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Note: References are available for healthcare professionals at [www.youquittwoquit.com](http://www.youquittwoquit.com)

## Smoking Cessation: An Essential Maternal Child Health Intervention

Nationally, between 12-20% of all pregnant women smoke.<sup>1</sup> In 2008 in North Carolina, 10.4% of all live births were to women who reported smoking during pregnancy, although in some counties as many as 33% of babies were born to women who smoked.<sup>2</sup> The evidence of the negative impact of smoking on pregnant women, infants and mothers continues to grow. For example, a recently published study found that continuous smoking during pregnancy increases the likelihood that children will have behavioral and attention deficit problems.<sup>3</sup>

This new research adds to the large body of knowledge about the harmful effect of smoking on this population. Women who smoke are less likely to become pregnant, compared to non-smokers. Smoking during pregnancy has been linked to up to 10% of all infant deaths.<sup>4</sup> Pregnant smokers are twice as likely to have a low birth weight baby<sup>5</sup> and more likely to deliver their babies prematurely.<sup>6</sup> Babies whose mothers smoked during their pregnancy are more likely to die from Sudden Infant Death Syndrome (SIDS) than those whose mothers did not smoke.<sup>7</sup> Smoking during pregnancy may impair normal fetal brain and nervous system development.<sup>8</sup> The direct medical costs of a complicated birth are 66% higher for smokers than for non-smokers, reflecting the greater severity of complications and the more intensive care that is required.<sup>9</sup>

Smoking after the baby is born poses risks for the mother, child, and other household members. Twenty-seven percent of US children aged 6 years and under live with a parent or

other family member who smokes; the annual direct medical costs associated with this exposure to parental smoking is estimated at \$4.6 billion.<sup>11</sup> Environmental tobacco smoke, also known as second-hand smoke, can contribute to an increase in respiratory illnesses in mothers and babies, middle ear infections in children, children with impaired lung function<sup>12</sup> and an increase in SIDS.<sup>13</sup>

The *Treating Tobacco Use and Dependence: 2008 Update* provides recommendations specific to Tobacco Cessation for Pregnant Women and Protecting Children from Second-Hand Smoke. This guide notes that “whenever possible pregnant smokers should be offered person-to-person psychosocial interventions that exceed minimal advice to quit. Clinicians should offer effective tobacco dependence interventions to pregnant smokers at the first prenatal visit as well as throughout the course of pregnancy.” The guide also notes that cessation counseling delivered in pediatric settings has been shown to be effective in increasing abstinence among parents who smoke, therefore clinicians should ask parents about tobacco use and offer them cessation advice and assistance.<sup>14</sup>

Smoking cessation screening and counseling during and after pregnancy must be a core component of every maternity care, family medicine, and pediatric practice. This practice bulletin offers a number of best practice strategies and resources to health care providers to support this important intervention. The consequences of neglecting this essential prevention opportunity span generations.

# The 5 A's: An Evidence-Based, Best Practice Intervention

As documented in the clinical practice guideline *Treating Tobacco Use and Dependence: 2008 Update*, a brief counseling intervention of 5 to 15 minutes, when delivered by a trained health care professional and augmented with pregnancy- and/or parent-specific self-help materials, can double or, in some cases, triple smoking cessation rates among pregnant and postpartum women.<sup>1</sup> The 5 A's is a brief, evidence-based intervention that providers can use to help their patients quit smoking. The components and anticipated amount of time required for the 5 A's are as follows<sup>1</sup>:

## **ASK** – 1 minute

Ask patient about smoking status using a structured question. The use of a multiple choice question, as opposed to a yes/no question, can increase the disclosure of tobacco use among pregnant women by 40%.<sup>1</sup>

## **ADVISE** – 1 minute

Provide clear, strong advice to quit with personalized messages about the impact of smoking on mother and fetus. Follow with personalized message stressing the impact of continued use on the patient and her family.

## **ASSESS** – 1 minute

Assess the willingness of the patient to make a quit attempt within the next 30 days.

## **ASSIST** – 3 minutes +

Suggest and encourage the use of problem-solving methods and skills for cessation. Provide social support as part of the treatment. Arrange for support in the smoker's environment, such as proactive referral to Quitline NC. Provide pregnancy and/or parent specific self-help smoking cessation materials.

