



Technical Report—Secondhand and Prenatal Tobacco Smoke Exposure

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KEY WORDS

tobacco, smoke, cigarette, environmental tobacco, nicotine, secondhand, smoke free, cigar, smokeless

ABBREVIATIONS

SHS—secondhand tobacco smoke
AAP—American Academy of Pediatrics
NRT—nicotine-replacement therapy

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abstract

Secondhand tobacco smoke (SHS) exposure of children and their families causes significant morbidity and mortality. In their personal and professional roles, pediatricians have many opportunities to advocate for elimination of SHS exposure of children, to counsel tobacco users to quit, and to counsel children never to start. This report discusses the harms of tobacco use and SHS exposure, the extent and costs of tobacco use and SHS exposure, and the evidence that supports counseling and other clinical interventions in the cycle of tobacco use. Recommendations for future research, policy, and clinical practice change are discussed. To improve understanding and provide support for these activities, the harms of SHS exposure are discussed, effective ways to eliminate or reduce SHS exposure are presented, and policies that support a smoke-free environment are outlined. *Pediatrics* 2009; 124:e1017–e1044

INTRODUCTION

Secondhand tobacco smoke (SHS) is exhaled smoke, the smoke from burning tobacco, and smoke from the filter or mouthpiece end of a cigarette, pipe, or cigar. It contains many poisons, including nicotine (a pesticide), carbon monoxide, ammonia, formaldehyde, hydrogen cyanide, nitrogen oxides, phenol, sulfur dioxide, and others.¹ In 1992, the US Environmental Protection Agency classified SHS as a class A known human carcinogen.²

Tobacco use is a cycle of addiction and exposure that can begin at conception and persist throughout life.³ Most (~80%) users of tobacco start before 18 years of age, prompted by exposure to parental and peer tobacco use, smoking in movies and media, advertising directed toward children and adolescents, and other factors.^{4–11} More than 126 million nonsmokers are exposed to SHS in the United States, and the most common site of SHS exposure is the home.^{1,12,13} Children, especially preschool-aged children, are more heavily exposed than adults, perhaps because they spend the most time near their parents^{13,14} (Fig 1). The proportion of nonsmokers with detectable levels of cotinine (the primary metabolite of nicotine in humans) in serum fell from 88% in 1988–1991 to 43% in 2001–2002, corresponding to the decline in the rate of tobacco use.¹⁴ The proportion of women who reported smoking during pregnancy has decreased by 50% over the past 15 years (from ~20% in 1989¹⁵ to ~10% in 2004¹⁶), although many experts question the accuracy of self-reported tobacco use because of the social undesirability of smoking during pregnancy.¹⁷ Tobacco use and smoking

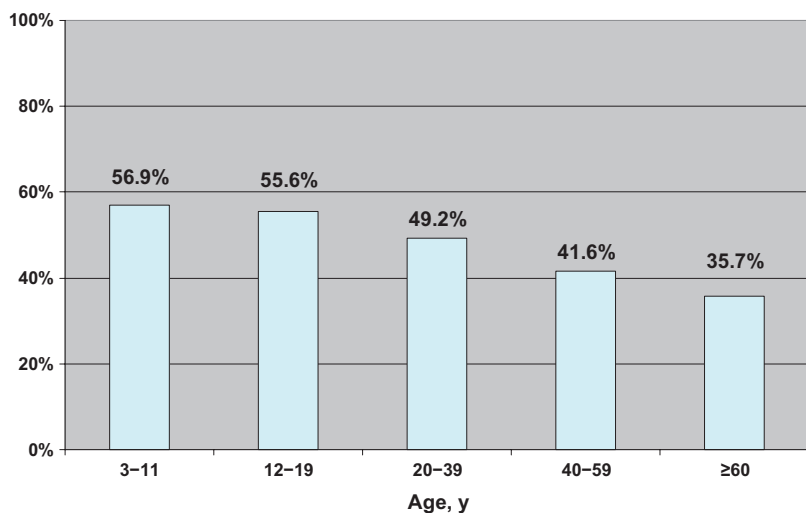


FIGURE 1 Prevalence of SHS exposure, indicated by a serum cotinine level of ≥ 0.05 ng/mL, United States, 2001–2002.¹

rates are highest among American Indian and Alaska Native individuals.¹⁸ As with many risky health behaviors, the prevalence of tobacco use is greatest among adults who live below the

poverty line and those with less than a high school education.¹⁸ Correspondingly, children who live in poverty are more likely to be exposed to SHS than others.¹⁹ In a study of serum cotinine

levels in nonsmokers, black and white children had higher levels than did Hispanic children.¹⁴ Differences in metabolism of nicotine may contribute to these higher concentrations.²⁰

EFFECTS OF SHS EXPOSURE

The reports of direct health effects of SHS exposure are numerous and growing in number. The most recent comprehensive reports are the 2006 US Surgeon General's report, *The Health Consequences of Involuntary Exposure to Tobacco Smoke*,¹ and California's *Proposed Identification of Environmental Tobacco Smoke as a Toxic Air Contaminant*.²¹ The major conclusions from the Surgeon General's report relevant to children are summarized in Table 1. In addition to confirming the conclusions of the US Surgeon General, the authors of the California report found sufficient evidence to impute a causal association

TABLE 1 Major Conclusions of the Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General¹

