New Hampshire PRAMS
Pregnancy Risk Assessment Monitoring System

October 2022

NH DIVISION OF Public Health Services
Department of Health and Human Services

Data Brief: Maternal Depression around the time of Pregnancy, 2016-2020

BACKGROUND

The New Hampshire Pregnancy Risk Assessment Monitoring System (NH PRAMS) collects data on maternal behaviors and experiences just before, during and just after pregnancy. This report contains state-specific data on depression in relation to demographics and various health indicators.

Recent CDC research[1] shows that nationwide about one in eight women experience symptoms of postpartum depression. Additionally, a recent analysis by CDC[2] found the rate of depression diagnoses at delivery is increasing and it was seven times higher in 2015 than in 2000.

This report examines self-reported depression before pregnancy, during pregnancy, and postpartum; it also examines diagnosed depression postpartum. These findings then examine the demographics as well as various health-related behaviors of those with self-reported or diagnosed depression.

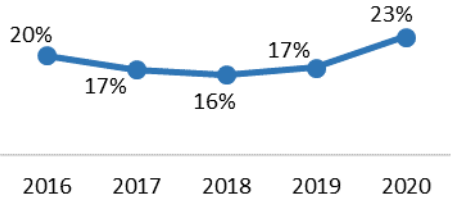
[1] https://www.cdc.gov/mmwr/volumes/69/wr/mm6919a2.htm; accessed March 23, 2022.

[2] https://journals.lww.com/greenjournal/Abstract/2019/06000/Recorded_Diagnoses_of_Depression_During_Delivery.20.aspx; accessed March 23, 2022.

NB: The findings presented in this report do not imply causality; it cannot be ascertained from this analysis whether depression led or contributed to the reported outcomes, only that an association exists.

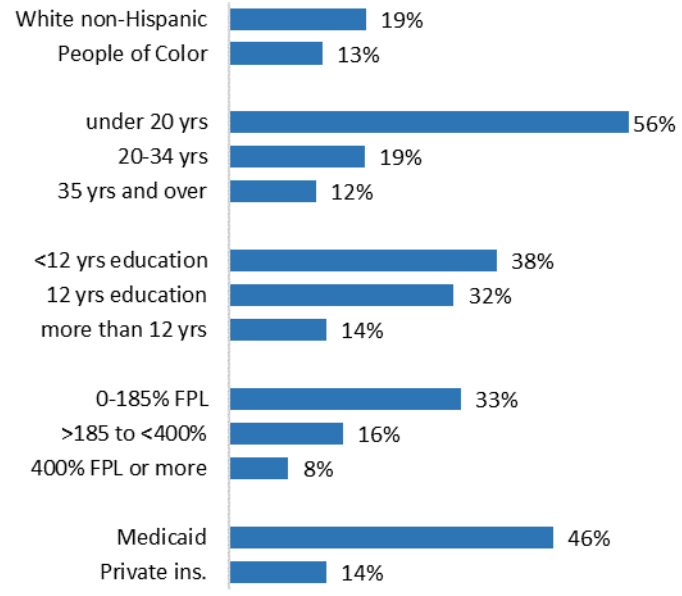
Before pregnancy

The percentage of women self-reporting they had **depression before pregnancy** ranged from 16-23%



There is a strong association between depression before pregnancy and several demographic characteristics. Women who are younger, less well educated, and who have a lower household income report depression significantly more often than others. Likewise women who are enrolled in Medicaid more often report depression than those who have private insurance.
There is also an apparent racial/ethnic finding, with People of Color reporting depression less often than White, non-Hispanic women, but this difference is not statistically significant.

Depression before pregnancy, among sub-groups



Some marked differences were seen in various health-related behaviors or experiences before pregnancy, according to whether or not depression was reported:

- Taking a vitamin weekly, and
- visiting an Ob/Gyn

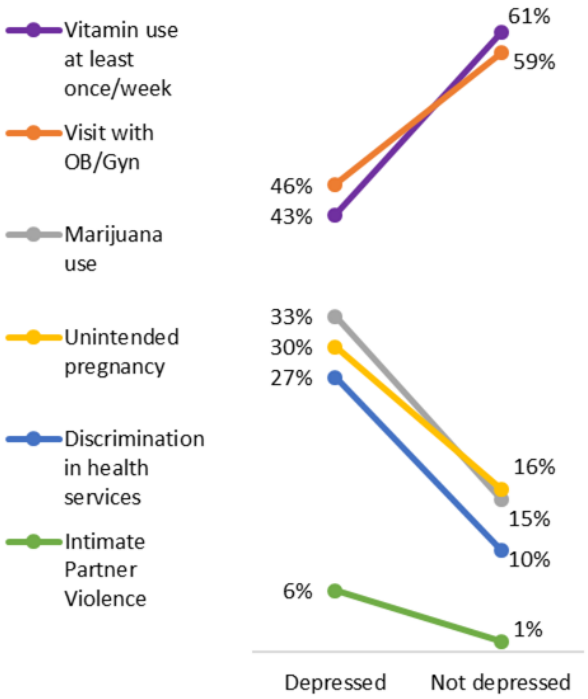
were reported significantly more often among those without depression.