## **ARRANGE** – 1 minute

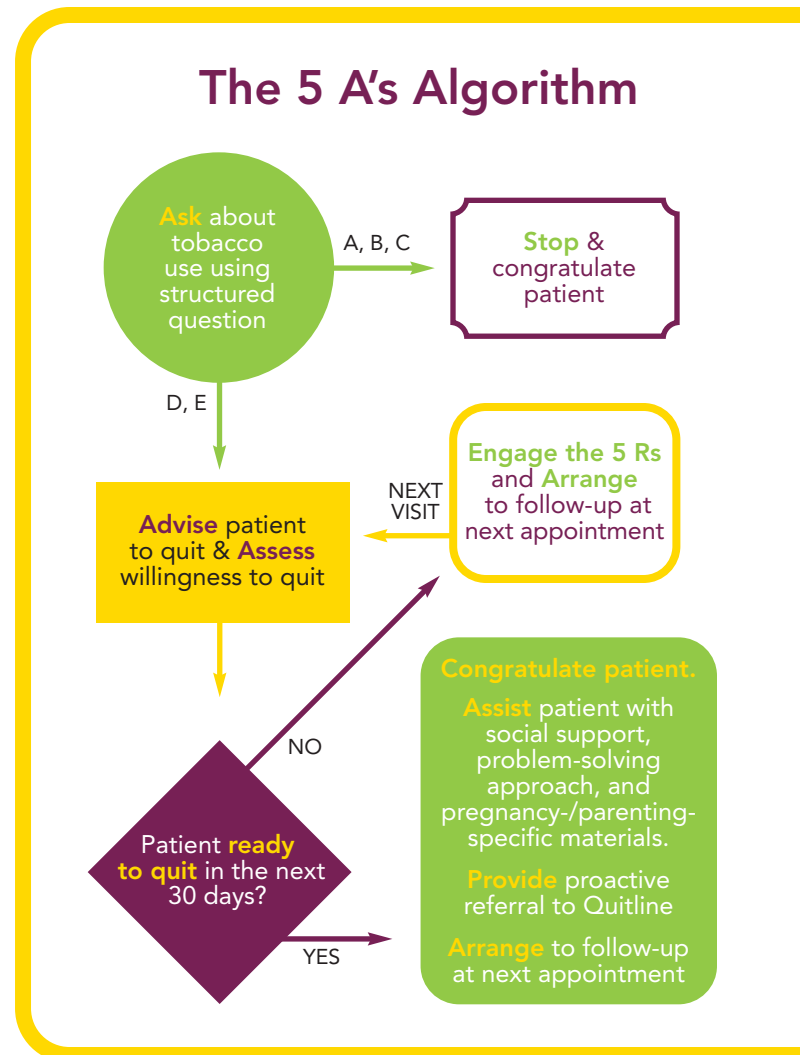
Periodically assess smoking status and, if she is a continuing smoker, encourage cessation.

While all women should be screened for tobacco use using the structured question, only a subset will be tobacco users requiring assessment of their willingness to quit. Of those, only a smaller subset will be willing to quit in the next 30 days, requiring the full intervention.

## When Tobacco Users are Reluctant to Quit

When women are unwilling or unsure about quitting, it can be helpful to focus your discussion about tobacco use around the following "5 Rs"<sup>1</sup>.

## The 5 A's Algorithm



## **RELEVANCE**

Help patient figure out the reasons to quit that are most relevant to their lives, based on their health, environment, and individual situation.

## **RISKS**

Encourage patient to identify possible negative outcomes to continued tobacco use.

## **REWARDS**

Help patient identify possible benefits to cessation.

## **ROADBLOCKS**

Work with patient to identify obstacles to quitting, and encourage her to think about how she might overcome them.

## **REPETITION**

Address tobacco use and cessation with patients at each visit.

