

OREGON PUBLIC HEALTH DIVISION • DEPARTMENT OF HUMAN SERVICES

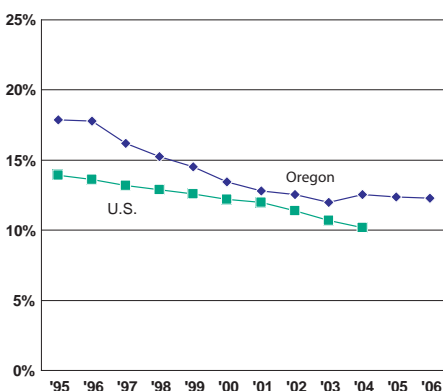
MATERNAL SMOKING IN OREGON: HELPING MOMS QUIT

What do a six-fingered man and a screaming baby have in common? Tobacco exposure! Both polydactyly and decreased nap times have been linked to maternal smoking.<sup>1,2</sup> Smoking during pregnancy has also been linked to spontaneous pregnancy losses, low birthweight, placenta previa, and stillbirth. Postnatal morbidities due to tobacco smoke include respiratory infections and SIDS.<sup>2,3</sup> This *CD Summary* reviews Oregon data on maternal smoking, and offers clinical guidance for healthcare workers providing cessation support to pregnant women and new parents.

**MATERNAL SMOKING IN OREGON**

In 2005, 5,643 live infants (12 percent of live births) were born to Oregon mothers who used tobacco during pregnancy.<sup>\*</sup> Each of these pregnancies costs an average of \$749 more than a birth to a non-smoking woman, increasing Oregon neonatal healthcare costs by \$4.2 million.<sup>†</sup> The 12 percent prevalence of maternal smoking in Oregon compares to 10 percent nationally. While Oregon's prevalence has declined 30 percent since 1996, recent data suggest prevalence is beginning to increase (Figure 1). Factors associ-

Figure 1. Oregon and U.S. births to women smoked during pregnancy 1995–2006



\*Oregon Birth Certificate Statistical File

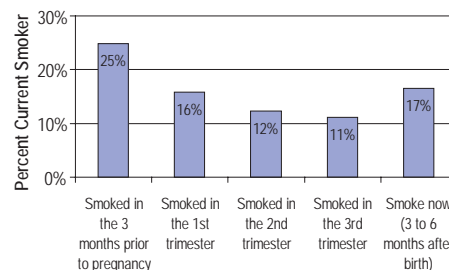
† Smoking-Attributable Morbidity, Mortality and Economic Costs (SAMMEC), Centers for Disease Control and Prevention

ated with smoking during pregnancy include living with a partner who smokes, not having graduated from high school, and having Medicaid/OHP as the payor for delivery.

**QUITTING SMOKING**

Women are more likely to quit smoking during pregnancy than at other times.<sup>3</sup> In Oregon during 2000-2001, the prevalence of maternal smoking reported on the Pregnancy Risk Assessment Monitoring System (PRAMS) decreased from 25 percent during the three months prior to pregnancy, to 11 percent during the last trimester (Figure 2) (PRAMS).

Figure 2. Maternal smoking during pregnancy 2000–2001



**CESSATION SUPPORT**

Many clinicians are familiar with the 5 A's (Ask, Advise, Assess, Assist and Arrange) as a framework for helping patients quit smoking (see *CD Summary*, March 22, 2005). These elements can be tailored to pregnant women. When effectively implemented, use of the 5 A's approach boosts quit rates by 70 percent among pregnant smokers, compared with the rates achieved by those who attempt to quit on their own.<sup>4</sup>

However, the 5 A's are not being implemented uniformly. In 2005, among women who smoked during pregnancy, 99 percent reported being asked about smoking; 85 percent being advised to quit; but only 29 percent reported receiving any assistance to quit (PRAMS).

**ASK: FRAMING THE QUESTION**

At every appointment, health care staff should assess smoking status during patient check-in or collect it with vital signs. The way the question is framed affects the likelihood of receiving a truthful answer. The Clinical Practice Guideline asserts a 40% increase in disclosure using a multiple choice format rather than a yes/no format due to perceived social acceptability.<sup>5</sup> An example of a "high-yield" question is:

Which of the following statements best describes your cigarette smoking?

- I smoke regularly now – about the same as before finding out I was pregnant.
- I smoke regularly now, but I've cut down since I found out I was pregnant.
- I smoke every once in a while.
- I have quit smoking since finding out I was pregnant.
- I wasn't smoking around the time I found out I was pregnant, and I don't currently smoke cigarettes.

