



# Perinatal Cigarette Smoking

## Health Impact

Smoking during pregnancy remains one of the most common preventable causes of infant morbidity and mortality.<sup>1</sup>

Maternal cigarette smoking during pregnancy increases the risk for pregnancy complications including placenta previa, placental abruption, premature rupture of the membrane, preterm delivery, restricted fetal growth, and sudden infant death syndrome [SIDS].<sup>1</sup>

Smoking around the time of conception has been associated with the development of cleft lip with or without cleft palate.<sup>2</sup>

In the United States, 5-8 percent of preterm deliveries, 13-19 percent of term low-birth-weight deliveries, 23-34 percent of SIDS, and 5-7 percent of preterm-related deaths are attributable to prenatal smoking.<sup>3</sup>

## Cost Impact

Maternal smoking increased the risk of admission to a neonatal intensive care unit (NICU) by almost 20 percent and increased the length of stay.<sup>4</sup>

NICU care for an infant costs over \$3600 per night.<sup>4</sup>

Smoking attributable expenses were estimated at \$149 million nationally and \$340 per maternal smoker.<sup>5</sup>

## What is Being Done in Ohio?

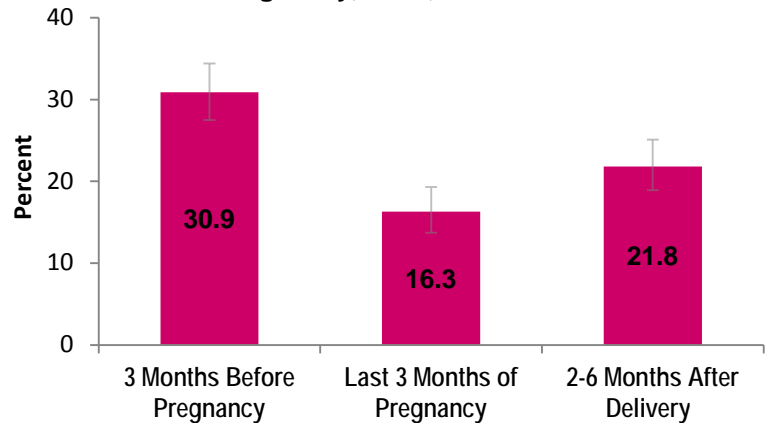
ODH uses the "5 A's" in 14 Child and Family Health Services Perinatal Direct Care clinics and 13 Women, Infant, and Children (WIC) projects.

The 5 A's is an evidence-based intervention method that increases smoking cessation among pregnant smokers by 30-70 percent.<sup>6</sup>

The 5 A's method includes **A**sking a woman about her tobacco use, **A**dvising her to quit, **A**ssessing willingness to make an attempt to quit, **A**ssisting her with counseling or pharmacotherapy and **A**rranging a follow-up appointment or referral.

Also available to pregnant women is the Ohio Tobacco Quit Line | 1-800-QUIT-NOW.

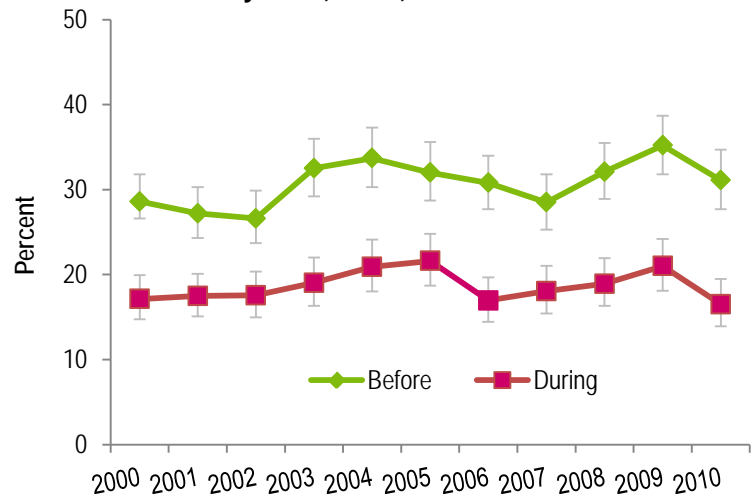
**Figure 1: Smoking Before, During, and After Pregnancy, Ohio, 2010**



Source: Ohio Pregnancy Risk Assessment Monitoring System, Ohio Department of Health

- Almost one in three women who had a live birth in Ohio in 2010 smoked in the three months before becoming pregnant.
- Of those women, 47 percent quit during pregnancy, with 16.3 percent of all women still smoking in the last trimester of pregnancy.
- Some women who quit returned to smoking after their baby was born, with 21.8 percent of Ohio women smoking 2-6 months after delivery.