## Prenatal ASK in English & Spanish

Ask client to choose the statement that best describes her smoking status:

- A. I have NEVER smoked or have smoked less than 100 cigarettes in my lifetime.
  - B. I stopped smoking BEFORE I found out I was pregnant and am not smoking now.
  - C. I stopped smoking AFTER I found out I was pregnant, and I am not smoking now.
  - D. I smoke some now, but have cut down since I found out I am pregnant.
  - E. I smoke about the same amount now as I did before I found out I was pregnant.
- 
- A. Yo NUNCA he fumado, o he fumado MENOS DE 100 cigarrillos en toda mi vida.
  - B. Yo dejé de fumar ANTES de dar cuenta que estaba embarazada, y no fumo ahora.
  - C. Yo dejé de fumar DESPUES de dar cuenta que estaba embarazada, y no fumo ahora.
  - D. Yo fumo un poco ahora, pero he reducido la cantidad de cigarrillos que fumo desde que me dio cuenta que estaba embarazada.
  - E. Yo fumo la misma cantidad que antes de dar cuenta que estaba embarazada.

## Postpartum ASK in English & Spanish

Ask client to choose the statement that best describes her smoking status:

- A. I have NEVER smoked or have smoked less than 100 cigarettes in my lifetime.
  - B. I stopped smoking BEFORE I found out I was pregnant and am not smoking now.
  - C. I stopped smoking AFTER I found out I was pregnant, and I am not smoking now.
  - D. I stopped smoking during pregnancy, but I am smoking now.
  - E. I smoked during pregnancy, and I am smoking now.
- 
- A. Yo NUNCA he fumado o he fumado menos que 100 cigarrillos en todo de mi vida.
  - B. Yo dejé de fumar ANTES que dió cuenta que estaba embarazada y todavía No Estoy fumando.
  - C. Yo dejé de fumar DESPUES que dió cuenta que estaba embarazada y todavía No Estoy fumanda.
  - D. Yo dejé de fumar durante mi embarazo pero estoy fumando ahora.
  - E. Yo fumé durante mi embarazo y continuo de fumar.

# Integrating Tobacco Use Screening Into Your Clinic

Having a plan and a system in place to insure that all patients are screened and counseled appropriately for tobacco use will facilitate more consistent performance within offices. There are three best practices that physicians, nurses, and clinic managers can implement in their settings to integrate tobacco screening and treatment. It is important to note that non-physician personnel can serve as highly effective providers of tobacco cessation counseling and treatment.<sup>1</sup> A key component of providing comprehensive tobacco cessation services is to implement a tobacco-user identification system. One way to ensure that every patient is screened for tobacco dependence is to make tobacco use status a vital sign. The structured ASK question works well and should be asked of all patients by the health care providers already responsible for vital signs.<sup>1</sup> Each patient's response should be marked in a visible place on her chart so that other members of the team can easily identify her tobacco use status.

A second suggestion is to provide education, resources, and feedback to all staff members. All employees, clinicians and non-clinicians, should be educated on tobacco use screening and treatment through in-services, continuing education, or workshops.<sup>1</sup> Regular feedback should be provided to those personnel responsible for providing the 5 A's. Chart audits and electronic medical records can often provide helpful information.<sup>1</sup> There are several resources available for providers and patients (see the resources section). Sample screening forms are available at [www.youquittwoquit.com](http://www.youquittwoquit.com).

A third suggestion is to decide who is responsible for providing tobacco screening and treatment. Delineating each staff member's role as it relates to tobacco use screening and cessation counseling is critical for ensuring continuity of care. These roles should be communicated to new employees and updated as needed.

<sup>1</sup> Fiore MC, Jaén 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.

# Billing for Cessation Counseling

As of January 1, 2009, Medicaid provides reimbursement for the following CPT codes: 99406-Intermediate Visit (3-10 minutes) and 99407-Intensive Visit (over 10 minutes). An appropriate tobacco related diagnosis code, such as ICD-9 code 305.1 (tobacco abuse), must be completed in addition to the Evaluation & Management Code and submitted with the CPT codes used.



The following professional specialties: licensed psychologists, licensed psychological associates, licensed clinical social workers, licensed professional counselors, licensed marriage and family counselors, certified nurse practitioners, certified clinical nurse specialists, licensed clinical addictions specialists or certified clinical supervisors may bill "incident to" a physician. Refer to the October 2008 Medicaid bulletin for more information (<http://www.ncdhhs.gov/dma/bulletin/1008bulletin.htm>). Maternity care coordinators, RNs, and health educators may not bill "incident to" physicians.

A facility, such as a hospital, would be reimbursed with a facility rate. A non-facility, such as physician's office, would be reimbursed with a non-facility rate. Reimbursement rates range from \$10 to \$23 and vary depending on the code used. Go to <http://www.ncdhhs.gov/dma/fee/index.htm> and click on physician services to see current reimbursement rates.