Exposure Type	Disease	Conclusion (Page No.)
Maternal exposure to SHS during pregnancy	Preterm delivery	The evidence is suggestive but not sufficient to infer a causal relationship (195).
	Low birth weight	The evidence is sufficient to infer a causal relationship (205).
Maternal exposure to SHS during pregnancy and postnatal SHS exposure	Childhood cancer, leukemia, lymphoma, and brain tumors	The evidence is suggestive but not sufficient to infer causal relationships (242).
Postnatal SHS exposure	Sudden infant death	The evidence is sufficient to infer a causal relationship (194).
	Lower respiratory illnesses	The evidence is sufficient to infer a causal relationship. The increased risk for lower respiratory illnesses is greatest from smoking by the mother (292).
	Middle-ear disease	The evidence is sufficient to infer a causal relationship between parental smoking and middle-ear disease in children, including acute and recurrent otitis media and chronic middle-ear effusion. The evidence is suggestive but not sufficient to infer a causal relationship between parental smoking and the natural history of middle-ear effusion (309).
	Cough, phlegm, wheeze, breathlessness, asthma	The evidence is sufficient to infer a causal relationship between SHS exposure from parental smoking and the onset of wheeze illnesses in early childhood (375). Among school-aged children, the evidence is sufficient to infer a causal relationship (355). The evidence is suggestive but not sufficient to infer a causal relationship between SHS exposure from parental smoking and the onset of childhood asthma (375).
Maternal smoking during pregnancy and postnatal SHS exposure	Lung function	Among school-aged children, the evidence is sufficient to infer a causal relationship between parental smoking and ever having asthma (355).
		The evidence is sufficient to infer a causal relationship between maternal smoking during pregnancy and persistent adverse effects on lung function across childhood (399). The evidence is sufficient to infer a causal relationship between exposure to SHS after birth and a lower level of lung function during childhood (399).

between SHS exposure of girls and an increased incidence of breast cancer, particularly in premenopausal women.²¹ Many other effects for which the supporting evidence is incomplete or less compelling have been reported (Appendix 1).

One of the significant consequences of prenatal tobacco exposure is sensitization of the fetal brain to nicotine, which results in increased likelihood of addiction when the brain is exposed to nicotine at a later age. Studies of rodents^{22–24} and primates²⁵ that were exposed prenatally to tobacco have demonstrated subtle brain changes that persist into adolescence and are associated with tobacco use and nicotine addiction.^{26,27} Population-based human studies have demonstrated associations between prenatal tobacco exposure and early tobacco experimentation²⁸ as well as increased likelihood of tobacco use as an adolescent and adult.^{29,30} Other studies showed associations between parental tobacco use and increased rates of child experimentation with tobacco and smoking uptake.^{7,31–34} Most of these studies did not control for prenatal tobacco or postnatal SHS exposure, which makes it difficult to draw conclusions about the influence of SHS exposure, because the 3 factors are linked. By definition, in households with a smoker, someone presents a role model of smoking, which may further increase the likelihood of initiation of tobacco use by preadolescents and adolescents.^{7,35}

The evidence supporting the association of SHS exposure of children with respiratory illnesses is strong. Increased rates of lower respiratory illness, middle-ear infections, tonsillectomy and adenoidectomy, cough, asthma and asthma exacerbations, hospitalizations, and sudden infant death syndrome have been reported.^{1,21} The scope of these illnesses is huge: it has been estimated that SHS

exposure causes asthma symptoms in 200 000 to 1 000 000 children and contributes to as many as 8000 to 26 000 new cases of asthma per year.³⁶ SHS exposure exacerbates many chronic diseases. Children with sickle cell disease who are exposed to SHS have a higher risk of crises that require hospitalization than do unexposed children.³⁷

Another effect of SHS exposure is increased school absenteeism. Analysis of data from the Third National Health and Nutrition Examination Survey showed that SHS-exposed children were twice as likely to miss 6 or more school days per year than were unexposed children (odds ratio: 2.0 [95% confidence interval: 1.4–2.8]).³⁸ A study of California schoolchildren showed that SHS-exposed children had a similar increased risk of absence from school, with risk increasing as the number of household smokers increased (relative risk: 1.29 [95% confidence interval: 1.02–1.63]).³⁹

Children and the elderly represent a disproportionate share of fire victims, and smoking materials are the most common ignition source of fatal residential fires.^{40–43} It has been estimated that smoking causes approximately 30% of US fire deaths overall, with at least 100 000 fires each year caused by children playing with ignition materials. The rate of fire deaths has decreased as smoking has decreased.⁴⁴ The technology of “fire-safe” cigarettes has been available for many years, although implementation of the technology was blocked by the tobacco industry for years.⁴⁵ In 2004, New York implemented a law that requires all cigarettes sold in the state to have “reduced ignition propensity.”⁴⁶ Since then, many states and Canada have adopted similar laws.

COSTS TO FAMILIES

The cost of buying tobacco products is considerable; a family in which 1 member smokes 1 pack per day would

spend more than \$1600 on cigarettes each year (average price per pack in 2007: \$4.49).⁴⁷ These expenditures can reduce a family’s ability to meet essential needs; among low-income families, food insecurity is more likely if a family member uses tobacco.⁴⁸

There are other, hidden costs to a family that are attributable to tobacco use. A 1997 analysis of National Longitudinal Survey of Youth data showed that tobacco users’ wages were reduced by 4% to 8%, even after controlling for differences in education and other characteristics. The authors hypothesized that these differences were attributable to a combination of discrimination against tobacco users, increased absenteeism, poor health, and self-selection of jobs that include employer-provided health insurance at the expense of lower wages.⁴⁹ An additional effect may be decreased ability of SHS-exposed adults to care for children, because SHS exposure causes premature death and disease in nonsmokers, including coronary heart disease and lung cancer.¹

COSTS TO SOCIETY

Estimates of the high medical costs of children’s exposure to SHS and tobacco use in general have been made, several of which are summarized in Table 2. The health care cost of tobacco use, in both dollars and disease, is tremendous and is estimated to be more than \$260 million each day in the United States.⁵⁰ Smoking by parents alone contributed estimated direct medical expenditures of \$4.6 billion and loss-of-life costs of \$8.2 billion in 1993.^{51,52} A study that used National Medical Expenditure Survey data showed that health care costs for respiratory illnesses alone were increased by \$120 per year for children 5 years or younger and by \$175 per year for children 2 years or younger who were exposed to SHS by maternal

