenatal baseline each year with well over three-quarters of women reporting smoking tobacco in the six months before pregnancy from 2015 to 2020. In 2021, the percent of women reporting smoking tobacco appeared to decrease slightly to 69.8%. At follow-up, many of the women continued to smoke tobacco. From 2015 to 2017, the percent of women reporting smoking tobacco at baseline and follow-up increased overall; however, from 2018 to 2020 the percent of women reporting smoking tobacco was relatively stable at both baseline and follow-up before increasing in 2022. In 2025, the percent of women who reported smoking tobacco decreased to 44.4% at follow-up.

FIGURE IV.B.14. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING SMOKING TOBACCO USE IN THE PAST 6 MONTHS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



## PAST-30-DAY TOBACCO USE

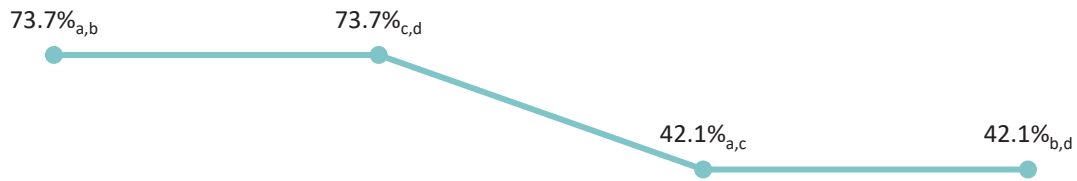
At prenatal baseline, 73.7% of respondents reported smoking tobacco products in the 30 days prior to pregnancy (Figure IV.B.15) compared to 13.2% of women, nationally. In addition, 73.7% of respondents reported smoking tobacco in the past 30 days at prenatal baseline compared to 4.8% of pregnant women, nationally.

At postnatal follow-up, in the 30 days before the baby was born, 42.1% of respondents reported smoking tobacco products. The percent of women who reported smoking tobacco in the past 30 days at postnatal follow-up remained 42.1%.

**"It was good program and my case worker was very nice."**

- KY-MOMS MATR RESPONDENT

FIGURE IV.B.15. PAST-30-DAY SMOKING TOBACCO AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 19)

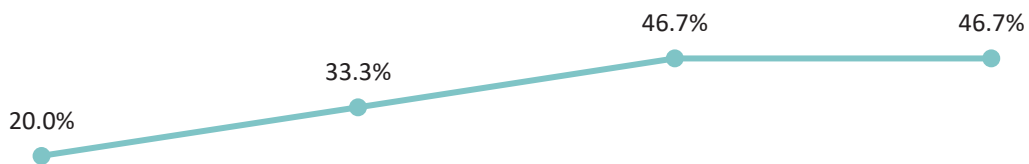


30 days before pregnancy (reported at prenatal baseline)      Past 30 days (reported at prenatal baseline)      30 days before baby was born while in KY Moms MATR (reported at postnatal follow-up)      Past 30 days (reported at postnatal follow-up)

a, b, c, d- Values sharing the same subscript differ at  $p < .05$ .

Twenty percent of women reported using e-cigarettes in the 30 days before pregnancy and 33.3% of women reported e-cigarette use in the past 30 days at baseline. This percent is higher than the national estimate of 13.7% of women who reported e-cigarette use. At postnatal follow-up, 46.7% of women reported e-cigarette use in the 30 days before the baby was born and in the past 30 days (see Figure IV.B.16) compared to 4.3% of pregnant women nationally.

FIGURE IV.B.16. PAST-30-DAY E-CIGARETTE USE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 15)<sup>67</sup>



30 days before pregnancy (reported at prenatal baseline)      Past 30 days (reported at prenatal baseline)      30 days before baby was born while in KY Moms MATR (reported at postnatal follow-up)      Past 30 days (reported at postnatal follow-up)

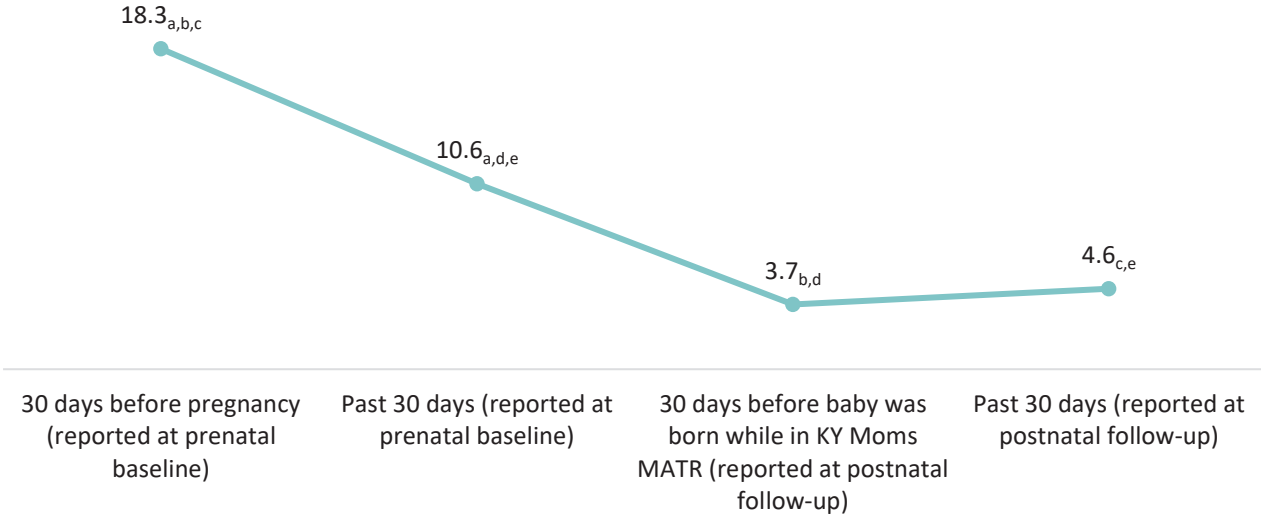
### AVERAGE NUMBER OF CIGARETTES SMOKED IN THE PAST 30 DAYS

Figure IV.B.17 shows that for women who reported smoking tobacco in the 30 days prior to pregnancy (n = 14), the average number of cigarettes smoked declined from prior to pregnancy to after the respondent became involved in KY-Moms MATR and remained low after the birth of the baby. At prenatal baseline, women who smoked reported that in the 30 days before they found out they were pregnant they smoked an average of 18.3

<sup>67</sup> Four respondents were missing data on e-cigarette use at follow-up.

cigarettes per day (less than one pack) and an average of 10.6 cigarettes per day in the past 30 days at prenatal baseline. At postnatal follow-up, in the 30 days before the baby was born when the respondent was in the KY-Moms MATR program, the average number of cigarettes decreased further to 3.7. Respondents reported smoking an average of 4.6 cigarettes in the past 30 days at postnatal follow-up, suggesting positive changes in smoking habits.

FIGURE IV.B.17. AVERAGE NUMBER OF CIGARETTES SMOKED AMONG WOMEN REPORTING CIGARETTE USE IN THE 30 DAYS PRIOR TO PREGNANCY (N = 14)



a, b, c- Values sharing the same subscript differ at  $p < .01$ .  
 d- Values sharing the same subscript differ at  $p < .05$ .  
 e- Values sharing the same subscript differ at  $p < .10$ .

**SUMMARY**

KY-Moms MATR respondents reported significant reductions in illicit substance use in the past 30 days of pregnancy at prenatal baseline and further reductions after beginning participation in KY-Moms MATR. Specifically, 52.6% of respondents reported illicit substance use in the 30 days before pregnancy compared to 5.3% in the 30 days before the baby was born and in the past 30 days at postnatal follow-up. While 26.3% of respondents reported alcohol use in the 30 days before pregnancy, none of the respondents reported alcohol use in the 30 days before the baby was born or in the past 30 days at follow-up.

The number of women who reported smoking tobacco in the 30 days before the baby was born decreased significantly compared to the 30 days prior to pregnancy. Compared to national rates, more KY-Moms MATR mothers smoke tobacco before, during and after pregnancy. The average number of cigarettes respondents reported smoking, decreased significantly from the 30 days before pregnancy (18.3) to the 30 days before the baby was born (3.7) and remained low in the past 30 days at follow-up.

## SUBSTANCE USE FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

In the 6 months before pregnancy, 88.9% of post-birth respondents reported using illicit substances and/or alcohol and when they were pregnant 66.7% of post-birth respondents reported using illicit substances and/or alcohol. In the 6 months before the post-birth follow-up interview, 33.3% of respondents reported using illicit substances and/or alcohol. At post-birth baseline, 25.0% of respondents reported ever injecting any substances and none of the respondents reported injecting a substance in the past 30 days. At post-birth follow-up, none of the respondents reported injecting substances in the past 6 months. Two-thirds of respondents reported they had ever received buprenorphine/naloxone, naltrexone, or methadone as part of a medication-assisted treatment for their substance use symptoms at post-birth baseline and of these respondents (n = 0), none participated in medication-assisted treatment in the past 6 months. Three respondents reported receiving medication-assisted treatment in the past 6 months at follow-up. The majority of post-birth respondents (88.9%) reported they used tobacco in the 6 months before pregnancy and during pregnancy. At post-birth follow-up, 55.6% of respondents reported smoking tobacco use.

## C. MENTAL HEALTH, SLEEP DIFFICULTY, AND STRESS

This subsection examines change in mental health in the follow-up sample ( $n = 21$ ) for the following factors: (1) depression, (2) generalized anxiety, (3) comorbid depression and anxiety, (4) post-traumatic stress disorder. Past-6-month and past-30-day mental health symptoms are examined separately where applicable. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up ( $n = 9$ ) are described separately.

### DEPRESSION SYMPTOMS

To assess depression, respondents were first asked two screening questions:

“Did you have two weeks in a row (or more) when you were consistently depressed or down, most of the day, nearly every day?” and

“Did you have two weeks in a row (or more) when you were much less interested in most things or much less able to enjoy the things you used to enjoy most of the time?”

If participants answered “yes” to at least one of these two screening questions, then they were asked seven additional questions about symptoms of depression (e.g., sleep problems, weight loss or gain, feelings of hopelessness or worthlessness).

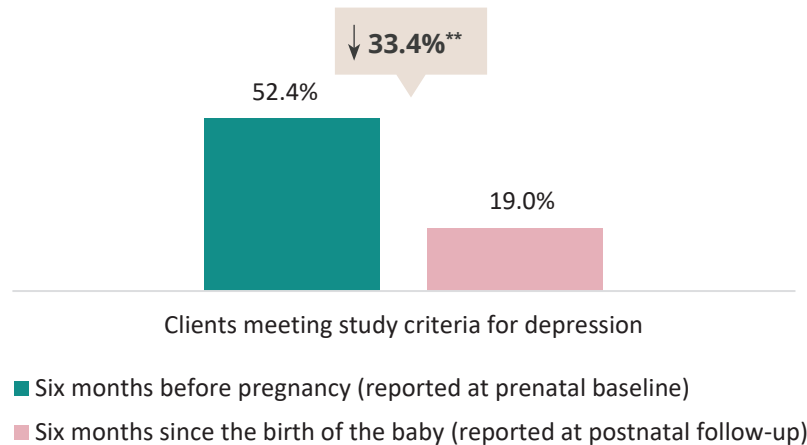
#### STUDY CRITERIA FOR DEPRESSION

To meet study criteria for depression, clients had to say “yes” to at least one of the two screening questions and at least 4 of the 7 symptoms. Thus, the minimum score to meet study criteria: 5 out of 9.

### RESPONDENTS MEETING STUDY CRITERIA FOR DEPRESSION IN THE PAST 6 MONTHS

In the 6 months before they became pregnant, 52.4% of the women met study criteria for depression. In the past 6 months at postnatal follow-up, 19.0% of KY-Moms MATR respondents met study criteria for depression, which was a significant decrease of 33.4% from baseline.

FIGURE IV.C.1. MEETING STUDY CRITERIA FOR DEPRESSION IN 6 MONTHS BEFORE PREGNANCY AND PAST 6 MONTHS AT POSTNATAL FOLLOW-UP (N = 21)



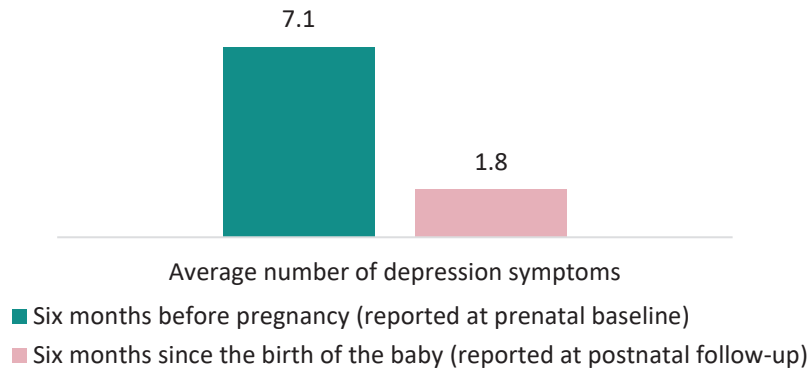
\*\* $p < .05$ .



## AVERAGE NUMBER OF DEPRESSION SYMPTOMS IN THE PAST 6 MONTHS

Of the respondents who met study criteria for depression in the 6 months before pregnancy (n = 15), they reported an average of 7.1 symptoms. In the past 6 months at postnatal follow-up, these same respondents reported significantly fewer symptoms (average of 1.8 symptoms) indicating that the reduction in depressive symptoms was sustained after KY-Moms MATR participation.

FIGURE IV.C.2. AVERAGE NUMBER OF DEPRESSION SYMPTOMS AMONG THOSE RESPONDENTS WHO MET STUDY CRITERIA FOR DEPRESSION IN THE 6 MONTHS BEFORE PREGNANCY AT PRENATAL BASELINE (N = 11)\*\*\*

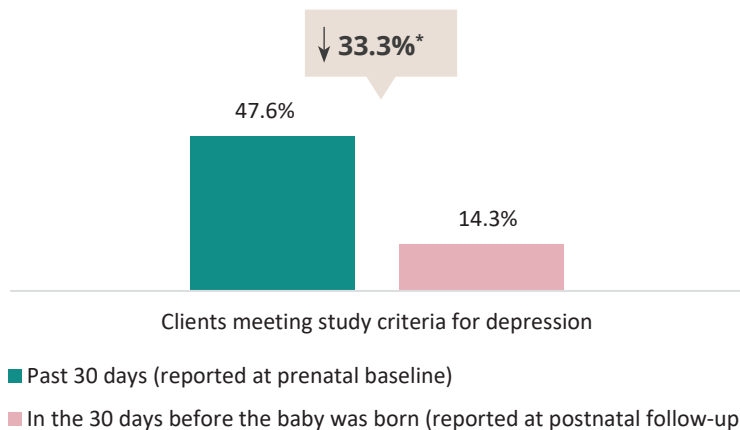


\*\*\*p < .01; Significance tested with paired sample t-test.

## RESPONDENTS MEETING STUDY CRITERIA FOR DEPRESSION IN THE PAST 30 DAYS

In the past 30 days at prenatal baseline, 47.6% of the women met study criteria for depression (see Figure IV.C.3). At postnatal follow-up, 14.3% of respondents met study criteria for depression in the 30 days before the baby was born, which was a significant decrease of 33.3%.

FIGURE IV.C.3. MEETING STUDY CRITERIA FOR DEPRESSION IN THE 30 DAYS BEFORE PRENATAL BASELINE AND 30 DAYS BEFORE THE BABY WAS BORN (N = 21)

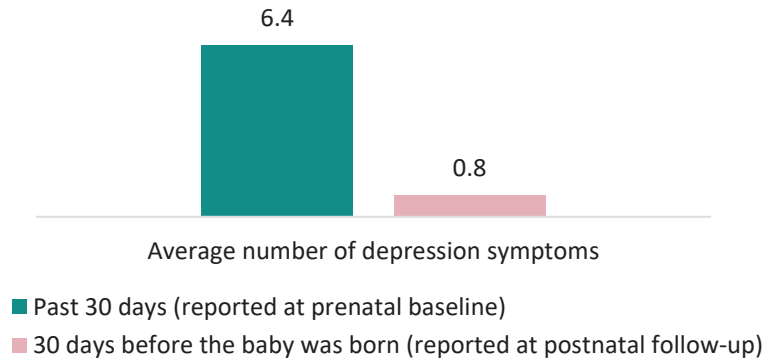


\*p < .10.

## AVERAGE NUMBER OF DEPRESSION SYMPTOMS IN THE PAST 30 DAYS

Of the respondents who met study criteria for depression in the past 30 days at prenatal baseline (n = 10), they reported an average of 6.4 symptoms. In the past 30 days before the baby was born, these same respondents reported significantly fewer symptoms (average of 0.8 symptoms) indicating that the reduction in depressive symptoms was sustained after KY-Moms MATR participation.

FIGURE IV.C.4. AVERAGE NUMBER OF DEPRESSION SYMPTOMS AMONG THOSE RESPONDENTS WHO MET STUDY CRITERIA FOR DEPRESSION IN THE PAST 30 DAYS AT PRENATAL BASELINE (N = 10)\*\*\*



\*\*\* $p < .01$ ; Significance tested with paired sample t-test.

## GENERALIZED ANXIETY SYMPTOMS

To assess for generalized anxiety symptoms, participants were first asked:

“In the 6 months before pregnancy, did you have a period lasting 6 months or longer where you worried excessively or were anxious about multiple things on more days than not (like family, health, finances, school, or work difficulties)?”

Participants who answered “yes” were then asked 6 additional questions about anxiety symptoms (e.g., felt restless, keyed up or on edge, have difficulty concentrating, feel irritable).

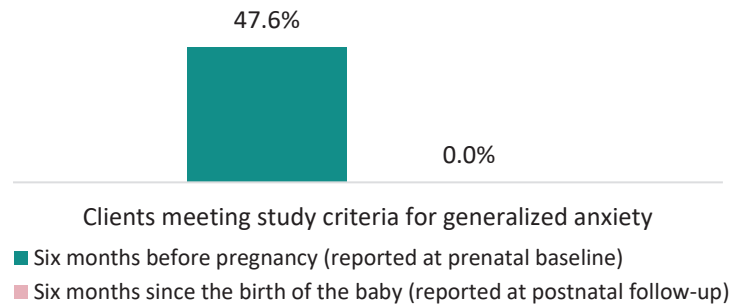
### STUDY CRITERIA FOR GENERALIZED ANXIETY

To meet study criteria for generalized anxiety, respondents had to say “yes” to the one screening question and at least 3 of the other 6 symptoms. Thus, minimum score to meet study criteria: 4 out of 7.

## RESPONDENTS MEETING STUDY CRITERIA FOR GENERALIZED ANXIETY IN THE PAST 6 MONTHS

In the 6 months before pregnancy, 47.6% of respondents reported symptoms that met study criteria for generalized anxiety (see Figure IV.C.5). In the past 6 months at postnatal follow-up, none of the respondents met study criteria for generalized anxiety. Among respondents who met study criteria for generalized anxiety in the 6 months before pregnancy (n = 10), they reported an average of 5.3 symptoms (not presented in a figure).

FIGURE IV.C.5. MEETING STUDY CRITERIA FOR GENERALIZED ANXIETY IN 6 MONTHS BEFORE PREGNANCY AND PAST 6 MONTHS AT POSTNATAL FOLLOW-UP (N = 21)<sup>a</sup>

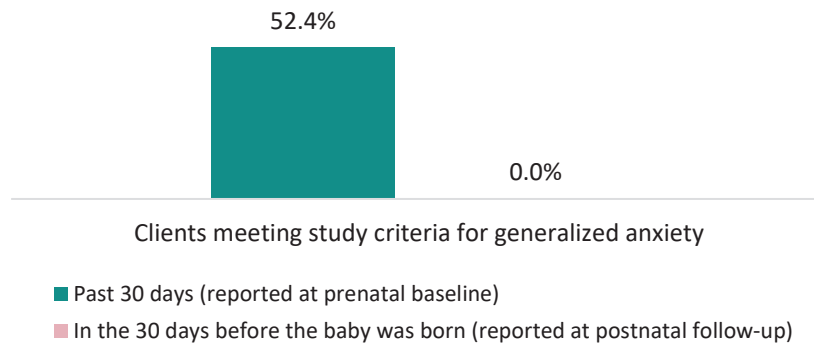


a--No test of statistical association could be computed for generalized anxiety in the past 6 months at postnatal follow-up because one of the cell values was 0.

### RESPONDENTS MEETING STUDY CRITERIA FOR ANXIETY IN THE PAST 30 DAYS

At prenatal baseline, 52.4% of respondents reported symptoms that met study criteria for generalized anxiety in the past 30 days (see Figure IV.C.6). In the 30 days before the baby was born, none of the KY-Moms MATR respondents met criteria for generalized anxiety. Respondents who met criteria for generalized anxiety in the past 30 days at prenatal baseline (n = 11), respondents reported an average of 4.9 symptoms.

FIGURE IV.C.6. MEETING STUDY CRITERIA FOR GENERALIZED ANXIETY IN THE 30 DAYS BEFORE PRENATAL BASELINE AND 30 DAYS BEFORE THE BABY WAS BORN (N = 21)<sup>a</sup>



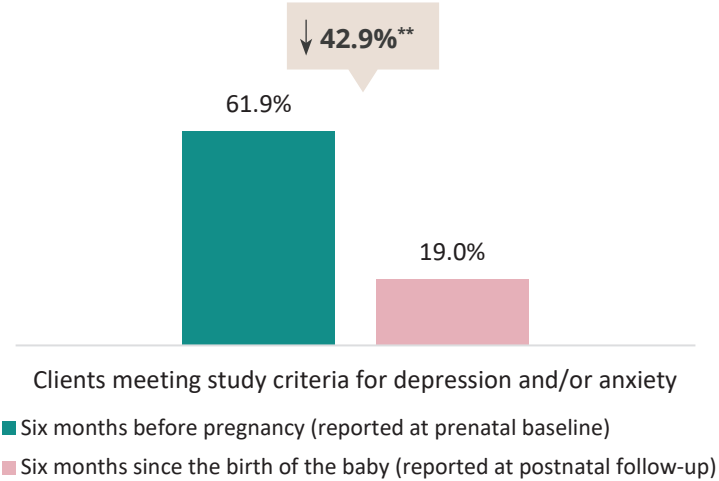
a--No test of statistical association could be computed for generalized anxiety in the past 30 days at postnatal follow-up because one of the cell values was 0.

## DEPRESSION AND ANXIETY SYMPTOMS

### RESPONDENTS MEETING STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY IN THE PAST 6 MONTHS

Figure IV.C.7 shows that 61.9% met study criteria for either depression or anxiety (or both) in the 6 months before pregnancy. In the past 6 months at postnatal follow-up, 19.0% of respondents met criteria for depression and/or anxiety, which was a significant decrease of 42.9%.

FIGURE IV.C.7. MEETING STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY IN THE PAST 6 MONTHS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 21)



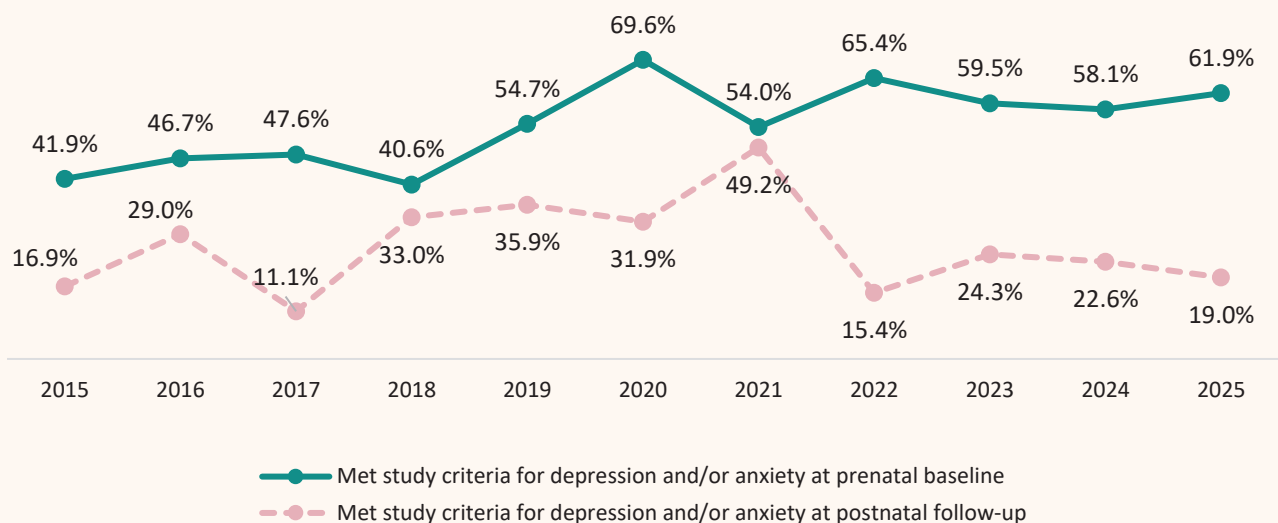
\*\*p < .05.

## TRENDS IN DEPRESSION AND/OR ANXIETY AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

The percent of respondents who met study criteria for depression and/or anxiety at prenatal baseline was fairly consistent from 2015 to 2018. After 2018, the percent of respondents who met study criteria for depression and/or anxiety at prenatal baseline increased. In 2021, the percent of women reporting depression and/or anxiety at prenatal baseline appeared to decrease compared to the previous year, and then was higher in 2022 and 2023.

At follow-up, while the percent of women who met study criteria for depression and/or anxiety decreased compared to baseline, the degree to which the percent decreased fluctuated from 2015 to 2018. In 2021, the percent of women who met study criteria for depression and/or anxiety was higher compared to previous years and was similar to baseline. Since 2022, with smaller sample sizes than in previous years, small percentages of respondents met study criteria for depression and/or anxiety.

FIGURE IV.C.8. RESPONDENTS IN THE FOLLOW-UP SAMPLE WHO MET STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY IN THE PAST 6 MONTHS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025<sup>68</sup>

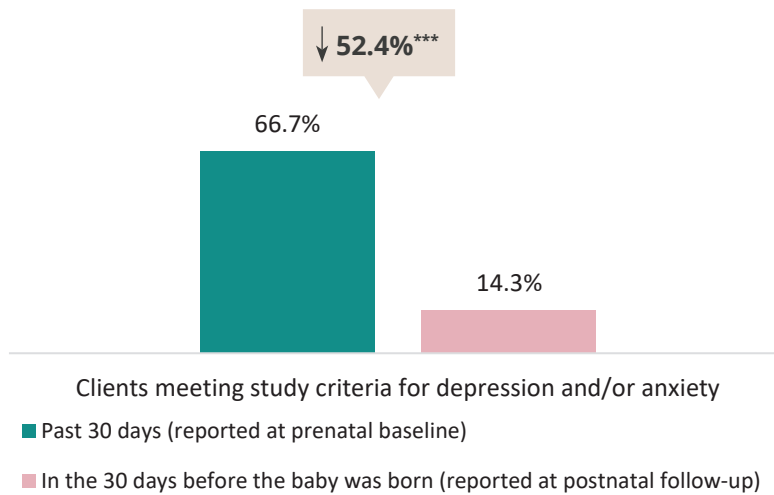


## RESPONDENTS MEETING STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY IN THE PAST 30 DAYS

In the past 30 days at prenatal baseline, 66.7% of respondents met study criteria for either depression or anxiety (or both), and in the 30 days before the baby was born, 14.3% of the women met study criteria for depression and/or anxiety, which was a significant decrease of 52.4%.

<sup>68</sup> The small sample size in report years 2022 through 2025 may be affecting the number of respondents who met study criteria for depression and/or anxiety.

FIGURE IV.C.9. MEETING STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY IN THE 30 DAYS BEFORE PRENATAL BASELINE AND 30 DAYS BEFORE THE BABY WAS BORN (N = 21)

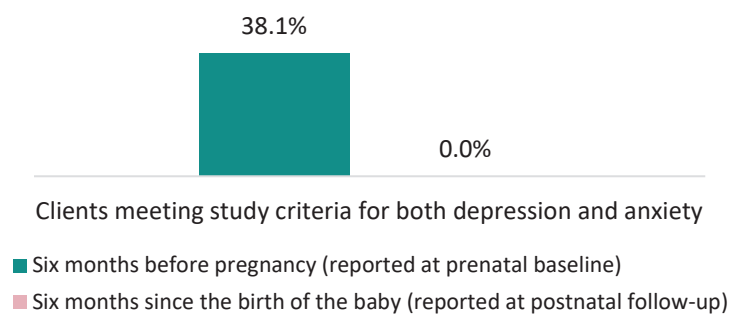


\*\*\*p < .01.

### RESPONDENTS MEETING STUDY CRITERIA FOR COMORBID DEPRESSION AND ANXIETY IN THE PAST 6 MONTHS

More than one-third of respondents (38.1%) met criteria for comorbid depression and anxiety in the 6 months before they became pregnant, and at postnatal follow-up, none of the respondents reported comorbid depression and anxiety (see Figure IV.C.10).

FIGURE IV.C.10. MEETING STUDY CRITERIA FOR COMORBID DEPRESSION AND GENERALIZED ANXIETY IN THE PAST 6 MONTHS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 21)<sup>a</sup>

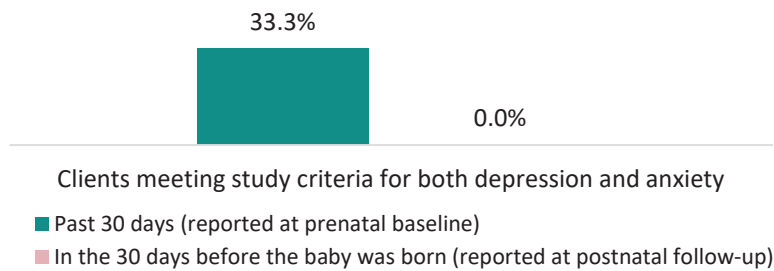


a--No test of statistical association could be computed for comorbid depression and generalized anxiety in the past 30 days at postnatal follow-up because one of the cell values was 0.

### RESPONDENTS MEETING STUDY CRITERIA FOR COMORBID DEPRESSION AND ANXIETY IN THE PAST 30 DAYS

One-third of respondents in the past 30 days at prenatal baseline and none of the respondents in the 30 days before the baby was born met study criteria for both depression and anxiety (see Figure IV.C.11).

FIGURE IV.C.11. MEETING STUDY CRITERIA FOR COMORBID DEPRESSION AND GENERALIZED ANXIETY IN THE 30 DAYS BEFORE PRENATAL BASELINE AND THE 30 DAYS BEFORE THE BABY WAS BORN (N = 21)<sup>a</sup>

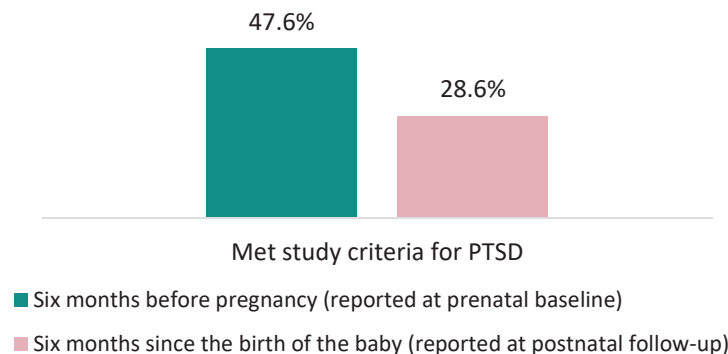


a--No test of statistical association could be computed for comorbid depression and generalized anxiety in the past 6 months at postnatal follow-up because one of the cell values was 0.

## POST-TRAUMATIC STRESS DISORDER

Almost half of respondents (47.6%) met study criteria for post-traumatic stress disorder (PTSD)<sup>69</sup> in the six months before pregnancy. At follow-up, 28.6% of respondents met study criteria for PTSD (see Figure IV.C.12).

FIGURE IV.C.12. RESPONDENTS WHO SCREENED POSITIVE FOR POST-TRAUMATIC STRESS DISORDER IN THE PAST 6 MONTHS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 21)



Close to one-quarter of clients at prenatal baseline and postnatal follow-up (23.8%) reported they used alcohol, prescription drugs, or illegal drugs to reduce stress, anxiety, worry, sadness, or fear.

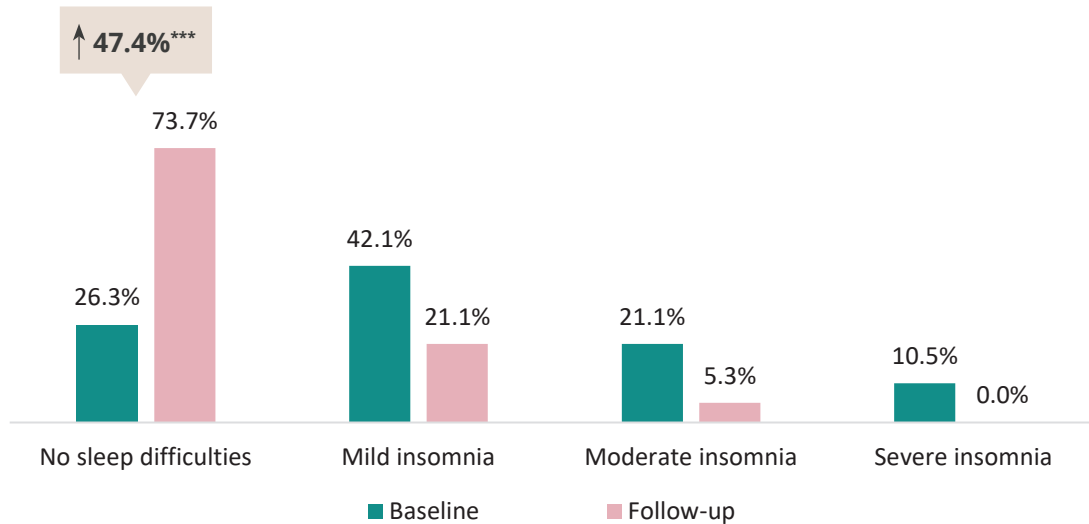
## SLEEP DIFFICULTY

A 5-point Likert scale is used to rate each question on a scale of 0 (no problem) to 4 (very severe problem) where the total score can range from 0 to 28. A total score of 0-7 indicates no sleep difficulties, 8-14 indicates mild insomnia, 15-21 indicates moderate insomnia, and a score total of 22-28 indicates severe insomnia. Figure IV.C.13 shows that, at baseline, 26.3% of respondents had scores indicating no sleep difficulties and, at follow-up, 73.7% of respondents had scores indicating no sleep difficulties (a significant increase

<sup>69</sup> Price, M., Szafranski, D., van Stolk-Cooke, K., & Gros, D. (2016). Investigation of an abbreviated 4 and 8-item version of the PTSD Checklist 5. *Psychiatry Research*, 239, 124-130.

of 47.4%). There was a significant decrease in the average scores on the Insomnia Severity Index, with average of 11.5 at baseline and 5.2 at postnatal follow-up (not shown in a figure).