**ADVISE AND ASSESS:**

**TARGETED INTERVENTIONS**

Advice to quit smoking from a clinician makes a difference. If a pregnant woman smokes, the provider can help motivate quit attempts by conveying clear, strong and personalized messages about the negative health impact of smoking.<sup>5</sup> For example: "As your clinician, I need you to know that quitting smoking is the most important thing you can do to protect your health and your baby's health. The clinic staff and I will help you." Once patients have been advised on the harms of tobacco use, providers should assess where they are in the quit process and work with them to develop a cessation plan to meet their needs.<sup>5</sup>

**ASSIST AND ARRANGE: THE QUIT LINE**

The Oregon Tobacco Quit Line (1-800-QUIT-NOW) implements a special protocol for pregnant women



If you need this material in an alternate format, call us at 971-673-1111.

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and disseminates pregnancy-specific materials. Providers can fax referrals to the Quit Line Fax Referral System using the form at <http://oregon.gov/DHS/ph/tobacco/oregonquit.shtml>. The Quit Line follows up every referral to coordinate intervention, and reports back to the provider regarding the quit progress. In addition, local county health departments' Maternity Case Manager (MCM) program provides one-on-one support throughout pregnancy, including cessation to certain high-risk mothers.†

### PHARMACOTHERAPY

If psychosocial interventions are not successful in helping a pregnant smoker quit, providers can consider pharmacotherapy, such as nicotine replacement therapy (NRT). FDA-approved cessation medications are advisable when the potential benefits of quitting outweigh the risks of medication and effects of potential continued smoking. Although nicotine is harmful to the fetus, smoking cigarettes is worse. Cigarette smoke is comprised of carbon monoxide and other reproductive toxins, which are associated with more negative health outcomes than doses of nicotine from NRT alone.

### PREVENTING RELAPSE

Unfortunately, many Oregon mothers who quit smoking during pregnancy relapsed shortly after birth (Figure 2). Factors leading to relapse include postpartum stress, depression, and other tobacco users in the household. In 2005, Oregon women who smoked prior to pregnancy and successfully quit smoking by the third trimester

were five times more likely to relapse if their partner smoked (PRAMS).

Cessation support from health care providers can prevent secondhand smoke exposure among children. According to the 2007 Surgeon General's Report on Children and Secondhand Smoke Exposure, "On average children are exposed to more secondhand smoke than non-smoking adults. Most of these children are exposed to secondhand smoke at home."<sup>6</sup> In 2005, only 51 percent of pregnant women in Oregon who gave birth to a live infant, reported receiving information during prenatal care about the harm of secondhand smoke (PRAMS).

Given the chronic nature of tobacco dependence, it is important for providers to assess relapse potential and provide brief, effective interventions.<sup>6</sup> Providers can ask patients about partner smoking status during routine prenatal visits or postpartum well-baby visits by framing the question in the context of secondhand smoke exposure to the fetus or infant. Interventions to prevent relapse may be as simple as a follow-up phone call by office staff or Quit Line personnel. Incorporating partners into the process can lead to long-term cessation and prevent postpartum relapse.

### ROLE OF PEDIATRICIANS

Parents who smoke may be more likely to visit their child's pediatrician than their own primary care provider, in part because of well-child visits, and also because kids exposed to smoke get sick more often. Pediatricians are well-positioned to discuss the negative effects of secondhand smoke and influence parents to quit smoking and stay quit.

Framing cessation messages in the context of protecting and promoting children's health, can motivate parents to make their homes and cars smoke-free.<sup>6</sup>

### BOTTOM LINE

Encouraging women to stop smoking before, during, and after pregnancy increases positive health outcomes for both mother and child. While cessation does not usually occur in one simple step, these interventions can influence long-term smoking patterns and help parents (and children) breathe easier.

For more information, see our web site, [www.oregon.gov/DHS/ph/tobacco](http://www.oregon.gov/DHS/ph/tobacco).

### REFERENCES

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6. U.S. Department of Health and Human Services. Children and secondhand smoke exposure: Excerpts from the health consequences of involuntary exposure to tobacco smoke: A report of the Surgeon General, 2007. *Pediatrics* 2007; 120:497-502.

† see: [www.oregon.gov/DHS/ph/pnh/mcm.shtml](http://www.oregon.gov/DHS/ph/pnh/mcm.shtml)