TABLE 2 Some Costs of Tobacco Use and SHS Exposure

Item	Cost	Source	Years Data Collected	Citation
Smoking during pregnancy: neonatal health care	Smoking-attributable fraction for neonatal costs: 2.2% (all states); \$700/infant born to a mother who smoked during pregnancy	Centers for Disease Control and Prevention Pregnancy Risk Assessment Monitoring System (PRAMS) database	1995	Adams et al (2002) ¹³⁶
SHS exposure of pregnant women: early intervention services delivered to children with developmental delay attributed to maternal SHS exposure during pregnancy	\$99 million for early-intervention services delivered to 8300 New York City children (\$11 900/child)	New York City data	2002	Miller et al (2006) ¹³⁷
SHS exposure of children: health care costs	9% of total direct medical costs in the first year of life	Birth cohort study in Hong Kong	1997–1998	Leung et al (2003) ⁵¹
SHS exposure of children: respiratory disease, sudden infant death, burns, costs to the family	Direct medical expenditures of \$4.6 billion; loss-of-life costs of \$8.2 billion	Literature synthesis	1980–1996	Aligne and Stoddard (1997) ³
SHS exposure of children: medical expenditures for childhood respiratory illness	Respiratory-related health care expenditures: 19% of expenditures for childhood respiratory conditions (\$120/child aged ≤5 y; \$175/child aged ≤2 y)	National Medical Expenditure Survey	1987	Stoddard and Gray (1997) ⁵²
Overall smoking in the United States	6%–8% of total annual expenditures for health care, with some estimates up to 14%	Literature synthesis	Through 1998	Warner et al (1999) ¹³⁸

smoking (1995 dollars).⁵² Tobacco users are more likely to be absent from work, to be disabled, and to die prematurely. The corresponding loss of productivity was estimated to be \$92 billion for the period 1997–2001.⁵³

INTERVENTIONS

Although household smoking bans reduce children's SHS exposure, even a strict ban does not eliminate exposure.^{52,54} SHS can enter the home in the air, on dust, in or on clothing, or via the smoker's exhaled breath.⁵⁵ Nearly 90% of households of nonsmokers have an indoor smoking ban; households that include smokers have a much lower rate of smoking bans.^{56–58} Individuals who consider SHS exposure to be harmful are most likely to report having an indoor home smoking ban.^{57,59–62} Fewer parents ban smoking in the car than in the home,^{56,59,61,63} although recent state legislative efforts to outlaw smoking in a car carrying a child may increase the rate of car bans.†

†For more information on states with bans on smoking in cars that carry children, contact the

There is strong evidence that adult tobacco users can successfully quit and that counseling and pharmacotherapies help them succeed. Each year, 4% to 9% of tobacco users quit without support⁶⁴; tobacco users who receive counseling and use pharmacotherapies significantly increase their likelihood of quitting.⁶⁵

The 2008 update of the US Public Health Service clinical practice guideline, *Treating Tobacco Use and Dependence*,⁶⁵ provides guidelines for clinical practice and presents meta-analyses of approximately 8700 scientific articles on cessation of tobacco use. The review covers assessment of tobacco use; brief, intensive clinical interventions; systems interventions; pharmacotherapies; special populations such as pregnant women, children, and teenagers; and other topics such as weight gain and cost-effectiveness.

American Academy of Pediatrics (AAP) Division of State Government Affairs.

Addressing Tobacco Dependence in the Pediatric Setting

The US Public Health Service guideline recommends that all clinicians strongly advise patients who use tobacco to quit and states: "Clinicians in a pediatric setting should offer smoking cessation advice and interventions to parents that limit children's exposure to second-hand smoke."⁶⁵ Few studies have evaluated ways to protect children from SHS exposures through promotion of smoking bans or tobacco-cessation interventions delivered to family members through pediatric practices. Interventions that have been successful in decreasing the SHS exposure of children generally provide intensive, home-based counseling^{66,67}; these interventions have not been translated effectively from academic to community settings.^{68,69} In a randomized trial of practice-based counseling and reminders to promote tobacco cessation by mothers, Groner et al⁷⁰ reported no significant effect of the intervention on cessation, although mothers in the intervention group re-

ported smoking outside more often than did mothers in the control group. A Cochrane collaboration review of programs to reduce exposure of children to SHS concluded that “brief counseling interventions, successful in the adult health setting when coming from physicians, cannot be extrapolated to adults in the setting of child health.”⁷¹

Despite the paucity of evidence supporting the effectiveness of counseling delivered in the pediatric setting, the arguments for asking about tobacco use and SHS exposure, advising all families to make their home and cars smoke free, counseling users to quit, and referring users to cessation programs are compelling. The pediatric visit provides many opportunities to deliver tobacco use-cessation counseling to parents. Because parents of younger children are themselves typically young and healthy, many see their child’s pediatrician more often than they see their own primary care clinician. Pediatric visits offer many “teachable moments”⁷² to discuss tobacco use, from both the prevention and cessation perspectives, and parents may be motivated to change their behavior for the benefit of their child’s health. Another important counseling opportunity is the new parent who quit using tobacco during pregnancy: 48% to 70% of mothers who quit smoking during pregnancy relapse after delivery.^{73–76}

Barriers to Counseling Parents

Because it is an accepted role of the pediatrician to counsel parents in behavior changes that will improve the life and health of their child, including changes in sensitive areas such as diet and discipline, one might expect that counseling parents to make their homes and cars smoke free or to quit using tobacco would be included routinely in the pediatric visit. However,

many opportunities to counsel parents are missed. Tanski et al⁷⁷ reported that during the period 1997–1999, only 1.5% of ambulatory care visits, 4.1% of well-child visits, 4.4% of acute illness visits for asthma, and 0.3% of acute illness visits for otitis media included delivery of tobacco counseling. One possible reason for these low rates of counseling may be concerns about alienation of the parent.^{78,79} However, many parents who smoke welcome advice to quit; in a sample of Vermont parents who smoked, 52% said they would welcome a pediatrician’s advice to quit using.⁸⁰ Other studies of parents have concurred.^{80–83}

Other challenges to counseling parents in the pediatric setting are writing prescriptions for cessation medications and the lack of a charting system for parents. Prescription of medications used to support cessation attempts by their child’s pediatrician is accepted by parents; in a 2003 telephone survey of parents who smoked, 85% of respondents reported that it was acceptable for their child’s doctor to prescribe a smoking-cessation medication for them.⁸⁴ Only 8% had received such a prescription; in a different survey of pediatricians,⁷⁸ only 13% said they would prescribe or recommend nicotine-replacement therapy (NRT) to parents who smoke and have children 5 years or younger.