Conversely,

- marijuana use,
- unintended pregnancy,
- discrimination in health care services, and
- intimate partner violence

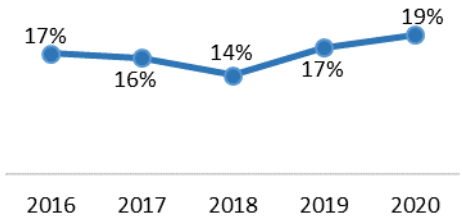
were reported significantly more often among those who had depression.

Some behaviors are reported less often, and others more often, when there is depression before pregnancy



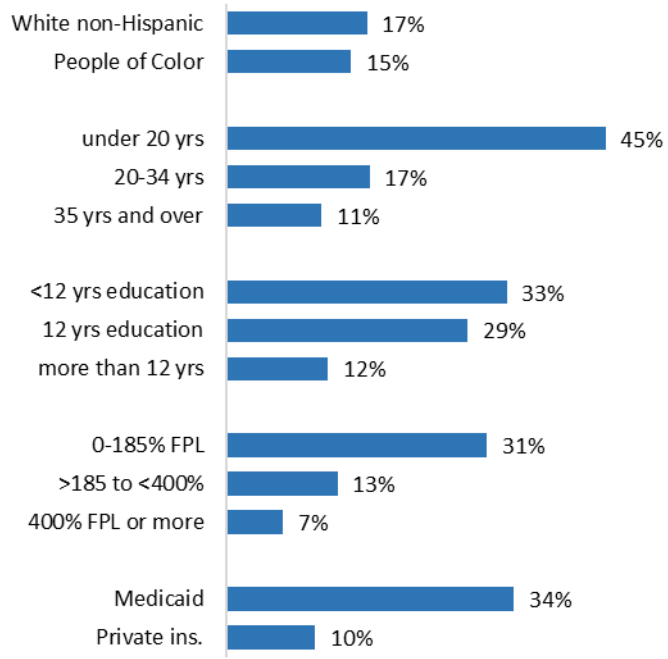
During pregnancy

Between 14% and 19% of women reported having **depression during pregnancy**



As is the case before pregnancy, there is a strong association between depression during pregnancy and several demographic characteristics. Women who are younger, less well educated, and who have a lower household income report depression significantly more often than others. Likewise women who are enrolled in Medicaid more often report depression than those who have private insurance.

Depression during pregnancy, among sub-groups



The difference between White non-Hispanic and People of Color is not significant. In all other categories (age, education, income, insurance) there is a statistically significant difference between the levels of that category.

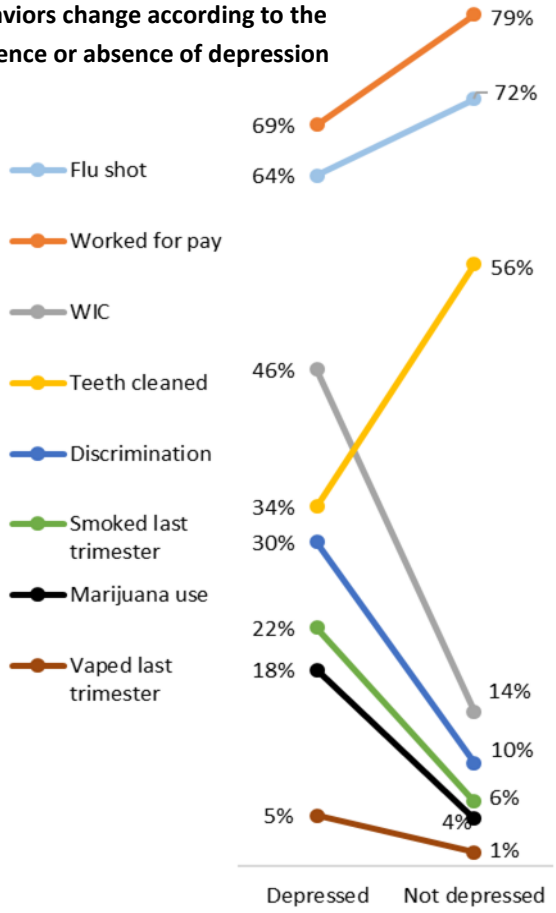
Three health-related behaviors were reported significantly more frequently when there was no depression during pregnancy:

- getting the flu shot,
- working for pay, and
- getting teeth cleaned.