## State Health Plan & Medicaid Current Tobacco Cessation Coverage

Therapy	Medicaid Covers Treatment?	State Health Plan Covers Treatment?
NRT Gum	Yes	No
NRT Patch	Yes	Yes
NRT Nasal Spray	Yes	Yes
NRT Lozenge	Yes	No
NRT Inhaler	Yes	Yes
Varenicline (Chantix)	Yes	Yes
Bupropion (Zyban)	Yes	Yes
Group Counseling	No	No
Individual Counseling	Yes	Yes

SOURCE: [HTTP://WWW.NCDHHS.GOV/DMA/BULLETIN/PRESCRIBER.HTM](http://www.ncdhhs.gov/dma/bulletin/prescriber.htm)

## How to Proactively Refer to QuitlineNC

QuitlineNC is a service designed to assist tobacco users, both teens and adults, to quit. The quitline is staffed by professional tobacco cessation coaches who follow approved protocol based on the caller's needs. Their services are available from 8 a.m. to 3 a.m. seven days a week in English, Spanish, and other languages as necessary. This service is free to all North Carolinians. Any individual who wishes to stop using tobacco can call them at 1-800-QUIT-NOW (1-800-784-8669).

Health care providers should refer their patients who use tobacco to the QuitlineNC. The most effective way to do so is to fill out a proactive fax referral form. Your patient needs to sign and date it. Have your office fax the form to 1-800-483-3114. QuitlineNC will then call your patient to get them started. The coaches will reach out to your patient a minimum of three times. You will receive a fax back from QuitlineNC indicating whether they were able to reach your patient and whether your patient enrolled in the free service. It is required that you verify your status as a HIPAA-covered entity on the form so that QuitlineNC is allowed to fax you back. QuitlineNC is funded by the NC Health & Wellness Trust Fund.

To access the forms as well as more information for health care providers about the quit line please visit [www.quitlinenc.com](http://www.quitlinenc.com). Click on the section for medical professionals. You will need to scroll down to see the forms.

# Reducing Prenatal/Postpartum Smoking in North Carolina: the *You Quit, Two Quit* Project



Although North Carolina's infant mortality rate has decreased in recent years, it remains well above the national average.<sup>1</sup> According to the State Center for Health Statistics, three of the top four causes of infant death in North Carolina are directly associated with either maternal smoking during pregnancy and/or infant exposure to tobacco smoke after birth.<sup>2</sup> Analysis of the North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS) found that 24.6% of women reported smoking before pregnancy, 13.8% during pregnancy and 20.3% after pregnancy. And, of those who smoked before pregnancy and quit during pregnancy, roughly half began smoking again by the time they completed the PRAMS survey 3 to 6 months postpartum.<sup>3</sup> If it were possible to eliminate smoking during pregnancy entirely, the infant mortality rate for the state would drop an estimated 10 to 20%, with the most improvement being among underserved and disadvantaged communities where women are more likely to smoke while pregnant.<sup>4</sup>

To address this problem, the North Carolina Health and Wellness Trust Fund awarded a three-year grant to the University of North Carolina at Chapel Hill's Center for Maternal and Infant Health to implement the *You Quit, Two Quit* program. Members of the Women and Tobacco Coalition for Health (WATCH) agreed to serve as the project's advisory committee. The project utilizes statewide education and outreach to healthcare providers to make smoking cessation services and resources available to prenatal and postpartum women. The project is also working to establish four effective, sustainable, community-based smoking cessation projects that can be replicated by health departments across the state. A key strategy for the project is to ensure that there is a comprehensive system in place to screen and treat pregnant and postpartum women for tobacco use, with a particular emphasis on low-income women.