Although writing prescriptions for people who are not patients raises concerns about propriety, malpractice, and ethics, writing prescriptions for family members of a patient has precedent. For instance, prophylactic therapy or immunization for household members of a person exposed to invasive *Haemophilus influenzae* type b disease, hepatitis A, meningococcal disease, head lice, pertussis, plague, scabies, or varicella is recommended by the AAP Committee on Infectious Diseases.⁸⁵ Many of the antibiotic

agents used for these treatments are associated with significant adverse effects and a prescription is required, whereas several NRT products are available without a prescription.[‡] However, the need for good record-keeping persists, and some clinicians may decide to set up a separate chart for their patients’ household members.

Practices may adopt strategies to encourage parents to seek care from their own clinicians or seek help from other cessation resources, including local or state health departments. A key aspect of this counseling is to convey the importance of seeking help and the benefits of cessation programs that fit the needs of the parent, including both appropriate counseling and pharmacotherapy.

Other concerns include lack of time and reimbursement for services. As of 2006, 76.5% of states (including the District of Columbia) provided Medicaid coverage for some component of tobacco use treatment,⁸⁶ and of those, only 1 (New Mexico) offered coverage for all of the treatments recommended in the US Public Health Service guideline.⁶⁵ Coverage provided by private insurance plans varies widely, and few plans cover over-the-counter NRTs or individual face-to-face counseling.⁸⁷ The lack of coverage for tobacco-dependence treatments that have been shown to be both efficacious and cost-effective is an important issue in healthy policy.

Coding for SHS Exposure and Treatment

To further develop the evidence supporting the benefits of tobacco-dependence treatment in the pediatric setting, coding for diagnosis and treatment is important. Two codes may be particularly useful⁸⁸:

‡Except for people 18 years or younger or if required for reimbursement or insurance coverage.

- 989.84 (toxic effects of tobacco); and
- V15.89 (other specified personal history presenting hazards to health [list SHS exposure as the hazard]).

Similarly, naming SHS as a factor in insurance claims, death certificates, and other documents can aid in assessing the effects of SHS exposure on health and the need for reimbursement for treatment of SHS exposure.

Tobacco-Cessation Treatment of Adults

There is strong evidence that adult tobacco users can successfully quit and that counseling and pharmacotherapy help them succeed.⁶⁵ Each attempt to quit increases the likelihood of success. Without counseling, 4% to 9% of tobacco users quit each year⁶⁴; with counseling and pharmacotherapies, 17% to 44% of attempts are successful.⁶⁹

In adult medical care settings, simply asking about tobacco use and SHS exposure and recommending that users quit has been shown to increase the number of quit attempts and the success rates of those attempts.⁶⁵ Counseling does not need to be extensive

and is additive, resulting in an increase in quit attempts, and the success rates of quit attempts as the amount of counseling delivered increases even if the counseling is delivered over the course of several visits.

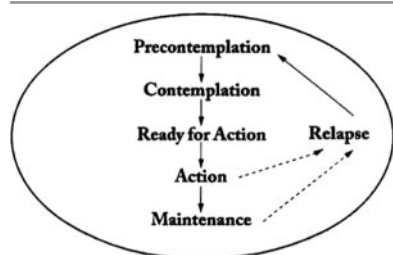
Tailoring the message to the needs of the individual increases the likelihood of success. Although tobacco-cessation counseling is equally effective with women as with men, women may more often have concerns about weight gain or be using nicotine to alleviate depression. Studies of counseling tailored to women have suggested that addressing these gender-specific issues may increase success.⁶⁵ Counseling of pregnant women has been also shown to be effective; the US Public Health Service guideline⁶⁵ recommends more intensive counseling, particularly person-to-person psychosocial interventions that exceed the minimal advice to quit. Counseling techniques and resources tailored to pregnant women are available (www.ahrq.gov/path/tobacco.htm#Pregnant).

The most successful counseling and behavioral therapies to promote cessation include problem-solving/skills training and social supports. Most

structured counseling is based on the “stages-of-change” theory, which explains how individuals change personal behaviors.⁹⁰ When used in the context of tobacco-use cessation, the goal is to help a user progress through 6 stages in a stepwise manner (Table 3). Specific counseling methods, such as motivational interviewing, may help identify and overcome barriers to cessation. Motivational interviewing is a client-centered, directive counseling method to enhance readiness for change by helping clients explore and resolve ambivalence toward change⁹¹ (Table 4). Both stages-of-change theory and motivational interviewing techniques can be used to understand and address health behaviors other than tobacco use.

The process of effective tobacco-use cessation counseling can be broken into 5 steps, called the 5 A’s: ask, advise, assess, assist, and arrange follow-up (Table 5).⁶⁵ Identifying the benefits to the child of parental smoking cessation may be an important motivation to parents. Not every parent will be ready to consider quitting. Using the 5 R’s (Table 6) to help overcome

TABLE 3 Stages of Change⁹⁰



The theory supporting stages of change is that people progress through several stages on their way to a behavior, and to change the behavior, they must pass through several stages as well. When used in the context of tobacco-use cessation, the goal is to help a user progress through 6 stages in a stepwise manner. Structured cessation counseling based on the stages of change focuses on helping the precontemplator become a contemplator, a contemplator become ready for action, etc, until the user enters termination and no longer perceives any cues to use tobacco.

Precontemplation is the period in which users are not thinking about quitting (at least not within the next 6 mo). Educating the user in the harms of tobacco use to themselves and their children may help the tobacco user move toward the contemplation stage.

Contemplation is the period of time in which users are seriously thinking about quitting within the next 6 mo but are not ready to start the process. Addressing barriers to quitting and helping parents overcome their fear of living without tobacco by discussing each barrier may move users toward preparing to quit. Ready for action is the period during which users seriously think about quitting in the next month. The definition also applies to users who have tried to quit in the previous year. These users are ready to learn about quitting and are ready to set a quit date. The clinician should be prepared to help the user follow through with a quit date in the next 4 to 6 wk.

Action is the period ranging from 0 to 6 mo after users quit. This is the busiest period of change. The clinician can help the (now former) user avoid relapse by reminding him or her of successes and the reasons for quitting.

Maintenance is the period beginning 6 mo after action started and continuing until tobacco use is terminated as a problem. Maintenance involves development of new responses to situations that might trigger relapse. In this stage, clinicians continue to provide support for the quitter to remain tobacco free.