FIGURE IV.C.13. RESPONDENTS WITH LEVEL OF INSOMNIA REPORTED AT BASELINE (N = 19)<sup>70</sup>



\*\*\*p < .01.

## SUMMARY

The number of pre-birth respondents who met study criteria for depression and/or for anxiety decreased significantly from prenatal baseline to postnatal follow-up. Further, the average number of depression symptoms decreased significantly from before pregnancy to 6 months after the birth of the baby. The number of respondents who met study criteria for comorbid depression and anxiety in the past 6 months decreased from 38.1% at prenatal baseline to 0.0% at postnatal follow-up. The number of respondents who met study criteria for PTSD decreased, but not significantly, from the 6 months before pregnancy to the 6 months since the birth of the baby. Finally, significantly fewer respondents reported they had symptoms of insomnia at follow-up compared to baseline.

## MENTAL HEALTH FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

About 44% of post-birth KY-Moms MATR respondents in the 6 months before pregnancy and 33.3% of respondents in the past 6 months at post-birth follow-up met study criteria for depression and/or anxiety. One-third of post-birth women met study criteria for post-traumatic stress disorder at baseline and 22.2% met study criteria at follow-up. One-third of respondents at baseline and 44.4% of respondents at follow-up reported they used substances to reduce stress. At post-birth baseline 25.0% of respondents, and at follow-up, 37.5% of respondents were classified as having moderate to severe insomnia.<sup>71</sup>

<sup>70</sup> Two respondents were missing sleep difficulty data at follow-up

<sup>71</sup> One respondent at post-birth follow-up was missing data on sleep measures.



## D. INTIMATE PARTNER VIOLENCE AND OTHER EXPERIENCES WITH VIOLENCE

This subsection examines intimate partner violence and other experiences with violence in the follow-up sample (n = 21) such as: (1) felt unsafe, (2) any form of intimate partner violence, (3) psychological violence, (4) coercive control, (5) physical assault, (6) sexual assault, and (7) other experiences with violence. These are examined from prenatal baseline to postnatal follow-up. Past 6-month and past 30-day intimate partner violence measures are examined separately where applicable. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up (n = 9) are described separately.

### FELT UNSAFE BECAUSE OF FEAR OF CURRENT OR EX-PARTNER

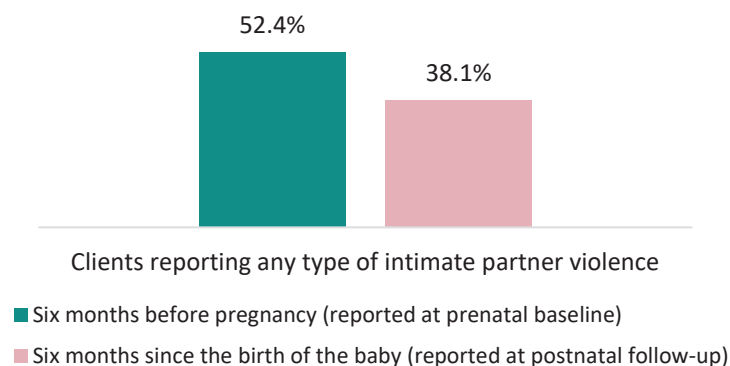
Including fear of a current or ex-partner, 15.0% of the respondents reported they felt unsafe at baseline and 5.0% of respondents felt unsafe at follow-up.<sup>72</sup>

### ANY INTIMATE PARTNER VIOLENCE

#### ANY FORM OF INTIMATE PARTNER VIOLENCE IN THE PAST 6 MONTHS

Figure IV.D.1 shows that in the 6 months before pregnancy, 52.4% of respondents reported experiencing any form of intimate partner violence (including psychological violence, control, physical assault, and sexual violence)<sup>73</sup> perpetrated by a current or ex-partner and 38.1% of respondents reported experiencing partner violence in the 6 months before the postnatal follow-up.

FIGURE IV.D.1. ANY TYPE OF INTIMATE PARTNER VIOLENCE IN THE 6 MONTHS BEFORE PREGNANCY AND THE PAST 6 MONTHS AT POSTNATAL FOLLOW-UP (N = 21)



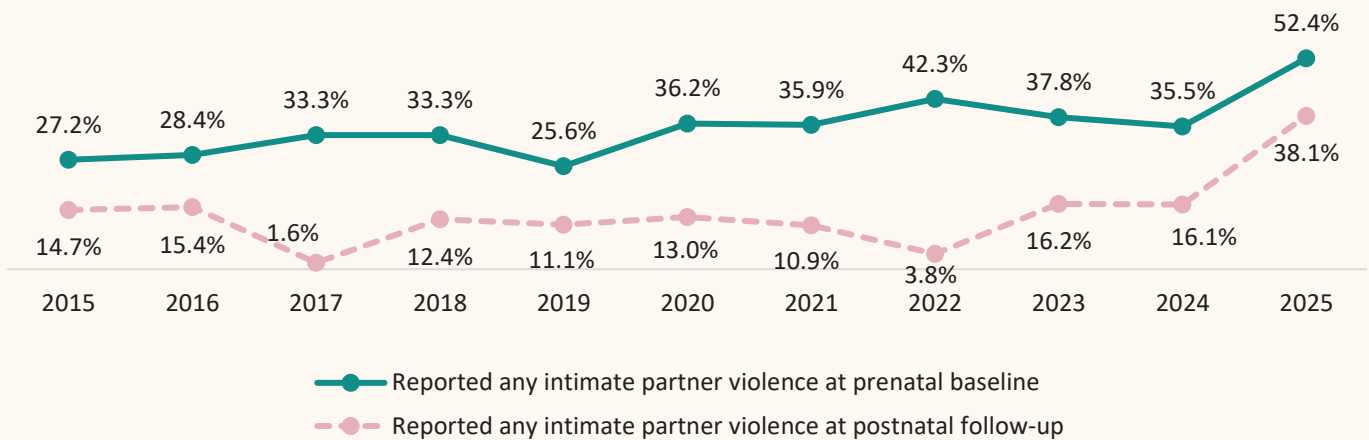
<sup>72</sup> One respondent was missing data for concern for their safety or afraid of physical or other harm from their current or ex-partner.

<sup>73</sup> Any intimate partner violence was defined in this study as a respondent indicating “yes” to any of the partner violence questions asked in the survey (e.g., verbal and psychological violence, extreme jealousy and control, threats of violence towards respondent and others close to them, physical violence, stalking, partner purposely damaging or destroying property, sexual assault/threats of assault) at each period.

## TRENDS IN ANY PAST-6-MONTH INTIMATE PARTNER VIOLENCE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

The percent of respondents who reported any intimate partner violence at prenatal baseline was fairly consistent from 2015 to 2019. Since 2019, however, the number of respondents who reported any intimate partner violence at baseline has increased. Overall, the percent of respondents who reported intimate partner violence at follow-up was also fairly consistent with about 11% to 16% of respondents reporting intimate partner violence in the 6 months since the birth of the baby (with the exception of 2017 at 1.6% and 2022 at 3.8%). In 2025, the percent of respondents who reported intimate partner violence at prenatal baseline and follow-up was higher than in previous 10 years.

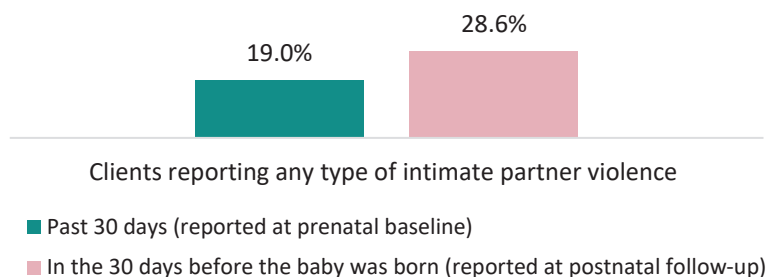
FIGURE IV.D.2. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING ANY INTIMATE PARTNER VIOLENCE IN THE PAST 6 MONTHS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025<sup>74</sup>



## ANY INTIMATE PARTNER VIOLENCE IN THE PAST 30 DAYS

Nineteen percent of KY-Moms MATR respondents in the past 30 days at prenatal baseline and 28.6% of respondents in the 30 days before the baby was born respondents reported experiencing any type of intimate partner violence (see Figure IV.D.3).

FIGURE IV.D.3. ANY TYPE OF INTIMATE PARTNER VIOLENCE IN THE 30 DAYS BEFORE PRENATAL BASELINE AND THE 30 DAYS BEFORE THE BABY WAS BORN (N = 21)



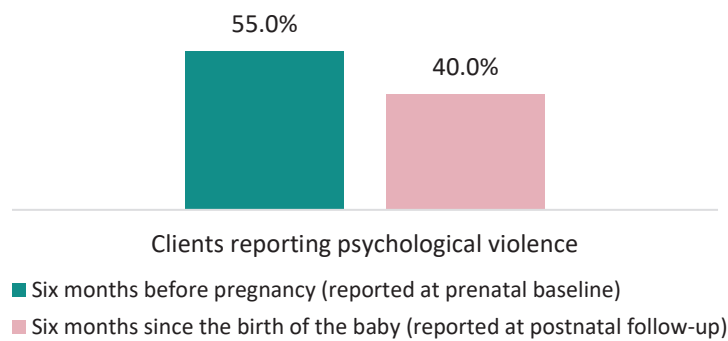
<sup>74</sup> The small sample size in 2025 could be affecting the increase in reports of intimate partner violence.

## PSYCHOLOGICAL VIOLENCE

### PSYCHOLOGICAL VIOLENCE IN THE PAST 6 MONTHS

More than half of respondents (55.0%) reported at prenatal baseline that a partner was psychologically violent towards them (e.g., insulted the respondent, shouted, criticized them, criticized them in front of others, treated them like an inferior, tried to make them feel crazy, or told them their feelings were irrational or crazy) in the 6 months before pregnancy and 40.0% of respondents reported psychological violence in the past 6 months at postnatal follow-up (see Figure IV.D.4).

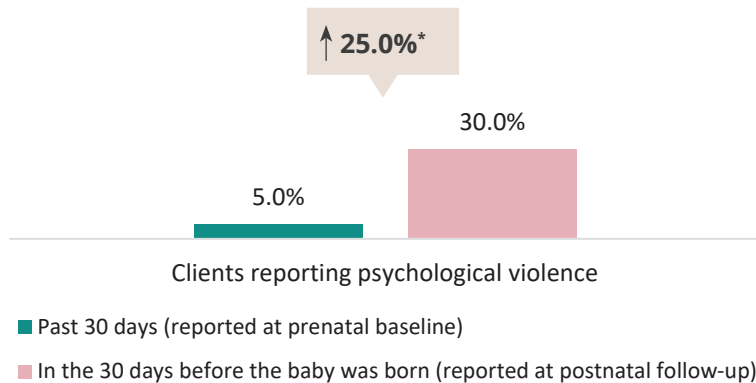
FIGURE IV.D.4. PSYCHOLOGICAL VIOLENCE IN THE 6 MONTHS BEFORE PREGNANCY AND THE PAST 6 MONTHS AT POSTNATAL FOLLOW-UP (N = 20)<sup>75</sup>



### PSYCHOLOGICAL VIOLENCE IN THE PAST 30 DAYS

Five percent of respondents in the past 30 days at prenatal baseline and in the 30 days before the baby was born 30.0% of respondents reported psychological violence, which was a significant increase of 25.0%.

FIGURE IV.D.5. PSYCHOLOGICAL VIOLENCE IN THE 30 DAYS BEFORE PRENATAL BASELINE AND THE 30 DAYS BEFORE THE BABY WAS BORN (N = 20)<sup>76</sup>



\*p < .10.

<sup>75</sup> One respondent was missing data for psychological violence at follow-up.

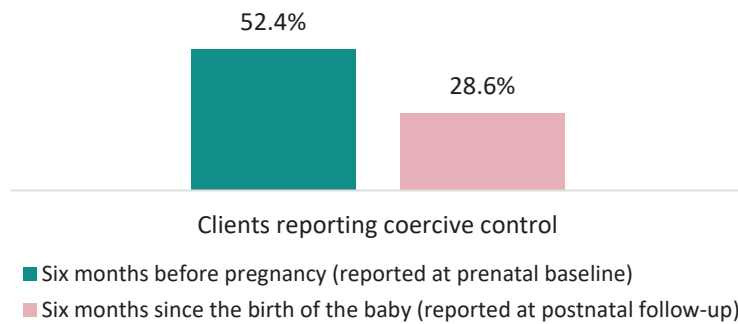
<sup>76</sup> One respondent was missing data for psychological violence at follow-up.

## COERCIVE CONTROL

### COERCIVE CONTROL IN THE PAST 6 MONTHS

For this study, coercive control is described as violence by a partner wherein the partner threatened the respondent or a family member in order to frighten her, was extremely jealous and controlling, interfered with other relationships, stalked her, or purposely destroyed property that belonged to her or a close friend/family member. In the 6 months before becoming pregnant, 52.4% of respondents reported experiencing coercive control and 28.6% of respondents in the past 6 months at postnatal follow-up reported experiencing coercive control from their partner, which was not a significant decrease (see Figure IV.D.6).

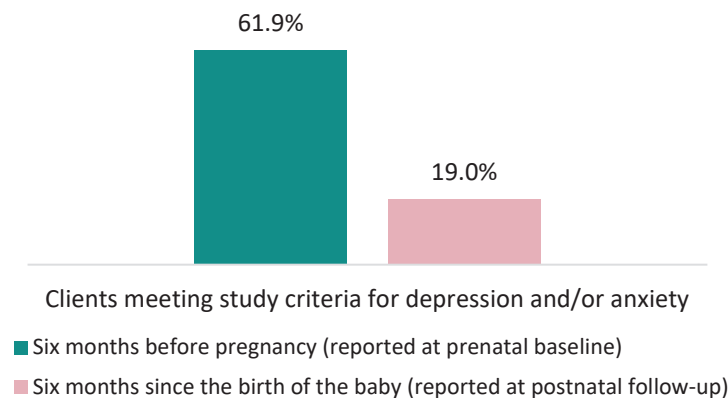
FIGURE IV.D.6. COERCIVE CONTROL BY A PARTNER IN THE 6 MONTHS BEFORE PREGNANCY AND THE 6 MONTHS BEFORE POSTNATAL FOLLOW-UP (N = 21)



### COERCIVE CONTROL IN THE PAST 30 DAYS

In the past 30 days at prenatal baseline 19.0% of respondents reported coercive control and in the 30 days before the baby was born, 28.6% reported coercive control occurred while they were pregnant (see Figure IV.D.7).

FIGURE IV.D.7. COERCIVE CONTROL BY A PARTNER IN THE 30 DAYS BEFORE PRENATAL BASELINE AND THE 30 DAYS BEFORE THE BABY WAS BORN (N = 21)

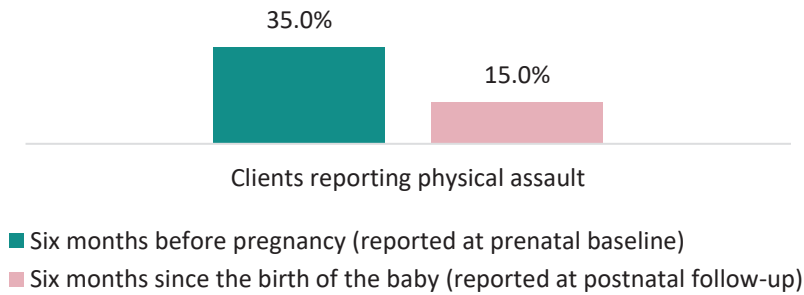


## PHYSICAL ASSAULT

### PHYSICAL ASSAULT IN THE PAST 6 MONTHS

Thirty-five percent of women reported that a partner physically assaulted them (e.g., pushing, shoving, kicking, beating up, strangling, burning, attacking with a weapon) in the 6 months before they became pregnant and 15.0% of women reported that a partner physically assaulted them in the past 6 months at postnatal follow-up.

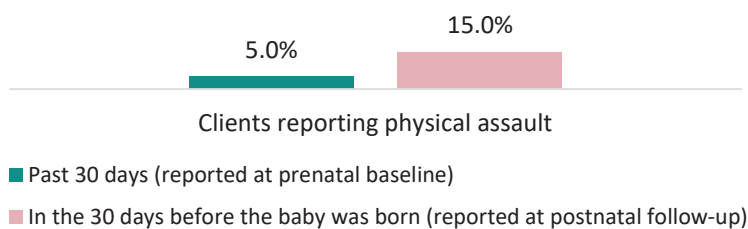
FIGURE IV.D.8. PHYSICAL ASSAULT IN THE 6 MONTHS BEFORE PREGNANCY AND THE PAST 6 MONTHS AT POSTNATAL FOLLOW-UP (N = 20)<sup>77</sup>



### PHYSICAL ASSAULT IN THE PAST 30 DAYS

A small number of the women (5.0%) in the past 30 days at prenatal baseline and 15.0% of women in the 30 days before the birth of the baby reported experiencing physically assaulted by a partner (see Figure IV.D.9).

FIGURE IV.D.9. PHYSICAL ASSAULT IN THE 30 DAYS BEFORE PRENATAL BASELINE AND THE 30 DAYS BEFORE THE BABY WAS BORN (N = 20)



## SEXUAL ASSAULT

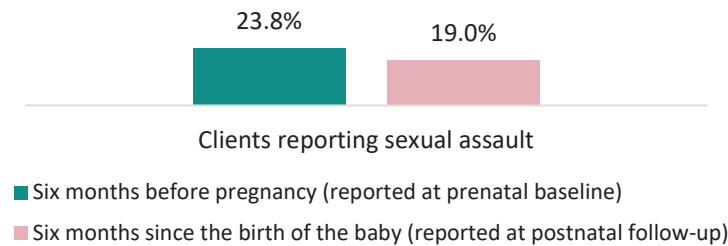
### SEXUAL ASSAULT IN THE PAST 6 MONTHS

Less than one-quarter of respondents (23.8%) reported at prenatal baseline that they had

<sup>77</sup> One respondent was missing data for physical assault at follow-up.

been sexually assaulted<sup>78</sup> by a partner in the 6 months before pregnancy and 19.0% of women in the past 6 months at postnatal follow-up reported that they had been sexually assaulted by a partner (see Figure IV.D.10).

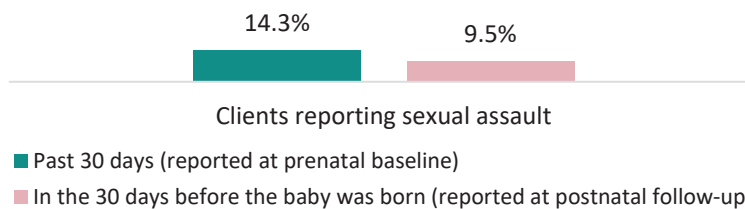
FIGURE IV.D.10. PARTNER SEXUALLY ASSAULTED RESPONDENT IN THE 6 MONTHS BEFORE PREGNANCY AND THE 6 MONTHS BEFORE POSTNATAL FOLLOW-UP (N = 21)



### SEXUAL ASSAULT IN THE PAST 30 DAYS

About 14% of the respondents reported being sexually assaulted by a partner in the past 30 days at prenatal baseline and 9.5% of respondents reported being sexually assaulted by a partner in the 30 days before the baby was born.

FIGURE IV.D.11. PARTNER SEXUALLY ASSAULTED RESPONDENT IN THE 30 DAYS BEFORE PREGNANCY AND THE 30 DAYS BEFORE THE BABY WAS BORN (N = 21)

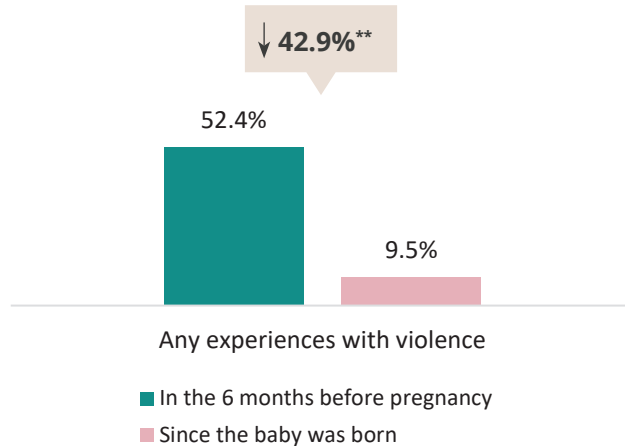


### OTHER EXPERIENCES WITH VIOLENCE

Respondents were asked about situations in which they had experienced violence, been harmed by someone else, or made to feel unsafe by someone in the past 6 months at baseline and follow-up. Because relatively small percentages of respondents reported each type of experience with violence in the 6-month periods, the items were collapsed. The percent of respondents who reported experiencing any violence (i.e., any harassment or any assault) in the past 6 months decreased significantly by 42.9% from 52.4% the 6 months before pregnancy to 9.5% the past 6 months at follow-up (see Figure IV.D.12).

<sup>78</sup> Sexual assault includes situations in which a partner made them do sexually degrading things, caused them to have sex because they were afraid of what would happen if they didn't, made the respondent have sex by threatening to harm them or someone close to them, or physically forcing them to have sex)

FIGURE IV.D.12. PERCENT OF RESPONDENTS WHO EXPERIENCED VIOLENCE (N = 21)



\*\* p < .05.

## SUMMARY

Respondents' experiences of several forms of partner violence were examined from prenatal baseline to postnatal follow-up. Over half of KY-Moms MATR respondents (52.4%) reported experiencing some type of intimate partner violence in the 6 months before pregnancy. At postnatal follow-up, 38.1% of respondents reported experiencing some type of intimate partner violence in the past 6 months since the baby was born. Compared to earlier years, the percent of respondents who reported intimate partner violence at prenatal baseline and follow-up was higher than in previous 10 years. Nineteen percent of KY-Moms MATR respondents in the past 30 days at prenatal baseline and 28.6% of respondents in the 30 days before the baby was born respondents reported experiencing any type of intimate partner violence. The number of respondents who reported experiencing any violence decreased significantly from the six months before pregnancy (52.4%) to the past 6 months at follow-up (9.5%).

## INTIMATE PARTNER VIOLENCE FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

Including fear of a current or ex-partner, none of the respondents who had their babies prior to entering KY-Moms MATR reported they felt unsafe at baseline or at follow-up. In addition, 33.3% of post-birth respondents in the 6 months before pregnancy and 22.2% of post-birth respondents during pregnancy, reported experiencing any form of intimate partner violence. About 11% of the respondents reported experiencing any form of intimate partner violence at follow-up.

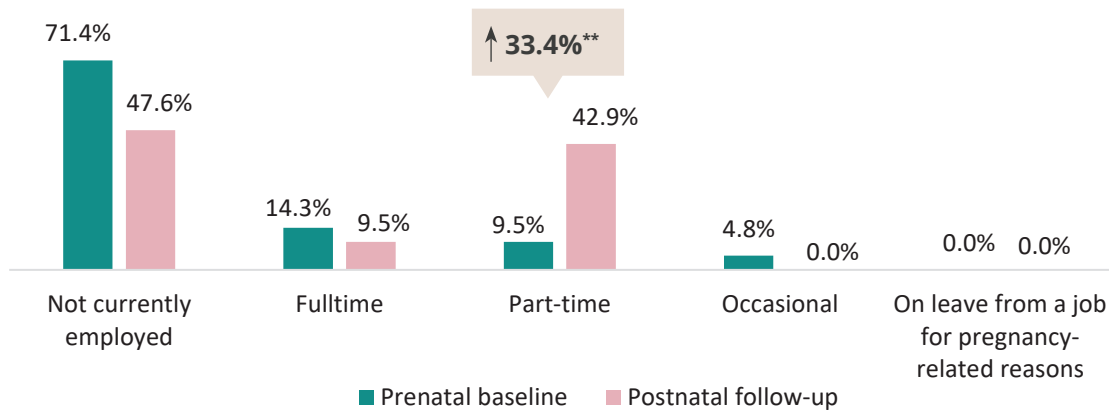
## E. ECONOMIC AND LIVING CIRCUMSTANCES, ECONOMIC HARDSHIP, AND CRIMINAL LEGAL INVOLVEMENT

This subsection examines employment, economic hardship, living situation, and criminal legal involvement in the follow-up sample (n = 21) from baseline to follow-up. Specifically, this section examines: (1) current employment status, (2) hourly wage, among employed individuals, (3) public assistance, (4) economic hardship, (5) living situation, and (6) criminal legal involvement. Past-6-month and past-30-day measures are examined separately where applicable. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up (n = 9) are described separately.

### CURRENT EMPLOYMENT STATUS

Over one-quarter of respondents (28.6%) were employed in some capacity (full-time, part-time, occasional, or on leave) at prenatal baseline and 52.4% of respondents at follow-up (not represented in a figure). About 71% of respondents at prenatal baseline and 47.6% of respondents at postnatal follow-up reported being unemployed, which was not a significant decrease; however, the percent of women employed part-time increased significantly from 9.5% at prenatal baseline to 42.9% at postnatal follow-up (see Figure IV.E.1).

FIGURE IV.E.1. CURRENT EMPLOYMENT STATUS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 21)<sup>a</sup>



a – Significance tested with the Stuart-Maxwell Test for Marginal Homogeneity.  
 \*\*p < .05.

**"I feel like I benefited from it and was able to get some stuff off my chest."**

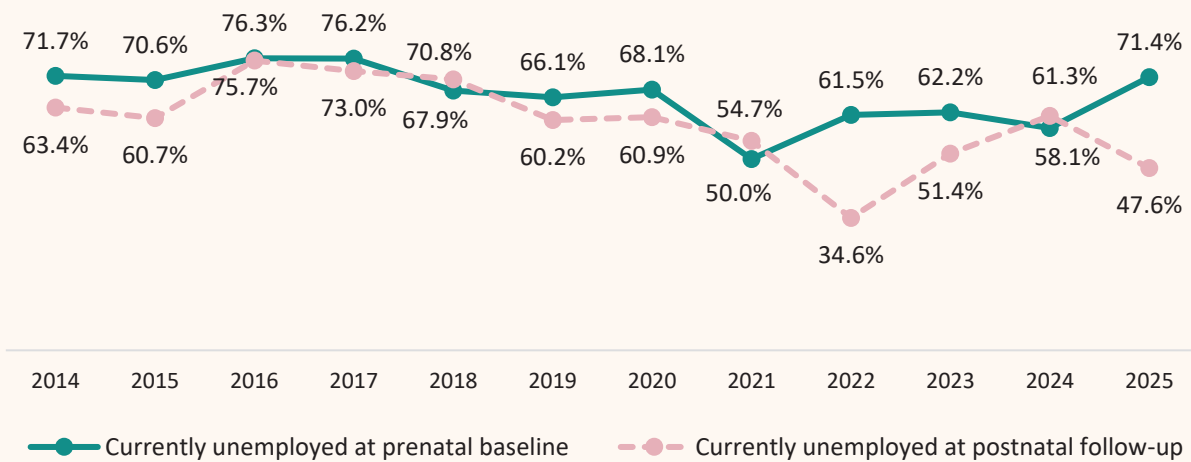
- KY-MOMS MATR RESPONDENT



## TRENDS IN CURRENT UNEMPLOYMENT STATUS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

The majority of women at both prenatal baseline and postnatal follow-up were unemployed from 2014 until 2020 and then again in 2022 and 2023 report years. Furthermore, from 2016 to 2018, the percent of respondents who reported being unemployed changed only minimally from baseline to follow-up. In fact, in 2018, the percent of respondents reporting being unemployed at follow-up was slightly greater than the percent of respondents reporting being unemployed at baseline. In 2019 and 2020, the percent of respondents who reported being unemployed was slightly greater at baseline compared to follow-up. In 2025, however, 71.4% respondents were unemployed at baseline and 47.6% of respondents were unemployed at follow-up.

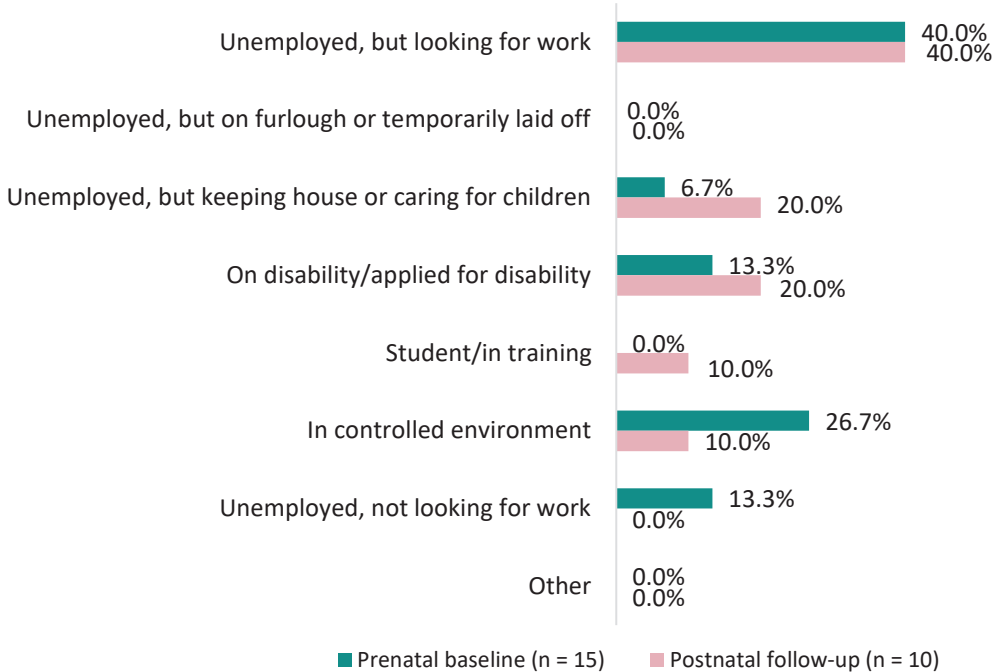
FIGURE IV.E.2. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING CURRENT UNEMPLOYMENT STATUS AT PRENATAL BASELINE, REPORT YEARS 2014-2025



For respondents who were employed (full- or part-time) at each point, the average hourly wage respondents reported was \$10.03 at prenatal baseline (n = 5) and \$10.83 at postnatal follow-up (n = 11; not depicted in a figure). Twenty percent of respondents who were employed at baseline (including respondents on leave for pregnancy-related reasons) and 45.5% of the respondents who were employed at follow-up reported they were also in school or receiving additional vocational training (not depicted in a figure).

Of the respondents who reported they were not currently employed at each point, two-fifths of respondents (40.0%) who were unemployed at prenatal baseline and at follow-up reported they looking for work (see Figure IV.E.3). At baseline, 26.7% of respondents reported they were prohibited from working because they were in a controlled environment.

FIGURE IV.E.3. REASON FOR UNEMPLOYMENT AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP



The majority of respondents (80.0%) at prenatal baseline and postnatal follow-up expected to be employed in the next 12 months.

**PUBLIC ASSISTANCE**

Respondents were asked at postnatal follow-up what type of public assistance they received during their pregnancy. The vast majority of respondents (85.7%) reported receiving public assistance while they were pregnant and involved in KY-Moms MATR and all respondents reported currently receiving public assistance at postnatal follow-up (not depicted in a figure).

The majority of respondents reported receiving Women, Infants and Children (WIC; 71.4% during pregnancy and 95.2% after the birth of their baby) and Supplement Nutrition Assistance Program (SNAP; 71.4% during pregnancy and 85.7% after the birth of their baby).

**ECONOMIC HARDSHIP**

Economic hardship may be a better indicator of the actual day-to-day stressors respondents face than a measure of income. Therefore, the prenatal baseline and postnatal follow-up surveys included several questions about respondents’ difficulty meeting expenses for basic needs and food insecurity.<sup>79</sup> Respondents were asked eight items, five of which asked about difficulty meeting basic living needs such as food, shelter,

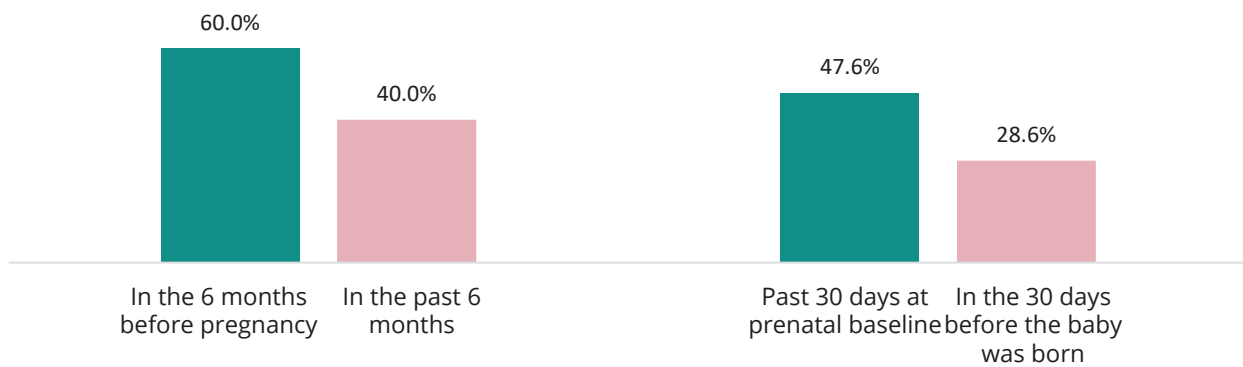
<sup>79</sup> SIPP; She, P., & Livermore, G. (2007). Material hardship, poverty, and disability among working-age adults. *Social Science Quarterly*, 88(4), 970-989.

utilities, and telephone, and three items asked about difficulty receiving medical care for financial reasons.

In the 6 months before becoming pregnant, 60.0% of respondents reported they had difficulty meeting at least one of the basic living needs for financial reasons and 40.0% of respondents reported difficulty meeting basic living needs in the past 6 months at postnatal follow-up (since the baby was born), which was not a significant decrease (see Figure IV.E.4).<sup>80</sup>

Less than half of respondents (47.6%) reported having difficulty meeting basic living needs for financial reasons in the past 30 days at prenatal baseline. In the 30 days before the baby was born, 28.6% of respondents had difficulty meeting basic needs such as food, shelter or utilities, which was not a significant decrease.