When depression was reported during pregnancy, five other health-related behaviors or conditions were reported significantly more frequently than when there was no depression:

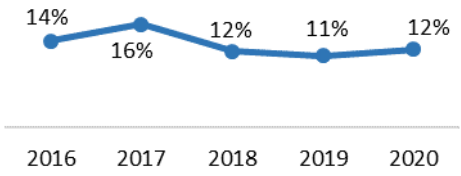
- enrollment in WIC,
- discrimination in health care,
- smoking in the last trimester of pregnancy,
- use of marijuana, and
- vaping in the last trimester.

Behaviors change according to the presence or absence of depression

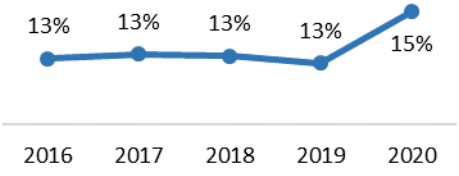


After pregnancy

Postpartum depression (self-reported) ranged from 11-16%



Diagnosed postpartum depression was reported by 13-15%



The PRAMS survey is administered 2-4 months after delivery, so this is the timeframe for the postpartum health indicators.

Self-reported postpartum depression was essentially stable over the five years, varying from 11-16%; these yearly fluctuations are not statistically different.

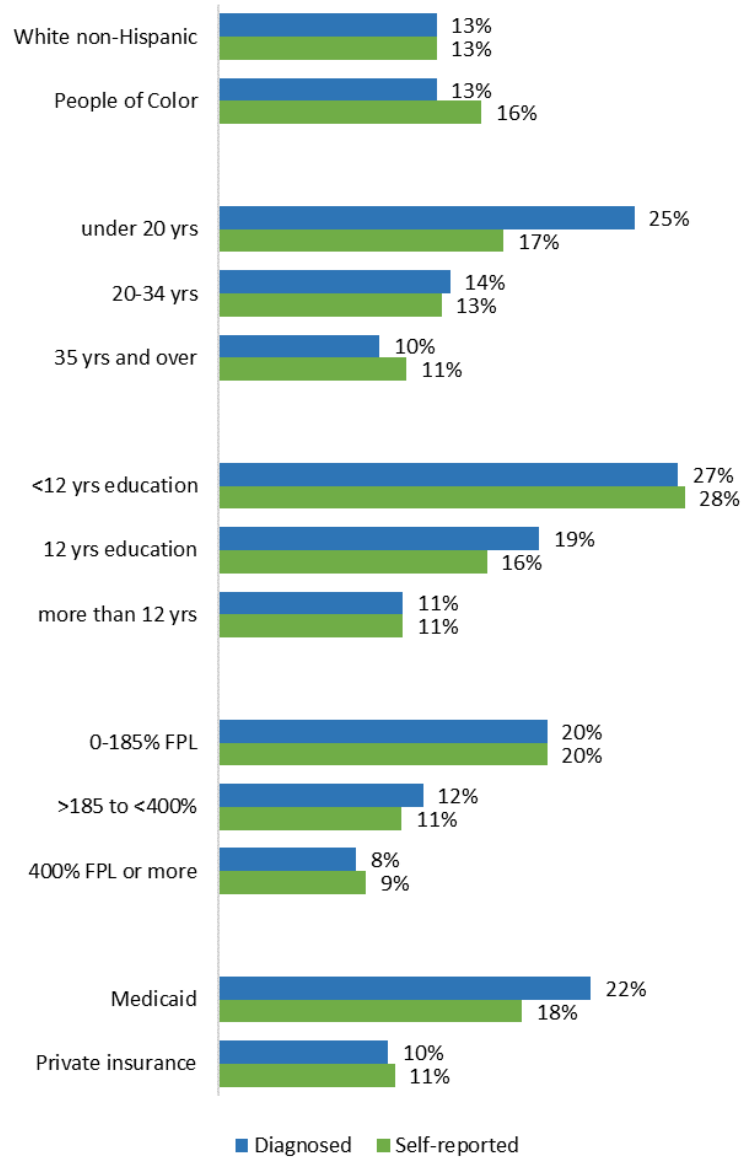
Diagnosed postpartum depression was highly similar, ranging from 13-15%; this also was not statistically different, year to year.

