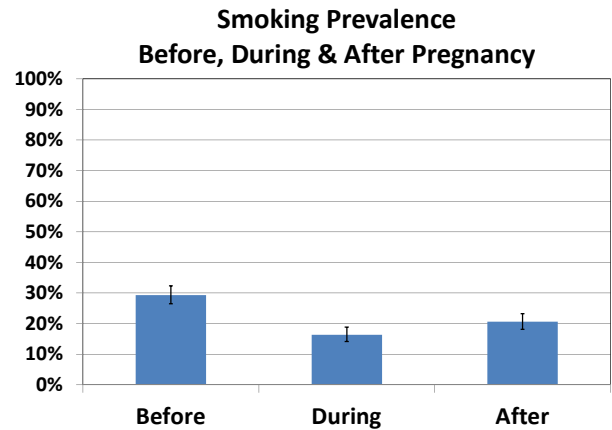


This is a report on the Pregnancy Risk Assessment Monitoring System (PRAMS), a survey conducted on a sample of Vermont women with live births since 2001. This report presents information about smoking cessation and cessation strategies among pregnant Vermonters who delivered live births in 2012, as well as examining trends in both smoking and smoking cessation.

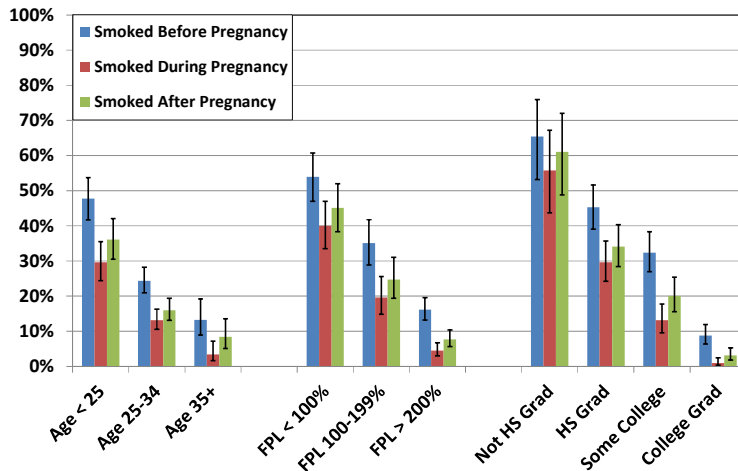
Smoking and Smoking Cessation, 2012 Births

The PRAMS survey asks about cigarette smoking in the three months before pregnancy, during pregnancy, and at the time the PRAMS questionnaire was completed, which is approximately two to six months after delivery. For 2012, the overall prevalence of smoking was:

- 29.3% before pregnancy;
- 16.3% during pregnancy;
- 20.6% after pregnancy.



**Smoking Prevalence By Age, Income & Maternal Education
2012 Vermont Births**



At all three points in time, younger women, lower-income women and women with lower levels of education smoked at a higher rate.

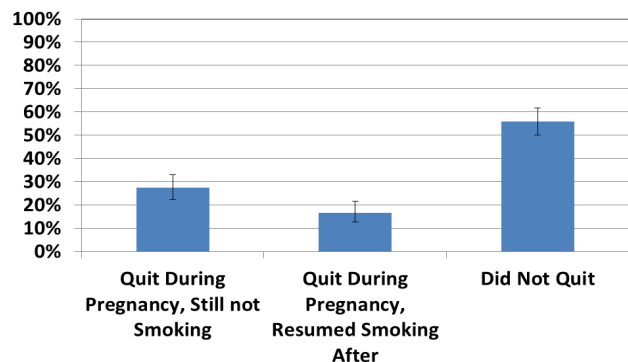
Changes in Smoking Behavior, 2012 Births

For 2012, among those who had been smoking during the three months before pregnancy, 44% quit smoking before the last three months of pregnancy.

- 27.4% of all smokers quit smoking during pregnancy and didn't resume by the time of the survey;
- 16.6% quit smoking during pregnancy and resumed smoking after delivery.