FIGURE IV.E.4. DIFFICULTY IN MEETING BASIC LIVING NEEDS FOR FINANCIAL REASONS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 21)



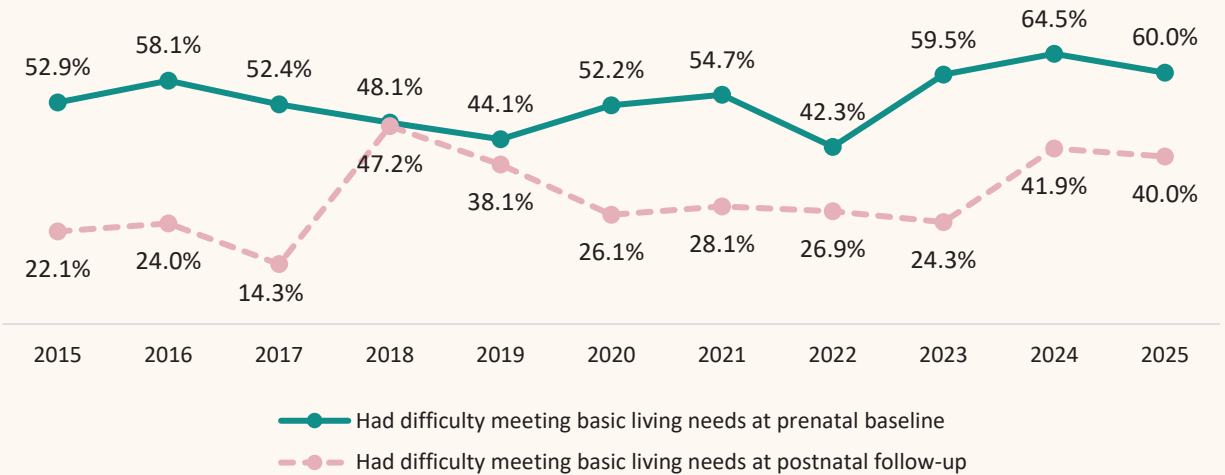
*Since the baby was born, 19.0% of respondents reported they were unable to pay their gas/electric bill, 19.0% of KY-Moms MATR respondents reported having difficulty paying the full amount of their rent/mortgage, 19.0% said there was a time when there was not enough food to eat, and 14.3% were unable to pay phone/cell phone bill.*

<sup>80</sup> One respondent was missing data for meeting basic living needs in the past 6 months at follow-up.

## TRENDS IN DIFFICULTY MEETING BASIC LIVING NEEDS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

The percent of respondents who reported having difficulty meeting basic living needs in the six months before pregnancy remained between 42% and 65% over the past 11 years at baseline. In 2018 and 2019, the percent of respondents who reported difficulty meeting basic living needs did not decrease significantly from baseline to follow-up. The percent of women with difficulty meeting basic living needs at follow-up was higher in 2024 and 2025 than it had been since 2019.

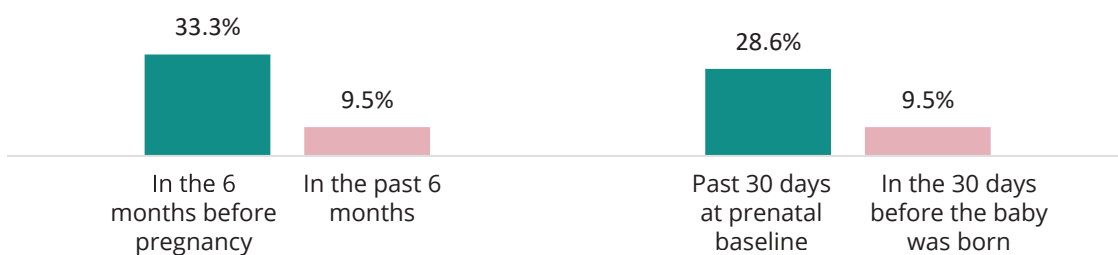
FIGURE IV.E.5. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING DIFFICULTY MEETING BASIC HOUSEHOLD NEEDS IN THE 6 MONTHS BEFORE PREGNANCY AT PRENATAL BASELINE AND IN THE PAST 6 MONTHS AT POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



One-third of respondents reported their household had difficulty meeting health care needs (such as not going to the doctor, not having a prescription filled, or not going to the dentist because of financial reasons) in the 6 months before pregnancy (see Figure IV.E.6). At follow-up, 9.5% of respondents reported they had difficulty meeting health care needs in the 6 months since the baby was born.

In the past 30 days at prenatal baseline, 28.6% of respondents reported their household had difficulty meeting health care needs because of financial reasons. In the 30 days before the baby was born, 9.5% of respondents reported difficulty meeting health care needs.

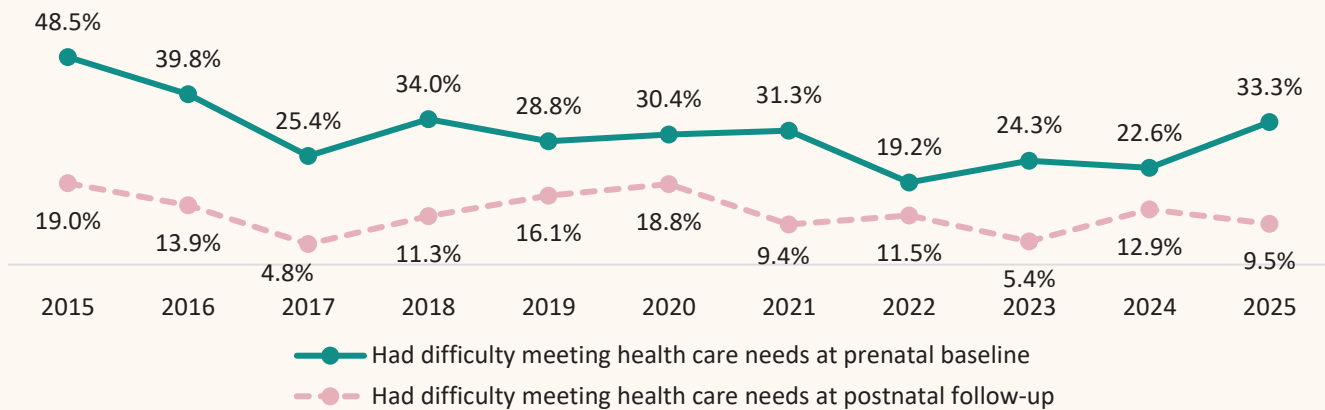
FIGURE IV.E.6. DIFFICULTY IN MEETING HEALTH CARE NEEDS FOR FINANCIAL REASONS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 21)



## TRENDS IN DIFFICULTY MEETING BASIC HEALTH CARE NEEDS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

Overall, at baseline, the percent of respondents reporting that they had difficulty meeting health care needs steadily declined from 2015 to 2017. In 2015, almost half of respondents reported having difficulty meeting health care needs in the 6 months before pregnancy and in 2017, one-fourth of respondents (25.4%). Since 2018 the percent of respondents who have reported having difficulty meeting basic health care needs has fluctuated from a high of 34.0% in 2018 to a low of 19.2% in 2022. At postnatal follow-up, less than one-fifth of respondents reported struggling to meet health care needs. In 2025, 9.5% of respondents reported difficulty meeting basic health care needs at postnatal follow-up.

FIGURE IV.E.7. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING DIFFICULTY MEETING HEALTH CARE NEEDS IN THE 6 MONTHS BEFORE PREGNANCY AT PRENATAL BASELINE AND IN THE PAST 6 MONTHS POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



## LIVING SITUATION

### HOMELESSNESS

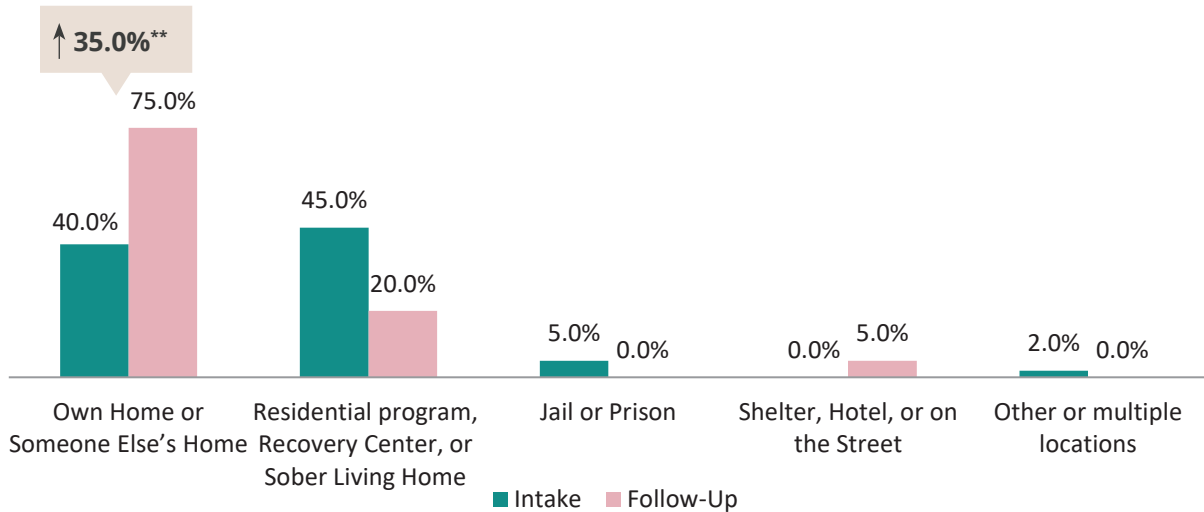
Close to one-quarter of the KY-Moms MATR respondents (23.8%) reported being homeless at prenatal baseline and 4.8% of respondents reported being homeless at postnatal follow-up (not depicted in a figure). At prenatal baseline, of respondents who reported being homeless (n = 5), two respondents considered themselves homeless because they were staying temporarily with family/friends, two respondents were in transitional housing, and one respondent considered herself homeless because she was living in a hotel/motel. At follow-up, only one person considered herself homeless.

### USUAL LIVING SITUATION

Respondents were asked about where they lived most of the time in the past 30 days at prenatal baseline and in the past 30 days at postnatal follow-up. Forty percent of respondents reported living in their own home or someone else's home for most of the past 30 days at baseline and 75.0% reported living in their own home or someone else's home for most of the past 30 days follow-up (a significant increase of 35.0%). Forty-five percent of women at baseline and 20.0% of respondents at follow-up reported their usual

living situation was in a residential program, Recovery Center, or Sober Living Home. In addition, none of the respondents at baselines, and 5.0% of respondents at follow-up reported living in a shelter or on the street.

FIGURE IV.E.8. USUAL LIVING SITUATION AT INTAKE AND FOLLOW-UP (N = 20)<sup>81</sup>



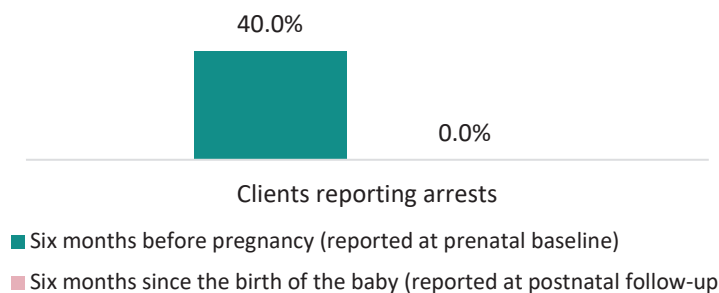
\*\*p < .05.

## CRIMINAL LEGAL INVOLVEMENT

### ARRESTS

Respondents were asked about their arrests in the 6 months before pregnancy (at baseline) and since the baby was born (at postnatal follow-up). In the 6 months before pregnancy, 40.0% of respondents reported an arrest (see Figure IV.E.9). Among those respondents who reported being arrested in the 6 months before pregnancy (n = 8), the average number of times respondents reported being arrested was 1.3 (not depicted in a figure). None of the respondents reported being arrested in the 6 months since the baby was born.

FIGURE IV.E.9. RESPONDENTS REPORTING ARRESTS IN THE 6 MONTHS BEFORE PREGNANCY AND THE 6 MONTHS BEFORE POSTNATAL FOLLOW-UP (N = 20)<sup>82</sup>



a – No test of statistical association could be computed for arrest in the 6 months since the birth of the baby at postnatal follow-up because one of the cell values was 0.

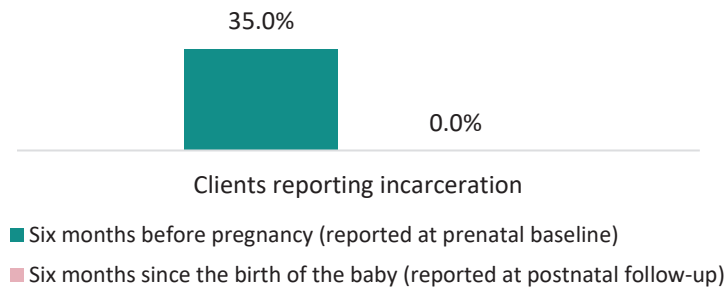
<sup>81</sup> One respondent was missing their usual living situation in the past 30 days at follow-up.

<sup>82</sup> One respondent was missing the number of arrests at follow-up.

## INCARCERATION

At baseline, 35.0% of respondents reported spending at least one night in jail or prison in the 6 months before pregnancy (Figure IV.E.10). Among those respondents who reported being incarcerated in the 6 months before pregnancy (n = 7), the average number of nights incarcerated was 48.9 (not depicted in a figure). At follow-up, none of the respondents reported spending at least one night in jail or prison since the baby was born.

FIGURE IV.E.10. RESPONDENTS REPORTING BEING INCARCERATED IN THE 6 MONTHS BEFORE PREGNANCY AND THE 6 MONTHS BEFORE POSTNATAL FOLLOW-UP (N = 20)<sup>83</sup>

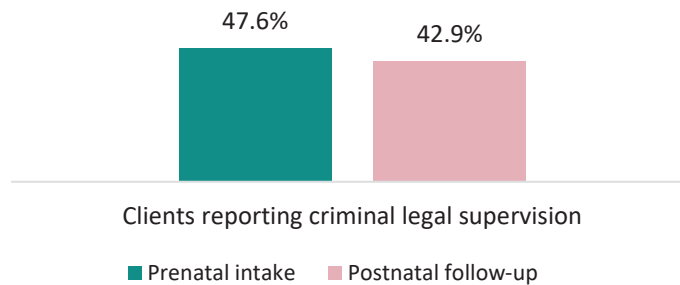


a –No test of statistical association could be computed for incarceration in the past 6 months at postnatal follow-up because one of the cell values was 0.

## CRIMINAL LEGAL SUPERVISION

At prenatal baseline, 47.6% of respondents reported they were currently under criminal legal system supervision (e.g., probation, or parole; Figure IV.E.11). At follow-up, 42.9% were currently under criminal legal system supervision.

FIGURE IV.E.11. RESPONDENTS REPORTING BEING CURRENTLY UNDER SUPERVISION BY THE CRIMINAL LEGAL SYSTEM AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 21)



## SUMMARY

The percent of respondents who reported full-time employment did not change significantly at postnatal follow-up ; however, significantly more women reported they were employed part-time at follow-up compared to baseline.. Of the respondents who reported they were not currently employed at each point, 40% of respondents were unemployed but looking for work. The majority of respondents were able to receive public

<sup>83</sup> One respondent was missing the number of days of incarceration at follow-up.

assistance (mainly SNAP and WIC) while pregnant and in KY-Moms MATR and after the birth of the baby. The percent of respondents who reported having difficulty meeting basic living needs or health care needs for financial reasons did not decrease significantly in the past 6 months at follow-up compared to the past 6 months before pregnancy. There were also decreases in the percent of respondents who reported being arrested and spending at least one night in jail or prison from the 6 months before pregnancy at prenatal baseline to the past 6 months at postnatal follow-up.

## ECONOMIC AND LIVING CIRCUMSTANCES, ECONOMIC HARDSHIP, AND CRIMINAL LEGAL INVOLVEMENT FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

At baseline, none of post-birth mothers reported they were currently working full-time and at follow-up, only one of the post birth mothers reported they were currently working full-time. The majority of post-birth respondents (88.9%) received public assistance at both baseline and all respondents received public assistance at follow-up. In the 6 months before becoming pregnant, 77.8% of respondents reported they had difficulty meeting at least one of the basic living needs for financial reasons and 33.3% of respondents reported difficulty meeting basic living needs in the past 6 months at postnatal follow-up. In addition, 22.0% of post-birth respondents in the 6 months before pregnancy and none of the respondents in the past 6 months at follow-up reported their household had difficulty meeting health care needs (such as not going to the doctor, not having a prescription filled, or not going to the dentist because of financial reasons). None of the respondents who entered KY-Moms MATR after they had their babies considered themselves homeless at baseline or follow-up. The majority of respondents at baseline (66.7%) and all respondents at follow-up reported living in their own home or someone else's home for most of the past 30 days. One respondent in the 6 months before pregnancy and none in the past 6 months at follow-up spent at least one night incarcerated. Likewise, one respondent in the 6 months before pregnancy and none of the respondents in the past 6 months at follow-up reported having been arrested for any offense.



## F. PHYSICAL HEALTH

This subsection describes physical health problems reported at prenatal baseline and change in physical health status of respondents from prenatal baseline to postnatal follow-up (n = 21) including: (1) chronic health problems at baseline, (2) current health, (3) chronic pain, and (4) perceptions of poor physical and mental health. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up (n = 9) are described separately.

### CHRONIC HEALTH PROBLEMS REPORTED AT PRENATAL BASELINE

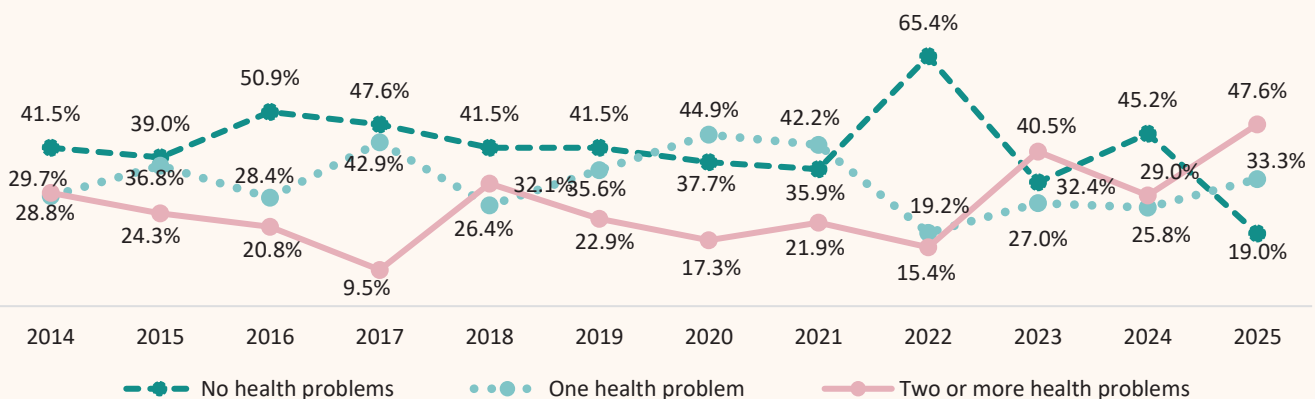
At prenatal baseline, 19.0% of postnatal follow-up respondents reported no chronic health problems, 33.3% reported having one chronic health problem, and 47.6% of respondents had two or more chronic health problems.

Among the respondents who reported at least one chronic health problem at prenatal baseline (n = 17), 58.8% reported Hepatitis C, 41.2% of respondents reported asthma, 41.2% reported dental problems, and 41.2% reported a sexually transmitted infection (STI), cardiovascular/ heart disease, arthritis (not included in the figure).

#### TRENDS IN CHRONIC HEALTH PROBLEMS AT PRENATAL BASELINE

In general, more respondents reported having no chronic health problems at prenatal baseline compared to having one or two or more chronic health problems, with the exception of 2020 and 2021. In 2016, a little over half of respondents (50.9%) reported they had no chronic health problems. The percent of respondents who reported one health problem and multiple health problems were similar over the first three years, in 2018, and in 2022. In 2020 and 2021, more respondents reported having one chronic health problem compared to no health problems or multiple health problems. In 2022, almost two-thirds of respondents reported they had no chronic health problems compared to 32.4% in 2023. In 2025, fewer respondents reported having no health problems compared to the previous years and a higher percent reported having two or more chronic health problems.

FIGURE IV.F.1. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING CHRONIC HEALTH PROBLEMS AT PRENATAL BASELINE, REPORT YEARS 2014-2024<sup>84</sup>



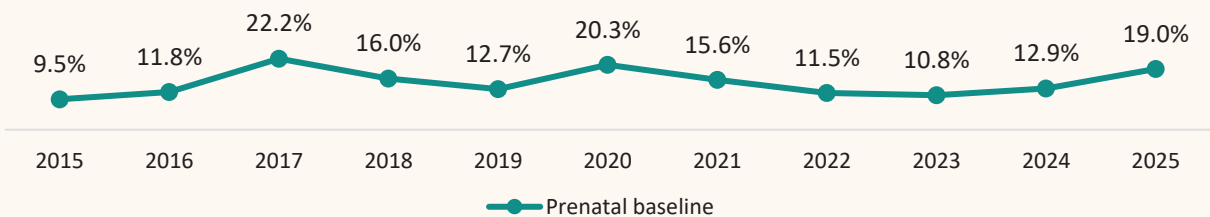
<sup>84</sup> The small sample sizes in 2022 through 2025 report years may be affecting the number of chronic health problems.

At prenatal baseline, 19.0% reported they had major health problems that were not currently being treated. Of those respondents who indicated they had major health problems that were not being treated (n = 4), respondents mentioned various responses such as back problems, Hepatitis C, seizures, and severe dental issues. At postnatal follow-up, 19.0% respondents reported major health problems that were not currently being treated. Of those respondents (n = 4), they mentioned blood sugar problems, dental issues, and epilepsy.

### TRENDS IN HEALTH PROBLEMS NOT BEING TREATED AT PRENATAL BASELINE

A minority of respondents each year reported having major health problems that were not currently being treated at baseline. In 2015, 9.5% of respondents reported having a health problem that was not being treated and the highest percentage of respondents reporting a major health problem that was not being treated was found in 2017 (22.2%). After 2017, the number of respondents who reported having major health problems that were not currently being treated decreased to 12.7% in 2019 and increased to 20.3% in 2020. In 2025, the percent of respondents who reported having a major health problem that was not being treated was 19.0%.

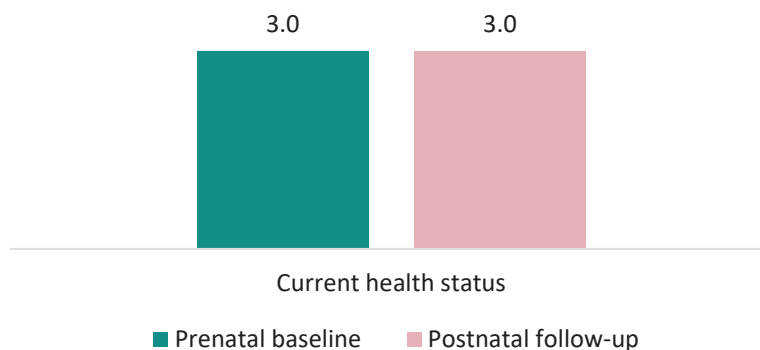
FIGURE IV.F.2. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING HEALTH PROBLEMS THAT WERE NOT BEING TREATED AT PRENATAL BASELINE, REPORT YEARS 2015-2025



### CURRENT GENERAL HEALTH STATUS

At prenatal baseline and postnatal follow-up, respondents reported their current general health as an average of 3.0 on a scale of 1 – 5, with 1 being “poor” and 5 being “excellent” (see Figure IV.F.3).

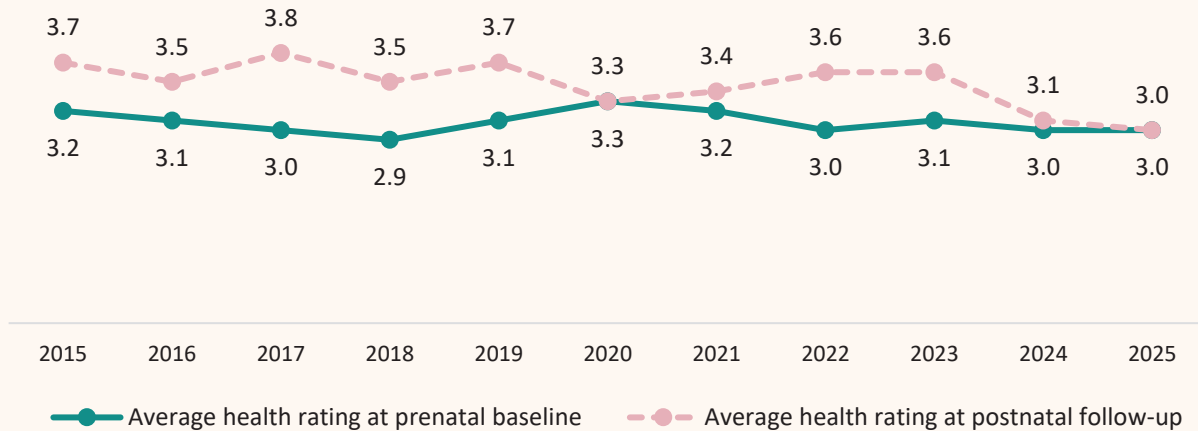
FIGURE IV.F.3. AVERAGE GENERAL HEALTH RATING FROM PRENATAL BASELINE TO POSTNATAL FOLLOW-UP (N = 21)



## TRENDS IN CURRENT HEALTH RATING AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

The average health rating was relatively stable at both baseline and postnatal follow-up. Overall, respondents' average rating of their health was around 3 at baseline. At follow-up, respondents' average health rating was 3.5 over the first nine report years.

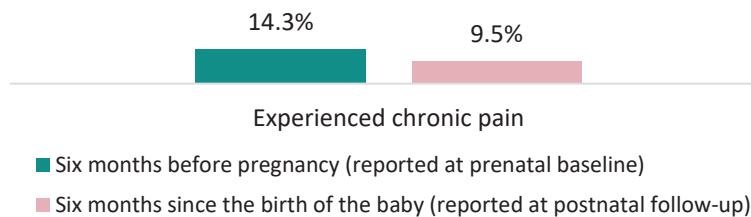
FIGURE IV.F.4. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING AVERAGE HEALTH RATING AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



## CHRONIC PAIN

At prenatal baseline, 14.3% of women reported experiencing chronic pain in the 6 months before pregnancy and, of those respondents (n = 3), they reported experiencing pain an average of 15.0 days in the 30 days before pregnancy. Three respondents reported that this chronic pain continued into their pregnancy with those respondents reporting experiencing an average of 12.0 days of chronic pain in the past 30 days at prenatal baseline. Two respondents (9.5%) reported experiencing chronic pain in the past 6 months at postnatal follow-up.

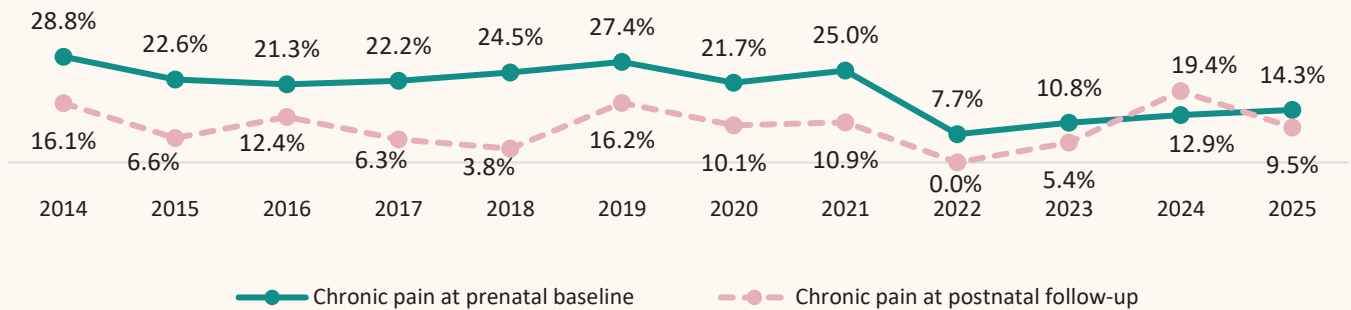
FIGURE IV.F.5. CHRONIC PAIN IN THE 6 MONTHS BEFORE PREGNANCY AND THE 6 MONTHS BEFORE POSTNATAL FOLLOW-UP (N = 21)



## TRENDS IN PAST-6-MONTH CHRONIC PAIN AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

Around one-quarter of respondents each year reported having chronic pain at baseline until the 2022 report year. In 2014, 28.8% of respondents at baseline and 16.1% of respondents at follow-up reported having chronic pain. The 2022- 2025 reports showed a large divergence from the other years, likely due to the smaller sample sizes, with 14.3% reporting chronic pain at baseline and 9.5% at follow-up in 2025.

FIGURE IV.F.6. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING PAST-6-MONTH CHRONIC PAIN AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2014-2025



## PERCEPTIONS OF POOR PHYSICAL OR MENTAL HEALTH LIMITING ACTIVITIES

Respondents were asked how many days in the past 30 days their physical and mental health were not good at prenatal baseline and postnatal follow-up (see Figure IV.F.7). Respondents reported an average of 6.1 days out of the past 30 days their physical health was not good at prenatal baseline and 0.8 days at follow-up. Specifically, five respondents at prenatal baseline (23.8%) and none of the respondents at follow-up reported 14 or more days of poor physical health in the past 30 days which is considered frequent physical distress. In comparison, America’s Health Rankings indicate that 10.2% of Kentucky women reported reporting frequent physical distress.<sup>85</sup> More KY-Moms MATR respondents reported frequent physical distress at prenatal baseline but fewer respondent reported frequent physical distress at follow-up compared to other women surveyed in Kentucky.

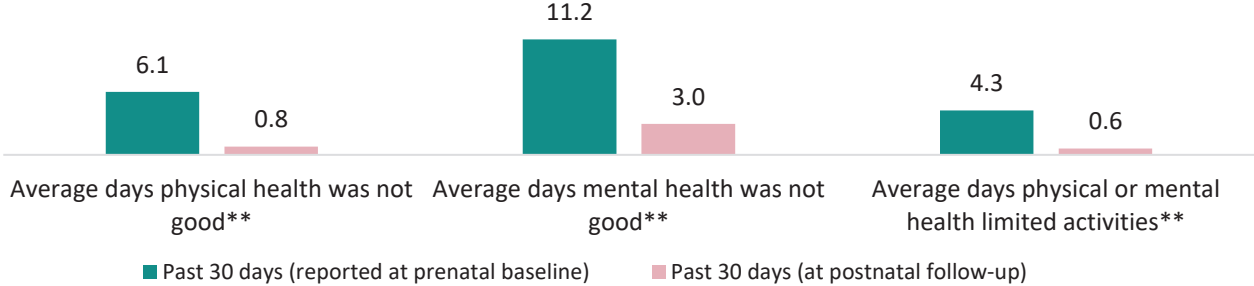
The average number of days respondents reported their mental health was not good decreased significantly from 11.2 days at prenatal baseline to 3.0 days at postnatal follow-up. Specifically, 38.1% of respondents (8 respondents) reported 14 or more days of mental distress at prenatal baseline and only 4.8% of respondents (1 respondent) reported frequent mental distress in the past 30 days at follow-up. America’s Health Rankings indicate that in the past 30 days 25.0% of Kentucky women reported frequent

<sup>85</sup> United Health Foundation (2024). *America’s Health Rankings 2024 Health of Women and Children Report*. <https://www.americashealthrankings.org/learn/reports/2024-health-of-women-and-children-report>

mental distress.<sup>86</sup> This indicates more KY-Moms MATR respondents reported frequent mental distress at prenatal baseline and fewer at postnatal follow-up compared to women surveyed in Kentucky.

Respondents were also asked to report the number of days in the past 30 days poor physical or mental health limited their usual activities. The number of days respondents reported their poor physical or mental health limited their usual activities decreased significantly from 4.3 days at baseline to 0.6 days at follow-up.

FIGURE IV.F.7. PERCEPTIONS OF POOR PHYSICAL HEALTH AND MENTAL HEALTH LIMITING ACTIVITIES IN THE PAST 30 DAYS AT BASELINE AND FOLLOW-UP (N = 21)



\*\*p < .05.  
Significance tested with paired sample t-test.

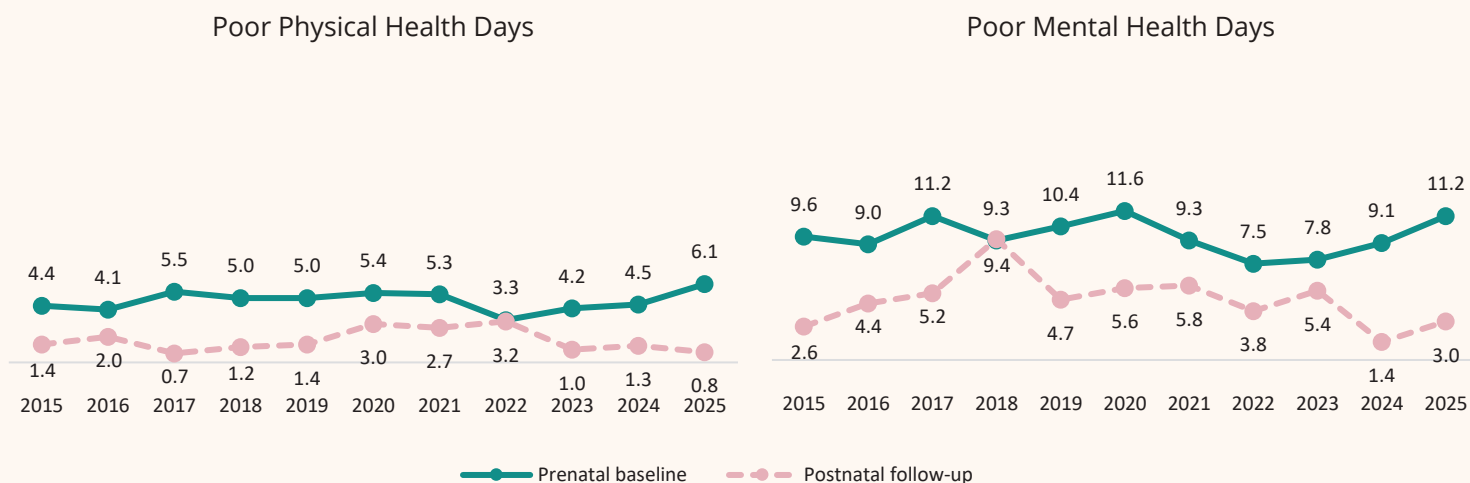
<sup>86</sup> United Health Foundation (2024). *America's Health Rankings 2024 Health of Women and Children Report*. <https://www.americashealthrankings.org/learn/reports/2024-health-of-women-and-children-report>

## TRENDS IN AVERAGE NUMBER OF DAYS PHYSICAL AND MENTAL HEALTH WERE NOT GOOD AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

At baseline and follow-up, respondents are asked how many days in the past 30 days their physical health had not been good. Each year, the average number of days respondents report their physical health was not good has significantly decreased from baseline to follow-up. In 2025, respondents reported an average of 6.1 days their physical health was not good compared to 0.8 days at follow-up.

At baseline and follow-up, respondents are also asked how many days in the past 30 days their mental health had not been good. While the average number of days of their mental health was not good at baseline has been relatively steady, the average number of days at follow-up has increased from 2015 to 2018, then decreased in 2019. In 2024, however, the average number of days their mental health was not good decreased compared to previous years to 1.4 before increasing to 3.0 in 2025.