Summary of the frequency of depression:

Before pregnancy (self-reported): 16-23%; 5-year average 18%
During pregnancy (self-reported): 14-19%; 5-year average 16%
After pregnancy (self-reported): 11-16%; 5-year average 13%
After pregnancy (diagnosed): 13-15%; 5-year average 13%

The difference in the 5-year averages before pregnancy (18%) and after pregnancy (13%) is statistically significant, with depression more often reported before pregnancy.

Postpartum depression, among sub-groups



The demographics of postpartum depression were analyzed for both the self-reported (green bars) and the diagnosed (blue bars) groups.

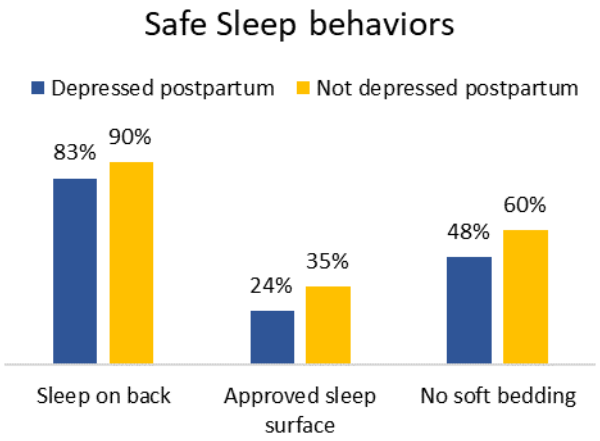
There are no statistically significant differences in any category (diagnosed vs. self-reported) at any level of stratification. Even the apparent difference between 25% and 17% among women under 20 years of age, is not statistically significant (due to small numbers of women in these groups).

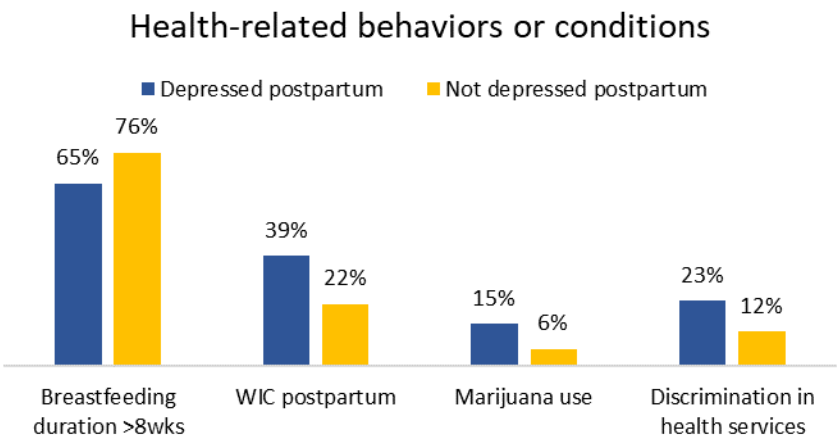
Similarly to before and during pregnancy, a strong association with depression (whether self-reported or diagnosed) is seen among women who are under 20 years of age, who have less than 12 years of education, and who have the lowest household income (0 to 185% of the Federal Poverty Level - FPL). And similarly, women who are enrolled in Medicaid also more frequently have depression, than those who have private insurance.

There are no statistically significant differences in depression (self-reported or diagnosed) between White non-Hispanics or People of Color.

Because the diagnosed and the self-reported percentages of depression were similar after pregnancy, the following analysis is based on the self-reported numbers, to be consistent with the use of self-reported numbers before and during pregnancy,

Safe sleep behaviors were examined for any association with depression, and it was found that those who reported having depression significantly less often followed the safe sleep recommendations of placing babies to sleep on their backs, on an approved sleep surface, and avoiding the use of soft or loose bedding such as blankets, pillows or soft objects in the baby's sleep environment.





Other health behaviors that showed a statistically significant association with depression included:

- Breastfeeding with a duration of 8 weeks or longer (the survey is administered when most infants are 2 months of age, so a longer duration cannot be assessed); fewer depressed mothers breastfed for this amount of time.
- Enrollment in WIC, for either mother or infant, or both; WIC enrollment was more frequent among those who had depression.
- Marijuana use; the percentage of users among women with depression was nearly three times that of women without depression.
- Discrimination in health care services were reported twice as frequently by those experiencing depression, than those not experiencing depression.

Discussion

Depression is a common condition in the entire perinatal period.

The demographics of depression are highly similar during all time periods, with age (the youngest), education (the least educated), and income (the lowest income) always significantly associated with depression. Medicaid recipients also more frequently report depression than their peers who have private insurance, since a requirement for Medicaid eligibility is low income.