*You Quit, Two Quit* uses a multi-faceted approach with its pilot projects. This includes: providing training to healthcare providers who screen and treat pregnant and postpartum women; expanding outreach and training to providers who typically don't provide cessation counseling such as Women, Infant, and Children (WIC) clinics, maternity care coordinators, family planning programs, pediatric practices, delivery hospitals, etc; extending smoking cessation counseling services and opportunities to women twelve months postpartum to prevent relapse to smoking; and encouraging providers to proactively refer women to QuitlineNC, a confidential smoking cessation phone service that has a specific protocol for pregnant women. Health departments are encouraged to screen all pregnant women and mothers of infants up to one year old using the structured "ASK" question, and then document the result on a form that remains in the chart. This visual cue reminds other public health professionals who come in contact with the patient to continue to ask about smoking status and to offer smoking cessation resources. During the first nine months of the project, the four sites exceeded initial expectations by screening 2,487 pregnant women and 3,495 new mothers. For more information on this program, as well as other initiatives funded by the NC Health and Wellness Trust Fund, visit [www.healthwellnc.com](http://www.healthwellnc.com).

# Pharmacotherapy During Pregnancy, Lactation, and Postpartum

The use of pharmacotherapy during pregnancy, including over-the-counter nicotine replacement and prescription oral medications, is controversial. The US Public Health Service Guidelines state that behavioral interventions should always be the first line of treatment for pregnant smokers.<sup>1</sup> There are growing concerns about safety of pharmacotherapies during pregnancy, particularly nicotine replacement. Additionally, it is not clear if pharmacotherapy is effective during pregnancy.<sup>1</sup>

Use of nicotine replacement therapies do result in nicotine passing into breastmilk. The highest dose of the nicotine patch (21 mg), results in the equivalent of 17 cigarettes in breastmilk.<sup>2</sup> The 14mg and 7mg patches result in proportionately lower amounts of nicotine transferring into breastmilk.<sup>2</sup> When using nicotine gum or lozenge, maternal plasma concentrations of nicotine are highly variable depending upon the number of pieces chewed and the frequency of use – as a result, concentrations in breastmilk are also quite variable.<sup>2</sup>

There is limited information available about the effects on infants of the use of bupropion and varenicline during lactation. There are concerns about reductions in milk supply during the onset of bupropion.<sup>3</sup> Since varenicline is a relatively new drug, there is a lack of information about its safety during lactation, but concerns have been expressed about the drug's relatively long half-life (~24 hrs).<sup>3</sup>

Pharmacotherapy is a good option for post-partum women who are not lactating and for whom behavioral interventions have proved insufficient. Nicotine replacement therapy or a smoking cessation medication like bupropion or varenicline in combination with counseling may be particularly useful for heavy smokers. A 2008 Cochrane Review found that all forms of nicotine replacement increased the likelihood that a person's quit attempt would succeed by 50 to 70 percent.<sup>4</sup>



1. Fiore MC, Jaén 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.

2. Nicotine. LACTMED: Drug and Lactation Database. National Institutes of Health. Available from: <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/P./temp/-rogZ0Y:1>

3. Bupropion and Chantix. Medication and Mothers Milk Discussion Forum. Available from: <http://neonatal.ama.ttuhscc.edu/cgi-bin/discus/discus.cgi>

4. Stead LF, Perera R, Bullen C, Mant D, Lancaster T. Nicotine replacement therapy for smoking cessation. *Cochrane Database of Systematic Reviews* 2008, Issue 1. Art. No.: CD000146. DOI: 10.1002/14651858.CD000146.pub3.

5. US Food and Drug Administration. Available from: <http://www.fda.gov>

6. Hale T. *Medications and Mothers' Milk* 2008. Hale Publishing, 2008

7. Bupropion. LACTMED: Drug and Lactation Database. National Institutes of Health. Available from: <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/P./temp/-LvIDRM:1>

8. Varenicline. LACTMED: Drug and Lactation Database. National Institutes of Health. Available from: <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/P./temp/-bSiNnM:1>

FDA-Approved Pharmacotherapies for Adults	FDA Pregnancy Category <sup>5</sup>	Lactation Risk Category <sup>6</sup>	American Academy of Pediatrics Lactation Category <sup>2,7,8</sup>
Nicotine Patch	D	L2: Safer	Not Listed
Nicotine Gum	D	L2: Safer	Not Listed
Nicotine Lozenge	D	L2: Safer	Not Listed
Nicotine Inhaler (Rx only)	D	L2: Safer	Not Listed
Bupropion (Zyban, Wellbutrin)	C	L3: Moderately Safe	Drugs whose effect on nursing infants is unknown but may be of concern
Varenicline (Chantix)	C	L4: Possibly Hazardous	Not reviewed