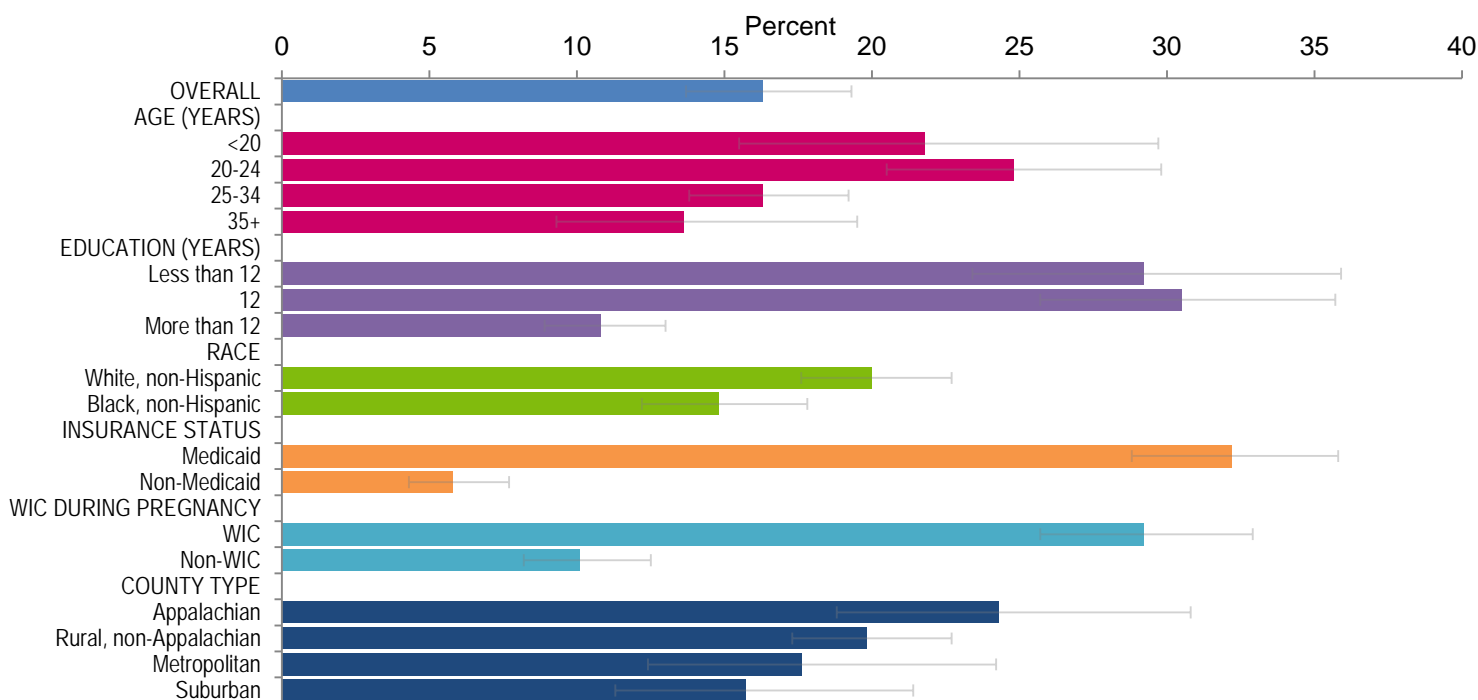
**Figure 2: Smoking Before and During Pregnancy, By Year, Ohio, 2000-2010**



Source: Ohio Pregnancy Risk Assessment Monitoring System, Ohio Department of Health

- Smoking rates have **not** changed significantly from 2000 to 2010, either before or during pregnancy.
- Comparing just 2010 to 2009, however, there were small but significant decreases, from 35 to 31 percent in smoking before pregnancy and 21 to 16 percent during the last 3 months of pregnancy.