When analyzing depression by race/ethnicity, no statistically significant difference was found between White non-Hispanics and People of Color during or after pregnancy; but a difference

Definition of terms used in this report

Approved sleep surface: a firm sleep surface such as a mattress in a safety-approved crib or bassinet.

Discrimination: felt you were treated unfairly in getting health-related services in the past 12 months, due to race/ethnicity, age, language/accent, substance addiction, insurance type, body weight, income level, religion, sexual orientation, or other reason.

Flu shot: received a flu shot in the 12 months before delivery of the baby.

Intimate partner violence: being pushed, hit, slapped, kicked, choked, or physically hurt in any other way by a domestic partner or ex-partner.

Marijuana use: use of marijuana or hash in any form.

Sleep on back: always placing infants to sleep on their backs.

Smoking last trimester: any smoking at all, in the last trimester.

Teeth cleaned: had teeth cleaned by a dentist or dental hygienist during pregnancy.

Unintended pregnancy: wanted the pregnancy later or never.

Vaping last trimester: any use at all of e-cigarettes or other electronic nicotine products, in the last trimester.

Visit with OB/Gyn: regular checkup at OB/Gyn's office in the 12 months before pregnancy.

Vitamin use: taking a multivitamin, a prenatal vitamin, or a folic acid during the month before pregnancy.

WIC: was enrolled in WIC (the special supplemental nutrition program for Women, Infants, and Children).

Worked for pay: Worked at a paying job at any time during the pregnancy.

was found before pregnancy, with 19% of White non-Hispanics reporting depression and 13% of People of Color reporting depression.

Many health-related behaviors also have a statistically significant association with depression; some are performed less frequently and others more frequently when depression is present. But always, behaviors that increase in association with depression are not desirable; while in the absence of depression the frequency of desirable behaviors is increased.

This can be seen before pregnancy, when vitamin use and visits to an OB/Gyn increase in frequency in the absence of depression.

During pregnancy, getting a flu shot, working for pay, and getting teeth cleaned are reported more frequently where there is no depression.

And postpartum, the recommended safe sleep behaviors as well as breastfeeding eight weeks or longer all were reported more frequently in the absence of depression.

Conversely, other health-related behaviors or conditions decrease in frequency (which is a positive change for health), in the absence of depression.

Before pregnancy, marijuana use, unintended pregnancy, discrimination in health services and intimate partner violence all diminished in the absence of depression.

During pregnancy, the behaviors that declined in frequency when there was no depression include WIC enrollment, discrimination in health care, smoking, vaping, and the use of marijuana.

Postpartum, WIC enrollment, discrimination in health care, and marijuana use all declined in the absence of depression. Since WIC enrollment has an income requirement for eligibility, this finding of association may be due to the lower incomes found among WIC enrollees (similarly to Medicaid enrollees), since low income is associated with depression.

In summary, depression is associated with low education and low income, as well as with a decrease of desirable behaviors and an increase of less desirable or undesirable behaviors.

Key Take-away: Depression during and after pregnancy is common and treatable.

Having a baby is challenging and every woman deserves support throughout the perinatal period. When someone is experiencing emotional changes or thinks that they may be depressed, they should be encouraged to make an appointment to talk to a health care provider as soon as possible. Most people get better with treatment and getting help is the best thing to do for mother and baby.

Effective depression treatment can include a combination of medication therapy, counseling, and referrals. Patients should be encouraged to follow-up on all referrals and treatment that their health care provider suggests. When discussing medications with a patient, consider whether she may be pregnant, thinking about becoming pregnant, or breastfeeding. Health service providers and patients can discuss and decide together if taking medicine while pregnant or breastfeeding is right for that person.[3]

[3] https://www.cdc.gov/reproductivehealth/features/maternal-depression/index.html; accessed March 23, 2022.

New Hampshire PRAMS
Maternal and Child Health Section/ Division of Public Health Services
Department of Health and Human Services
29 Hazen Drive, Concord, NH 03301-6504
http://dhhs.nh.gov/ PRAMS@dhhs.nh.gov 1-800-852-3345 x2081

Research for this publication was supported by the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (DHHS) as part of an award totaling $100,000. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the US Government. For more information, please visit HRSA.gov

Research reported in this publication was supported by the National Center for Chronic Disease Prevention & Health, of the Centers for Disease Control and Prevention (CDC), under Award Number U01DP006208 for the Pregnancy Risk Assessment Monitoring System. The content does not necessarily represent the official views of the CDC.