FIGURE IV.F.8. RESPONDENTS IN THE FOLLOW-UP SAMPLE REPORTING AVERAGE NUMBER OF DAYS IN THE PAST 30 DAYS PHYSICAL AND MENTAL HEALTH WERE NOT GOOD AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



## SUMMARY

At prenatal baseline, 81% of respondents reported having at least one chronic health problem such as asthma, Hepatitis C, and other sexually transmitted infection. Nineteen percent of respondents at prenatal baseline and postnatal follow-up reported they had health problems that were not currently being treated. On a scale of 1 – 5 respondents reported their current health as an average of 3.0 at both prenatal baseline and postnatal follow-up. Close to 14% of respondents in the 6 months before pregnancy and 9.5% of respondents in the past 6 months at postnatal follow-up reported experiencing chronic pain. Respondents reported a significant decrease in the average number of days their physical or mental health was not good at postnatal follow-up as well as the average number of days their physical or mental health limited their activities.

## PHYSICAL HEALTH FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

Over three-quarters of post-birth respondents (77.8%) reported at least one chronic health problem. None of the respondents at baseline and one respondent at follow-up reported having a major physical health problem that was not being currently treated. At baseline, only one respondent reported their overall physical health was very good or excellent compared to three respondents at follow-up. One respondent in the 6 months before pregnancy and three respondents at follow-up reported experiencing chronic pain.

Respondents reported an average of 8.3 days out of the past 30 days their physical health was not good at post-birth baseline and 7.8 days at follow-up. In addition, respondents reported an average of 9.8 days at baseline and 9.1 days at follow-up that their mental health was not good in the past 30 days. In addition, respondents reported at baseline that there was an average of 4.8 days out of the past 30 days their poor physical or mental health limited their activities compared to 4.6 days at follow-up.

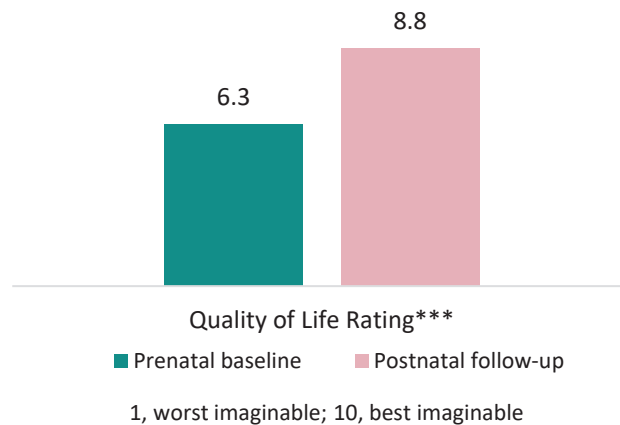
## G. SUBJECTIVE QUALITY-OF-LIFE AND EMOTIONAL SUPPORT

This subsection examines changes in stress, quality-of-life, and emotional support for the follow-up sample (n = 21) including the following factors: (1) subjective quality-of-life ratings, (2) the number of people respondents said they could count on for emotional support, and (3) their satisfaction with the level of emotional support from others. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up (n = 9) are described separately.

### SUBJECTIVE QUALITY-OF-LIFE

At both prenatal baseline and postnatal follow-up, respondents were asked to rate their current quality-of-life using ratings ranging from 1 = 'Worst imaginable' to 10 = 'Best imaginable'. Respondents rated their quality-of-life before entering the KY-Moms MATR program as a 6.3, on average (see Figure IV.G.1). The average rating of quality-of-life increased significantly to 8.8 at postnatal follow-up.

FIGURE IV.G.1. SUBJECTIVE QUALITY-OF-LIFE RATINGS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 27)<sup>87</sup>



\*\*\* p < .01.

**"I only had my case worker for a little while, but she helped me a lot."**

- KY-MOMS MATR RESPONDENT

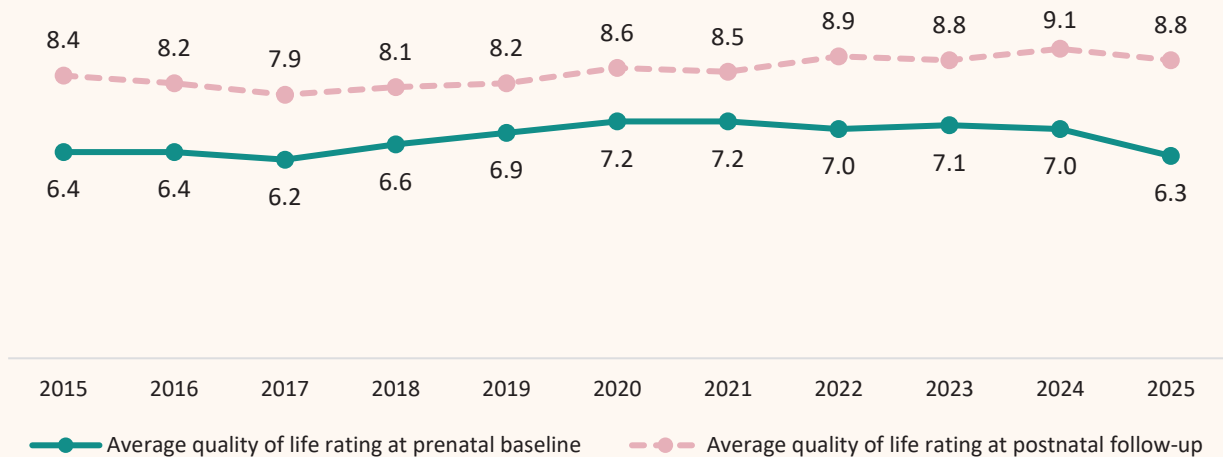
<sup>87</sup> Three respondents were missing data for quality of life at follow-up.



## TRENDS IN QUALITY-OF-LIFE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

KY-Moms MATR respondents are asked to rank their overall quality-of-life on a scale from 1 (worst imaginable) to 10 (best imaginable) at both baseline and follow-up. At baseline, respondents have rated their quality-of-life, on average, from 6.2 to 7.2. At postnatal follow-up, that rating was an average of around 8 or higher. In 2024, the average quality-of-life rating was the highest across the previous 10 years.

FIGURE IV.G.2. RESPONDENTS IN THE FOLLOW-UP SAMPLE RANKING THEIR QUALITY-OF-LIFE AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



## EMOTIONAL SUPPORT

In the past 30 days at baseline, respondents reported they could count on an average of 7.7 people for emotional support. In the past 30 days at postnatal follow-up, respondents reported that they could count on an average of 8.2 people for emotional support, which was not a significant increase (see Figure IV.G.3).

FIGURE IV.G.3. AVERAGE NUMBER OF PEOPLE RESPONDENT COULD COUNT ON FOR EMOTIONAL SUPPORT AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP (N = 20)<sup>88</sup>

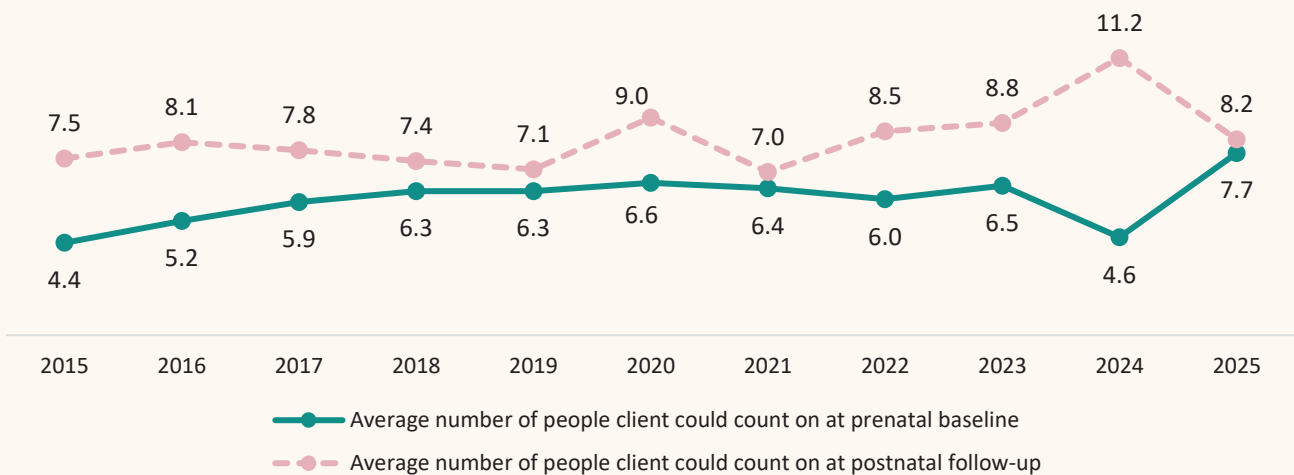


<sup>88</sup> One respondent was missing the number of people they could count on for emotional support at follow-up.

## TRENDS IN THE AVERAGE NUMBER OF PEOPLE RESPONDENTS CAN COUNT ON FOR EMOTIONAL SUPPORT IN THE PAST 30 DAYS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP

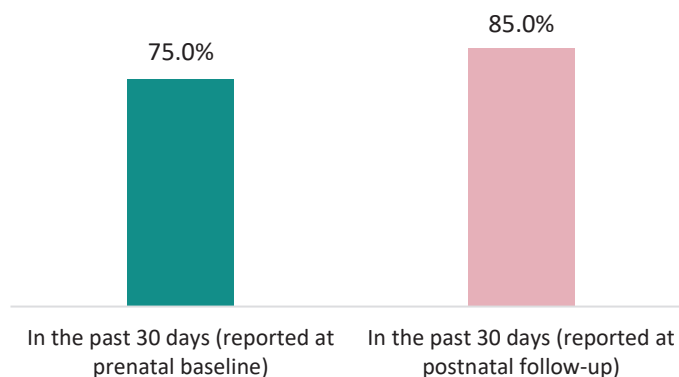
The average number of people respondents reported they could count on for emotional support in the past 30 days appears to have steadily increased over time. In 2015, respondents reported at baseline that they could count on 4.4 people with increases in the averages until 2020 (6.6 people). In 2025 respondents reported the highest average number of people they could count on for emotional support at baseline. At follow-up, the average number of people respondents could count on for emotional support decreased from 2016 to 2019, but increased in 2024 to a high of 11.2.

FIGURE IV.G.4. RESPONDENTS IN THE FOLLOW-UP SAMPLE ON THE AVERAGE NUMBER OF PEOPLE RESPONDENTS CAN COUNT ON FOR EMOTIONAL SUPPORT IN THE PAST 30 DAYS AT PRENATAL BASELINE AND POSTNATAL FOLLOW-UP, REPORT YEARS 2015-2025



The majority of respondents were satisfied with the level of emotional support they received from others in the past 30 days. Three-quarters of respondents at prenatal baseline and 85.0% of respondents at postnatal follow-up reported they were extremely or fairly satisfied with the level of emotional support they received from others (see Figure IV.G.5).

FIGURE IV.G.5. FAIRLY/EXTREMELY SATISFIED WITH THE OVERALL LEVEL OF SUPPORT IN LIFE (N = 20)<sup>89</sup>



<sup>89</sup> One respondent was missing data for satisfaction with emotional support at follow-up.

## SUMMARY

Respondents reported a significantly greater quality-of-life at postnatal follow-up compared to prenatal baseline. Compared to baseline, respondents reported approximately the same average number of people they could count on for emotional support at postnatal follow-up. Eighty-five percent of KY-Moms MATR respondents at postnatal follow-up were satisfied with the level of support they received from others.

### SUBJECTIVE QUALITY-OF-LIFE AND EMOTIONAL SUPPORT FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

Post-birth respondents' subjective quality-of-life at baseline as a 6.8, on average. The average rating of quality-of-life at postnatal follow-up was 7.7. In the past 30 days at baseline, respondent reported an average of 6.3 people they could on for emotional support, and in the past 30 days at follow-up, respondents reported an average of 7.9 people. The majority of respondents were satisfied with the level of emotional support they received from others in the past 30 days. The majority of post-birth respondents (88.9%) in the past 30 days at baseline and postnatal follow-up reported they were extremely or fairly satisfied with the level of emotional support they received from others.

## H. MULTIDIMENSIONAL RECOVERY STATUS

*This subsection examines multidimensional recovery status for respondents who reported alcohol and/or illicit substance use in the 6 months before pregnancy and had not had their baby before entering KY-Moms MAT respondent from the period before becoming pregnant to postnatal follow-up (n = 15). Data for respondents who entered the case management program after the birth of their baby, who reported alcohol and/or illicit substance use in the 6 months before pregnancy, and completed a baseline and follow-up (n = 9) are described separately.*

Recovery goes beyond return to occasional substance or alcohol use. Recovery from substance use disorders can be defined as “a process of change through which an individual achieves abstinence and improved health, wellness and quality-of-life: (p. 5).”<sup>90</sup> The SAMHSA definition of recovery is similarly worded and encompasses health, having a stable and safe home, a sense of purpose through meaningful daily activities, and a sense of community.<sup>91</sup> In other words, recovery encompasses multiple dimensions of individuals’ lives and functioning. The multidimensional recovery measure uses items from the baseline and follow-up surveys to classify individuals who have all positive dimensions of recovery.

TABLE IV.H.1. COMPONENTS OF MULTIDIMENSIONAL RECOVERY STATUS

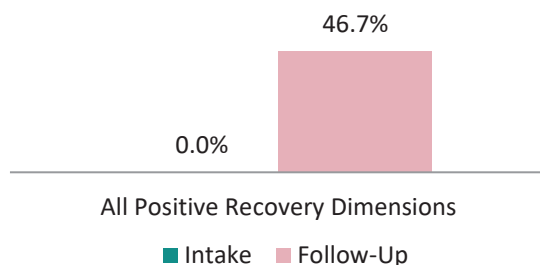
<b>INDICATOR</b>	<b>POSITIVE RECOVERY DIMENSIONS</b>	<b>NEGATIVE RECOVERY DIMENSIONS</b>
Illicit substance use.....	No illicit substance use	Any Illicit substance use
Employment .....	Employed at least part-time or in school	Unemployed (not on disability, not going to school, not a caregiver)
Homelessness .....	No reported homelessness	Reported homelessness
Criminal legal involvement ...	No arrest or incarceration	Any arrest or incarceration
Depression and/or anxiety ...	No depression or anxiety	Depression or anxiety
Partner violence .....	No partner violence	Any partner violence
General health.....	Fair to excellent general health	Poor general health
Recovery support.....	Had at least one person she could count on for recovery support	Had no one she could count on for recovery support
Quality-of-life.....	Mid to high-level quality-of-life	Low-level quality-of-life

At prenatal baseline, none of respondents who reported alcohol and/or illicit substance use in the 6 months before pregnancy were classified as having all positive dimensions of recovery (see Figure IV.H.1). At postnatal follow-up, 46.7% of respondents were classified as all positive dimensions of recovery at follow-up.

<sup>90</sup> Center on Substance Abuse Treatment. (2007). *National summit on recovery: conference report* (DHHS Publication No. SMA 07-4276). Rockville, MD: Substance Abuse and Mental Health Services Administration.

<sup>91</sup> Laudet, A. (2016). *Measuring recovery from substance use disorders. Workshop presentation at National Academies of Sciences, Engineering, and Medicine* (February 24, 2016). Retrieved from [https://sites.nationalacademies.org/cs/groups/dbasssite/documents/webpage/dbasse\\_171025.pdf](https://sites.nationalacademies.org/cs/groups/dbasssite/documents/webpage/dbasse_171025.pdf)

FIGURE IV.H.1. MULTIDIMENSIONAL RECOVERY AT BASELINE AND FOLLOW-UP AMONG RESPONDENTS WHO REPORTED ALCOHOL AND/OR ILLICIT SUBSTANCE USE AT BASELINE (N = 15)



a- No measure of association could be computed for the cross tabulation because there was a value of 0 for the multidimensional recovery variable at intake.

Table IV.H.2 presents the frequency of respondents who reported each of the specific components of the multidimensional recovery measure at intake and follow-up. At intake, the positive factors with the lowest percent of individuals indicated was for not meeting study criteria for depression and/or anxiety, and no partner violence. At follow-up, the factor with the lowest percent of individuals reporting the positive dimensions of recovery were for no partner violence. At both intake and follow-up, all respondents reported a self-rating of general health in the past 6 months as fair, good, very good, or excellent, and having someone they could count on for recovery support.

TABLE IV.H.2. PERCENT OF RESPONDENTS WITH SPECIFIC POSITIVE DIMENSIONS OF RECOVERY AT BASELINE AND POSTNATAL FOLLOW-UP (N = 15)<sup>92</sup>

Factor	Baseline Yes	Follow-up Yes
Usual employment was employed full-time or part-time in the past 6 months (or unemployed because a student, retired, home caregiver, on disability).....	60.0%	93.3%
Reported no homelessness (or living in recovery center at follow-up).....	73.3%	100%
Reported not being arrested and/or incarcerated in the past 6 months .....	66.7%	100%
Did not meet study criteria for depression and/or generalized anxiety in the past 6 months .....	40.0%	80.0%
Reported no partner violence in the past 6 months .....	46.7%	66.7%
Self-rating of general health in the past 6 months was fair, good, very good, or excellent.....	100%	100%
Reported having someone they could count on for recovery support.....	100%	100%
Reported a quality-of-life rating in the mid or higher range (rating of 5 or higher)...	93.3%	100%

<sup>92</sup> Three respondents were missing data on quality of life at follow-up.

## SUMMARY

An analysis of multidimensional recovery that considers employment, homelessness, criminal legal involvement, depression and/or anxiety, partner violence, general health, recovery support, and quality-of-life was computed for respondents at prenatal baseline and postnatal follow-up. None of the respondents were classified as having all positive dimensions of recovery at baseline, whereas 46.7% were classified as having all positive dimensions at follow-up.

### MULTIDIMENSIONAL RECOVERY STATUS FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

Of respondents who reported alcohol and/or illicit substance use in the 6 months before pregnancy (n = 8), 25.0% of post-birth respondents were classified as having all positive dimensions of recovery. At follow-up, 62.5% of post-birth respondents were classified as all positive dimensions of recovery.

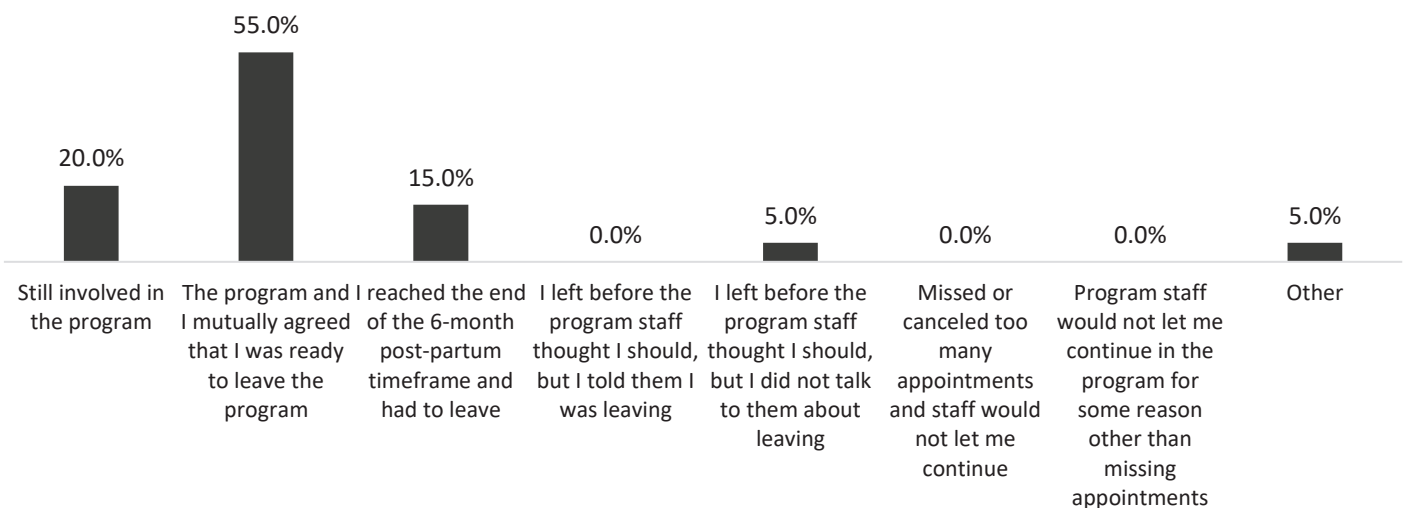
## SECTION V | RESPONDENT EXPERIENCE WITH KY-MOMS MATR CASE MANAGEMENT

This section describes the experience of the KY-Moms MATR case management program assessed by respondents who entered the KY-Moms MATR program before the birth of their baby and who completed a postnatal follow-up (n = 21): (1) manner in which the respondent left the program, and (2) satisfaction with KY-Moms MATR case management. Data for respondents who entered the case management program after the birth of their baby and completed a baseline and follow-up (n = 9) are described separately.

### MANNER IN WHICH THE RESPONDENT LEFT THE PROGRAM

Respondents reported they were very involved in the KY-Moms MATR program an average of 4.0 months (a range of 1 to 9 months). Twenty percent of respondents were still involved in the program at follow-up (see Figure V.1). Over half of respondents (55.0%) reported that the program and the respondent mutually agreed that the respondent was ready to leave the program. Fifteen percent of respondents reached the end of the 6-month post-partum timeframe and had to leave the program. None of the respondents reported they left before the program staff thought they should, but told they staff they were leaving and 5.0% left before left before the program staff thought they should, but did not they staff they were leaving. None of the respondents reported leaving the KY-Moms program because of missing or canceling too many appointments, or that program staff would not let them continue in the program for some reason other than missing appointments.

FIGURE V.1. HOW DID THE RESPONDENT LEAVE THE KY-MOMS PROGRAM (N = 21)<sup>93</sup>



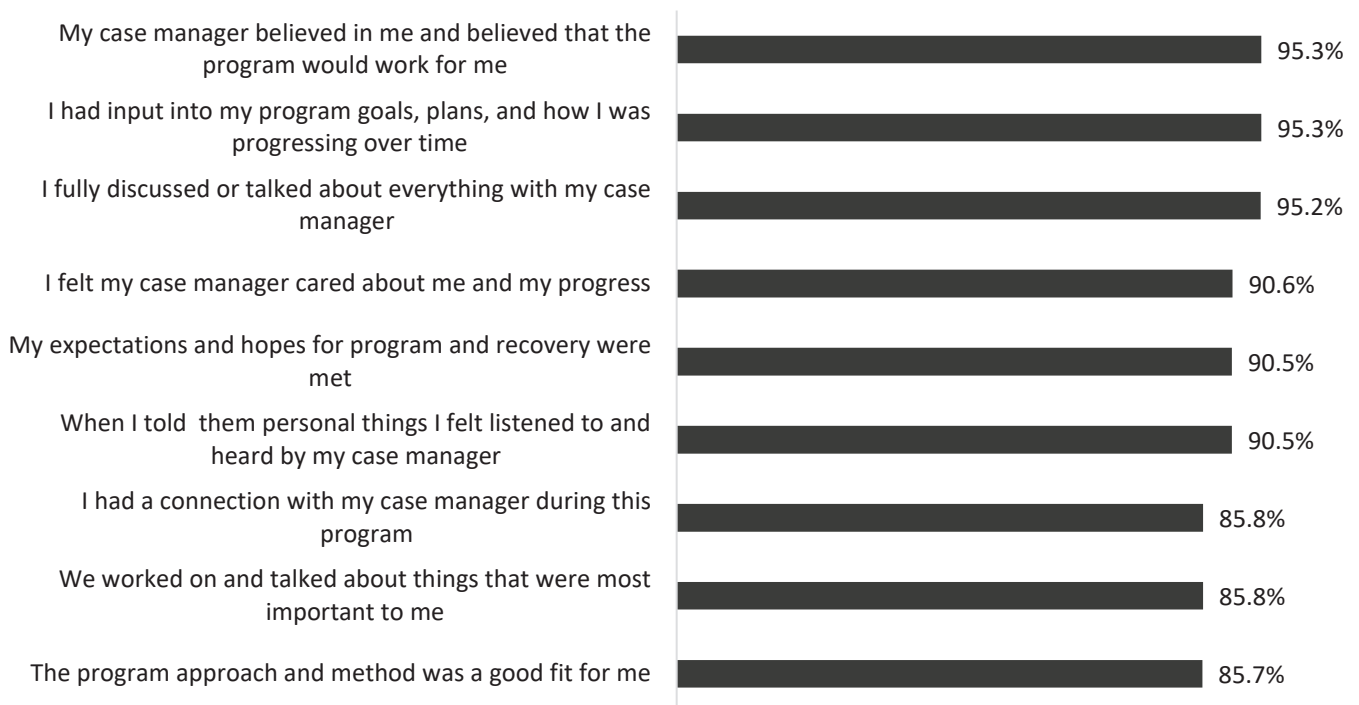
<sup>93</sup> One respondent was missing data for how the program ended for them.

## KY-MOMS MATR CASE MANAGEMENT PROGRAM SATISFACTION AND EXPERIENCES

Respondents were asked questions about their satisfaction with the KY-Moms MATR case management services. The statements presented in Figure V.2 had different response options, with ratings ranging from 0 to 10. The higher values corresponded to the more positive responses and the lower values corresponded to the negative responses.

Figure V.2 shows the percent of respondents who gave a rating between 8 and 10 for each item. Close to 95% of respondents agreed that their case manager believed in them and that the treatment would work for them, they had input into treatment goals, plans, and how they were progressing over time, and they discussed everything with their case manager and held nothing back. About 91% of respondents agreed they felt their case manager cared about them and their treatment progress, their expectations and hopes for the program were perfectly met, and they felt completely heard by their case manager when they told them about personal things. The majority of respondents (86%) agreed they had a very strong connection with their case manager, reported they worked on things that were most important to them, and that the program approach and method were a good fit for them.

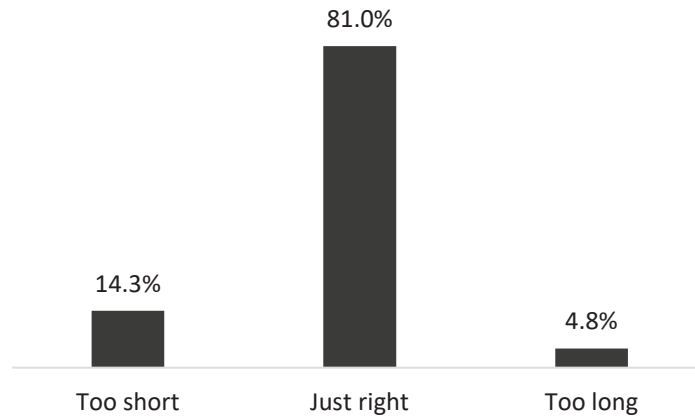
FIGURE V.2. RATINGS OF 8, 9, OR 10 FOR PROGRAM EXPERIENCES WITH KY-MOMS (N = 21)



Respondents were asked about their satisfaction with the length of the KY-Moms MATR program. The majority of respondents (81.0%) reported that the length of the program was just right (see Figure V.3). About 14% of respondents reported that the length of the KY-Moms program was too short and 4.8% of respondents reported the program was too long.

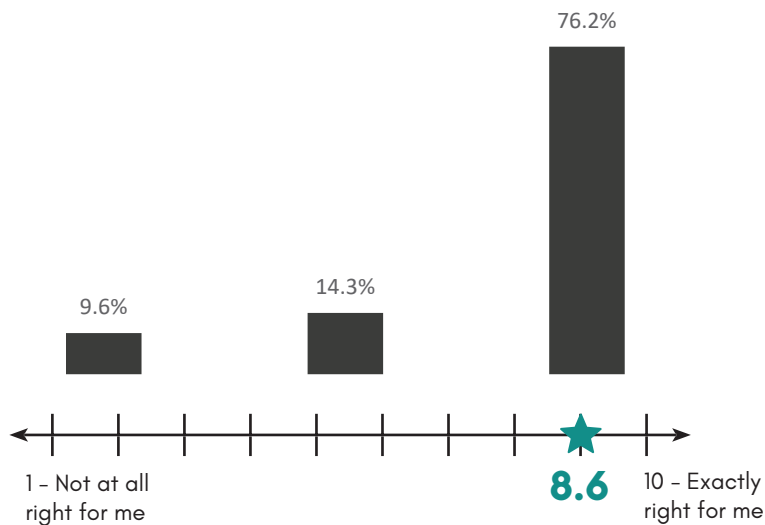


FIGURE V.3. RESPONDENTS' EVALUATION OF THE LENGTH OF THE KY-MOMS MATR PROGRAM (N = 21)



On a scale of 0 = “not at all right for me” to 10 = “exactly right for me”, respondents rated their overall KY-Moms MATR experience, on average, as 8.6 (see Figure V.4). Overall, 76.2% gave a rating between 8 and 10, with 66.7% of respondents giving the highest possible rating, 10.

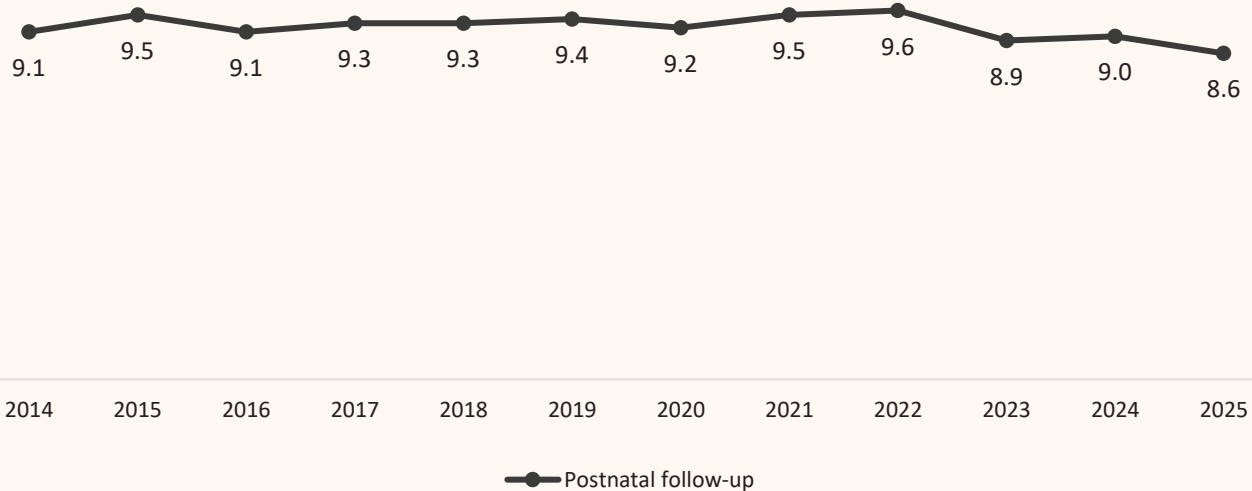
FIGURE V.4. RATING OF EXPERIENCE WITH KY-MOMS (N = 21)



## TRENDS IN RATINGS OF EXPERIENCE WITH KY-MOMS MATR AT POSTNATAL FOLLOW-UP

KY-Moms MATR respondents have consistently rated their experience with the program as an average of 9.1 or higher over the first 10 report years, indicating that they are very satisfied with the KY-Moms MATR program. In 2025, however, the average experience rating decreased to 8.6.

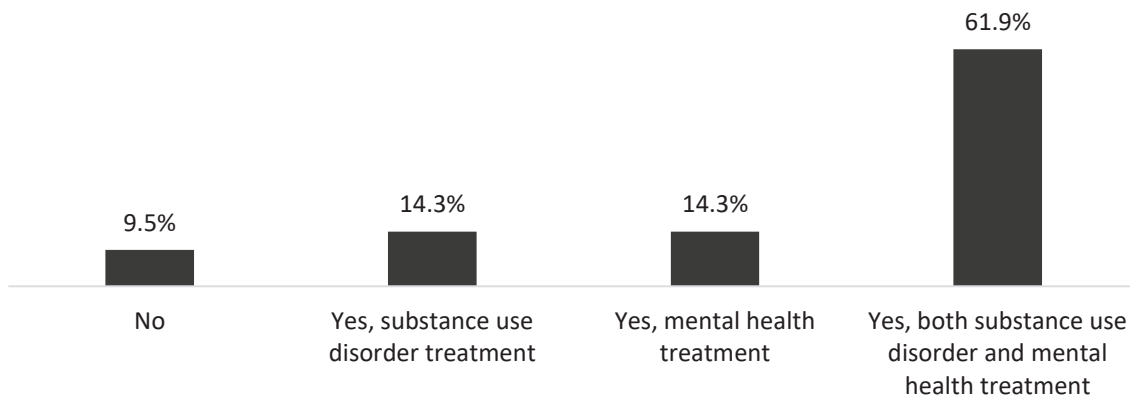
FIGURE V.5. AVERAGE SATISFACTION RATING OF THE KY-MOMS MATR PROGRAM AT POSTNATAL FOLLOW-UP, REPORT YEARS 2014-2025



Overall, the majority of respondents (95.2%) reported that the KY-Moms program worked pretty well or extremely well for them. In addition, the majority of respondents (85.7%) in the postnatal follow-up sample indicated they would refer a friend or family member to their treatment provider. Of the respondents who reported they would refer a close friend or family member to the program ( $n = 18$ ), 44.4% reported they would warn their friend or family member about certain things or tell them who to work with or who to avoid.

Close to 10% of respondents reported they did not receive either substance use disorder or mental health treatment while in the KY-Moms MATR program (see Figure V.6). Overall, 14.3% of respondents reported they went to substance use disorder treatment, 14.3% went to mental health treatment, and 61.9% went to both substance use and mental health treatment.

FIGURE V.6. SUBSTANCE USE DISORDER TREATMENT OR MENTAL HEALTH COUNSELING WHILE IN KY-MOMS (N = 21)



About 24% of respondents reported they had been in other treatment programs since ending their participation with the KY-Moms MATR program. Of those respondents (n = 5), respondents reported being involved in an average of 1.2 other treatment programs or episodes.

## SUMMARY

At follow-up, respondents were asked questions regarding their experiences with the KY-Moms MATR case management program. Overall, respondents were involved in the program for average of 4 months and 20.0% were still involved in the program. Over half of respondents (55.0%) reported that the program and the respondent mutually agreed that the respondent was ready to leave the program and 15.0% of respondents reached the end of the 6-month post-partum timeframe and had to leave the program. The majority of respondents (81.0%) reported that the length of the program was just right and on a scale of 0 to 10, respondents rated their overall KY-Moms MATR experience, on average, as 8.6 with 66.7% of respondents giving the highest possible rating, 10. The majority of respondents (95.2%) reported that the KY-Moms program worked pretty well or extremely well for them and 85.7% indicated they would refer a friend or family member to their treatment provider. Close to 1 in 10 respondents reported they did not receive either substance use disorder or mental health treatment while in the KY-Moms MATR program.

