

This is a report on the Pregnancy Risk Assessment Monitoring System (PRAMS), a survey conducted on a sample of Vermont women with live births since 2001. This report presents information about cigarette smoking and smoking cessation after pregnancy for Vermont births in the years 2009 through 2011, as well as trends over the years 2002-2011.

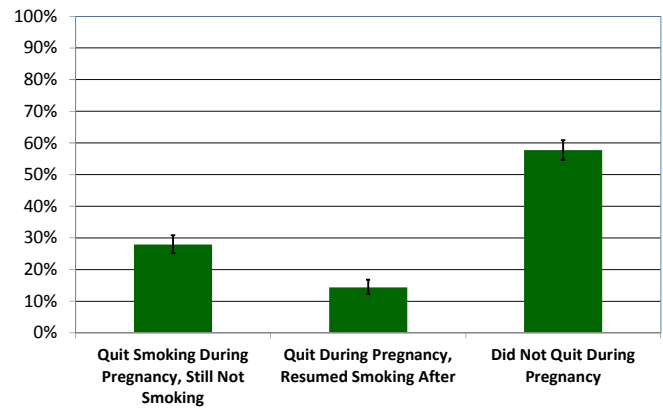
Changes in Smoking After Pregnancy

The PRAMS survey asks about cigarette smoking during the three months before pregnancy and the time the PRAMS questionnaire was completed, approximately two to six months after delivery. From 2009 to 2011, among those who had been smoking during the three months before pregnancy:

- 27.9% had quit smoking during pregnancy and had not resumed smoking;
- 14.3% had quit smoking during pregnancy and resumed smoking after delivery;
- 57.7% had never quit smoking.

Among those who had quit smoking during pregnancy, 66.1% were still not smoking by the time of the survey, and 33.9% had resumed smoking.

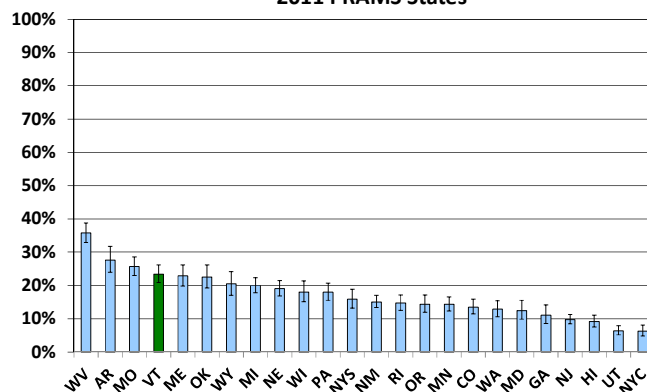
**Postpartum Smoking Among Prepregnancy Smokers,
Vermont PRAMS 2009-2011**



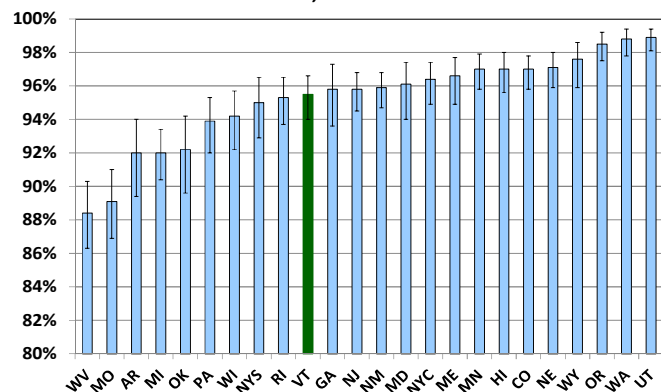
Postpartum Smoking in Vermont Compared with Other PRAMS States, 2011

For 2011 births, Vermont had the fourth-highest rate of postpartum smoking among PRAMS states with available data. 95.5% lived in homes where smoking was never allowed, 15th highest of the 24 states with 2011 data. (Note the different scales on the following two graphs.)

**Percent Who Smoked After Pregnancy
2011 PRAMS States**

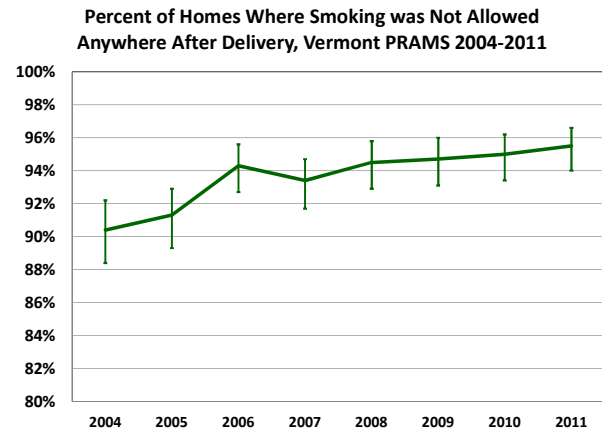
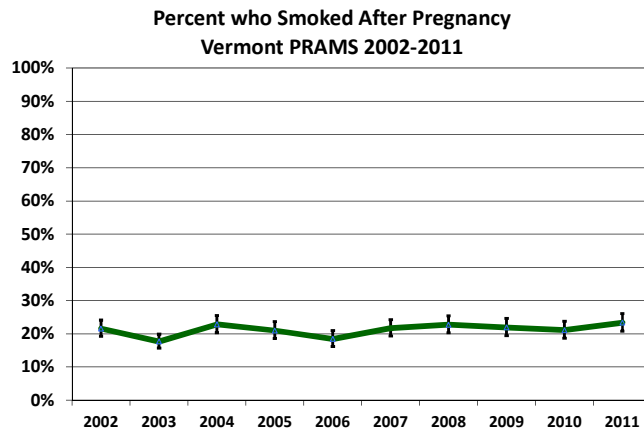