# Resources for Your Practice

Coordinator Login | Contact Us

you quit two quit

About the Program | Pregnant Women | New Mothers | Family & Friends | Health Professionals | News

**life.**  
**Pregnant Women.** Expecting? What hurts you hurts your baby. Read on for facts and tips about how it benefits both of you to quit smoking. [Learn](#)

**health.**  
**New Mothers.** Your new baby's health is a delicate and fragile balance. Quitting smoking now is one of the best things you can do to preserve it. [Learn more.](#)

**support.**  
**Friends & Family.** By making the decision to quit, you've taken the first step to ensuring the health of your little one. But you don't have to take the journey alone. Invite your

**headlines.**

- ▶ Trends in Smoking Before, During, and After Pregnancy — Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 31 Sites, 2000--2005
- ▶ Smoking during pregnancy associated with artery damage in children
- ▶ Smoking while pregnant addressed.

[www.youquittwoquit.com](http://www.youquittwoquit.com)

There is a wealth of resources for health care providers who work with pregnant and new mothers. There are links to all the resources below on the You Quit, Two Quit website.

## For Patients

*If You Smoke and Are Pregnant* is a self-help quit smoking booklet for women who are pregnant or thinking about pregnancy. You can order these by calling 919-828-1819. *Oh Baby! We Want to Keep You Safe From Second Hand Smoke* is a booklet that offers helpful tips for avoiding secondhand smoke while pregnant and creating a smoke free home and car after the baby is born. *You Quit, Two Quit: A Guide to Help New Mothers Stay Smoke-Free* is a booklet that offers helpful tips for new mothers on staying free of tobacco. There are also posters available for pregnant women and mothers in English and Spanish. Call 919-843-7863 to order these items.

QuitlineNC at 1-800-QUIT-NOW (1-800-784-8669) is a free tobacco cessation resource for patients and their families. The Become an Ex website [www.becomeanex.org](http://www.becomeanex.org) has many great tips to support adults trying to stop smoking.

## For Health Care Providers

The You Quit Two Quit project has pocket-sized flip cards that display the 5A's and questions. These cards can help facilitate the incorporation of the 5A's into practice. A community fact sheet about tobacco and pregnant women / new mothers is available. Additional copies of this practice bulletin may be ordered for free. The project can also send you copies of forms to use for screening and tracking. A limited supply of office tool kits are also available for your office. To access these items, contact the You Quit, Two Quit project at 919-843-7863. A training manual for health care providers called *A Guide for Counseling Women Who Smoke: Helping Women Eliminate Tobacco Use and Exposure* can be downloaded free of charge from the NC Division of Public Health's website at <http://whb.ncpublichealth.com/provPart/pubmanbro.htm>.

## Get Involved

Contact Judy Ruffin at 919-707-5712 or [judy.ruffin@dhhs.nc.gov](mailto:judy.ruffin@dhhs.nc.gov) to learn more about the Women And Tobacco Coalition for Health (WATCH). Contact the You Quit, Two Quit project to find out more about their work at 919-843-7863.

# Environmental Changes and Policies Make a Difference

While the work that takes place within a provider's office is essential to tobacco use cessation, environmental changes play a key role in helping women intending to quit to achieve their goal. One important new law that will take effect in North Carolina on January 2, 2010, is House Bill 2. This bill makes it illegal for people to smoke in enclosed areas of almost all restaurants and bars. Smoking will not be allowed in enclosed areas of lodging establishments, such as hotels, motels, bed and breakfasts, and inns, if the establishment prepares and serves food or drink. Local governments, such as cities and counties, will have new authority to adopt local laws regulating smoking in public places. For more information about ways to support the implementation of this new law, go to the NC Department of Health and Human Services' website about the law: <http://www.smokefree.nc.gov>. You can also visit the North Carolina Alliance for Health's website at <http://www.ncallianceforhealth.org>. The Alliance has their eye on additional tobacco policies to help save lives. These include additional laws that will guarantee employees smoke-free worksites in North Carolina. They are also focused on increasing the tax on tobacco products, an act that has been shown to decrease smoking among youth and pregnant women. Recent changes in the federal policy allowing, for the first time, the Food and Drug Administration to monitor tobacco products will likely bring about significant change in the way that tobacco products are manufactured, marketed, and sold.

## Practice Bulletin on Smoking Cessation for Pregnant and Postpartum Mothers

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