## EXPERIENCE WITH KY-MOMS MATR CASE MANAGEMENT FOR POST-BIRTH KY-MOMS MATR RESPONDENTS

Half of respondents reported that the program and the respondent mutually agreed that the respondent was ready to leave the program. On a scale of 1 to 10, respondents rated the KY-Moms MATR program as an average of 9.4 with 88.9% of respondents giving the highest possible rating of a 10. All of the post-birth respondents agreed that the case management program worked pretty well or extremely well and would refer a close friend or family to the program. One-third of respondents would warn the friend or family member about certain things or tell them who to work with thin the program or who to avoid.

## SECTION VI | CONCLUSION

### AREAS OF SUCCESS FOR RESPONDENTS WHO HAD NOT GIVEN BIRTH TO THEIR BABIES BEFORE ENTERING KY-MOMS MATR (N = 21)

#### SUBSTANCE USE

Close to half of pre-birth respondents (47.4%) reported using illicit substances in the 30 days before becoming pregnant, compared to 21.0% of non-pregnant women age 15 to 44 reported using illicit substances in the past month in a national survey.<sup>94</sup> None of the respondents reported illicit substance use in the past 30 days before the baseline and 5.3% reported illicit substance use in the 30 days before the baby was born. This decrease in illicit substance use was sustained with only 5.3% using illicit substances in the 30 days before follow-up. Past-6-month illicit substance use decreased significantly at postnatal follow-up (5.6%) compared to the 6 months before respondents found out about the pregnancy (77.8%).

A similar pattern was seen with reduction in alcohol use with respondents reporting significantly less use while pregnant and in KY-Moms MATR and a sustained decrease after the birth of their baby. Over one-quarter of respondents (26.3%) reported using alcohol in the 30 days before pregnancy. Further, 15.8% of KY-Moms MATR respondents reported any alcohol use in the past 30 days at prenatal baseline. None reported alcohol use in the 30 days before the baby was born or in the past 30 days at postnatal follow-up.

The percent of respondents who reported smoking tobacco decreased significantly from 83.3% in the 6 months before pregnancy to 44.4% in the past 6 months at follow-up. The number of respondents who reported smoking decreased significantly from the 30 days before the respondent became pregnant (73.7%) to the 30 days before the baby was born (42.1%). In addition, the average number of cigarettes respondents smoked decreased from before the respondent found out about their pregnancy (18.3) to the past 30 days at prenatal baseline (10.6). The number of cigarettes decreased further in the 30 days before the baby was born (3.7) and in the past 30 days at follow-up (4.6).

#### MENTAL HEALTH AND SLEEP DIFFICULTY

Respondents' mental health showed significant improvements as well. Specifically, there were significant reductions in the number of women who met study criteria for depression and for anxiety in the six months since the birth of the baby. There was also a reduction in the average number of symptoms respondents reported from baseline to follow-up among the respondents who met criteria for depression or for anxiety at baseline. There was also a decrease in respondents meeting criteria for comorbid

<sup>94</sup> SAMHSA, Center for Behavioral Health Statistics and Quality. 2022 National Survey on Substance Use and Health. *Table 8.27B—Substance use in past month: among females aged 15 to 44; by pregnancy status, percentages, 2021 and 2022.* Retrieved from <https://www.samhsa.gov/data/sites/default/files/reports/rpt42728/NSDUHDetailedTabs2022/NSDUHDetailedTabs2022/NSDUHDetTabs8-27pe2022.pdf>.

depression and generalized anxiety from the six months before pregnancy to the six months since the baby was born. At baseline, 26.3% of respondents had scores indicating no sleep difficulties and, at follow-up, 73.7% of respondents had scores indicating no sleep difficulties which was a significant decrease.

## EXPERIENCES WITH VIOLENCE AND TRAUMA

Reported incidences some form of intimate partner violence, such as psychological violence and coercive control decreased, but not significantly, from the 6 months before respondents found out they were pregnant (52.4%) to the past 6 months at postnatal follow-up (38.1%). Significantly fewer respondents who completed a follow-up reported having experienced violence, been harmed by someone else, or been made to feel unsafe by someone at postnatal follow-up (9.5%) compared to 52.4% in the 6 months before pregnancy. In addition, slightly fewer respondents met study criteria for PTSD in the 6 months since the baby was born at postnatal follow-up (47.6%) compared to the six months before pregnancy (28.6%) though the decrease was not significant.

## MULTIDIMENSIONAL RECOVERY STATUS

The multidimensional recovery status considers illicit substance use, employment, homelessness, criminal legal involvement, depression and/or anxiety, partner violence, general health, recovery support, and quality-of-life, and was computed at baseline and follow-up for respondents who reported alcohol use and/or illicit substance use at prenatal baseline. At prenatal baseline, none of respondents were classified as having all positive dimensions of recovery in the 6 months before pregnancy. At postnatal follow-up, 46.7% of respondents were classified as all positive dimensions of recovery at follow-up.

## OTHER AREAS OF IMPROVEMENT

In addition to the improvement in targeted risk factors, there were significant improvements in other areas of the mothers' lives after becoming involved in the KY-Moms MATR program including significantly fewer average days in the past 30 days their physical health (6.1 vs. 0.8 days) and mental health (11.2 vs. 3.0 days) was not good at follow-up compared to baseline. Forty percent of respondents reported living in their own home or someone else's home for most of the past 30 days at baseline and 75.0% reported living in their own home or someone else's home for most of the past 30 days follow-up, which was a significant increase.

On a scale of 1 to 10, respondents reported a significantly higher quality-of-life at postnatal follow-up (8.8) compared to prenatal baseline (6.3). Respondents' level of satisfaction with the KY-Moms MATR was high. Specifically, the majority indicated that the program extremely well for them and, on a scale of 0 = "not at all right for me" to 10 = "exactly right for me", respondents rated their overall KY-Moms MATR experience, on average, as 8.6. Additionally, the vast majority of respondents agreed the program staff believed in them and that the program would work, they had a lot of input into program goals, plans, and how they were progressing over time, and that they discussed everything with their case manager and held nothing back. In addition, the majority of

respondents (85.7%) indicated they would recommend the KY-Moms MATR program to a friend and reported that the KY-Moms program worked pretty well or extremely well for them (95.2%). About 24% of women reported they had been in other treatment programs since ending their participation with the KY-Moms MATR program.

## HEALTHY BABIES

In spite of significant risk factors (e.g., low income, high rates of unemployment, adverse childhood experiences, experiences with violence, substance use, mental health symptoms, and intimate partner violence) among respondents who entered the KY-Moms MATR program before the birth of their baby, mothers had positive birth outcomes. Nineteen percent of the babies born to KY-Moms MATR mothers were born preterm and babies were an average gestation of 37.7 weeks. Nineteen percent of babies were born with low birth weight (less than 5lbs, 8oz), but babies were an average of 6lbs, 12oz. In addition, babies were born with an average APGAR score of 8.7. None of the respondents had babies with birth defects or anomalies (such as Down's syndrome, cleft palates, anencephaly, congenital heart failure, spina bifida, etc.). Over one-third of babies (38.1%) were taken to NICU and 28.6% of babies were born with a birthing problem such as inflammation of fetal membranes, intolerance to labor, or being placed on a ventilator (not including being admitted to the neonatal intensive care unit).

## AREAS OF CONCERN FOR RESPONDENTS WHO HAD NOT GIVEN BIRTH TO THEIR BABIES BEFORE ENTERING KY-MOMS MATR (N = 21)

Despite significant improvements in many areas of respondents' lives, there was a minority of new mothers who had targeted risks such as tobacco use, mental health problems and PTSD, adverse childhood experiences, intimate partner violence, financial issues, and multidimensional recovery status at follow-up.

## TOBACCO USE

The majority of respondents smoked during pregnancy (73.7% in the past 30 days at prenatal baseline and 42.1% in the 30 days before the baby was born), both of which are considerably higher than the 4.8% of pregnant women in the United States. Additionally, a high percentage of KY Moms-MATR mothers reported smoking tobacco in the 30 days before pregnancy (73.7%), and in the 30 days before postnatal follow-up (42.1%). These percentages were considerably higher than either the national estimate of 13.2% of women aged 15-44 who are self-reported smokers. In addition, while fewer women who gave birth to their babies before entering the KY-Moms MATR program reported tobacco use at follow-up, 55.6% still reported smoking tobacco in the past 6 months.

Several studies have shown that childhood exposure to cigarette smoke contributes

to the incidence of sudden infant death syndrome,<sup>95,96</sup> respiratory infections,<sup>97</sup> middle ear disease and adenotonsillectomy,<sup>98</sup> poor lung function and asthma,<sup>99, 100, 101</sup> neurodevelopmental and behavioral problems,<sup>102</sup> and childhood cancer.<sup>103, 104, 105</sup> As a result, there may be a need to increase postpartum support services for smoking cessation in the KY-Moms MATR program.

In addition, in the 6 months since the baby was born, 50.0% of respondents reported e-cigarette use, which was a slight increase compared to the 6 months before pregnancy (27.8%). While many individuals may think that e-cigarette exposure to a child is less harmful than exposure to tobacco cigarettes, children exposed to the liquid nicotine were over 5 times more likely to be admitted to hospital and over 2.5 times greater odds of having a serious medical outcomes than children who were exposed to tobacco cigarettes.<sup>106</sup> In addition, even after the implementation of the Child Nicotine Poisoning Prevention Act in 2016, there was an increased risk of children being exposed to liquid nicotine poisoning.<sup>107</sup>

## MENTAL HEALTH

Close to one-fifth of KY-Moms MATR pre-birth respondents (19.0%) reported meeting study criteria for depression and/or anxiety in the 6 months after the baby was born. In addition, 33.3% of respondents who already had their babies before entering the program met study criteria for comorbid depression and/or anxiety. Caring for a newborn and the typical sleep deprivation of a new mother may be especially difficult for women

<sup>95</sup> Anderson, H. R., & Cook, D. G. (1997). Passive smoking and sudden infant death syndrome: review of the epidemiological evidence. *Thorax*, 52(11), 1003–1009.

<sup>96</sup> Zhang, K., & Wang, X. (2013). Maternal smoking and increased risk of sudden infant death syndrome: a meta-analysis. *Legal Medicine*, 15(3), 115-121.

<sup>97</sup> Strachan, D. P., & Cook, D. G. (1997). Health effects of passive smoking. 1. Parental smoking and lower respiratory illness in infancy and early childhood. *Thorax*, 52(10), 905–914.

<sup>98</sup> Strachan, D. P., & Cook, D. G. (1998). Health effects of passive smoking. 4. Parental smoking, middle ear disease and adenotonsillectomy in children. *Thorax*, 53(1), 50–56.

<sup>99</sup> Strachan, D. P., & Cook, D. G. (1998). Health effects of passive smoking. 9. Parental smoking and spirometric indices in children. *Thorax*, 53(1), 884-893.

<sup>100</sup> Von Mutius, E. (2002). Environmental factors influencing the development and progression of pediatric asthma. *Journal of Allergy and Immunology*, 109(6), 525-532.

<sup>101</sup> Burke, H., Leonardi-Bee, J., Hashim, A., Pine-Abata, H., Chen, Y., Cook, D. G., Britton, J., & McKeever, T. M. (2012). Prenatal and passive smoke exposure and incidence of asthma and wheeze: systematic review and meta-analysis. *Pediatrics*, 129(4), 735-744.

<sup>102</sup> Eskenazi, B., & Castorina, R. (1999). Association of prenatal maternal or postnatal child environmental tobacco smoke exposure and neurodevelopmental and behavioral problems in children. *Environmental Health Perspectives*, 107(12), 991–1000.

<sup>103</sup> John, E., Savitz, D., & Sandler, D. (1991). Prenatal exposure to parents' smoking and childhood cancer. *American Journal of Epidemiology*, 133(2), 123-132.

<sup>104</sup> Vasco, AJ, & Vainio, H. (1999). From in utero and childhood exposure to parental smoking to childhood cancer: a possible link and the need for action. *Human and Experimental Toxicology*, 18, 192-201.

<sup>105</sup> Hoffhuis, W., Jongste, JC, & Merkus, P. (2003). Adverse health effects of prenatal and postnatal tobacco smoke exposure on children. *Archives of Disease in Childhood*, 88, 1086-1090.

<sup>106</sup> Govindarajan, P., Spiller, H., Casavant, M., Chounthirath, T., & Smith, G. (2018). E-cigarette and liquid nicotine exposures among young children. *Pediatrics*, 141(5) e20173361; DOI: 10.1542/peds.2017-3361.

<sup>107</sup> Chang, J., Wang, B., Chang, C., & Ambrose, B. (2019). National estimates of poisoning events related to liquid nicotine in young children treated in US hospital emergency departments, 2013–2017. *Injury Epidemiology*, 59(5), 742-745.

experiencing trauma, depression, and/or anxiety. Prior trauma and depression/anxiety may increase risk for, or exacerbate, postpartum depression. Postpartum depression is a common problem affecting millions of new mothers and though it usually presents itself around 4 weeks postpartum,<sup>108</sup> it can continue for as long as 14 months.<sup>109</sup> While it is mostly caused by the swing of hormones that occur after birth, a study by the Centers for Disease Control & Prevention found that postpartum depression was significantly associated with tobacco use in the last trimester, intimate partner violence, and financial stress (including the use of Medicaid).<sup>110, 111</sup> In addition, studies have found that marital status (being single), having a history of depression or anxiety as well as experiencing depression or anxiety during pregnancy can be risk factors for experiencing postpartum depression.<sup>112, 113</sup> For women who have experienced mental health symptoms, targeted or adapted mental health services may be critical to preventing postpartum depression or reducing its severity.

## INTIMATE PARTNER VIOLENCE AND PTSD

At baseline, 52.4% of respondents reported any form of intimate partner violence in the 6 months before they found out they were pregnant. At follow-up, 38.1% of KY-Moms MATR respondents reported experiencing intimate partner violence in the past 6 months, which suggests that the intimate partner violence is an ongoing concern through the pregnancy and after the baby is born. Partner violence and trauma can contribute to mental health symptoms and can interfere with the parenting relationship.<sup>114</sup> Infants can experience symptoms of trauma (eating problems, sleep disturbances, emotional developmental problems, poor health and irritability) as a result of witnessing or hearing intimate partner violence.<sup>115</sup> Thus, support and resources for trauma and partner violence is an issue that should be targeted during the pregnancy and postnatal period.

In addition, 28.6% of respondents met study criteria for post-traumatic stress disorder in the six months since the baby was born. Research has found about 1 in 10 individuals with exposure to traumatic events developed PTSD at some point, with the highest risk of PTSD associated with assaultive violence (20.9%).<sup>116</sup> Individuals with PTSD have a high rate

<sup>108</sup> American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Arlington, VA: American Psychiatric Publishing.

<sup>109</sup> Wolkind S, Zajicek E, & Ghodsian J. (1990). Continuities in maternal depression. *International Journal of Family Psychiatry*, 1, 167-182.

<sup>110</sup> Centers for Disease Control and Prevention (2008). Prevalence of self-reported postpartum depressive symptoms --- 17 states, 2004—2005. *MMWR*, 57(14), 361-366.

<sup>111</sup> Segre, L. S., O'Hara, M. W., Arndt, S., & Stuart, S. (2007). The prevalence of postpartum depression. *Social Psychiatry and Psychiatric Epidemiology*, 42(4), 316-321.

<sup>112</sup> O'Hara, M. & McCabe, J. (2013). Postpartum depression: current status and future directions. *Annual Review of Clinical Psychology*, 9, 379-407.

<sup>113</sup> Robertson, E., Grace, S., Wallington, T., & Stewart, D. E. (2004). Antenatal risk factors for postpartum depression: a synthesis of recent literature. *General Hospital Psychiatry*, 26(4), 289-295.

<sup>114</sup> Dubowitz, H., Black, M. M., Kerr, M. A., Hussey, J. M., Morrel, T. M., Everson, M. D., & Starr, R. H. (2001). Type and timing of mothers' victimization: Effects on mothers and children. *Pediatrics*, 107, 728-735.

<sup>115</sup> Bogat, G. A., DeJonghe, E., Levendosky, A. A., Davidson, W. S., & von Eye, A. (2006). Trauma symptoms among infants exposed to intimate partner violence. *Child Abuse & Neglect*, 30(2), 109-125.

<sup>116</sup> Breslau, N., Kessler, R., Chilcoat, H., Schultz, L., Davis, G., & Andreski, P. (1998). Trauma and posttraumatic stress disorder in the community. The 1996 Detroit Area Survey of Trauma. *Archives of General Psychiatry*, 55(7), 626-632.



of alcohol/illicit substance use and substance use disorder in their lifetime<sup>117, 118</sup> and the overall prevalence of PTSD is high among individuals with substance use disorders.<sup>119, 120</sup>

## ADVERSE CHILDHOOD EXPERIENCES

At baseline, 96.2% of respondents reported at least one adverse childhood experience such as neglect or violence before the age of 18. The average number of ACE in the sample of KY Moms-MATR respondents was 5.7, with 77.2% of women reporting 4 or more ACE. In addition, 58.9% of women who entered the program after the birth of their baby reported at least one type of ACE included in the assessment. Prior research shows the risk of alcohol or illicit substance use increases as the number of adverse childhood experiences increases.<sup>121, 122, 123, 124</sup> Higher ACE scores are associated with initiating alcohol use and smoking in adolescence.<sup>125, 126</sup> Additionally, experiencing more types of childhood violence is associated with greater likelihood of experiencing an unintended first pregnancy among women.<sup>127</sup> Poor self-rated health as well as health problems such as ischemic heart disease, cancer, and liver disease were more prevalent in those who reported a higher number of ACEs.<sup>128</sup> Higher ACE scores have been linked to having a higher number of health risk factors for leading causes of death in adults and a higher rate of mortality in women.<sup>129</sup>

<sup>117</sup> Kessler, R., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 52*, 1048-1060.

<sup>118</sup> Regier, D., Farmer, M., Rae, D., Locke, B., Keith, S., & Judd, L. (1990). Comorbidity of mental disorders with alcohol and other substance abuse: Results from the Epidemiologic Catchment Area (ECA) Study. *Journal of the American Medical Association, 264*, 2511-2518.

<sup>119</sup> Cottler, L., Compton, W., Mager, D., Spitznagel, E., & Janca, A. (1992). Posttraumatic stress disorder among substance users from the general population. *American Journal of Psychiatry, 149*, 664-670.

<sup>120</sup> Najavits, L., Runkel, R., Neuner, C., Frank, A., Thase, M., Crits-Christoph, P., & Blaine, J. (2003). Rates and symptoms of PTSD among cocaine-dependent patients. *Journal of Studies on Alcohol, 64*, 601-606.

<sup>121</sup> Anda, R., Felitti, V., Walker, J., Whitfield, C., Bremner, J., Perry, B., Dube, S., & Giles, W. (2006). The enduring effects of abuse and related adverse experiences in childhood: a convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neurosciences, 56*(3), 174-86.

<sup>122</sup> Dube, S., Felitti, V., Dong, M., Giles, W., & Anda, R. (2003b). The impact of adverse childhood experiences on health problems: evidence from four birth cohorts dating back to 1900. *Preventative Medicine, 37*, 268-277.

<sup>123</sup> Dube, S., Felitti, V., Dong, M., Chapman, D., Giles, W., & Anda, R. (2003a). Childhood abuse neglect and household dysfunction and the risk of illicit substance use: The Adverse Childhood Experiences Study. *Pediatrics, 111*, 564-572.

<sup>124</sup> Felitti, V., Anda, R., Nordenberg, D., Williamson, D., Spitz, A., Edwards, V., & Marks, J. (1998). The relationship of adult health status to childhood abuse & household dysfunction. *American Journal of Preventative Medicine, 14*(4), 245-258.

<sup>125</sup> Anda, R., Croft, J., Felitti, V., Nordenberg, D., Giles, W., Williamson, D., & Giovino, G. (1999). Adverse childhood experiences and smoking during adolescence and adulthood. *Journal of the American Medical Association, 282*, 1652-1658.

<sup>126</sup> Dube, S., Miller, J., Brown, D., Giles, W., Felitti, V., Dong, M., & Anda, R. (2006). Adverse childhood experiences and the association with ever using alcohol and initiating alcohol use during adolescence. *Journal of Adolescent Health, 38*(4), 444.e1-10.

<sup>127</sup> Dietz, P., Spitz, A., Anda, R., Williamson, D., McMahon, P., Santelli, J., Nordenberg, D., Felitti, V., & Kendrick, J. (1999). Unintended pregnancy among adult women exposed to abuse or household dysfunction during their childhood. *Journal of the American Medical Association, 282*, 1359-1364.

<sup>128</sup> Felitti, V., Anda, R., Nordenberg, D., Williamson, D., Spitz, A., Edwards, V., & Marks, J. (1998). The relationship of adult health status to childhood abuse & household dysfunction. *American Journal of Preventative Medicine, 14*(4), 245-258.

<sup>129</sup> Chen, E., Turiano, N., Mroczek, D., & Miller, G. (2016). Association of reports of childhood abuse and all-cause mortality rates in women. *Journal of the American Medical Association, 73*(9), 920-927.

## FINANCIAL ISSUES

With 47.6% of KY-Moms MATR women reporting being currently unemployed and 40.0% of women reporting difficulty meeting basic needs because of financial reasons in the 6 months since the baby was born, economic hardship is a continuing problem for many of these new mothers. At baseline, none of mothers who had their babies before entering the program reported they were currently working full-time and at follow-up, only one of the post birth mothers reported they were currently working full-time.

As mentioned previously, financial stress has been linked to the risk for developing postpartum depression (and vice versa). Research suggests that financial stress has an adverse effect on parents' emotions and behaviors, which, in turn, may impact their parenting.<sup>130</sup> In addition, children born to parents with limited economic resources have less to invest in the development of the child because they must invest a larger proportion of their resources into basic living needs (e.g., food, shelter, utilities, medical needs).<sup>131</sup> Therefore, providing referrals and support to help new mothers with financial difficulties may improve basic living situations for many mothers and promote continued long-term positive results for both mother and infant.

## MULTIDIMENSIONAL RECOVERY STATUS

Even though there were more respondents who had all positive dimensions of recovery at follow-up when compared to baseline, 53.3% of KY-Moms MATR respondents were still classified as not having all nine positive dimensions of recovery. At follow-up, the factor with the lowest percent of individuals reporting the positive dimensions of recovery were for no partner violence.

## TREND REPORT SUMMARY

Trend reports provided throughout this report on respondents who were still pregnant when they entered KY-Moms MATR reflect the importance of annual data collection. These data trends can show consistency, improvement, or highlight areas that may need further attention in the KY-Moms MATR program. Trend analysis of illicit substance use appears to show an overall steady increase in respondents reporting past-6-month illicit substance use at prenatal baseline. While the percent of respondents reporting illicit substance use decreased significantly each year at follow-up compared to baseline, in 2018 and 2019 the percent of respondents reporting illicit substance use at follow-up increased slightly. In 2023, the percent of respondents reporting past-6-month illicit substance use at follow-up increased again.

In addition, a 11-year trend analysis shows that rates of depression and/or anxiety have increased overall at prenatal baseline but have appeared to peak in 2021 before decreasing in 2022. Rates of depression and/or anxiety at follow-up have fluctuated at

<sup>130</sup> Bogat, G. A., DeJonghe, E., Levendosky, A. A., Davidson, W. S., & von Eye, A. (2006). Trauma symptoms among infants exposed to intimate partner violence. *Child Abuse & Neglect*, 30(2), 109-125.

<sup>131</sup> Conger, R. D., & Conger, K. J. (2008). Understanding the processes through which economic hardship influences families and children. *Handbook of Families and Poverty*, 64-81

postnatal follow-up in the past; however, in 2021, the percent of women meeting criteria for depression and/or anxiety was higher compared to previous years. In 2022, however, the number of women who met study criteria for depression and/or anxiety decreased to 15.4% at postnatal which could be a result of the small sample size during this reporting year. Further, with trend analysis, findings show that the number of respondents who have reported any intimate partner violence at prenatal baseline had been fairly consistent from 2015 to 2019, but decreased in 2022 and increased again in 2023. The percent of women who reported any intimate partner violence at baseline and/or follow-up increased to their highest points.

The percent of respondents reporting difficulty meeting basic household needs for financial reasons at follow-up increased briefly in 2018, but has decreased since. In 2024, however, the percent of respondents who reported having difficulty meeting basic living needs at follow-up increased compared to previous years, and then decreased slightly in 2025. In addition, overall, the difference between prenatal baseline and postnatal follow-up for unemployment status was stable over the first seven years. In 2022, however, more respondents reported they were not currently employed at prenatal baseline compared to follow-up.

Respondents' average ratings of their current health has remained fairly consistent at both baseline and follow-up from 2015 to 2019. However, in 2020, the average current health rating was the same at baseline and follow-up, and in 2022 and 2023, respondents' average health rating returned to being higher at follow-up compared to baseline. In addition, for trends in the number of chronic health problems show in 2020 and 2021 there appear to be more respondents that reported just one health problem compared to no health problems or multiple health problems. In 2022, nearly two thirds, of respondents reported having no chronic health problems, which was considerably more compared to the previous 8 years.<sup>132</sup> In 2025, however, the percent of respondents reporting no health problems was lower compared to the previous years.

The number of respondents who have reported chronic pain in the 6 months before pregnancy remained relatively constant at baseline (around one-quarter of respondents) until 2022 when very few respondents reported chronic pain. In 2023, the number of respondents reporting chronic pain increased slightly compared to 2022. The percent of respondents reporting chronic pain at follow-up increased further in 2024. In addition, the average number of poor physical health days in the past 30 days respondents have reported were consistent at baseline but have appeared to slightly increase at follow-up beginning in 2020. In 2023, however, the number of poor physical health days decreased. In terms of the average number of days respondents reported poor mental health, the difference in the number of days reported at baseline and at follow-up were relatively stable over the years with the exception of 2018 when the number of poor mental health days at follow-up was similar to baseline. In 2024, there was a decrease in the number of poor mental health days compared to previous years.

Further, respondents' subjective quality-of-life has been consistent through the years for baseline and has appeared to increase slightly at follow-up. Trends also show that

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<sup>132</sup> This could be a result of the small follow-up sample size in the 2022 report year.

the average number of people respondents can count on for emotional support has increased over the years at baseline decreased in 2025.

Trend analysis also shows that KY-Moms MATR respondents have been consistently and highly satisfied with their experiences in the program, with respondents consistently ranking their experience with the program as an average of 9.0 (with 10 being the best possible rating) or higher over the past 12 years.

## AREAS OF SUCCESS FOR RESPONDENTS WHO HAD GIVEN BIRTH TO THEIR BABIES BEFORE ENTERING KY-MOMS MATR (N = 9)

### SUBSTANCE USE

In the 6 months before pregnancy, 88.9% of post-birth respondents reported using illicit substances and/or alcohol and when they were pregnant 66.7% of post-birth respondents reported using illicit substances and/or alcohol. In the 6 months before the post-birth follow-up interview, 33.3% of respondents reported using illicit substances and/or alcohol. At post-birth baseline, 25.0% of respondents reported ever injecting any illicit substances and none of the respondents reported injecting a substance in the past 30 days. At post-birth follow-up, none of the respondents reported injecting substances in the past 6 months. Two-thirds of respondents reported they had ever received buprenorphine/naloxone, naltrexone, or methadone as part of a medication-assisted treatment for their substance use symptoms at post-birth baseline and of these respondents (n = 0), none participated in medication-assisted treatment in the past 6 months. Three respondents reported receiving medication-assisted treatment in the past 6 months at follow-up. The majority of post-birth respondents (88.9%) reported they used tobacco in the 6 months before pregnancy and during pregnancy. At post-birth follow-up, 55.6% of respondents reported tobacco use.

### MENTAL HEALTH

About 44% of post-birth KY-moms MATR respondents in the 6 months before pregnancy and 33.3% of respondents in the past 6 months at post-birth follow-up met study criteria for depression and/or anxiety. One-third of post-birth women met study criteria for post-traumatic stress disorder at baseline and 22.2% met study criteria at follow-up. One-third of respondents at baseline and 44.4% of respondents at follow-up reported they used substances to reduce stress. At post-birth baseline 25.0% of respondents, and at follow-up, 37.5% of respondents were classified as having moderate to severe insomnia.

### INTIMATE PARTNER VIOLENCE

Including fear of a current or ex-partner, none of the respondents who had their babies prior to entering KY-Moms MATR reported they felt unsafe at baseline or at follow-up. In addition, 33.3% of post-birth respondents in the 6 months before pregnancy and 22.2% of post-birth respondents during pregnancy, reported experiencing any form of intimate partner violence. About 11% of the respondents reported experiencing any form of intimate partner violence at follow-up.

## MULTIDIMENSIONAL RECOVERY

At post-birth baseline, 25.0% of respondents who reported alcohol and/or illicit substance use in the 6 months before pregnancy were classified as having all positive dimensions of recovery. At follow-up, 62.5% of respondents were classified as all positive dimensions of recovery at follow-up. At follow-up, the factor with the lowest percent of individuals reporting the positive dimensions of recovery were for no homelessness and not being arrested or incarcerated.

## OTHER AREAS OF IMPROVEMENT

At baseline, none of post-birth mothers reported they were currently working full-time and at follow-up, only one of the post birth mothers reported they were currently working full-time. The majority of post-birth respondents (88.9%) received public assistance at both baseline and all respondents received public assistance at follow-up. In the 6 months before becoming pregnant, 77.8% of respondents reported they had difficulty meeting at least one of the basic living needs for financial reasons and 33.3% of respondents reported difficulty meeting basic living needs for financial reasons in the past 6 months at postnatal follow-up. In addition, 22.0% of post-birth respondents in the 6 months before pregnancy and none of the respondents in the past 6 months at follow-up reported their household had difficulty meeting health care needs (such as not going to the doctor, not having a prescription filled, or not going to the dentist) because of financial reasons. None of the respondents who entered KY-Moms MATR after they had their babies considered themselves homeless at baseline or follow-up.

None of the respondents at baseline and one respondent at follow-up reported having a major physical health problem that was not being currently treated. At baseline, only one respondent reported their overall physical health was very good or excellent compared to three respondents at follow-up. One respondent in the 6 months before pregnancy and three respondents at follow-up reported experiencing chronic pain.

Post-birth respondents rated their current quality-of-life at baseline as a 6.8, on average. The average rating of quality-of-life at postnatal follow-up was an average of 7.7. The majority of post-birth respondents in the past 30 days at baseline (88.9%) and at postnatal follow-up reported they were extremely or fairly satisfied with the level of emotional support they received from others.

## HEALTHY BABIES

Less than one-quarter of the babies (22.2%) were born preterm and 11.1% of babies were born with low birthweight (less than 5lbs, 8oz). Specifically, the average birth weight of babies born to post-birth mothers was 6lbs, 14oz. Two babies were taken to NICU, but 55.6% were born with a birthing problem such as inflammation of fetal membranes, intolerance to labor, or being placed on a ventilator (not including being admitted to the neonatal intensive care unit).

# AREAS OF CONCERN FOR RESPONDENTS WHO HAD GIVEN BIRTH TO THEIR BABIES BEFORE ENTERING KY-MOMS MATR (N = 9)

## TOBACCO USE

Similar to pre-birth respondents, a high percent of women who had their babies prior to entering KY-Moms MATR reported tobacco use during pregnancy (88.9%) and at follow-up (55.6%).

## MENTAL HEALTH AND ADVERSE CHILDHOOD EXPERIENCES

While fewer respondents met study criteria for depression and/or anxiety at follow-up, compared to baseline, 33.3% of post-birth respondents still met criteria for depression and/or anxiety at follow-up. In addition, at follow-up, 37.5% of respondents were classified as having insomnia which was more than at baseline. At baseline, 88.2% of respondents reported at least one adverse childhood experience (ACE) such as neglect or violence before the age of 18. The average number of ACE in the sample of KY Moms-MATR respondents was 4.8, with 58.9% of women reporting 4 or more ACE. Also, the average number of days respondents reported their mental health was not good was 9.1 days at postnatal follow-up which was not much lower than at baseline.

## LIMITATIONS

There are several limitations to this outcome study. For this report year compared to previous years, a considerably smaller number of respondents completed a baseline (n = 79 pre-birth, and n = 21 post-birth) or a follow-up (n = 17 pre-birth, and n = 9 post-birth). A smaller number of respondents at baseline means that there is a smaller pool of eligible respondents for a follow-up interview. In addition to fewer respondents completing a baseline assessment, the percent of baseline respondents not agreeing to be contacted for follow-up has remained relatively high.

TABLE 1. NUMBER AND PERCENT OF RESPONDENTS CONSENTING TO FOLLOW-UP FOR EACH REPORT YEAR

Report year	Baseline sample size	Respondents NOT consenting to follow-up
2018.....	181	16 (10.5%)
2019.....	177	0 (0.0%)
2020.....	158	10 (6.3%)
2021.....	131	7 (5.3%)
2022.....	73	12 (16.4%)
2023.....	80	17 (21.3%)
2024.....	68	13 (19.1%)
2025.....	79	15 (19.0%)

The sample size is small in this report should be considered when interpreting the findings. To increase the statistical power to detect change in this small sample size, the alpha for statistical tests was increased to  $p < .10$ , instead of  $p < .05$ .

One additional reason the number of respondents with a baseline or follow-up is lower, is because in February 2024 the pre-birth and post-birth baseline and follow-up assessments were completely revised to reflect changes to the program (e.g., extended participation time, change in eligibility). This extensive revision included combining the two previous pre-birth and post-birth baselines and two pre-birth and post-birth baselines previous follow-up assessments. This means that for four months of this fiscal year, clinicians completed the new baseline instead of the old pre-birth or post-birth baselines.

In addition, this outcome study does not involve random assignment to the KY-Moms MATR program. Although it would be ethically and procedurally difficult to conduct a random assignment of pregnant women at risk for substance use to participate in a program such as KY-Moms MATR, random assignment could provide more confidence that the birth outcomes of these mothers are directly due to interventions provided by KY-Moms MATR. Further, this study has no control group and no comparison group in the birth data file with which to compare KY-Moms MATR respondents.

The majority of data for this report is self-reported by KY-Moms MATR respondents. Recent research has supported findings about the reliability and accuracy of individuals' reports of their substance use.<sup>133, 134, 135, 136</sup> Skepticism about the validity of self-report data has prompted investigations of the concordance of self-report data on sensitive issues such as substance use with more objective measures, such as urinalysis or blood serum analysis of illicit substances and alcohol. In most of these studies the concordance or agreement is acceptable or high.<sup>137, 138, 139, 140</sup> In several studies, when there were discrepant results, the majority were self-reported substance use that was not detected

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<sup>133</sup> Del Boca, F.K., & Noll, J.A. (2000). Truth or consequences: The validity of self-report data in health services research on addictions. *Addiction, 95*, 347-360.

<sup>134</sup> Harrison, L. D., Martin, S. S., Enev, T., & Harrington, D. (2007). *Comparing substance testing and self-report of substance use among youths and young adults in the general population* (DHHS Publication No. SMA 07-4249, Methodology Series M-7). Rockville, MD: Substance abuse and Mental Health Services Administration, Office of Applied Studies.