Relapse is technically any time the user, or ex-user, moves back in the cycle, but the person is usually thought of as a user who has quit for some period of time and uses tobacco again.

Termination is when the addictive behavior is entirely extinguished; this may take years.

TABLE 4 Principles of Motivational Interviewing⁹¹

Express Empathy	Acceptance Facilitates Change Skillful, reflective listening is fundamental. Ambivalence is normal.
Develop discrepancy	The client, rather than the counselor, should present the arguments for change. Change is motivated by a perceived discrepancy between present behavior and important personal goals or values.
Roll with resistance	Avoid arguing for change. Resistance is not directly opposed. New perspectives are invited but not imposed. The client is a primary resource in finding answers and solutions. Resistance is a signal to respond differently.
Support self-efficacy	A client's belief in the possibility of change is an important motivator. The client, not the counselor, is responsible for choosing and carrying out change. The counselor's own belief in the client's ability to change becomes a self-fulfilling prophecy.

barriers to cessation can provide a framework for counseling.⁶⁵

Correctly used pharmacotherapy significantly increases the odds of success.⁶⁵ NRT products are available without prescription in patch, gum, and lozenge forms. NRT nasal spray and inhalers require prescriptions. Most NRT products are priced comparably to the cost of smoking a pack of cigarettes each day. Because these

products are not available as single units, this cost can be prohibitive for many patients (ie, \$50 or more for 1 package). NRTs are relatively easy to use, and some forms can provide rapid relief for difficult moments. However, NRT products have not been as successful in improving long-term cessation rates during pregnancy⁹² or when used by adolescents⁹³ as they have been in the general population. Bupro-

pion and varenicline are available only by prescription; both reduce the number and severity of urges to smoke, with results for varenicline somewhat better than for bupropion.⁹⁴ Clinicians should be familiar with NRTs and other pharmacotherapies used to treat tobacco dependence and promote their use for adolescent and young adult patients and parents. The American Academy of Family Physicians has an excellent guide (see "Prescribing Guidelines" at www.aafp.org/online/en/home/clinical/publichealth/tobacco/nrt.html for quick access to information on dosing, precautions, and adverse effects of tobacco-cessation medications that have been approved by the US Food and Drug Administration).

Many users make multiple attempts to quit before succeeding, and although most relapses occur early in the quitting process, some occur months or even years later.⁶⁵ Because of the chronic relapsing nature of tobac-

TABLE 5 A Systematic Method for Counseling About Tobacco: The 5 A's⁶⁵**Ask**

Obtain a tobacco-use and SHS-exposure history for all patients and their parents/households, including current use or exposure as well as use or exposure before and during pregnancy.

Ask about SHS exposures in child care settings and homes visited by the child.

Use charting prompts or other cues to increase initiation of history-taking and documentation of family tobacco use and SHS exposures. When selecting or designing electronic health records and paper records, include tobacco-history-documentation prompts in the selection and design criteria.

Questions asked should be phrased to limit misunderstanding about whether the query is about smoking "in (inside) the home" or smoking status of household members. When asking about smoking inside the home, say "does anyone smoke inside your home, even in the basement or garage?" rather than "does anyone smoke around the baby?"

Advise

Provide information about elimination of children's SHS exposure to all parents and information about tobacco-use cessation, as indicated. Provide strong messages on harm from SHS exposure.

Engage parents in discussions about their tobacco use. Provide a strong quit-using message that is clear. For example, you can say, "As your child's doctor, I think the very best thing you can do for your health and your child's health is to quit smoking." Personalize the child's health risk by saying, "It is very likely that Alicia's ear infections are worsened by your smoking," or, "Paul's asthma attacks may improve if he is not exposed to your smoking; it is important that you quit smoking."

Assess

Determine the parent's readiness to quit. Is the parent a precontemplator or a contemplator? Is he or she ready to quit within the next month?

Assist

Precontemplation stage: Provide a motivational message (the 5 R's [see Table 6]).

Contemplation stage: If parents are not ready to set a quit date, ask them to make a list of everything they like and do not like about smoking to help get them thinking about tobacco use in a more specific way.

Preparation stage: Help them set a quit date. Address their concerns about quitting, including withdrawal symptoms and perceived barriers to quitting.

Perceived barriers to quitting can be addressed by educating the user about the quitting process, including what to expect and how long symptoms will last, weight gain, triggers to smoking, feelings of deprivation, and flagging motivation. Acute nicotine withdrawal can last from several days to weeks after cessation, typically peaking between 1 and 3 wk after the last cigarette is smoked.⁶⁵

Refer to supports such as quit-smoking groups, community quitlines, and other supports, as available.

Arrange follow-up

Plan to follow-up on any behavioral commitments that parents make on follow-up visits for health care maintenance or for ongoing medical problems.

TABLE 6 Counseling to Overcome Resistance to Quitting Tobacco Use: The 5 R's⁶⁵

Relevance

- Ask parents to consider the personal importance of quitting.
- Advise parents that (1) their personal health will improve (they will feel better physically and perform better in physical activities, they will have fewer wrinkles and their skin will not age as fast, food will taste better, their sense of smell will improve), (2) the children's health will improve (they will have healthier infants and children, they will set a good example for children), (3) their home, car, clothing, and breath will smell better, (4) they will save money, and (5) they will be able to say they are a "former smoker" and can stop worrying about quitting and about exposing others to smoke.
- Try to personalize the benefits of quitting to the parents' situation.

Risks

- Ask parents to identify the negative consequences of tobacco use.
- Highlight the consequences that seem most relevant.

Rewards

- Ask parents to identify the benefits of quitting.
- Highlight the benefits that seem most relevant.

Roadblocks

- Help parents to identify barriers to quitting.
- Identify possible solutions such as pharmacotherapy or changes in daily patterns that may alleviate those barriers.