Among the 44% who quit smoking during pregnancy, around two-thirds were still not smoking at the time of the survey, and around one-third had resumed smoking.

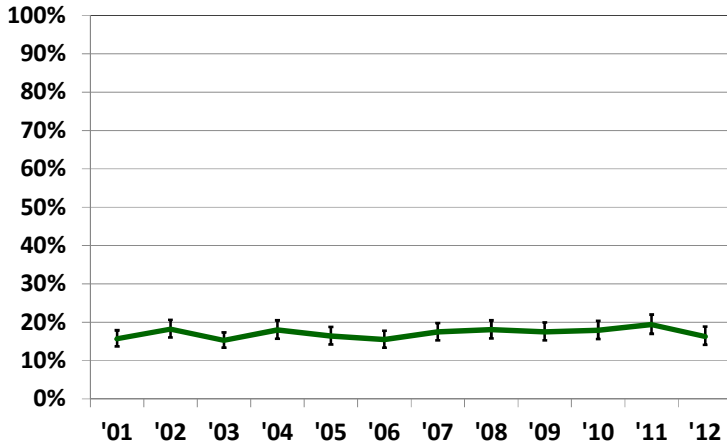
Changes in Smoking Behavior During and After Pregnancy for Smokers



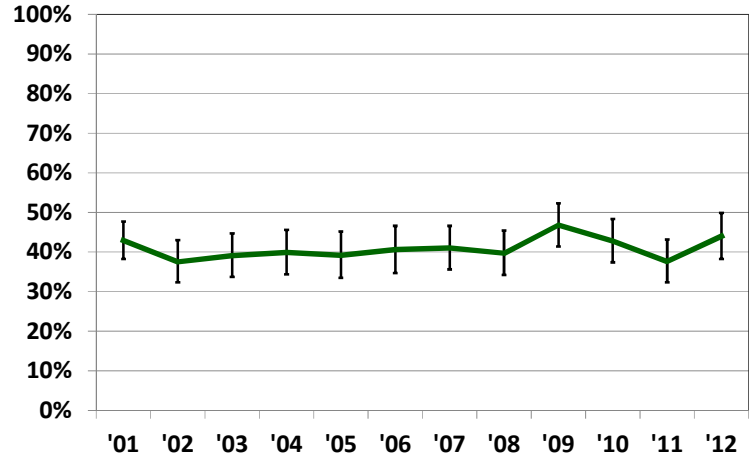
Trends in Smoking and Smoking Cessation, 2001-2012

The rate of smoking and smoking cessation during pregnancy has been followed since 2001. These rates have remained relatively constant over these years.

Smoking During Pregnancy
Vermont 2001-2012



Smokers Who Quit Smoking During Pregnancy
Vermont 2001-2012

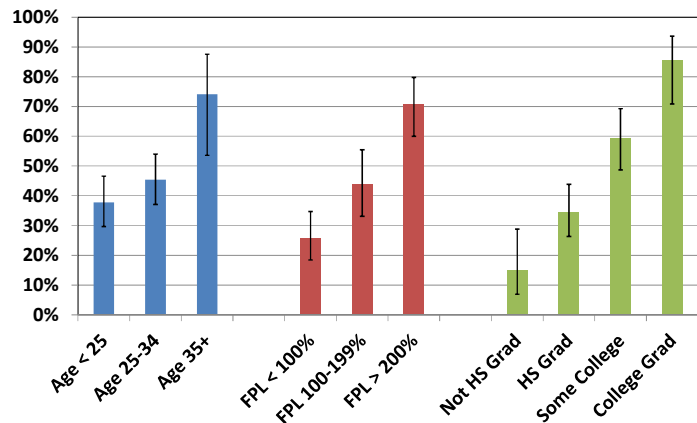


Factors Associated With Smoking Cessation during Pregnancy

Among mothers of 2012 births, smokers older than 34 were significantly more likely to quit smoking during pregnancy than younger women.