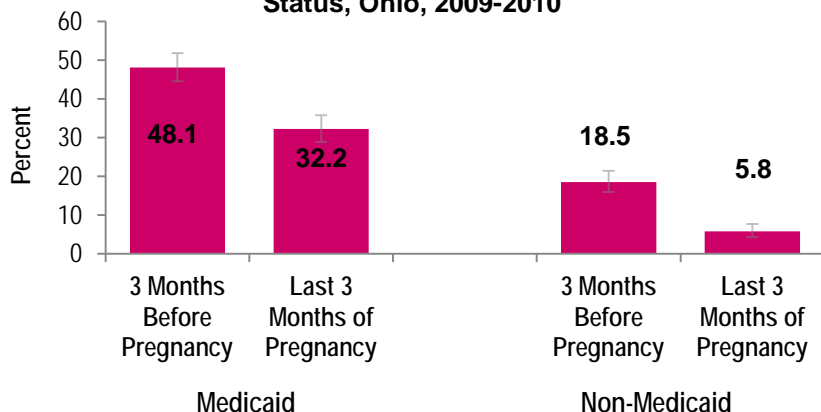
**Figure 3: Smoking During the Last 3 Months of Pregnancy, By Demographics, Ohio, 2009-2010**



Source: Ohio Pregnancy Risk Assessment Monitoring System, Ohio Department of Health

- During the last three months of pregnancy:
  - women ages 20-24 were almost twice as likely to smoke than women 35 years of age or older.
  - women with more than 12 years of education were less likely to smoke than women with 12 or fewer years.
  - women with Medicaid insurance were more than five times more likely to smoke than women without Medicaid insurance.
  - women on WIC were almost three times more likely to smoke compared to non WIC participants.

**Figure 4: Smoking Before and During Pregnancy, By Medicaid Status, Ohio, 2009-2010**



Source: Ohio Pregnancy Risk Assessment Monitoring System, Ohio Department of Health

- Women covered by Medicaid insurance were more likely to smoke before and during pregnancy compared to women without Medicaid (48.1 percent vs. 18.5 percent and 32.2 percent vs. 5.8 percent, respectively).
- Among women covered by Medicaid:
  - almost half smoked before becoming pregnant.
  - one in three smoked throughout pregnancy.
- Among women who smoked before pregnancy, those on Medicaid were half as likely to quit (34 percent) compared to other women (68 percent).

Data Notes: Mothers on Medicaid include those that reported having Medicaid for health care coverage during any of the following three time periods: in the month before pregnancy, for prenatal care visits, or for delivery. Grey bars within figures represent 95% confidence intervals (CI). The width of the CI gives us an idea of how certain we are about the true prevalence. The 95% CI means that if we were to repeat this study 100 times, 95 of the intervals generated would contain the true estimate.

**References:**

- Centers for Disease Control and Prevention. The Health Consequences of Smoking: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services; 2004.
- Centers for Disease Control and Prevention. How Tobacco Smoke Causes Disease: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services; 2010.
- Dietz PM, England LJ, Shapiro-Mendoza CK, Tong VT, Farr SL, Callaghan WM. Infant morbidity and mortality attributable to prenatal smoking in the United States Am J Prev Med 2010;39(1):45-52.
- Adams EK, Miller VP, Ernst C, Nishimura BK, Melvin C, Merritt R. Neonatal health care costs related to smoking during pregnancy. Health Econ 2002 Apr;11(3):193-206.
- Adams KE, Melvin CL, Raskind-Hood C, Joski PJ, and Galactionova E. Infant Delivery Costs Related to Maternal Smoking: An Update. Nicotine & Tobacco Research 2011;13(8):627-637.
- Fiore MC, Jaen CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008.

Data Contact: Missy Vonderbrink  
 missy.vonderbrink@odh.ohio.gov  
 Program Contact: Janelle Edwards  
 janelle.edwards@odh.ohio.gov

Ohio Department of Health  
 www.odh.ohio.gov