Repetition

- Repeat the message every time parents who use tobacco visit the office.
- Convey to tobacco users that most people make several quit attempts before they are successful.

co dependence, pediatricians should continue to deliver the "stay-quit" message whenever possible. Relapse-prevention counseling is especially important right after the quit date and can be delivered during scheduled office visits, during telephone calls, on postcards, or by using other methods.⁶⁵

If a "lapse" occurs, discuss the cues that promoted the lapse and what the parent learned about cues and quitting. It is important to remind the parent that the urge to smoke lasts only a few minutes, so distraction techniques can be helpful during "craving attacks."⁶⁵ Other topics to address include the parent's success to date and anticipatory guidance regarding weight gain, cravings, environmental cues, and other tobacco users in the household or family.

Quitlines and Other Resources

A variety of resources are available to clinicians to guide care. The US Public Health Service clinical practice guideline⁶⁵ presents information on how to assess tobacco use; brief and intensive clinical interventions; systems interventions; pharmacotherapy; spe-

cial populations such as pregnant women, children, and teenagers; and special topics such as weight gain and cost-effectiveness. The national Quit Line, 1-800-QUIT NOW, provides evidence-based, effective telephone counseling and is available throughout the United States. In many states, "fax-back" forms can be used to refer a tobacco user to the Quit Line directly, rather than instructing the patient or parent to call the Quit Line. The use of fax-back referrals has been shown to significantly increase the number of tobacco users who use the Quit Line.⁹⁵ The American Cancer Society, the American Lung Association, and many hospitals provide group counseling and other cessation resources. Appendix 2 describes many resources for clinicians and tobacco users.

COST AND EFFECTIVENESS OF TREATING TOBACCO USE AND NICOTINE ADDICTION

Tobacco-use counseling, NRT products, and other tobacco-addiction treatments have been shown to be both cost-effective and efficacious when used in the internal medicine or family practice setting to treat adult

smokers.^{65,76,96,97} The benefits of insurance coverage of cessation interventions, whether intensive or minimal, accrue to both insurers and employers.⁹⁸ Brief physician-delivered smoking-cessation counseling is more cost-effective than many other widely recommended screening tests and interventions.⁹⁹

PERSONAL AND PROFESSIONAL POLICIES

Tobacco is a product that, when used as intended, causes significant morbidity and mortality. Accepting funds from the tobacco industry for support of activities, regardless of whether it is related to tobacco control, is contradictory to the mission of health promotion for children and their families.

The tobacco industry has demonstrated their intent to manipulate public opinion,¹⁰⁰ scientific research,^{101–107} regulation,¹⁰⁸ and education^{109–111} to promote tobacco products throughout the world. Furthermore, by funding prestigious researchers at respected institutions, the tobacco industry gains credibility. Many articles demonstrating the intent of the tobacco industry to promote smoking and tobacco use, as demonstrated by documents internal to the industry, have been published. The American Legacy Foundation maintains the Legacy Tobacco Documents Library at the University of California, San Francisco (<http://legacy.library.ucsf.edu>); much of the literature on the tobacco industry is based on the documents in the library. One additional example of the influence of the tobacco industry on the practice of medicine is a successful effort to invalidate and remove the ICD (International Classification of Diseases) e-code for SHS exposure on Medicare billing form 1500. The code became available in 1994 and remained invalid until at least 2004. This apparently mi-

nor step has had a significant effect on our understanding of SHS exposure.¹¹²

PUBLIC POLICIES

A growing number of communities and states have implemented statewide bans on smoking in public places. § Bans on smoking at workplaces, restaurants, child care settings, public parks, and beaches and in other public venues have been extremely successful in decreasing and, in some cases, eliminating SHS exposure.¹¹³ Other positive effects of bans are increases in quitting attempts and successes,^{96,114–117} increased prevalence of smoke-free homes and cars in the surrounding community,^{61,118,119} improved air quality and health outcomes for employees^{120–122} and children,¹²³ and decreased social acceptability of tobacco use.^{58,124,125} Studies of restaurants and bars that compared income before and after a ban have shown no adverse effect on the economics of the hospitality industry.¹²⁶ Enforcement of smoke-free policies in public space typically is not an issue after a break-in period.¹

Mass-media campaigns and comprehensive community interventions contribute to the overall social unacceptability of SHS exposure of children.^{113,127,128}

Other areas of public policy in which tobacco use should be addressed include housing, child care settings, and foster care. Several groups are leading efforts to make multiunit housing smoke free, and many cooperative apartment buildings and condominiums already have done so. Appendix 3 lists several resources on this issue. Most states regulate smoking in child care settings, although many allow smoking on the premises when children are not present, resulting in exposure of children to “thirdhand”

smoke. The National Resource Center for Health and Safety in Child Care and Early Education provides a list of state regulations applicable to child care settings (<http://nrc.uchsc.edu/STATES/states.htm>). Exposure of foster children to SHS has been prohibited by several states and counties.¹²⁹ The National Voice of Foster Parents, an organization of and for foster parents, supports legislation and rules that prohibit the use of tobacco in foster homes and vehicles used to transport foster children.¹³⁰ It is important to provide treatment for tobacco dependence when implementing and enforcing these restrictions.

TOBACCO-CONTROL EDUCATION

Although there have been many successes in efforts to reduce the prevalence and harms of smoking, the pediatric community lags behind the internal medicine, family medicine, and obstetric/gynecology communities in tobacco-control and education efforts.^{131–133} Using provider education and having providers implement self-reminder systems to ensure that tobacco cessation is raised during the clinical examination has been shown to be effective, especially when used as part of a multicomponent clinical program.⁶⁵ Training in best practices in smoking-cessation counseling is not required in medical schools, pediatric clerkships, or pediatric residency programs, with the sole exception of such training listed in the program requirements for residency and fellowship education in adolescent medicine.^{134,135} This absence of educational requirements in these key training periods is critical, because clinical practices may become established during training and difficult to change after completion of training.^{131–133} All clinicians should be skilled in counseling to prevent tobacco use and SHS exposure and for tobacco-use cessation.

RESEARCH

There are significant gaps in the body of evidence related to pediatric tobacco control. Study of prevention approaches and interventions to limit SHS exposures in primary care settings are particularly needed. Other areas that require further study include pharmacologic effects of nicotine; use and efficacy of NRT products and other pharmacotherapy used to treat nicotine addiction of children, pregnant women, and families; effects of SHS exposure of children; and the effect of indoor air-quality laws and price/tax controls.