<sup>135</sup> Rutherford, M.J., Cacciola, J.S., Alterman, A.I., McKay, J.R., & Cook, T.G. (2000). Contrasts between admitters and deniers of substance use. *Journal of Substance Abuse Treatment, 18*, 343-348.

<sup>136</sup> Shannon, E.E., Mathias, C.W., Marsh, D.M., Dougherty, D.M., & Liguori, A. (2007). Teenagers do not always lie: Characteristics and correspondence of telephone and in-person reports of adolescent substance use. *Substance and Alcohol Dependence, 8*(90), 288-291.

<sup>137</sup> Buchan, B. J., Dennis, M. L., Tims, F. M., & Diamond, G. S. (2002). Cannabis use: Consistency and validity of self-report, on-site urine testing and laboratory testing. *Addiction, 97*(Suppl. 1), 98-108.

<sup>138</sup> Denis, C., Fatséas, M., Beltran, V., Bonnet, C., Picard, S., Combourieu, I., Daulouède, J., & Auriacombe, M. (2012). Validity of the self-reported substance use section of the Addiction Severity and associated factors used under naturalistic conditions. *Substance Use & Misuse, 47*, 356-363.

<sup>139</sup> Rowe, C., Vittinghoff, E., Colfax, G., Coffin, P. O., & Santos, G. M. (2018). Correlates of validity of self-reported methamphetamine use among a sample of dependent adults. *Substance Use & Misuse, 53*(10), 1742-1755.

<sup>140</sup> Rygaard Hjorthoj, C., Rygaard Hjorthoj, A., & Nordentoft, M. (2012). Validity of Timeline Follow-Back for self-reported use of cannabis and other illicit substances—Systematic review and meta-analysis. *Addictive Behaviors, 37*, 225-233.

with urinalysis or blood serum analysis.<sup>141, 142, 143</sup> Underreporting of substance use occurs less in certain conditions, such as, when assurances of confidentiality can be made and when positive results are not associated with negative consequences.<sup>144</sup> During the informed consent process at the beginning of the KY-Moms MATR follow-up survey, interviewers tell participants that the research team operates independently from the KY-Moms MATR program and individuals' responses will be reported in group format and will not be identifiable at the individual level. These assurances of confidentiality and lack of affiliation with the program staff may minimize individuals' concern about reporting stigmatizing behavior or conditions. In addition, studies of pregnant women and substance use indicate that self-report is as good as urine tests in identifying illicit substance use.<sup>145, 146</sup>

Finally, respondents are self-selected and voluntarily agree to participate in KY-Moms MATR case management rather than being randomly or mandated to participate. While these women report high risk factors such as substance use, mental health and experience with interpersonal violence, there is likely a segment of the pregnant population who engage in riskier substance use, have more severe mental health problems, or are at an even greater risk for safety compared to the women who voluntarily enter KY-Moms MATR. Women with more severe substance use may be more hesitant to seek or accept treatment because they either do not accept they have symptoms of substance use disorder, fear having the child removed from their custody, or fear being prosecuted.<sup>147</sup> On the other hand, the fact that this program is voluntary, but recruits and retains high risk women, is a strength of the program. High-risk pregnant mothers in other state-funded substance disorder programs in Kentucky are referred by the courts or the child protective service agency, the Department for Community Based Services. Recruiting and retaining respondents who have no external motivating factor poses challenges to service providers who must rely on their interpersonal skills to engage respondents in services.

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<sup>141</sup> Babor, T. F., Steinberg, K., Anton, R., & Del Boca, F. (2000). Talk is cheap: Measuring drinking outcomes in clinical trials. *Journal of Studies on Alcohol, 61*, 53-63.

<sup>142</sup> Hilario, E. Y., Griffin, M. L., McHugh, R. K., McDermott, K. A., Connery, H. S., Fitzmaurice, G. M., & Weiss, R. D. (2015). Denial of urinalysis-confirmed opioid use in prescription opioid dependence. *Journal of Substance Abuse Treatment, 48*, 85-90.

<sup>143</sup> Weiss, R. D., Najavits, L. M., Greenfield, S. F., Soto, J. A., Shaw, S. R., & Wyner, D. (1998). Validity of substance use self-reports in dually diagnosed outpatients. *American Journal of Psychiatry, 155*(1), 127-128.

<sup>144</sup> Hilario, E. Y., Griffin, M. L., McHugh, R. K., McDermott, K. A., Connery, H. S., Fitzmaurice, G. M., & Weiss, R. D. (2015). Denial of urinalysis-confirmed opioid use in prescription opioid dependence. *Journal of Substance Abuse Treatment, 48*, 85-90.

<sup>145</sup> Christmas, J., Nislely, J., Dawson, K., Dinsmoor, M., Weber, S., Schnoll, S. (1992). Comparison of questionnaire screening and urine toxicology for detection of pregnancy complicated by substance use. *Obstetrics & Gynecology, 80*, 750-754.

<sup>146</sup> Yonkers, K. A., Howell, H. B., Gotman, N., & Rounsaville, B. J. (2011). Self-report of illicit substance use versus urine toxicology results from at-risk pregnant women. *Journal of Substance Use, 16*(5), 372-380.

<sup>147</sup> Tuchman, E. (2010). Women and addiction: The importance of gender issues in substance abuse research. *Journal of Addictive Diseases, 29*(2), 127-138.



## CONCLUSION

This study provides support of the efforts by the Kentucky Division of Substance Use Disorder to address the rising statewide and national problem of illicit substance-exposed pregnancies given the positive changes in the respondents' substance-using behavior once interventions were initiated. Overall, pregnant women participating in KY-Moms MATR services significantly improved on all three targeted areas of behavioral health and had birth outcomes similar to the general population of mothers. Further, respondents were overwhelmingly positive about the program. They indicated they would refer their friends or others to the program and felt like what they gained from the program helped them have a healthier pregnancy, improved their birth outcomes, and provided valuable information about the risk of substance use during pregnancy.

One of the most important policy questions implicit in this study is about the months and early years of the child's life after the mother has given birth. Mothers who persist in or return to substance-using lifestyles are at great risk for child neglect and other forms of child maltreatment,<sup>148, 149</sup> as well as for setting the stage for their children to use and misuse alcohol and illicit substances as adolescents and adults.<sup>150, 151</sup> Thus, reducing risk during the early development of the child by supporting the mothers is in large part contingent on continued services and engagement with recovery and parenting supports. As Kentucky continues to work toward more integrated service provisions under the umbrella of behavioral health, the use of all possible resources will be important both for these mothers and their newborns. The KY-Moms MATR program plays a critical role toward this end.

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<sup>148</sup> McKeganey, N., Barnard, M. & McIntosh, J. (2002) Paying the price for their parent's addiction: meeting the needs of the children of substance using parents. *Substances: Education, Prevention and Policy*, 9, 233-246.

<sup>149</sup> Barnard, M., & McKeganey, N. (2004). The impact of parental problem substance use on children: what is the problem and what can be done to help? *Addiction*, 99(5), 552-559.

<sup>150</sup> Ireland, T. O., Smith, C. A., & Thornberry, T. P. (2002). Developmental issues in the impact of child maltreatment on later delinquency and substance use. *Criminology*, 40(2), 359-400.

<sup>151</sup> Biederman, J., Faraone, S. V., Monuteaux, M. C., & Feighner, J. A. (2000). Patterns of alcohol and substance use in adolescents can be predicted by parental substance use disorders. *Pediatrics*, 106(4), 792-797.

## APPENDIX A | METHODS

*This evaluation project collects data from pregnant women in Kentucky who are at high risk for substance use disorder and participate in KY-Moms MATR case management services. This year, thirteen community mental health centers participate in the program and collect baseline data on each respondent entering the KY-Moms MATR case management services program. Data analysis has three main phases: (1) change in behavior and risks over time, using the prenatal baseline information and the postnatal follow-up interviews among respondents who gave birth, and (2) description of KY-Moms MATR respondents' birth outcome information from the Vital Statistics birth outcome data set.*

### BASELINE ASSESSMENT

The baseline assessment is an electronic, evidence-based interview developed by the University of Kentucky Center on Drug and Alcohol Research (UK CDAR) in collaboration with KY-Moms MATR program administrators. Baseline information is collected during face-to-face respondent interviews with case managers when the respondent enters the program and interview responses are electronically submitted to UK CDAR. At the end of the baseline interview, respondents are told about the opportunity to participate in a follow-up telephone interview that is conducted independently from the program by the UK CDAR Behavioral Health Outcome Studies (BHOS) staff approximately 6 months after the birth of their baby. Respondents who volunteer to participate in the follow-up interview provide locator information including phone numbers of two relatives or friends who could help UK CDAR locate the respondent for the postnatal follow-up interview. A total of 79 pre-birth baselines were completed between July 2022 and December 2023 with women who had due dates that would result in target months for a follow-up interview between July 2023 and June 2024. These women completed a KY-Moms MATR case management baseline when they were an average of 24 weeks into their pregnancy (minimum = 4 weeks, maximum = 38 weeks).<sup>152</sup>

Seventeen respondents who already had their babies prior to entering KY-Moms MATR completed a post-birth baseline between January 2023 and December 2023 and were eligible for follow-up which was targeted six months after their baseline interview.<sup>153</sup>

### METHOD OF DETERMINING FOLLOW-UP SAMPLE

KY-Moms MATR pre-birth respondents are eligible for the follow-up assessment if: (1) the respondent consents to be contacted by UK CDAR BHOS staff, (2) the prenatal baseline is submitted to UK CDAR within 30 days of completion, (3) the respondent is in the program at least 30 days before the birth of the baby, and (4) adequate contact information is provided for follow-up staff to use to attempt to locate and contact them for the follow-up interview. These individuals are then included in the sample of women to be followed up.

<sup>152</sup> The average number of days between when respondents were admitted to the KY-Moms MATR program and when their baseline surveys were completed was 9.8 days, with a minimum of 0 days and a maximum of 80 days.

<sup>153</sup> Babies of respondents born to mothers who entered KY-Moms MATR after their babies were born were an average of 71.6 days old (min. = 12, max. = 186) at baseline.

The target month for a follow-up assessment is computed by adding 6 months (180 days) to the self-reported due date the respondent provides at prenatal baseline. In reality, there was an average of 6.2 months between the due date and the date of the follow-up assessment (with a mode of 5 months). For women who had their babies before entering the program, the target month for a follow-up assessment is computed by adding 6 months (180 days) to the baseline date.

For respondents who have given birth to their baby prior to entering the KY-Moms MATR program, eligibility is similar to the pre-birth respondents with exception of being in the program at least 30 days. The target month for a post-birth follow-up assessment is computed by adding 6 months (180 days) to the completion date of the post-birth baseline. In reality, there was an average of 5.7 months between the intake date and the date of the follow-up assessment (with a mode of 6 months).

Follow-up interviews are conducted on the telephone by the UK CDAR BHOS research team and are independent of KY-Moms MATR case management services in order to confidentially examine changes in respondents' behavior and risks. In addition, UK CDAR BHOS obtained a Federal Certificate of Confidentiality from the National Institute of Health, which states that BHOS researchers cannot be forced to disclose any information which may identify the respondent, even by court subpoena, in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.<sup>154</sup> The follow-up interviews examine program satisfaction, current substance use, intimate partner violence, physical and mental health status, employment, and recovery supports.

The UK CDAR BHOS team begins their efforts to locate and conduct follow-up interviews with women pulled into the follow-up sample one month before the target month for their follow-up interview and continue their efforts until the women have completed the follow-up interview or for two months after the target month, whichever comes first. For example, if a woman has a targeted follow-up interview in August, the research team will begin their attempts to locate and contact her in July (i.e., one month before the targeted month for her follow-up interview). If the team is unable to locate this woman, they will continue their efforts until the end of October (i.e., two months after her target month for the follow-up interview).

When the follow-up team contacts women, they must determine additional eligibility criteria before completing the pre-birth follow-up interview such that women who are living in a controlled environment (e.g., jail, prison, residential treatment) are not eligible for completing the follow-up interview. As mentioned previously, 79 baseline surveys were completed between July 2022 and December 2023 and had a targeted month for follow-up in FY 2024 (July 2023 – June 2024). Of these respondents who were in the targeted window to complete a postnatal follow-up, 15 did not agree to be contacted for the follow-up survey, and 36 respondents were ineligible for follow-up staff to begin locating as a result of prenatal baseline data: 2 respondents were in the program less than 30 days, 33 respondents had invalid contact data or social security number, and 1 respondent's baseline was submitted more than 30 days after the baseline was completed. Of the remaining eligible respondents (n = 28), six respondents (21.4%) had a final follow-up

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<sup>154</sup> The exception to this is if harm to the respondent, harm to others, or child abuse is disclosed to the researchers.

status of expired because interviewers were not able to complete a follow-up survey with them during the follow-up period and one respondent was incarcerated. Overall, UK CDAR staff completed follow-up interviews with 21 respondents, representing a follow-up rate of 75.0%.

The 17 post-birth baseline surveys completed between January 2023 and December 2023 had a targeted month for follow-up in FY 2024 (July 2023 – June 2024). Of these respondents who were in the targeted window to complete a 6-month follow-up, 5 did not agree to be contacted for the follow-up survey, and one respondent was ineligible because her baseline was submitted more than 30 days after the intake was completed. Of the 11 post-birth respondents eligible for follow-up, one respondent had a final follow-up status of expired because interviewers were not able to complete a follow-up survey with them during the follow-up period and one respondent was incarcerated. UK CDAR staff completed follow-up interviews with 9 post-birth respondents, representing a follow-up rate of 81.8% (see Table AA.1).

Completing follow-up surveys continue to be a challenge in this fiscal year for two main reasons. First, although scam-related or robocalls decreased at the beginning of the pandemic they are back up. In fact, so far in 2024, approximately 38.8 billion robocalls were placed in the U.S., which is about 118.1 calls per person.<sup>155</sup> This means people are less likely to answer the phone and more skeptical of providing us with information to confirm their identity. A second reason is there is a smaller pool of individuals to include in the follow-up sample because of the lower number of completed baselines and percent who agree to be followed up.

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<sup>155</sup> <https://robocallindex.com/history/time>

TABLE AA.1. FOLLOW-UP SAMPLE AND EFFORTS

	Number of pre-birth baselines (n = 79)	Number of post-birth baselines (n = 17)
Did not consent to follow-up.....	15	5
	n = 64	N = 12
Not eligible for follow-up sample.....	36	1
Incomplete or incorrect social security number.....	1	0
Not enough contact information.....	32	0
Not in the program at least 30 days.....	2	0
Over 30 days between when the baseline was completed, and when it was submitted .....	1	1
Total number of baseline surveys eligible for follow-up.....	28	11
Expired cases (i.e., never contacted, did not complete the survey during the follow-up period).....	6	1
Expired rate ((the number of expired cases/eligible cases)*100) .....	21.4%	9.0%
Declined .....	0	0
Declined rate ((the number of refusal cases/eligible cases)*100) .....	0.0%	0
Respondent incarcerated and, therefore, ineligible.....	1	1
Completed follow-up interviews .....	21	9
Follow-up rate .....	75.0%	81.8%

## BIRTH EVENT DATA

Before any analysis of the Vital Statistics birth data is conducted, a series of steps is performed to ensure data quality and integrity. Each step is described in the following paragraphs.

Kentucky Vital Statistics automatically moves each year of updated birth index text files to UK CDAR using the CHFS MoveIT Central FTP process. The data is then opened in Microsoft Access to create variables based upon a file layout codebook provided by Kentucky Vital Statistics. From Access, the data are transferred into SPSS and given variable names, values, and labels corresponding to the codebook. Births occurring within the time frame of the annual report are then saved to a separate file where they are cleaned. Because there were so few follow-ups in FY24, the usual comparison analysis with mothers who were not in the KY-Moms MATR program was not completed. Instead, birth event data was analyzed for only KY-Moms MATR respondents.

## BIRTH DATA SAMPLE

As described in the section regarding obtaining the birth event data, based upon the

range of dates that the KY-Moms MATR respondents gave birth, which were from January 2023 to December 2023. Using mothers' social security numbers, KY-Moms MATR respondents were matched to their respective birth outcome data. Out of the 21 respondents who completed a follow-up all respondents gave permission to access their data and were matched to the birth even data set. Out of the 9 post-birth respondents who completed a follow-up, all were able to be matched to the birth even data set. None of the mothers who entered KY-Moms MATR after the birth of their baby had more than one child in the dataset in FY25.

## ANALYSIS

Once the data set was cleaned and internally certified according to UK CDAR BHOS quality standards, data analysis began. This included using the statistical software SPSS to complete Chi-square tests of independence, one-way ANOVAS, and McNemar tests. The statistical results were then placed in tables for review by the research team.

Birth Data Sample. As described in the section regarding obtaining the birth event data, based upon the range of dates that the KY-Moms MATR respondents gave birth, which were from January 2023 to December 2023. Using mothers' social security numbers, KY-Moms MATR respondents were matched to their respective birth outcome data. Out of the 21 respondents who completed a follow-up all respondents gave permission to access their data and were matched to the birth even data set. Out of the 9 post-birth respondents who completed a follow-up, all were able to be matched to the birth even data set. None of the mothers who entered KY-Moms MATR after the birth of their baby had more than one child in the dataset in FY25.

## APPENDIX B | RESPONDENT CHARACTERISTICS AT PRE-BIRTH BASELINE FOR THOSE WITH COMPLETED FOLLOW-UP INTERVIEWS AND THOSE WITHOUT COMPLETED FOLLOW-UP INTERVIEWS

Between July 2022 and December 2023, 79 pregnant mothers completed a prenatal baseline and were eligible for a six-month postnatal follow-up between July 2023 and June 2024. Individuals who completed a postnatal follow-up assessment during this time (n = 21) are compared in this section with 58 individuals who did not complete a postnatal follow-up interview but were in their 6-month follow-up window in FY 2023.

As mentioned in Appendix A, 58 respondents did not complete a postnatal follow-up interview for a variety of reasons:

TABLE AB.1. REASONS WHY RESPONDENTS DID NOT COMPLETE A POSTNATAL FOLLOW-UP ASSESSMENT

Reason for not completing follow-up assessment	n
Ineligible as a result of prenatal baseline criteria:	
Did not agree to follow-up .....	15
Incomplete or incorrect social security number.....	1
Not enough contact information.....	32
Not in the program at least 30 days.....	2
Over 30 days between when the baseline was completed, and when it was submitted....	1
Respondent was not located within the targeted window.....	6
Respondent incarcerated .....	1
<b>TOTAL .....</b>	<b>58</b>

## DEMOGRAPHIC CHARACTERISTICS

There were no significant differences between respondents who were followed up and respondents who were not followed up on demographic characteristics (see Table AB.2). Respondents who did not complete a follow-up were an average of 27.6 years old compared to respondents who completed a follow-up (29.2). Respondents who were not followed up were an average of 24.3 weeks into their pregnancies and respondents who were followed up were an average of 23.8 weeks. Less than half of respondents who did not complete a follow-up and one-third of respondents who did complete a follow-up reported they were never married. Of those who were married or cohabiting, 75.0% of respondents who completed a follow-up reported that the partner is the father of the baby compared to 91.7% respondents who were not followed up. In addition, the majority of respondents in both groups were White.

TABLE AB.2. COMPARISON OF DEMOGRAPHICS FOR RESPONDENTS WHO WERE INCLUDED IN THE FOLLOW-UP SAMPLE AND RESPONDENTS WHO WERE NOT INCLUDED IN THE FOLLOW-UP SAMPLE

	FOLLOWED UP	
	NO n = 58	YES n = 21
<b>Average age</b> <sup>156</sup> .....	27.6	29.2
<b>Average weeks pregnant</b> .....	24.3	23.8
<b>Relationship status</b>		
Married.....	17.2%	19.0%
Cohabiting.....	24.1%	19.0%
Separated, divorced, or widowed .....	12.1%	28.6%
Never married .....	46.6%	33.3%
Of those married or cohabiting, percent that reported the partner is the father .....	(n = 24) 91.7%	(n = 8) 75.0%
<b>Race</b>		
White .....	87.9%	81.0%
Black .....	10.3%	9.5%
Hispanic.....	0.0%	0.0%
Other or multiracial .....	1.7%	9.5%

There were no significant differences for employment status between respondents who were followed up and respondents who were not followed up. Of those who completed a postnatal follow-up, 71.4% were currently unemployed compared to 63.8% of the respondents who did not complete a follow-up. There were no significant differences between respondents who were followed up and not followed up on whether they expected to be employed in the next 12 months (see Table AB.3).

TABLE AB.3. CURRENT EMPLOYMENT STATUS AT PRENATAL BASELINE BY FOLLOW-UP STATUS

	FOLLOWED UP	
	NO n = 58	YES n = 21
<b>Employment</b>		
Not currently employed.....	63.8%	71.4%
Full-time .....	15.5%	14.3%
Part-time .....	19.0%	9.5%
Occasional, from time-to-time seasonal work .....	0.0%	4.8%
On leave from a job for pregnancy related reasons .....	1.7%	0.0%
Expect to be employed in the next 12 months .....	89.7%	81.0%

<sup>156</sup> Two respondents were missing a birthdate and, therefore, age could not be calculated.



There were no significant differences in usual living arrangement between those who completed a follow-up assessment and those who did not. About 38.1% of respondents who were followed up reported that their usual living arrangement in the past 30 days at prenatal baseline was in a private residence (i.e., their own home or apartment or someone else’s home or apartment; see Table AB.4) compared to respondents who were not followed up (62.1%). Almost half of respondents (47.6%) who completed a follow-up and 29.3% of respondents who did not complete a follow-up were living in a residential program, hospital, sober living home, or recovery center.

About 24% of respondents who did not complete a follow-up and 23.8% of the respondents who did complete a follow-up considered themselves homeless (see Table AB.4).

TABLE AB.4 LIVING SITUATION OF RESPONDENTS BEFORE ENTERING THE KY-MOMS MATR PROGRAM BY FOLLOW-UP STATUS

	FOLLOWED UP	
	NO n = 58	YES n = 21
<b>Usual living arrangement in the past 30 days</b>		
Own or someone else’s home or apartment .....	62.1%	38.1%
Jail or prison.....	0.0%	4.8%
Residential program, hospital, recovery center, or sober living home .....	29.3%	47.6%
Shelter or on the street.....	0.0%	0.0%
Other .....	8.6%	9.5%
<b>Considers self to be currently homeless.....</b>	24.1%	23.8%
Why the individual considers himself/herself to be homeless	(n = 14)	(n = 5)
Staying in a shelter .....	7.1%	0.0%
Staying temporarily with friends or family .....	35.7%	40.0%
Staying on the street or living in a car.....	7.1%	0.0%
Other .....	14.3%	0.0%
Hotel/motel .....	21.4%	20.0%
Transitional living.....	14.3%	40.0%

## PHYSICAL HEALTH

On a scale of 1 - 5, respondents who completed a follow-up and respondents who did not complete a follow-up rated their health an average of 3.0. There was no significant difference between respondents who were followed up and respondents who were not followed up on the average number of health problems. There were no significant differences between the groups on having chronic pain in the 6 months before pregnancy. The average number of doctor visits reported by respondents was not significantly

different with 5.6 visits for respondents not followed up and 7.9 visits for respondents who completed a follow-up.

TABLE AB.5. PHYSICAL HEALTH ISSUES OF RESPONDENTS BEFORE ENTERING THE KY-MOMS MATR PROGRAM BY FOLLOW-UP STATUS

	FOLLOWED UP	
	NO n = 58	YES n = 21
<b>Number of health problems</b>		
None .....	34.5%	19.0%
One health problem .....	31.0%	33.3%
Two or more health problems .....	34.5%	47.6%
<b>General health rating (1 – poor, 5 – excellent) .....</b>	3.0	3.0
<b>Chronic pain in the 6 months before pregnancy .....</b>	13.8%	14.3%
<b>Average number of doctor visits about pregnancy...</b>	5.6	7.9

## TARGETED RISK FACTORS

### SUBSTANCE USE

There were no significant differences for substance use at prenatal baseline between respondents who did and respondents who did not complete a postnatal follow-up and were not incarcerated all 180 days before they knew they were pregnant. The majority of respondents in both groups reported illicit substances and/or alcohol use in the 6 months before pregnancy and in the 30 days before pregnancy. There were no significant differences between the groups for illicit substances and/or alcohol in both the 30 days before pregnancy and the past 30 days. The only significant difference for women who completed a follow-up and women who did not complete a follow-up was for the average number of cigarettes smoked in the 30 days prior to pregnancy.

TABLE AB.6 SUBSTANCE USE OF RESPONDENTS AT PRENATAL BASELINE BY FOLLOW-UP STATUS AMONG RESPONDENTS NOT INCARCERATED ALL 180 DAYS BEFORE PREGNANCY

	FOLLOWED UP	
	NO n = 56	YES n = 19
<b>Substance use in the 6 months prior to pregnancy</b>		
Illicit substances and/or alcohol .....	80.4%	78.9%
Illicit substances.....	71.4%	78.9%
Alcohol.....	41.1%	36.8%
Cigarettes.....	67.9%	84.2%
<b>Substance use in the 30 days prior to pregnancy</b>		
Illicit substances and/or alcohol .....	69.6%	63.2%
Illicit substances.....	64.3%	57.9%
Alcohol.....	26.8%	31.6%
Cigarettes.....	66.1%	78.9%
Of respondents who smoked.....	(n = 37)	(n = 15)
Average number of cigarettes per day* .....	12.4	18.0
<b>Substance use in the past 30 days</b>		
Illicit substances and/or alcohol .....	12.5%	15.8%
Illicit substances.....	8.9%	0.0%
Alcohol.....	5.4%	15.8%
Cigarettes.....	62.5%	68.4%
Of respondents who smoked.....	(n = 35)	(n = 13)
Average number of cigarettes per day .....	8.7	12.1
<b>Participant was treated for substance use before pregnancy.....</b>	71.4%	68.4%

\*p < .10

## MENTAL HEALTH

There was no significant difference between the two groups in the percent of respondents who met study criteria for depression or anxiety in the 6 months before pregnancy or the 30 days before prenatal baseline (see Table AB.7). Over half of respondents in both groups met study criteria for depression in the 6 months before pregnancy. In addition, respondents who did and did not complete a follow-up had a similar average number of depression symptoms in both the 6 months before pregnancy and in the past 30 days at baseline. Almost two-thirds of respondents who were not followed up (62.1%) and 47.6% of respondents who were followed up met study criteria for generalized anxiety in the 6 months before pregnancy. Both groups had a similar average number of depression and anxiety symptoms in the 6 months before pregnancy and in the past 30 days.

TABLE AB.7 SELF-REPORTED MENTAL HEALTH SYMPTOMS OF RESPONDENTS AT PRENATAL BASELINE BY FOLLOW-UP STATUS

	FOLLOWED UP	
	NO n = 58	YES n = 21
<b>Experienced symptoms of depression in the past 6 months before pregnancy</b> .....	58.6%	52.4%
Average number of symptoms .....	(n = 34) 7.2	(n = 11) 7.1
<b>Experienced symptoms of depression in the past 30 days at prenatal baseline</b> .....	36.2%	47.6%
Average number of symptoms .....	(n = 21) 6.2	(n = 10) 6.4
<b>Experienced symptoms of anxiety in the past 6 months before pregnancy</b> .....	62.1%	47.6%
Average number of symptoms .....	(n = 36) 5.5	(n = 10) 5.3
<b>Experienced symptoms of anxiety in the past 30 days at prenatal baseline</b> .....	56.9%	52.4%
Average number of symptoms .....	(n = 33)	(n = 11)

## INTIMATE PARTNER VIOLENCE

There were a few significant differences between respondents who completed a postnatal follow-up and respondents that did not on intimate partner violence and violence measures. About 24% of respondents who completed a follow-up and 8.6% of respondents that did not complete a follow-up assessment reported some type sexual violence in the 6 months before pregnancy (see Table AB.8). In addition, 14.3% of respondents who completed a follow-up and 1.7% of respondents who did not complete a follow-up reported sexual violence in the past 30 days at baseline.

TABLE AB.8 INTIMATE PARTNER VIOLENCE AND SEXUAL VIOLENCE BY ANY TYPE OF PERPETRATOR REPORTED BY RESPONDENTS AT PRENATAL BASELINE BY FOLLOW-UP STATUS

	FOLLOWED UP	
	NO n = 58	YES n = 21
<b>Any partner violence</b>		
6 Months before pregnancy .....	41.4%	52.4%
Past 30 days.....	22.4%	19.0%
<b>Psychological violence</b>		
6 Months before pregnancy .....	32.8%	52.4%
Past 30 days.....	17.2%	4.8%
<b>Coercive control</b>		
6 Months before pregnancy .....	32.8%	52.4%
Past 30 days.....	15.5%	19.0%
<b>Physical violence</b>		
6 Months before pregnancy .....	17.2%	33.3%
Past 30 days.....	3.4%	4.8%
<b>Sexual violence</b>		
6 Months before pregnancy* .....	8.6%	23.8%
Past 30 days** .....	1.7%	14.3%

\*\*p < .05, \* p < .10.

## APPENDIX C | **UPDATED BASELINE DATA**

*In February 2024, the KY-Moms MATR pre-birth and post-birth baseline and follow-up assessments were completely revised to reflect changes to the program (e.g., extended participation time, change in eligibility), and to document more of what caseworkers do with respondents (e.g., referrals). This extensive revision included combining the two previous pre-birth and post-birth baselines and two pre-birth and post-birth baselines previous follow-up assessments. Therefore, periods for measures were adjusted, questions were removed, and additional measures were included. With this programmatic change, it was decided that target follow-up dates will be based on six months from the date the respondent was discharged from the KY-Moms MATR program rather than from the respondent's due date. While the new follow-up data collection is in its infancy, the baseline data could be analyzed in this report. During FY24, 43 women completed the new baseline between February 28, 2024 and June 28, 2024.*

### **DEMOGRAPHICS**

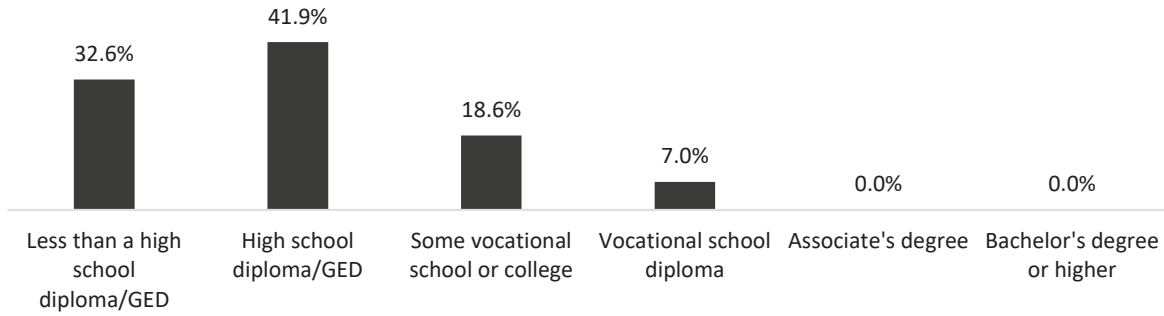
Table AC.1 shows that the majority of respondents were White (83.7%) and were an average of 28.9 years old. In addition, 39.5% were married or living with an intimate partner at baseline. Of those respondents who were living with an intimate partner (n = 17), 76.5% reported this partner was the father of the baby. Over one-quarter of the KY-Moms MATR mothers (27.9%) reported at prenatal baseline they were currently homeless. Of those who indicated they were homeless (n = 12), 41.7% were staying temporarily with friends/family, 25.0% were staying in a treatment or recovery facility, 16.7% were staying in transitional living, 8.3% were staying on the street or living in their car, and 8.3% were staying in a shelter.

TABLE AC.1. DEMOGRAPHICS FOR ALL KY-MOMS MATR RESPONDENTS AT BASELINE (N = 43)

<b>Age</b> .....	28.9 years ( <i>range of 17-42</i> )
<b>Race</b>	
White.....	83.7%
African American.....	14.0%
American Indian.....	0.0%
Mexican.....	0.0%
Puerto Rican.....	0.0%
Other Hispanic.....	0.0%
Multiracial.....	2.3%
<b>Marital status</b>	
Married or cohabiting.....	39.5%
Never married.....	48.8%
Separated or divorced.....	9.3%
Widowed.....	2.3%
Of those married or cohabiting	(n = 17)
Partner is the father of baby.....	76.5%
<b>Homeless</b> .....	27.9%
Of those homeless	(n = 12)
Staying temporarily with friends/family.....	41.7%
Staying in a hotel/motel.....	25.0%
Staying in transitional living.....	16.7%
Staying on the street or living in your car.....	8.3%
Staying in shelter.....	8.3%
Other.....	0.0%

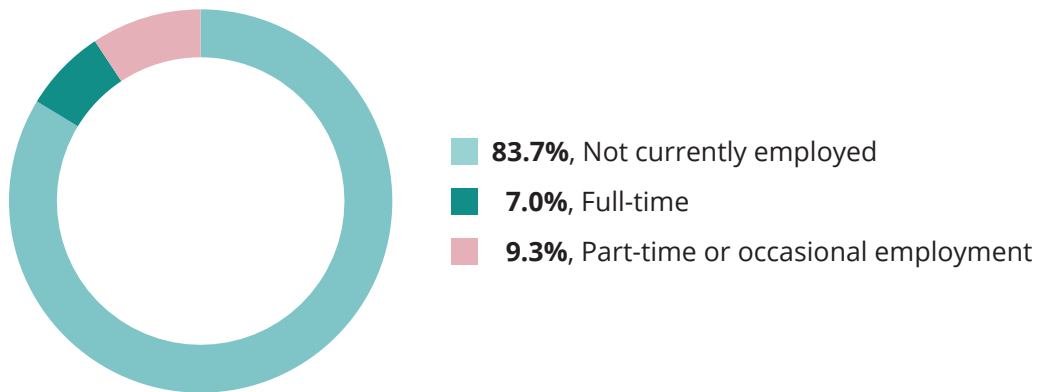
One-third of respondents had less than a high school diploma or GED at baseline (see Figure AC.1). Close to 42% of respondents reported their highest level of education was a high school diploma or GED. Around 19% percent of respondents had completed some vocational/technical school or college. A small minority of respondents (7.0%) had completed a vocational school diploma, and none completed an associate’s degree or bachelor’s degree or higher.

FIGURE AC.1. HIGHEST LEVEL OF EDUCATION COMPLETED AT BASELINE (N = 43)



The majority of women in KY-Moms MATR case management were unemployed (83.7%) at the time of the baseline interview. Only 7.0% of respondents were employed full-time and 9.3% either worked part-time or had occasional/seasonal work. None reported they were currently on leave from their job due to pregnancy-related reasons.