Women at or above 200% of the federal poverty level (FPL) and women with higher levels of education were also significantly more likely to stop smoking during pregnancy.

Cessation by Age, Income & Education
2012 Vermont Births



A logistic regression analysis was performed to see which variables were most strongly associated with smoking cessation during pregnancy (**table 1**, appendix). A smoker was significantly more likely to quit if her household's income was above the FPL, if she was married or in a civil union, or if she smoked ten or fewer cigarettes per day in the three months before pregnancy.

The strongest association with cessation was how much the mother smoked before pregnancy. Those who smoked ten or fewer cigarettes per day were about 11 times more likely to quit smoking during pregnancy than those who smoked more than ten cigarettes per day.

Whether she was at or below the FPL and marital/civil union status were also significant predictors of smoking cessation outcomes. Those below the FPL were about 3 times less likely to give up smoking than those who were at or above the FPL. Those who were married or in a civil union were about twice as likely to quit smoking than those who were not married nor in a civil union.

Continued Cessation after Delivery

A logistic regression analysis was performed to see which factors were most strongly associated with continued smoking cessation after giving birth (**table 2**, appendix). Women who had quit smoking during pregnancy were more likely to still be non-smokers if they:

- breastfed for eight weeks or more;
- had not experienced financial stress in the 12 months before their most recent birth;
- were between the age of 25 and 34.

The strongest relationship was with mothers who breastfed. Mothers who had breastfed at all were about 4 times more likely to not resume smoking after delivery than those who had not breastfed.

Financial stressors and age were also significantly associated with cessation. Those who had experienced financial stressors were about 3.5 times more likely to resume smoking than women who had not. Younger (those under 25 years old) and older (age 35 or more) mothers were more likely to resume smoking than those in the middle age group (between 25 and 34 years old). Younger mothers were about 3 times, and those older than 34 years about 4.5 times, more likely to resume smoking than those who were between the ages of 25 and 34.

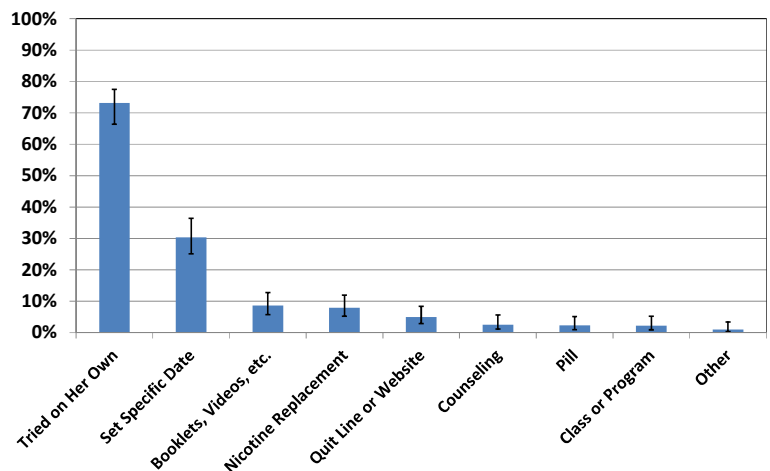
In analyses of 2009-2011 data, first-time mothers were significantly more likely to quit smoking than those who had previously given birth. This difference was not statistically significant in models based on 2012 data, but will be examined in a larger data set when 2013 data are available.

Smoking Cessation Strategies, 2012 Births

The PRAMS survey asked about a variety of activities that women may have used to stop smoking during their pregnancies:

- 72.3% tried to quit on their own (e.g. cold turkey);
- 30.4% set a specific date to stop smoking;
- 8.6% used booklets, videos or other materials;
- 7.9% used a nicotine replacement (e.g. patch, gum, or lozenge);
- 5% used a national/state quit line or website;
- Less than 5% attended a class or program, went to counseling, used a pill, or tried a method not listed. Due to the small number of responses for these items, numbers should be interpreted with caution.