SUMMARY

SHS exposure of children and their families causes significant morbidity and mortality. Pediatricians have many opportunities to advocate for elimination of SHS exposure of children in their personal and professional roles.

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§For more information on states with public smoking bans, contact the AAP Division of State Government Affairs.

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APPENDIX 1: DISEASES AND OTHER ADVERSE HEALTH EVENTS WITH WHICH SHS OR PRENATAL TOBACCO-SMOKE EXPOSURE HAS BEEN ASSOCIATED

Note that these studies have not been critically evaluated. The reader is advised to perform his or her own evaluation before drawing conclusions. See www.aap.org/richmondcenter/AAP_Tobacco_Policy.html for updates.

Effects on the Fetus of Prenatal Tobacco Exposure Attributable to Maternal Tobacco Use

Increased risk of:

- Growth abnormalities, including
 - low birth weight^{1–15} and amplification of risk of low birth weight in fetus' with cystic fibrosis¹⁶ and
 - intrauterine growth retardation/small for gestational age^{1,5,12,17}
- Delivery complications, including
 - premature rupture of membranes,¹⁷
 - placenta previa and abruption,^{17–20}
 - preterm delivery, stillbirth, spontaneous abortion,^{1,3,5,11,15,17–22} and
 - admission to NICUs³
- Orofacial clefts^{23–31} (recent studies have been less supportive, although Honein et al³² found fairly strong evidence for specific types of clefts)
- Septal and right-sided obstructive cardiac defects³³
- Increased systolic blood pressure at 2 months of age³⁴

Effects on the Fetus of Prenatal Tobacco Exposure Attributable to Maternal SHS Exposure

Increased risk of:

- Decreased birth weight,^{35–39}
- Fetal mortality,^{36,40} and
- Preterm delivery³⁶ and spontaneous abortion⁴⁰

Effects on the Child of Prenatal Tobacco Exposure Attributable to Maternal Tobacco Use

Increased risk of:

- Nicotine-withdrawal symptoms during the neonatal period⁴¹
- Infant death
 - from all causes^{3,13,17,18,40} and
 - from sudden infant death syndrome^{3,17,18,42–45}
- Persistent pulmonary hypertension of the newborn⁴⁶
- Poor sleep⁴⁷
- Infection, including neonatal infection^{18,48}
- Hypoparathyroidism⁴⁹
- Respiratory effects, including
 - reduced lung function in infants and children,^{50–53}
 - lower respiratory tract illnesses (such as pneumonia and bronchiolitis),⁵⁴
 - increased diagnosis of asthma⁵⁵ and use of bronchodilating drugs,⁴⁷ and
 - otitis media^{56,57}
- Poor growth⁵⁸
- Behavioral and neurocognitive effects, including
 - abnormal neonatal neurobehavior, developmental delay, attention-deficit/hyperactivity disorder, conduct disorder and other aggressive behaviors,^{59–61} and psychiatric disorders,^{62–87} and
 - speech-processing ability⁸⁸
- Febrile seizures⁸⁹
- Experimentation with tobacco and addiction to tobacco as an older child or adult^{76,90–92}
- Gastrointestinal disease, including
 - colic,^{93–96}
 - pyloric stenosis,⁹⁷ and
 - diabetes⁹⁸
- Legg-Calvé-Perthes disease⁹⁹

- Some cancers^{100–103}
- Development of allergies^{104,105}
- Hospitalization for any illness^{106–113}
- Office visits for any illness^{106–110}
- Hyperopia¹¹⁴
- Significant reductions in cortical gray matter and total parenchymal volumes and head circumference¹¹⁵
- Altered development of white matter microstructure¹¹⁶
- Craniosynostosis¹¹⁷ (rather weak evidence)

Effects on the Child of Prenatal Tobacco Exposure Attributable to Maternal SHS Exposure

Increased risk of:

- Reduced cognitive development¹¹⁸
- Conduct disorder⁵⁹

Effects on Breastfeeding Attributable to Maternal Tobacco Use or SHS Exposure

Increased risk of:

- Decreased initiation and duration of breastfeeding^{119–125}
- Decreased iodine levels in human milk¹²⁶

Effects on the Child of SHS Exposure

Increased risk of:

- Allergic sensitization^{111,127–152}
- Poor sleep, in breastfed infants¹⁵³
- Lower respiratory disease, including
 - persistent decreased lung function,^{106–109,137,139,149,154} amplified in children with cystic fibrosis,¹⁶
 - infections,^{137,139,151,154–157}
 - bronchiolitis,¹⁵⁸ wheezing,⁴⁷ and use of bronchodilating drugs,⁴⁷
 - asthma prevalence,¹⁵⁹ and
 - frequency and severity of asthma exacerbations||

||Refs 106, 110, 111, 128, 134, 140, 149, 156, 157, and 160–185.

- Upper respiratory infections, including
 - otitis media,[¶]
 - cough^{106,110,111,189,190} and use of cough medicines,⁴⁷
 - rhinitis⁴⁷ and nasal obstruction,¹⁹²
 - tonsillectomy, adenoidectomy, and placement of pressure-equalizing tubes,^{168,179,180,193,194} and
 - respiratory complications associated with anesthesia^{195–199}
- Infections, including
 - invasive meningitis,^{200,201}
 - infection with *Mycobacterium tuberculosis* in children who live in a household with a patient with tuberculosis,²⁰² and
 - infection with *Helicobacter pylori*^{203,204}
- Hospitalization for
 - any illness,^{106,110,111,113,205–207}
 - respiratory disease,[#] and
 - serious infections²⁰⁶
- Gastrointestinal disease, including
 - colic^{47,93–96,209} and
 - reflux^{209–211}
- Increased complications of type 1 diabetes mellitus²¹² (study was small, included active smokers)
- Behavioral and neurocognitive effects^{69,70,85–87,213,214}
- Dental disease^{215,216}
- School absences^{106,110,112,139,217,218}
- Molecular, genetic, and cellular changes^{219–222}
- Experimentation with tobacco and addiction to tobacco as an older child or adult^{110,223–226}
- Injury and death attributable to fires^{110,227–231}
- Hyperopia¹¹⁴

¶Refs 106, 110, 111, 160, 165, 177, 178, 182, 183, and 186–191.