FIGURE AC.2. CURRENT EMPLOYMENT STATUS AT BASELINE (N = 43)

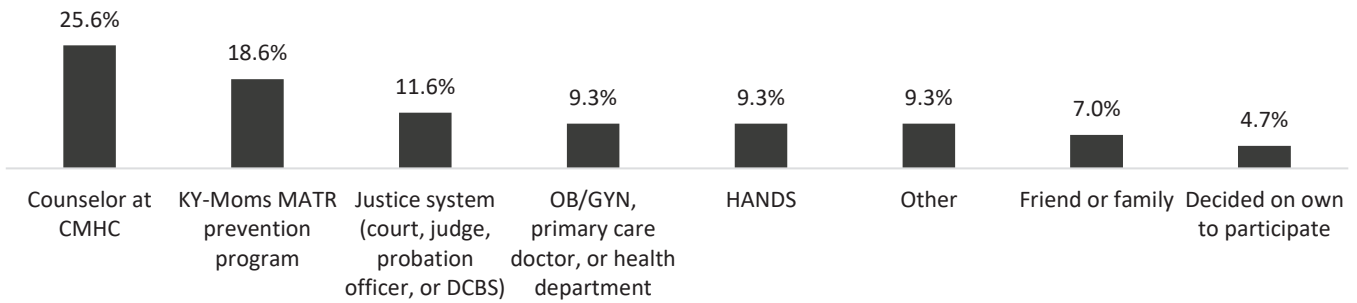


## SELF-REPORTED REFERRAL STATUS

Figure AC.3 shows the self-reported referral source for KY-Moms MATR respondents at baseline. Over one-quarter of respondents (25.63%) were referred to the program by a counselor at CMHC, 18.6% were referred by the KY-Moms MATR prevention program, and 11.6% of clients were referred to KY-Moms MATR by the justice system. Less than 10% were referred by an OB/GYN, primary care doctor, or health department, HANDS, or other sources. Few clients were referred to the program by a friend or family member (7.0%) or by their own decision (4.7%).



FIGURE AC.3. SELF-REPORTED REFERRAL SOURCE FOR ALL KY-MOMS MATR RESPONDENTS AT BASELINE (N = 43)



## INFORMATION ABOUT THE PREGNANCY\BABY

Overall, 30.2% of respondents had already given birth to their baby at baseline. Of those women (n = 13), they were an average of 37.1 weeks when they had their babies (ranging 33 weeks to 41 weeks). The majority of these respondents reported they had a regular OBGYN and had been to an average of 13.5 visits with a healthcare provider about the pregnancy. In addition, they had an average of 4.8 with a health care provider since the baby was born and 30.8% had been in the ER since the baby was born. Less than one-quarter of respondents (23.1%) reported they had breastfed their baby.

Of the respondents who were still pregnant when they entered the KY-Moms MATR program (n = 30), they were an average of 13.8 weeks into their pregnancy (ranging 2 weeks to 30 weeks). The majority of respondents (93.3%) reported they a regular OBGYN, and of these respondents (n = 28), they reported an average of 7.1 visits (range of 1-25 visits) with their prenatal health care provider and 32.1% had been told by their doctor there are special needs that directly impact the pregnancy or baby.

TABLE AC.2. PREGNANCY STATUS FOR ALL KY-MOMS MATR RESPONDENTS AT BASELINE (N = 43)

Baby has already been born at baseline	30.2%
<b>Of the women who had already had their baby when they entered KY-Moms MATR</b>	
	(n = 13)
Average weeks of gestation.....	37.1 weeks (range 33 - 41)
Have a regular OB/GYN.....	76.9%
Average number of visits with a health care provider about pregnancy .....	13.5 (range 0 - 30)
Average number of visits with a health care provider since baby was born ...	4.8 (range 1 - 30)
Breastfed baby.....	23.1%
Been to the ER since the baby was born .....	30.8%
Baby has ever been removed from respondent's legal custody .....	15.4%
<b>Of the women who were still pregnant when they entered KY-Moms MATR</b>	
	(n = 30)
Average weeks gestation .....	13.8 weeks (range 2 - 30)
Have a regular OB/GYN.....	93.3%
Of the women who had a regular OBGYN.....	(n = 28)
Average number of visits with a health care provider about pregnancy .....	7.1 (range 1 - 25)
Have been told by their doctor there are special needs that directly impact the pregnancy or baby .....	32.1%
Plan to choose adoption for the baby.....	0.0%

The majority of respondents (88.4%) have had a prior pregnancy and reported having an average of 2.2 children who are still living. Of those women with at least one child (n = 36), 2.7 children were under that age of 18 years of age and 45.8% live with the respondent. In the 6 months before entering KY-Moms MATR, 39.5% of respondents were involved with Child Protective Services (CPS), DCBS, or social services, and of these women (n = 17), 82.4% of respondents reported that involvement resulted in an open case. Over one-third of respondents (34.9%) were currently involved in CPS, DCBS, or social services, and of these women (n = 15), 93.3% of respondents reported that involvement resulted in an open case.

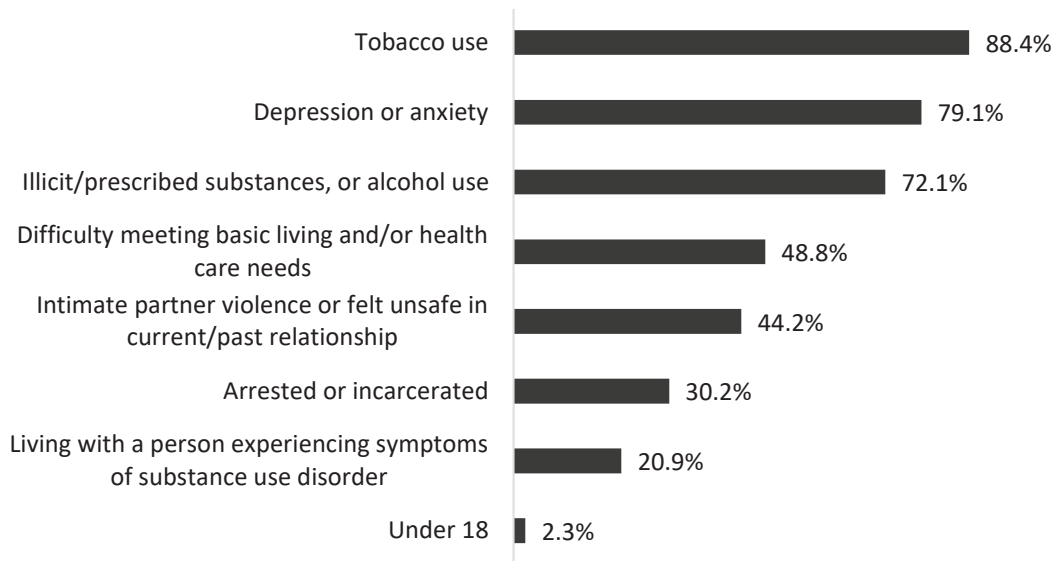
TABLE AC.3. OTHER CHILDREN FOR ALL KY-MOMS MATR RESPONDENTS AT BASELINE (N = 43)

Respondent had a prior pregnancy.....	88.4%
Average number of children respondent has given birth to that are still living...	2.2 (range 0 -6)
Of the women who have given birth to at least one child	(n = 35)
Average number of children under the age of 18 .....	2.7 (range 1 -6)
Children under the age of 18 live with the respondent.....	45.8%
In the 6 months before entering KY-Moms, respondent was involved with Child Protective Services (CPS), DCBS, or social services.....	39.5%
Of those women	(n = 17)
That involvement resulted in an open case with CPS, DCBS, or social services .....	82.4%
Currently involved in CPS, DCBS, or social services.....	34.9%
Of those women	(n = 15)
That involvement resulted in an open case with CPS, DCBS, or social services .....	93.3%

## RISK STATUS

Figure AC.4 shows that of the 43 respondents who completed a KY-Moms MATR updated baseline, 97.7% fit into at least one of the major risk factor categories assessed in the baseline interview. Overall, 88.4% of respondents reported tobacco use (cigarettes, e-cigarettes, or smokeless tobacco) and 79.5% reported they had symptoms of depression or anxiety for at least two weeks in a row at baseline (in the 6 months before entering the program, or in the past 30 days). Under three-quarters of clients (72.1%) reported illicit substance or alcohol use at baseline (in the 6 months before entering the program, or in the past 30 days). Less than half of clients reported difficulty meeting basic living and/or health care needs (48.8%) and intimate partner violence and/or feeling unsafe in either their current relationship or because of a partner from a previous relationship in the 6 months before entering the program, or in the past 30 days (44.2%). About 30% of respondents reported having been arrested and/or incarcerated in the 6 months before pregnancy and 20.9% of respondents reported currently living with someone who experienced symptoms of a substance use disorder. Only 2.3% were under the age of 18 at the time of the baseline interview.

FIGURE AC.4. PERCENT OF RESPONDENTS FALLING INTO AT LEAST ONE TARGETED RISK FACTOR IN THE 6 MONTHS BEFORE PROGRAM ENTRY OR IN THE PAST 30 DAYS AT BASELINE (N = 43)

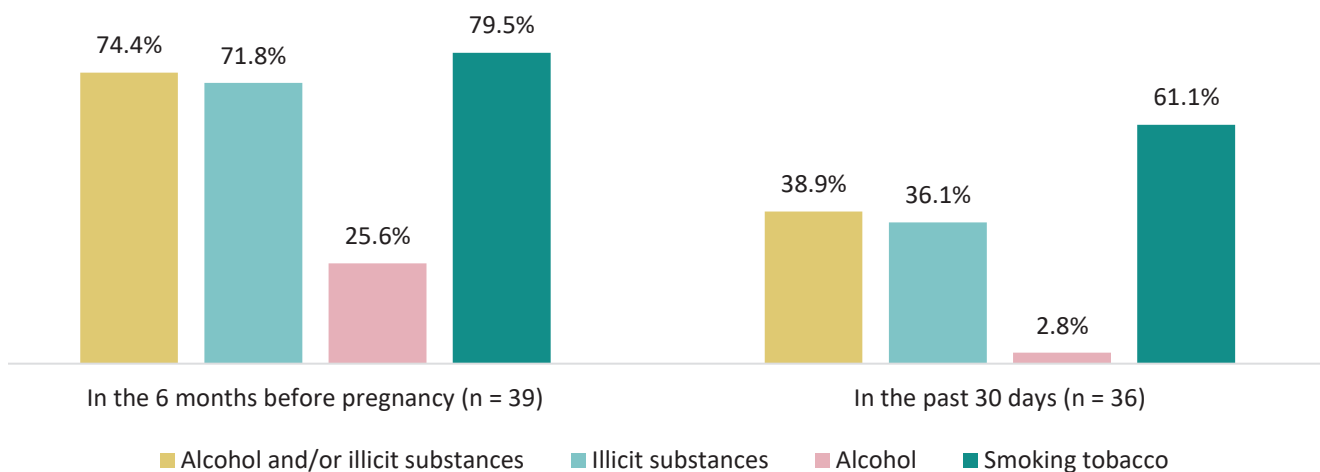


## SUBSTANCE USE

The majority reported using alcohol and/or illicit substances (74.4%) in the 6 months before program entry. Overall, a higher percentage of individuals reported using illicit substances (71.8%) compared to the percent of individuals who reported using alcohol (25.6%) in the 6 months before program entry. The majority of respondents reported smoking tobacco (79.5%) in the 6 months before program entry.

About 40% reported using alcohol and/or illicit substances in the past 30 days at baseline. Specifically, 36.1% reported illicit substance use and 2.8% reported alcohol use. Also, 61.1% reported smoking tobacco in the past 30 days at baseline (see Figure AC.5).

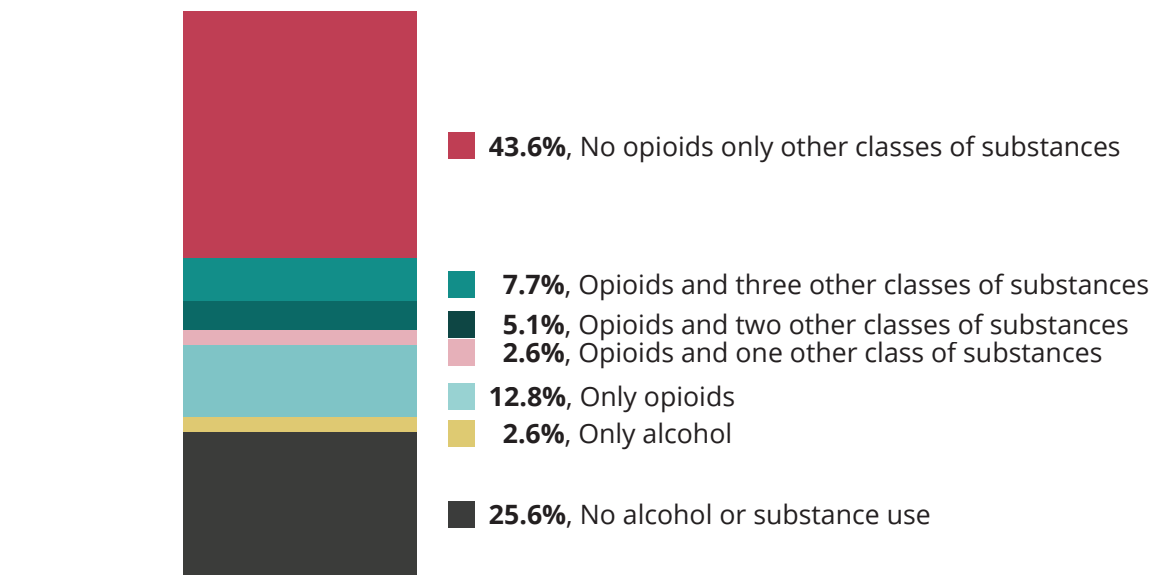
FIGURE AC.5. PERCENT OF RESPONDENTS REPORTING ILLICIT SUBSTANCES, ALCOHOL, AND SMOKING TOBACCO AT BASELINE<sup>157</sup>



<sup>157</sup> Because being in a controlled environment decreases opportunities for substance use, individuals who were incarcerated all 180 days in the 6 months before pregnancy (n = 4), or in a controlled environment/incarcerated all 30 days before entering the program (n = 7) are not included in the analysis of substance use in the corresponding period.

Among the individuals who were not incarcerated or in a controlled environment all 180 days before they were pregnant (n = 39), Figure AC.6 shows the percent of respondents who used no alcohol and or illicit substances (25.6%), alcohol only (2.6%), no opioids and other illicit substance classes only (43.6%), and opioids only (12.8%). Additionally, Figure II.6 shows the percent of respondents who reported using opioids with one other illicit substance class (2.6%), opioids with two other illicit substance classes (5.1%), and opioids with three other substance classes (7.7%).

FIGURE AC.6. OPIOID AND OTHER SUBSTANCE CLASS USE IN THE 6 MONTHS BEFORE PREGNANCY (N = 39)<sup>158</sup>



*In the current report (2025), of those respondents who reported using only classes of illicit substances other than opioids in the six months before pregnancy (n = 17), 64.7% reported cannabis use, 58.8% reported stimulant use, and 5.9% reported hallucinogen use.*

In addition, 30.2% of respondents reported having ever overdosed on substances (which required intervention by someone to recover, including suicide attempts) in their lifetime. Of the respondents who have ever overdosed on substances (n = 13), 15.4% of respondents reported overdosing on substances in the 6 months before program entry, and in the past 30 days, none of the respondent reported overdosing on substances.

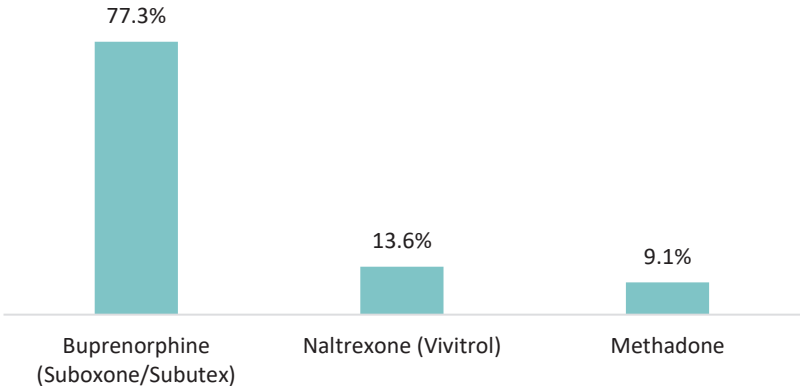
At baseline, 51.2% of respondents reported having ever received buprenorphine/naloxone, naltrexone, or methadone as part of medication-assisted treatment (MAT) for their substance use disorder symptoms. Of the women who reported having ever used MAT (n = 22), 50.0% of respondents reported participating in medication-assisted treatment in the 6 months before entering the program. These respondents (n = 11) used MAT for an average of 5.1 out of the 6 months before entering the program. For the women who reported having ever used MAT (n = 22), 59.1% used the medications in the

<sup>158</sup> The broad substance classes examined were (1) Marijuana/cannabis, (2) Opioids including heroin, (3) CNS depressants, (4) Cocaine and stimulants, and (5) Other substances (hallucinogens, inhalants, synthetic substances).

past 30 days. The women who reported having ever used MAT, 43.8% reported currently (within the past 48 hours) using the medications.

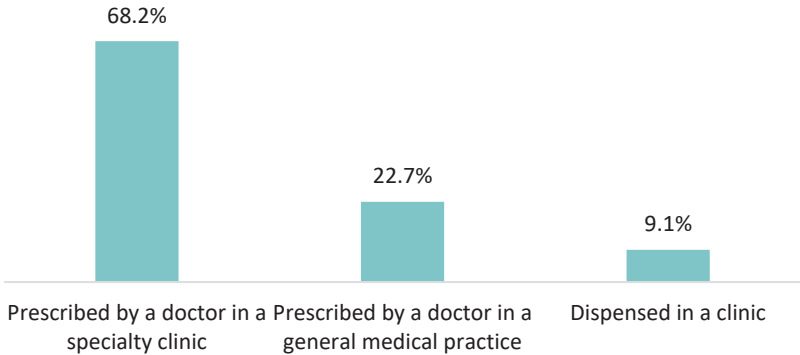
Of women who had reported every using MAT (n = 22), the majority reporting using buprenorphine most recently (77.3%) followed by naltrexone (13.6%), and methadone (9.1%; see Figure AC.7).

FIGURE AC.7. TYPE OF MEDICATION USED MOST RECENTLY (N = 22)



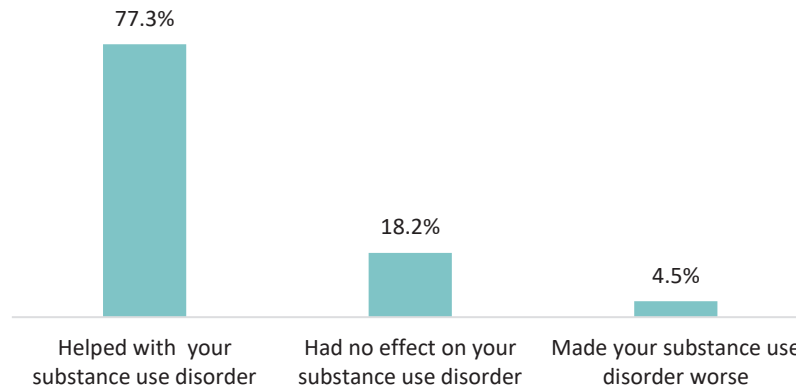
Women who had reported having every used MAT (n = 22) indicated where they had obtained the medication they most recently used. The majority of these respondents reported they were prescribed by a doctor in a specialty clinic (68.2%), 22.7% of respondents obtained the medication from a doctor in a general medical practice, and 9.1% were dispensed the medication in a methadone clinic (see Figure AC.8).

FIGURE AC.8. LOCATION OF WHERE MOST RECENT MEDICATION WAS OBTAINED (N = 22)



Of women who reported ever using MAT (n = 22), 77.3% reported that the MAT helped treat their substance use disorder symptoms. About 18% reported that MAT had no effect on their substance use disorder and 4.5% reported it make their substance use disorder worse (see Figure AC.9).

FIGURE AC.9. HOW MUCH DO YOU THINK THE MEDICATION HELPED (N = 22)



## ADVERSE CHILDHOOD EXPERIENCES (ACE) AND VICTIMIZATION

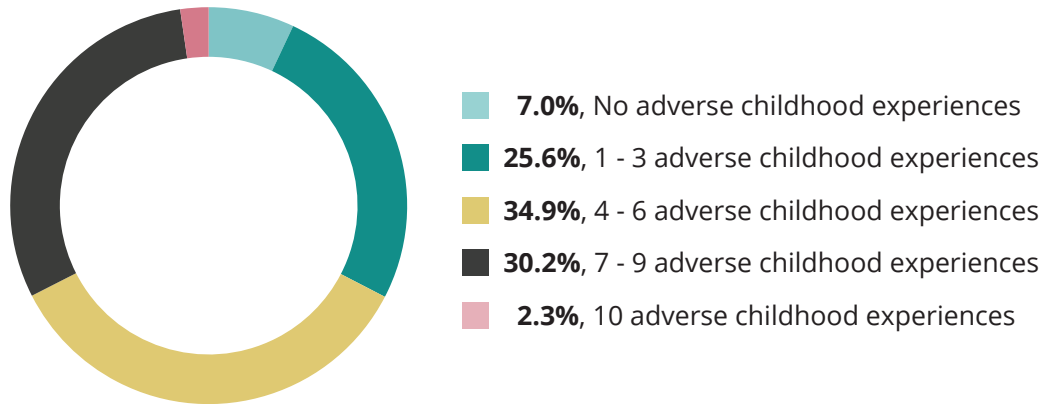
At baseline, respondents were asked sixteen items about ten types of adverse childhood experiences from the Adverse Childhood Experiences (ACE).<sup>159, 160, 161</sup> In addition to providing the percent of women who reported each of the ten types of adverse childhood experiences before the age of 18 years old captured in ACE, the number of types of experiences was computed such that the number of items respondents answered affirmatively to were added to create a score equivalent to the ACE score. A score of 0 means the respondent answered “No” to the five maltreatment and neglect items and the five household dysfunction items in the baseline interview. A score of 10 means the respondent reported all five forms of child maltreatment and neglect, and all 5 types of household dysfunction before the age of 18. Figure AC.10 shows that only 7.0% reported they did not experience any of the ACE included in the baseline assessment, which means 93.0% of respondents reported at least one type of ACE. Specifically, 25.6% reported experiencing 1 – 3 ACE, 34.9% reported experiencing 4 – 6 ACE, and 30.2% reported experiencing 7 – 9 ACE. About 2% of respondents reported experiencing all 10 types of adverse childhood experiences. Overall, respondents reported an average of 4.9 adverse childhood experiences.

<sup>159</sup> Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258.

<sup>160</sup> Centers for Disease Control and Prevention. (2014). *Prevalence of individual adverse childhood experiences*. Atlanta, GA: National Center for Injury Prevention and Control, Division of Violence Prevention. <http://www.cdc.gov/violenceprevention/acestudy/prevalence.html>.

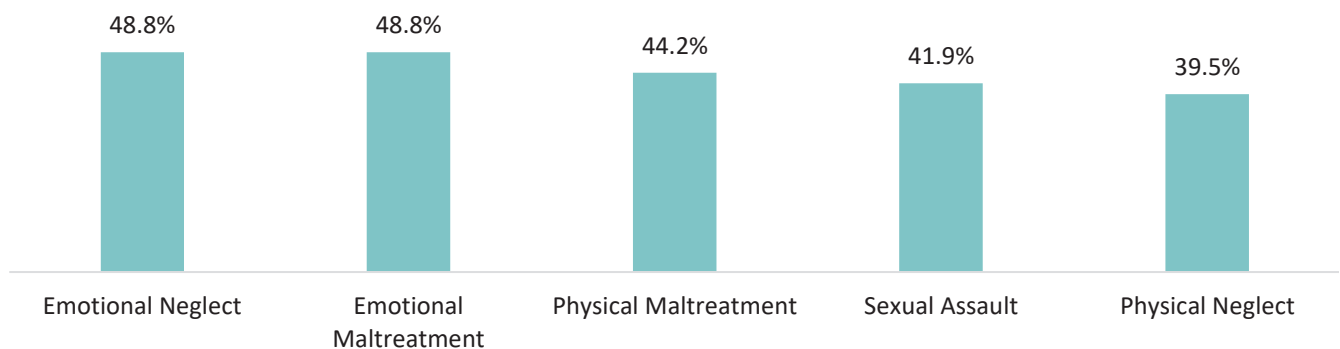
<sup>161</sup> The baseline assessment asked about 10 major categories of adverse childhood experiences: (a) three types of maltreatment/violence (e.g., emotional maltreatment, physical maltreatment, and sexual violence), (b) two types of neglect (e.g., emotional neglect, physical neglect), and (c) five types of family risks (e.g., witnessing partner violence of parent, household member who was an alcoholic or substance user, a household member who was incarcerated, a household member who was diagnosed with a mental disorder or had committed suicide, and parents who were divorced/separated).

FIGURE AC.10. NUMBER OF TYPES OF ADVERSE CHILDHOOD EXPERIENCES REPORTED AT BASELINE (N = 43)



Close to half of all respondents at baseline reported that they had experienced emotional neglect (48.8%; e.g., felt that no one in the family loved them, or they weren't special/important, or did not feel close to each other or supported) and emotional maltreatment (48.8%; e.g., insults, put down, humiliation, parent acted in a way that made the child believe they would be physically hurt). Less than half of respondents (44.2%) reported experiencing physical maltreatment (e.g., being pushed/grabbed/slapped, or being hit so hard that it left marks) and 39.5% experienced physical neglect (e.g., didn't have enough to eat as a child, had no one to protect them, parents too high/drunk to take care of them) before the age of 18. Around 42% of respondents reported sexual assault as a child (e.g., touched inappropriately by someone at least 5 years or older, or someone 5 years or older tried to or actually had sex with respondent).

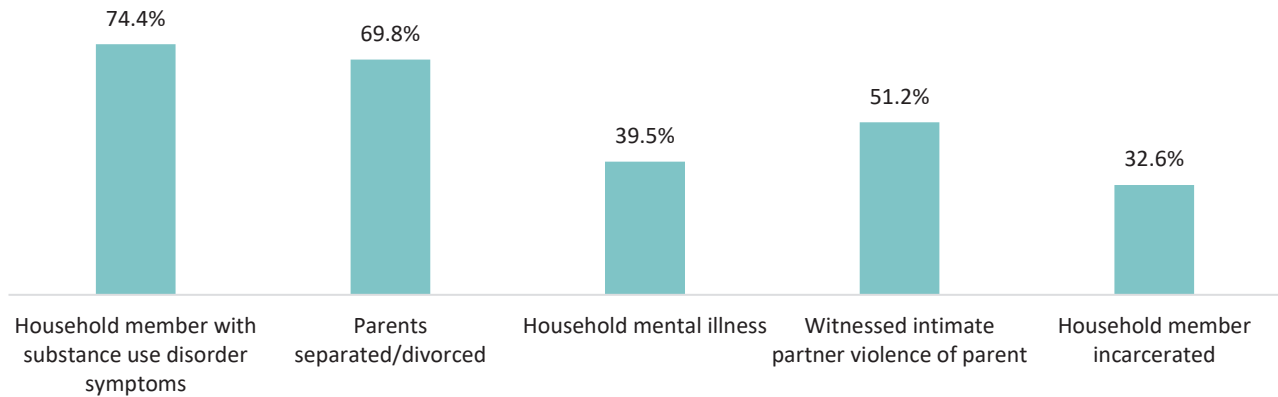
FIGURE AC.11. SPECIFIC MALTREATMENT AND VIOLENCE EXPERIENCES IN CHILDHOOD (N = 43)



Three-quarters of respondents had a household member who experienced substance use disorder symptoms and 69.8% of respondents reported their parents were divorced or lived separately and (see Figure AC.12). Almost 40% of respondents reported they had a household member with a mental illness or had attempted suicide, 51.2% witnessed intimate partner violence of a parent before the age of 18, and 32.6% reported a household member who had been incarcerated.



FIGURE AC.12. HOUSEHOLD RISKS IN CHILDHOOD (N = 43)

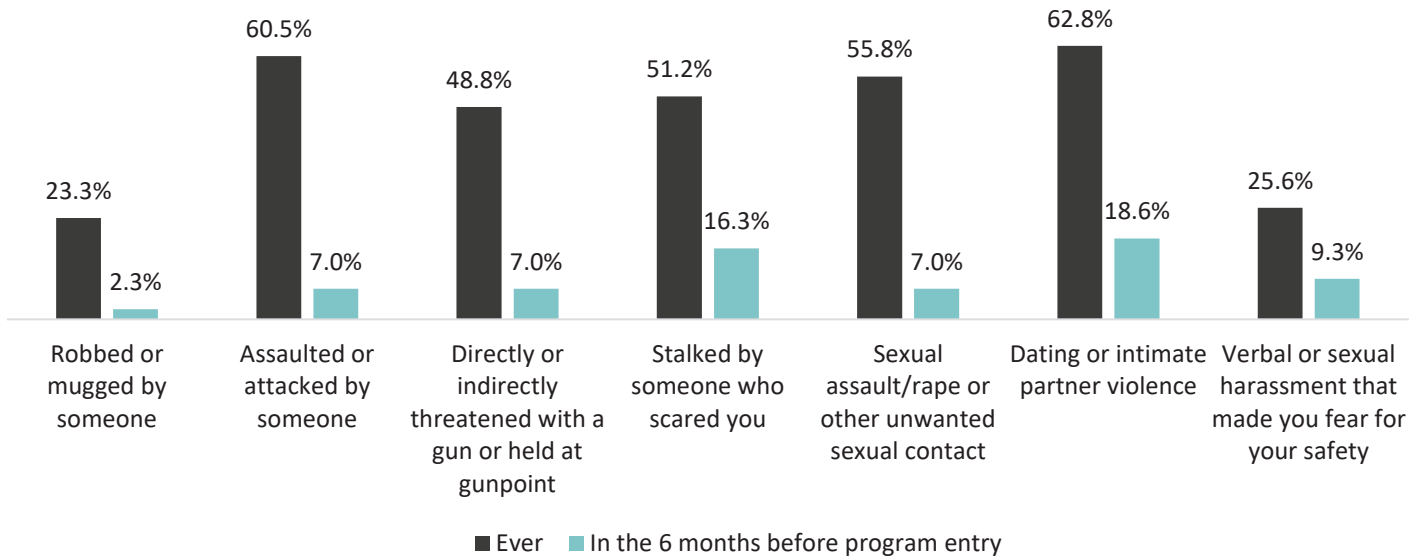


## VICTIMIZATION EXPERIENCES

At baseline, respondents were also asked about situations in which they may have experienced violence, been harmed by someone else, or made to feel unsafe by someone other than a parent or guardian in their lifetime (including adulthood). Overall, 83.7% of KY-Moms MATR women reported ever experiencing any type of violence.

Figure AC.13 shows that, specifically, 23.3% of respondents (n = 10) reported having ever been robbed or mugged. Half of these respondents reported a partner or ex-partner was the perpetrator. Less than two-thirds of respondents (60.5%) reported having ever been assaulted or attacked by someone and, of these (n = 26), 76.9% reported that a partner/ex-partner was the perpetrator. Almost half of respondents (48.8%) reported they had been directly or indirectly threatened with a gun or held at gunpoint. Of these respondents (n = 21), 71.4% reported that a partner/ex-partner was the perpetrator, 19.0% reported an acquaintance or family member, and 14.3% reported a stranger. Close to 51% of respondents reported having ever been stalked by someone who scared them and, of these (n = 22), 77.3% reported that a partner/ex-partner was the perpetrator. About 56% reported having ever experienced sexual assault, rape, or other unwanted sexual contact. Of these respondents (n = 24), 50.0% reported an acquaintance or family member was the perpetrator and 37.5% reported a partner/ex-partner. Almost two-thirds (62.8%) reported having ever experienced dating or intimate partner violence (partner physically assaulted, controlled, or emotionally violated the respondent). One-quarter of respondents reported they were ever verbally, sexually, or otherwise harassed in some way that made them afraid for their safety. Of these respondents (n = 11), 90.9% reported a partner/ex-partner was the perpetrator.

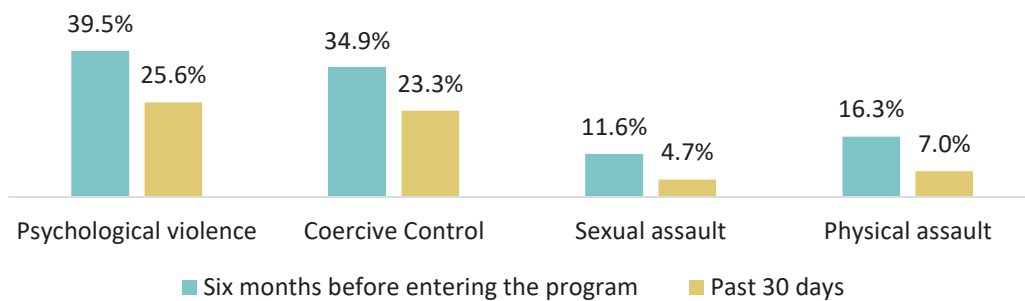
FIGURE AC.13. PERCENT OF RESPONDENTS HAVING EXPERIENCED VICTIMIZATION (N = 43)



## ANY INTIMATE PARTNER VIOLENCE

Overall, in the 6 months before entering the program, 39.5% of respondents reported experiencing any type of intimate partner violence (including psychological violence, control, physical violence, and sexual violence)<sup>162</sup> perpetrated by a current or ex-partner and 27.9% of respondents reported experiencing intimate partner violence in the past 30 days. Specifically, in the 6 months before program entry, 39.5% of respondents reported psychological violence, 34.9% reported coercive control, 11.6% reported sexual assault, and 16.3% of respondents reported physical assault.

FIGURE AC.14. VIOLENCE IN THE 6 MONTHS BEFORE PREGNANCY AND IN THE PAST 30 DAYS (N = 43)



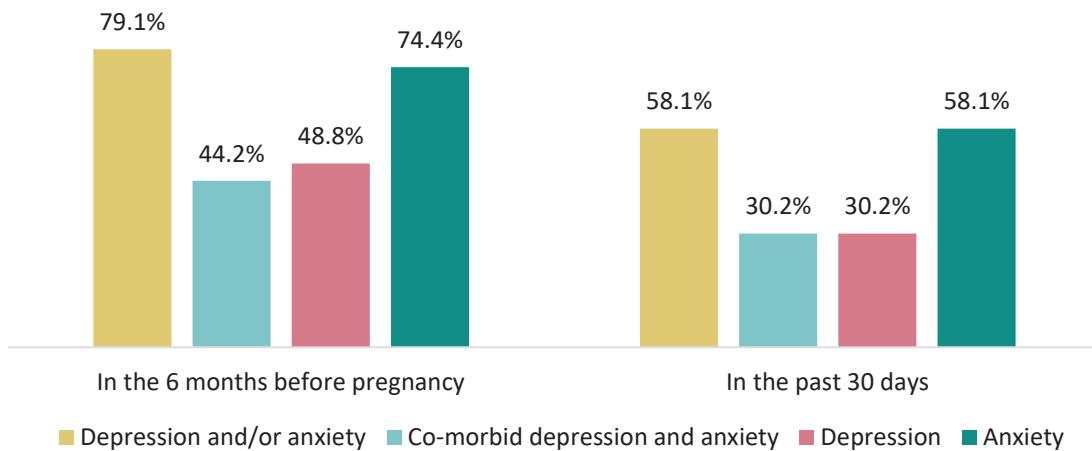
<sup>162</sup> Any violence was defined in this study as a respondent indicating “yes” to any of the intimate partner violence questions asked in the survey (e.g., verbal and psychological violence, extreme jealousy and control, threats of violence towards respondent and others close to them, physical violence, stalking, partner purposely damaging or destroying property, sexual assault/threats of assault) at each period.