Use of Smoking Cessation Strategies During Pregnancy, 2012 Vermont Births



Among all smokers, 76.4 % tried at least one of the strategies. Within a single year of data, there were an insufficient number of responses for any given cessation strategy to determine which strategies were most associated with successful smoking cessation.

Appendix: Odds ratios and regression analyses used in this brief

Table 1. Logistic regression analysis: associations with smoking cessation during pregnancy.

	Odds Ratio	95% Confidence Interval
Smoked fewer than ten cigarettes per day in the three months before pregnancy	11.121	5.328-23.212
Above federal poverty level	3.034	1.802-7.012
Married or in Civil Union	2.166	1.112-4.219
Other factors examined, but not identified as being significantly related to smoking cessation include: body mass index (BMI) of mother, age, emotional stressors, partner-related stress, traumatic stress, financial stress, marijuana use, alcohol use, depression, domestic abuse, WIC status, Medicaid status, pregnancy intention, whether the mother had previous live births, whether mother knew folic acid reduced birth defects and whether the baby had to be placed in the neonatal intensive care unit (NICU) after birth.		

Table 2. Logistic regression analysis: associations with continued non-smoking after delivery.

	Odds Ratio	95% Confidence Interval
Mother was 35 years old or more	4.501	1.122-18.048
Breastfed for any length of time	4.382	1.073-17.898
No financial stress in the 12 months before delivery	3.647	1.209-11.000
Mother was younger than 25 years old	3.024	1.127-8.109
Other factors examined, but not identified as being significantly related to continued non-smoking after delivery include: body mass index (BMI) of mother, marital status, income, emotional stressors, partner-related stress, traumatic stress, marijuana use, alcohol use, depression, domestic abuse, WIC status, Medicaid status, pregnancy intention, how many cigarettes were smoked per day before pregnancy, whether the mother had previous live births, whether mother knew folic acid reduced birth defects and whether the baby had to be placed in the neonatal intensive care unit (NICU) after birth.		

The following PRAMS questions were used for this data brief:

<p>How tall are you without shoes?</p> <p>Just before you got pregnant with your new baby, how much did you weigh?</p> <p>During your most recent pregnancy, were you on WIC (the Special Supplemental Nutrition Program for Women, infants, and Children)?</p> <p>In the 3 months before you got pregnant, how many cigarettes did you smoke on an average day?</p> <p>In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day?</p> <p>How many cigarettes do you smoke on an average day now?</p> <ul style="list-style-type: none"> • 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 <p>During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?</p> <p>During the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?</p> <ul style="list-style-type: none"> • 14 drinks or more a week • 7 to 13 drinks a week • 4 to 6 drinks a week • 1 to 3 drinks a week • Less than 1 drink a week • I didn't drink then 	<p>During the 12 months before you got pregnant with your new baby, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?</p> <p>During your most recent pregnancy, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?</p> <p>After your baby was delivered, was he or she put in an intensive care unit (NICU)?</p> <p>Did you ever breastfeed or pump breast milk to feed your new baby, even for a short period of time?</p> <p>This question is about things that may have happened during the <i>12 months before your new baby was born</i>. For each item, check No if it did not happen to you or Yes if it did.</p> <p>Are you currently breastfeeding or feeding pumped milk to your new baby?</p> <p>How many weeks or months did you breastfeed or pump milk to feed your baby?</p> <p>Are you or your husband or partner doing anything now to keep from getting pregnant?</p> <p>Since your new baby was born, how often have you felt down, depressed, or hopeless?</p> <p>Since your new baby was born, how often have you had little interest or little pleasure in doing things?</p> <ul style="list-style-type: none"> • Always • Often • Sometimes • Rarely • Never
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Report completed by statistics intern James Sharpe and Vermont PRAMS. Questions or comments about this report may be directed to John Davy at (802)863-7661 or john.davy@vermont.gov. More information about Vermont PRAMS can also be found at <http://healthvermont.gov/research/PRAMS/prams.aspx>.