**Percent of Infants in Homes Where Smoking is
Never Allowed, 2011 PRAMS States**



Trends in Postpartum Smoking and In-home Tobacco Exposure

The rate of smoking after pregnancy remained relatively stable over the most recent ten years of available Vermont PRAMS data. Since 2004, when Vermont PRAMS first began collecting data on smoking rules in the home, Vermont has seen a statistically significant increase in the proportion of homes where smoking is completely prohibited in the months after delivery. (Note the different scales on the two following graphs.)



Factors Associated with Continued Smoking Cessation After Delivery

As noted above, around two-thirds (66.1%) of smokers who had quit for the last three months of their pregnancies were still not smoking at the time of the survey, which was approximately two to six months after delivery, while 33.9% had resumed smoking.

There were a few factors that were significantly associated with continued non-smoking at the time of the PRAMS survey. Those who had quit smoking before the last three months of pregnancy were more likely to still be non-smokers two to six months after delivery if they were:

- First-time mothers
- Still breastfeeding, or had breastfed for at least eight weeks
- Had not experienced financial stress in the 12 months before their recent birth
- Had experienced emotional stress in the 12 months before their recent birth

Surprisingly, emotional stressors (e.g. the recent death of a loved one) had the opposite association from financial stressors—among those who had quit smoking during pregnancy, the experience of at least one major emotional stressor was positively associated with continued non-smoking after pregnancy. This might suggest that individuals who are able to quit smoking during pregnancy despite recent emotional stress are particularly resilient, and better able to continue abstaining from smoking.

Other than being a first-time mother, the factors that were associated with quitting before the last three months of pregnancy were neither positively nor negatively associated with continued non-smoking. As discussed in a previous data brief (available at <http://healthvermont.gov/research/PRAMS/documents/VermontPRAMS-TobaccoPart2-November2014.pdf>), these included:

- Smoking fewer cigarettes per day before pregnancy;
- being aware that folic acid prevents birth defects;
- having a household income at or above the federal poverty level;
- drinking alcohol before pregnancy;
- being married or in a civil union.

These factors were all related to quitting tobacco during pregnancy, but did not predict either continued tobacco cessation or a return to smoking.

Appendix: Odds ratios and regression analysis used in this brief

	Odds Ratio	95% Confidence interval
First time mothers (no previous history of live birth)	5.361	2.800-10.265
Breastfed for at least 8 weeks	2.221	1.204-4.099
No financial stress in the 12 months before delivery	2.081	1.115-3.885
Emotional stress in the 12 months before delivery	1.953	1.088-3.505

Included in regression model: Age group, level of education, previous history of live birth, alcohol use before pregnancy, pre-pregnancy BMI, marital/civil union status, adequacy of prenatal care, intendedness of pregnancy, number of stressors in the 12 months leading up to delivery, income level. NOTE: In a model including a variable about knowledge of folic acid as a way to prevent birth defects, teenage smokers who had quit during pregnancy appeared more likely to remain non-smokers after pregnancy. However, this larger regression model had less overall predictive value than the model that did not include folic acid knowledge.

The following PRAMS questions were used for this data brief:

Have you smoked any cigarettes in the *past 2 years*?

- No
- Yes

In the *3 months before* you got pregnant, how many cigarettes did you smoke on an average day? (A pack has 20 cigarettes.)

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- I didn't smoke then

In the *last 3 months* of your pregnancy, how many cigarettes did you smoke on an average day? (A pack has 20 cigarettes.)

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- I didn't smoke then

How many cigarettes do you smoke on an average day *now*? (A pack has 20 cigarettes.)

- 41 cigarettes or more
- 21 to 40 cigarettes
- 11 to 20 cigarettes
- 6 to 10 cigarettes
- 1 to 5 cigarettes
- Less than 1 cigarette
- I don't smoke now

2011 PRAMS Sites (as abbreviated in above charts):

AR = Arkansas; CO = Colorado; GA = Georgia; HI = Hawaii; MD = Maryland; ME = Maine; MI = Michigan; MN = Minnesota; MO = Missouri; NE = Nebraska; NJ = New Jersey; NM = New Mexico; NYC = New York City; NYS = New York (excluding NYC); OK = Oklahoma; OR = Oregon; PA = Pennsylvania; RI = Rhode Island; UT = Utah; VT = Vermont; WA = Washington; WI = Wisconsin; WV = West Virginia; WY = Wyoming.

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