## MENTAL HEALTH

In the 6 months before pregnancy, 79.1% of respondents met study criteria for depression and/or anxiety and 44.2% of respondents met criteria for co-morbid depression and anxiety. Less than half of respondents (48.8%) met study criteria for depression and 74.4% of respondents met study criteria for anxiety (see Figure AC.15).

In the previous 30 days before the baseline, 58.1% of respondents met criteria for depression and/or anxiety and 30.2% met criteria for both depression and anxiety.

FIGURE AC.15. PERCENT OF RESPONDENTS MEETING STUDY CRITERIA FOR DEPRESSION AND/OR ANXIETY AT BASELINE (N = 43)



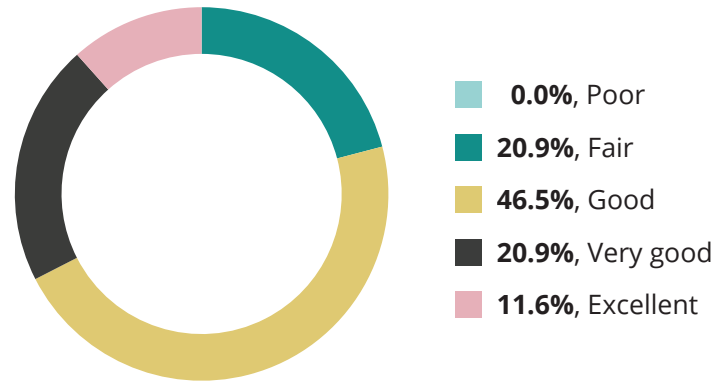
About 30% of respondents met study criteria for post-traumatic stress disorder (PTSD) in the 6 months before they entered the program (not represented in a figure).

Of the women who had their babies before entering the program (n = 13), 30.8% reported they experienced a postpartum mood disorder (such as postpartum depression, postpartum anxiety, or postpartum psychosis).

## PHYSICAL HEALTH

Respondents reported their current health as an average of 3.2 on a scale of 1 – 5, with 1 being “poor” and 5 being “excellent”. None of the respondents reported their health was poor and 22.7% said their health was fair. Over two-fifths of respondents (46.5%) reported their general health was good, 20.9% reported very good general health, and 11.6% said their health was excellent.

FIGURE AC.16. GENERAL HEALTH RATING AT BASELINE (N = 43)



At baseline, 18.6% of women reported experiencing chronic pain in the 6 months before they entered the program and, of those respondents (n = 8), they reported experiencing pain an average of 22.5 days in the past 30 days.

Overall, at baseline, 53.5% reported at least one chronic health problem. Less than half of respondents (46.5%) reported no chronic health problems, 25.6% reported having one chronic health problem, and 27.9% of respondents had two or more chronic health problems.

Among the respondents who reported at least one physical health problem at baseline (n = 23), 39.1% reported Hepatitis C, 30.4% reported severe dental problems, 26.1% reported a sexually transmitted infection (STI), 17.4% of respondents reported asthma, and 17.4% reported cardiovascular/ heart disease (not included in the figure). At baseline, only 6.8% reported they had major health problems that were not currently being treated. The majority of respondents (97.7%) reported they had insurance through Medicaid at intake. Close to 2% of respondents did not have any insurance.

TABLE AC.4. HEALTH-RELATED CONCERNS FOR KY-MOMS RESPONDENTS AT BASELINE (N = 43)

<b>Chronic pain</b> .....	18.6%
Used alcohol, prescription medications, or illicit substances to reduce physical pain.....	20.9%
<b>At least one chronic medical problem</b> .....	53.5%
Of those respondents	N = 23
Hepatitis C .....	39.1%
Severe dental problems.....	30.4%
Sexually transmitted infection .....	26.1%
Cardiovascular/heart disease.....	17.4%
Asthma .....	17.4%
<b>Insurance</b>	
No insurance .....	2.3%
Medicaid.....	97.7%
Through employer ( <i>including respondent's employer, spouse's employer, parents' employer, and self-employed</i> ) .....	0.0%
Medicare .....	0.0%
Through Health Exchange .....	0.0%
VA/Champus/Tricare .....	0.0%

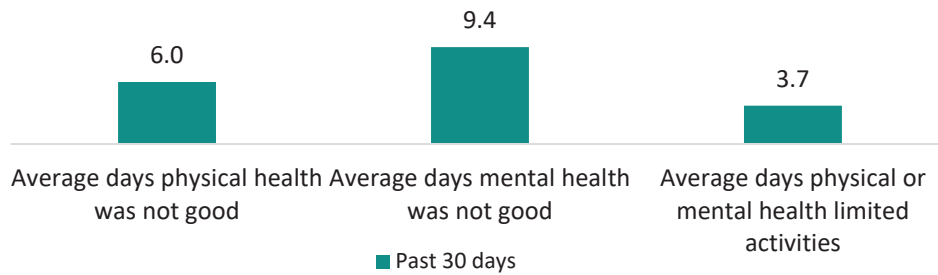
## PERCEPTIONS OF POOR PHYSICAL OR MENTAL HEALTH LIMITING ACTIVITIES

Respondents were asked how many days in the past 30 days their physical and mental health were not good at baseline (see Figure AC.17). Respondents reported an average of 6.0 days out of the past 30 days their physical health was not good at baseline with eight respondents at baseline (18.6%) reporting 14 or more days of poor physical health which is considered frequent physical distress in the past 30 days.

The average number of days respondents reported their mental health was not good was 9.4 days at prenatal baseline. Specifically, 30.2% of respondents (13 respondents) reported 14 or more days of mental distress at baseline which is indicative of frequent mental distress.

Respondents were also asked to report the number of days in the past 30 days poor physical or mental health had kept them from doing their usual activities. At baseline, the number of days respondents reported their physical or mental health kept them from doing their usual activities was an average of 3.7 days.

FIGURE AC.17. PERCEPTIONS OF POOR PHYSICAL HEALTH AND MENTAL HEALTH LIMITING ACTIVITIES IN THE PAST 30 DAYS AT BASELINE AND FOLLOW-UP (N = 43)



## PUBLIC ASSISTANCE

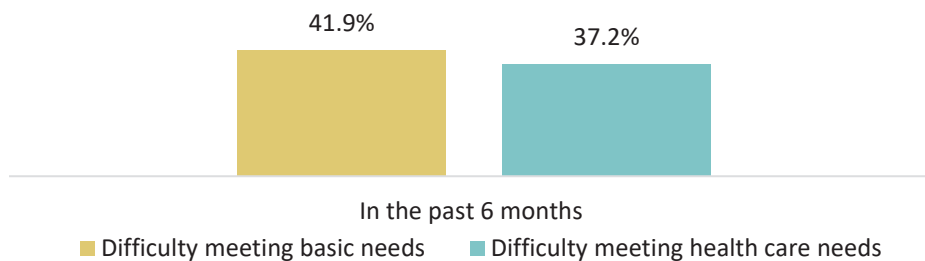
The majority of respondents (86.0%) reported they were receiving public assistance at baseline. Of those women (n = 37), most reported receiving Women, Infants and Children (WIC; 81.1%) and Supplement Nutrition Assistance Program (SNAP; 81.1%).

## ECONOMIC HARDSHIP

Economic hardship may be a better indicator of the actual day-to-day stressors respondents face than a measure of income. Therefore, the baseline survey included several questions about respondents' difficulty meeting expenses for basic needs and food insecurity.<sup>163</sup> Respondents were asked eight items, five of which asked about difficulty meeting basic living needs such as food, shelter, utilities, and telephone, and three items asked about difficulty receiving medical care for financial reasons. In the past 6 months, 41.9% of respondents reported they had difficulty meeting at least one of the basic living needs for financial reasons.

Over one-third of respondents (37.2%) reported their household had difficulty meeting health care needs (such as not going to the doctor, not having a prescription filled, or not going to the dentist because of financial reasons) in the past 6 months.

FIGURE AC.18. DIFFICULTY IN MEETING BASIC LIVING NEEDS AND HEALTH CARE NEEDS FOR FINANCIAL REASONS AT BASELINE (N = 43)

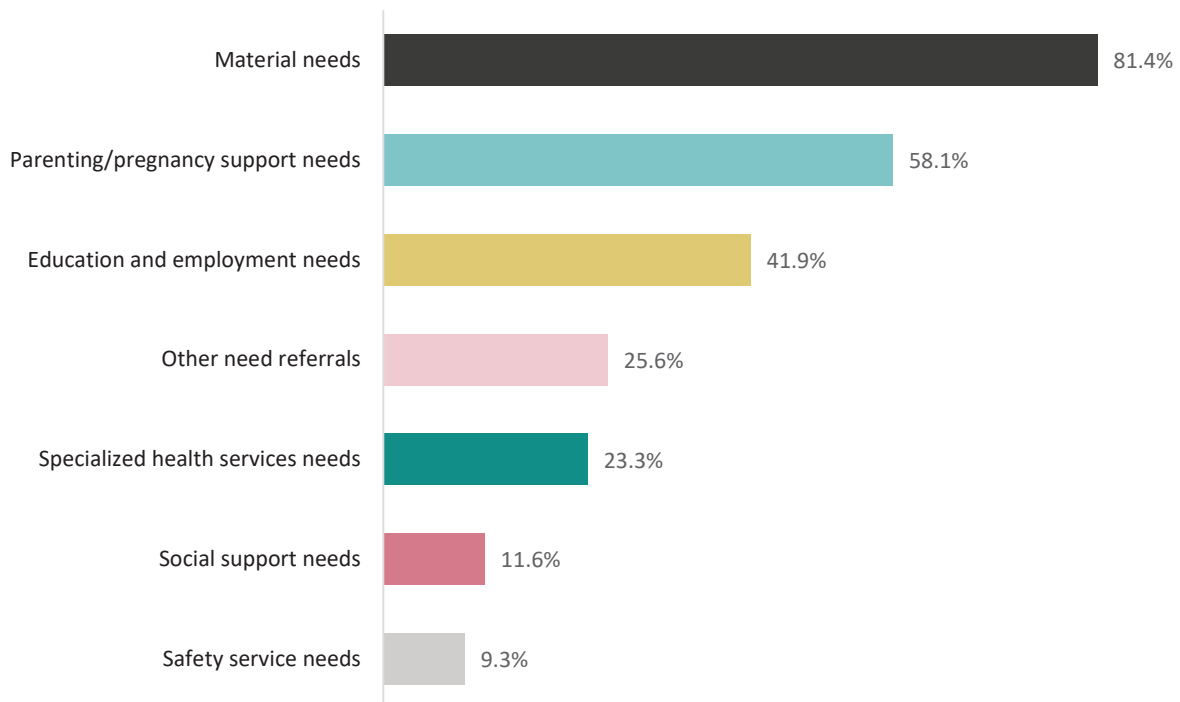


<sup>163</sup> SIPP; She, P., & Livermore, G. (2007). Material hardship, poverty, and disability among working-age adults. *Social Science Quarterly*, 88(4), 970-989.

## KY-MOMS MATR SERVICES

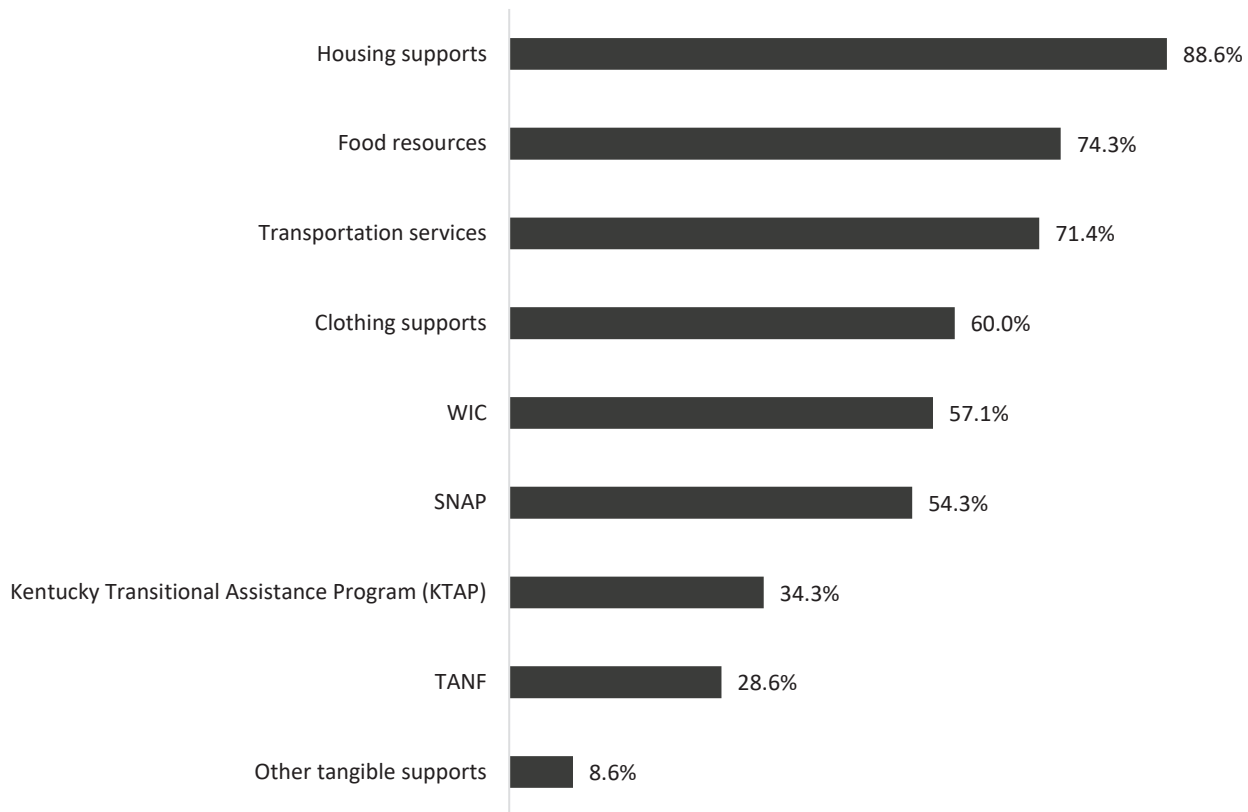
About 84% of respondents reported they needed some type of referral or service the KY-Moms MATR program provides. Specifically, 81.4% reported they needed material needs such as housing supports, transportation services, and food resources. Over half of respondents (58.1%) reported they needed parenting/pregnancy support services such as child care assistance, HANDS, and pregnancy center. Close to 42% of respondents reported they needed education and employment needs such as employment supports and GED supports. One-quarter of respondents reported they needed other referrals such as legal aid and financial planning education or supports. Less than one-quarter of respondents (23.3%) reported they needed specialized health services such as mental health services, peer support services, substance use treatment services, and postpartum mood disorder services. About 12% needed social supports such as support groups. Only 9.3% of respondents reported needing safety service needs including safety planning, domestic violence hotline, shelters, and advocates.

FIGURE. AC.19. REFERRALS AND SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 43)



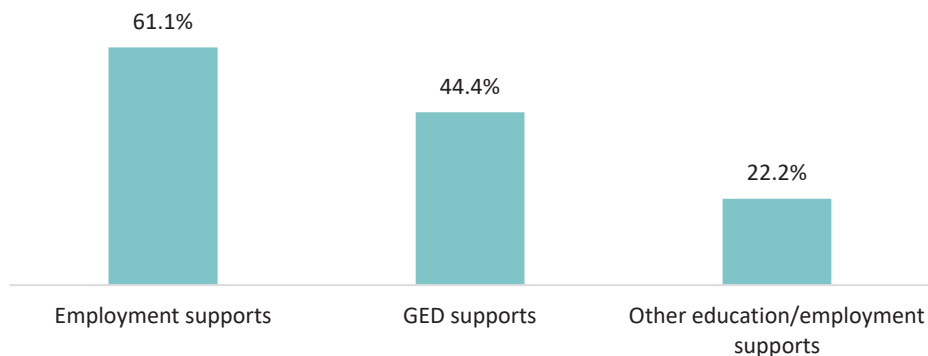
Of the women who indicated they required material needs (n = 35), the majority reported they needed housing supports (88.6%), food resources (74.3%), transportation services (71.4%), and clothing supports (60.0%; see Figure AC.19A). In addition, over half of respondents needed WIC (57.1%), and SNAP (54.3%), 34.3% needed Kentucky Transitional Assistance Program (KTAP), and 8.6% had other tangible support needs.

FIGURE. AC.19A. MATERIAL REFERRALS AND SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 35)



Of the women who indicated they had education or employment needs (n = 18), 61.1% needed employment supports, 44.4% needed GED supports, and 22.2% needed other education/employment supports (see Figure AC.19B).

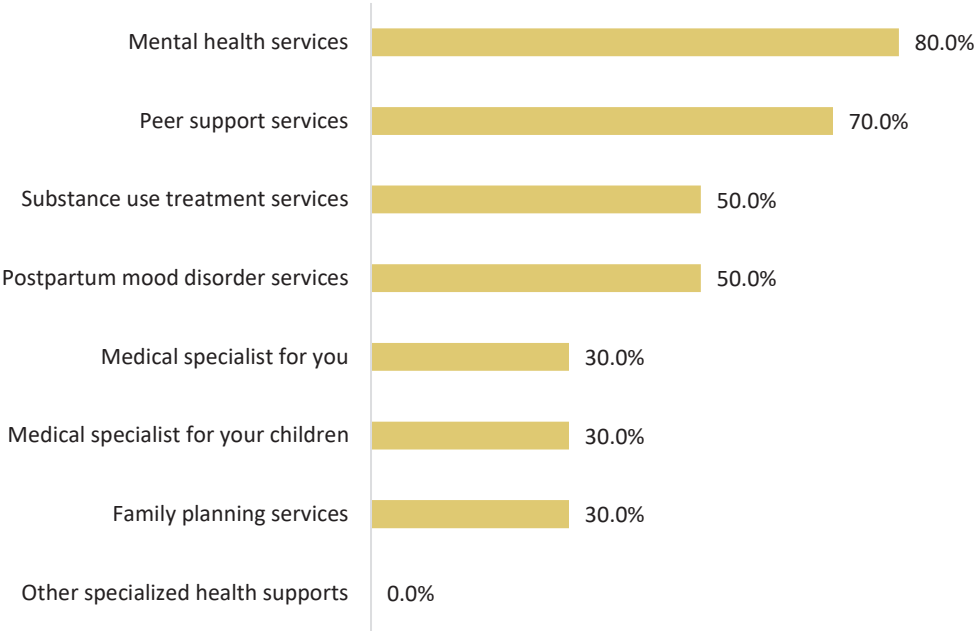
FIGURE. AC.19B. EDUCATION OR EMPLOYMENT REFERRALS AND SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 18)





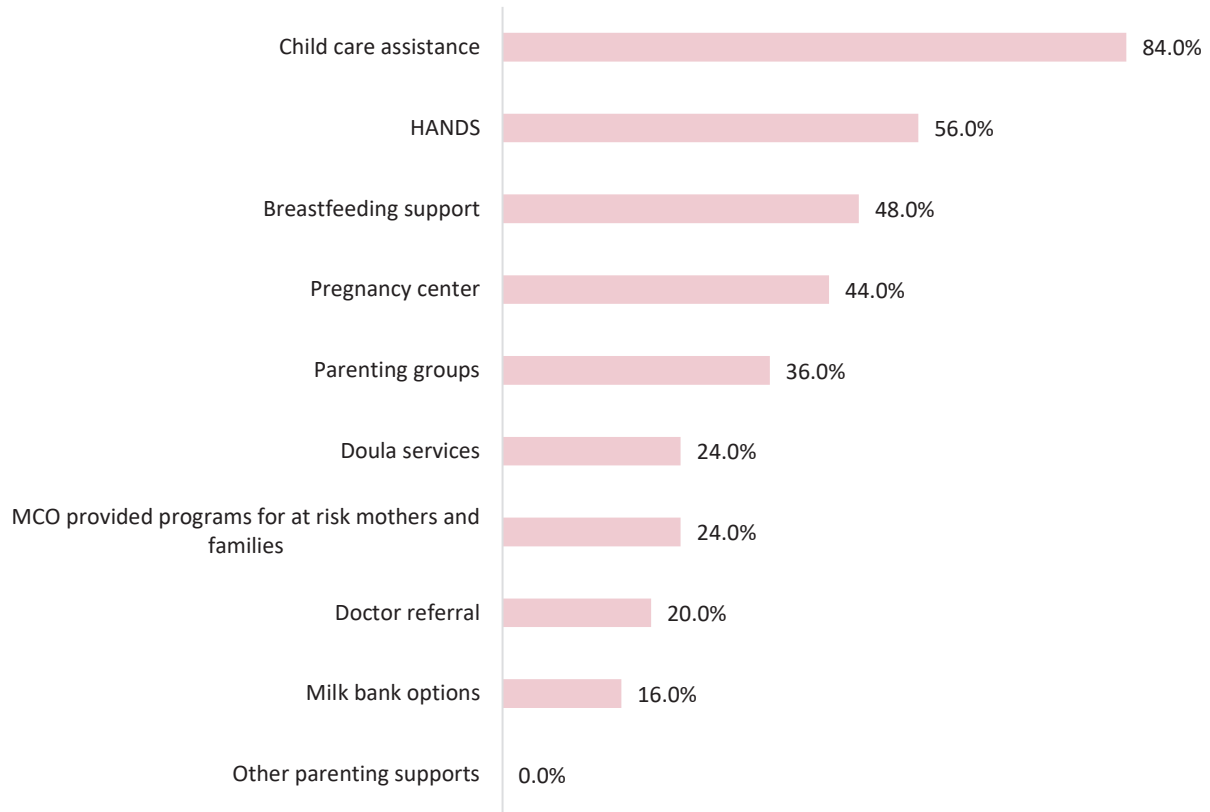
Of the women who reported they needed special health service referrals (n = 10), the majority of respondents reported mental health services (80.0%), and peer support services (70.0%). Half of respondents reported they needed substance use treatment services, and postpartum mood disorder services. Thirty percent of respondents needed medical specialists for them, medical specialists for the baby, and family planning services.

FIGURE. AC.19C. SPECIAL HEALTH SERVICES REFERRALS AND SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 10)



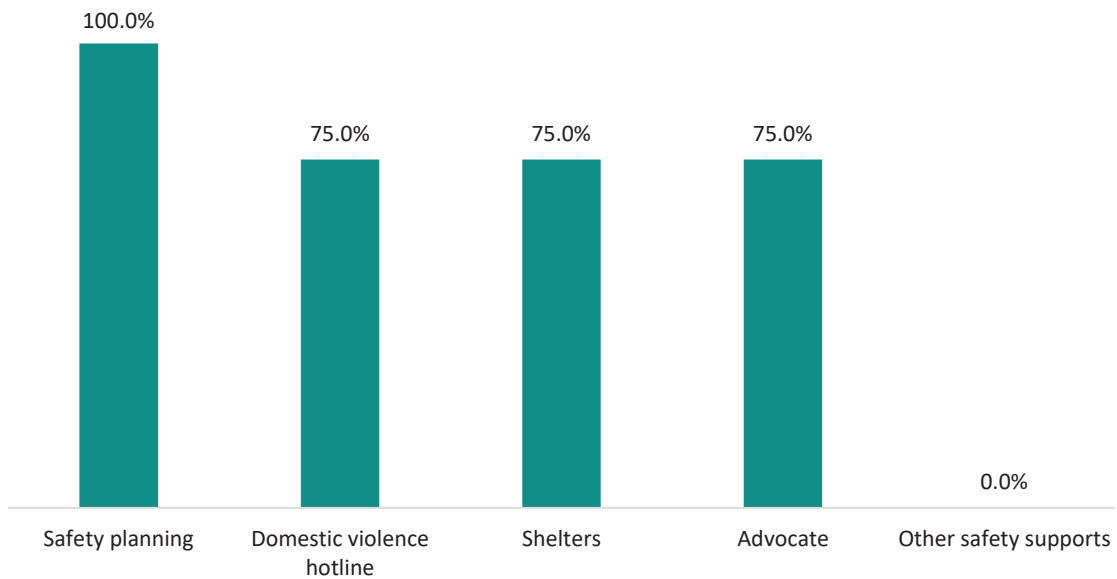
Of the women who reported they needed pregnancy and/or parenting services (n = 25), the majority of clients (84.0%) needed child care assistance and over half (56.0%) needed HANDS (see Figure AC.19D). Close to half of clients needed breastfeeding support (48.0%) and a pregnancy center (44.0%).

FIGURE. AC.19D. PREGNANCY/PARENTING SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 25)



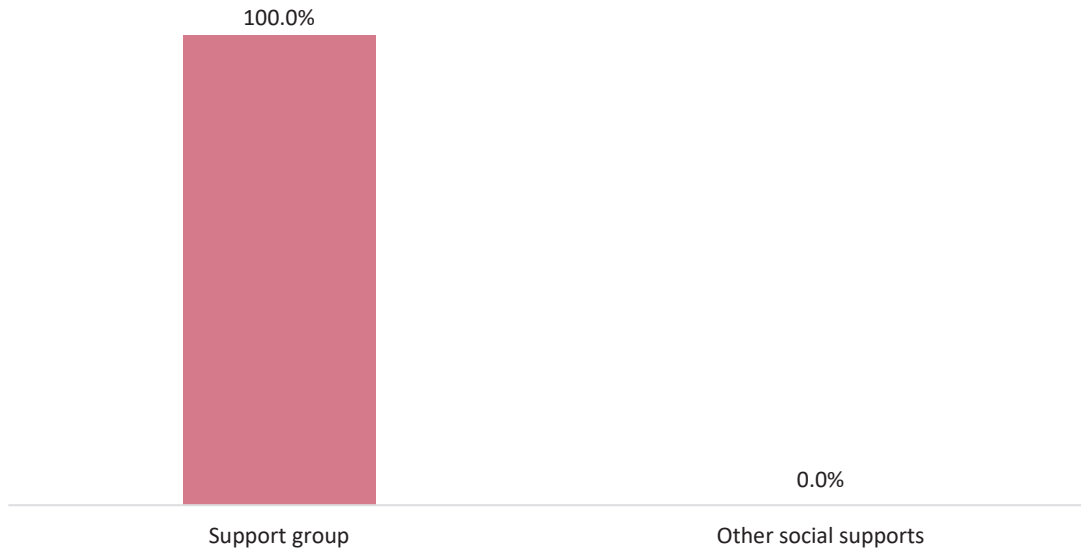
Four women reported they had safety referral needs including safety planning, domestic violence hotline, shelters, and advocates.

FIGURE. AC.19E. SAFETY REFERRALS AND SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 4)



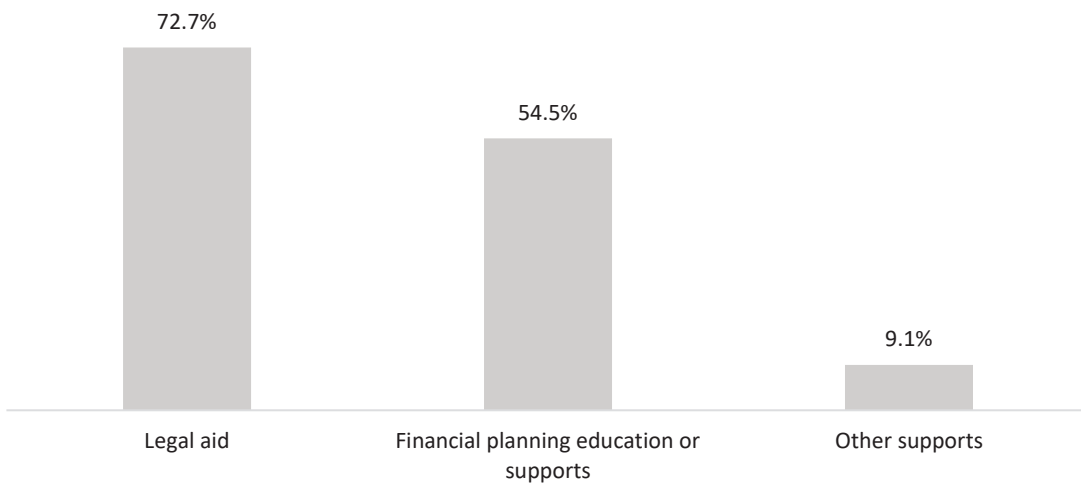
Of the respondents who mentioned needing social support referrals (n = 5), all women reported they needed support group referrals.

FIGURE. AC.19F. SOCIAL SUPPORT REFERRALS AND SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 5)



Eleven clients reported they needed other referrals and services including legal aid (72.7%), financial planning and education or supports (54.5%), and other supports (9.1%).

FIGURE. AC.19G. OTHER NEEDS REFERRALS AND SERVICES NEEDED BY KY-MOMS MATR RESPONDENTS (N = 11)



## QUALITY-OF-LIFE AND EMOTIONAL SUPPORT

### QUALITY-OF-LIFE

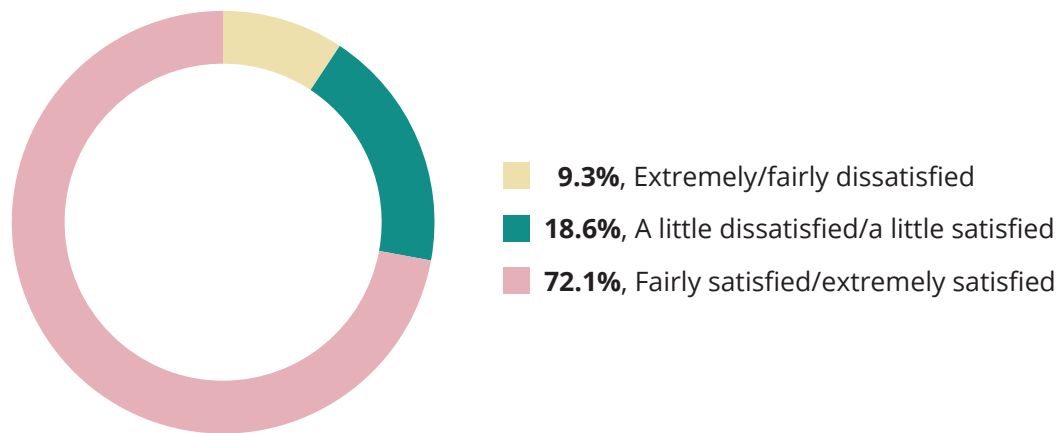
At baseline, respondents were asked to rate their current quality-of-life using ratings ranging from 1 = 'Worst imaginable' to 10 = 'Best imaginable'. Respondents rated their current quality-of-life as 6.6, on average.

### EMOTIONAL SUPPORT

In the past 30 days, respondents reported they could count on an average of 5.3 people for emotional support.

The majority of respondents were satisfied with the level of emotional support they received from others in the past 30 days. Less than three-quarter of respondents (72.1%) reported they were extremely or fairly satisfied with the level of emotional support they received from others (see Figure AC.20). In addition, 18.6% of respondents reported they were a little dissatisfied/a little satisfied, and 9.3% were extremely/fairly dissatisfied with the level of emotional support they received from others.

FIGURE AC.20. SATISFACTION WITH THE OVERALL LEVEL OF SUPPORT IN LIFE (N = 43)



### SUMMARY

The majority of respondents coming into the program were White (83.7%), 39.5% were either married or cohabiting with a partner, and the average age was 29 years old. Of the respondents who were married or cohabiting, the majority (76.5%) reported that their current partner was the father of the baby. Close to one-third had less than a high school diploma/GED and 83.7% were unemployed. Over one-quarter respondents (25.6%) reported they were referred to the KY-Moms MATR program by a counselor at a community mental health agency, and 18.6% were referred by the KY-Moms MATR prevention program.

Close to 30% had already had their babies at baseline at an average of 37.1 weeks gestation. The majority of those women (76.9%) had a regular OB/GYN and had an

average of 13.5 visits with their doctor about the pregnancy. After the baby was born, these respondents reported an average of 4.8 visits with their doctor. Of the 69.8% of women who had not had their babies when they entered the program, they were an average of 13.8 weeks into their pregnancy and 93.3% had a regular OB/GYN with an average of 7.1 visits with their health care provider. The majority of all respondents (88.4%) had a prior pregnancy and 39.5% were involved in CPS, DCBS, or social services in the six months before entering KY-Moms MATR.

KY-Moms MATR respondents reported behavioral health risks associated with negative birth outcomes in the time before becoming involved in the program including high rates of smoking, alcohol and illicit substance use, depression or anxiety, financial difficulties, and intimate partner violence. In addition, the majority of respondents (93.0%) reported at least one adverse childhood experience and half reported experiencing emotional maltreatment and/or emotional neglect in childhood.

Further, 83.7% of respondents reported ever experiencing any type of situations in which they may have experienced violence, been harmed by someone else, or made to feel unsafe by someone other than a parent or guardian in their lifetime (including adulthood). In addition, 39.5% of respondents reported experiencing any type of intimate partner violence perpetrated by a current or ex-partner.

In the 6 months before pregnancy, 79.1% of respondents met study criteria for depression and/or anxiety and 44.2% of respondents met criteria for co-morbid depression and anxiety. Less than half of respondents (48.8%) met study criteria for depression and 74.4% of respondents met study criteria for anxiety. About 30% of respondents met study criteria for post-traumatic stress disorder (PTSD) in the 6 months before they entered the program, and of the women who had their babies before entering the program (n =13), 30.8% reported they experienced a postpartum mood disorder (such as postpartum depression, postpartum anxiety, or postpartum psychosis).

The majority reported using alcohol and/or illicit substances (74.4%) in the 6 months before program entry. Overall, 71.8% of women reported using illicit substances, 25.6% reported using alcohol, and 79.5% reported smoking tobacco in the 6 months before program entry. At baseline, 51.2% of respondents reported having ever received buprenorphine/naloxone, naltrexone, or methadone as part of medication-assisted treatment (MAT) for their substance use disorder symptoms.

Overall, at baseline, 53.5% reported at least one chronic health problem and 18.6% of respondents reported chronic pain. Close to 21% of respondents reported they used alcohol, prescription medications, or illicit substances to reduce physical pain.

The majority of respondents (86.0%) reported they were receiving public assistance at baseline. In the past 6 months, 41.9% of respondents reported they had difficulty meeting at least one of the basic living needs for financial reasons and 37.2% reported their household had difficulty meeting health care needs (such as not going to the doctor, not having a prescription filled, or not going to the dentist because of financial reasons) in the past 6 months. About 84% of respondents reported they needed some type of referral or service the KY-Moms MATR program provides.