#Refs 54, 106, 110, 111, 129, 134, 205, and 208.

Effects on the Adult of Prenatal Tobacco Exposure Attributable to Maternal Tobacco Use

Increased risk of:

- Asthma²³²
- Elevated cholesterol levels in young adults²³³
- Hypertension²³⁴
- Younger age at menopause²³⁵ (suggestive)

Effects on the Adult of Childhood SHS Exposure

Increased risk of:

- Altered lipid profiles and endothelium effects in adolescents and young adults^{236–238}
- Asthma^{232,239}
- Chronic dry cough and phlegm²⁴⁰
- Lung cancer, leukemia, and lymphoma, as an adult^{220,221,241,242}
- Increased risk of spontaneous abortion in women exposed as children to SHS by both parents^{243,244}

APPENDIX 1 REFERENCES

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APPENDIX 2: RESOURCES

See www.aap.org/richmondcenter/AAP_Tobacco_Policy.html for updates.

General

1-800-QUIT-NOW

- <http://1800quitnow.cancer.gov>: 1-800-QUIT-NOW is the toll-free national telephone counseling service to help people stop smoking or quit other forms of tobacco use.

Addressing Tobacco in Healthcare

- www.atmc.wisc.edu: The Addressing Tobacco in Healthcare Research Network, supported by the Robert Wood Johnson Foundation, connects researchers, health care providers, and other partners interested in developing and implementing changes to health care systems that will improve the delivery of evidence-based tobacco-dependence treatment.

Agency for Healthcare Research and Quality

- www.ahrq.gov
- www.ahrq.gov/clinic/tobacco/tobaqrq.pdf—clinical practice guideline *Treating Tobacco Use and Dependence*: This Public Health Service guideline contains strategies and recommendations designed to assist clinicians, tobacco-dependence treatment specialists, and health care administrators, insurers, and purchasers in delivering and supporting effective treatments for tobacco use and dependence.
- www.ahrq.gov/clinic/tobacco/tobaqrq.htm—*Treating Tobacco Use and Dependence*, quick reference guide for clinicians: This is a quick how-to guide to assist clinicians in implementing the clinical practice guidelines.
- www.ahrq.gov/clinic/tobacco/clinhlpsmksqt.htm—Helping Smokers Quit: A Guide for Clinicians: This

guide gives clinicians easy access to information to help their patients quit smoking. The tool is based on the 5 A's approach to cessation intervention (ask, advise, assess, assist, and arrange) and offers other helpful resources.

Alliance for the Prevention and Treatment of Nicotine Addiction

- www.aptna.org: The mission of the Alliance for the Prevention and Treatment of Nicotine Addiction is to work toward reduction in tobacco-caused morbidity and mortality by providing services that promote effective treatment and prevention of nicotine addiction. Services are targeted to health care providers, clinicians, administrators, organizations, and educational institutions to promote policies that lead to an increase in implementing effective smoking-cessation strategies among high-risk tobacco users.

American Academy of Allergy Asthma & Immunology

- www.aaaai.org: The American Academy of Allergy Asthma & Immunology is the largest professional medical specialty organization in the United States, representing allergists, asthma specialists, clinical immunologists, allied health professionals, and others with a special interest in the research and treatment of allergic disease.

American Academy of Family Physicians

- www.aafp.org/online/en/home/clinical/publichealth/tobacco.html: This Web site provides up-to-date resources for clinicians. In particular, there is an excellent resource on pharmacotherapies used to treat tobacco dependence: www.aafp.org/online/en/home/clinical/publichealth/tobacco/nrt.html

American Academy of Pediatrics

- www.aap.org: The AAP is a 60 000-member organization dedicated to the health and well-being of infants, children, adolescents, and young adults.
- AAP Julius B. Richmond Center: www.aap.org/richmondcenter
- Committee on Environmental Health: www.aap.org/visit/cmte16.htm
- Department of Community Pediatrics: www.aap.org/commped

American Cancer Society

- www.cancer.org: The American Cancer Society is the nationwide community-based voluntary health organization dedicated to eliminating cancer as a major health problem.

American College of Obstetricians and Gynecologists

- www.acog.org/departments/dept_web.cfm?recno=13: The American College of Obstetricians and Gynecologists is the leading group of professionals providing health care for women. It has several resources for providers and patients.

American Legacy Foundation

- www.americanlegacy.org: The American Legacy Foundation concentrates on tobacco prevention and cessation, because smoking is the largest preventable cause of death in America. Its programs are working to engage all Americans in the dialogue about tobacco and to foster an understanding about its harmful effects.

American Lung Association

- www.lungusa.org: Founded in 1904 to fight tuberculosis, the American Lung Association fights lung disease in all its forms, with special emphasis on asthma, tobacco control, and environmental health.

Ask and Act

- www.aafp.org/online/en/home/clinical/publichealth/tobacco.html: The American Academy of Family Physicians' new tobacco use-cessation campaign encourages 100% of family physicians to ask about the tobacco-use habits of all their patients and act on that information.

Centers for Disease Control and Prevention

- www.cdc.gov
- www.cdc.gov/tobacco—Office on Smoking and Health: The Office on Smoking and Health offers information on all aspects of tobacco control and prevention.
- www.cdc.gov/tobacco/quit_smoking/cessation/practical_guide—A Practical Guide to Working with Health-Care Systems on Tobacco-Use Treatment: This guide was designed to increase public health professionals' comfort with and skill in establishing collaborative relationships with leaders of health care systems and to facilitate the creation of long-term partnerships that promote effective system-wide tobacco-use treatment.
- www.cdc.gov/tobacco/media_communications/countermarketing/mcrc/index.htm—Media Campaign Resource Center for Tobacco Prevention and Control: The Media Campaign Resource Center provides access to effective media campaign materials for tobacco-use prevention.

The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General

- www.surgeongeneral.gov/library/secondhandsmoke: US Surgeon General Richard H. Carmona issued this comprehensive scientific report (June 2006), which concludes

that there is no risk-free level of exposure to SHS.

The Health Consequences of Smoking: A Report of the Surgeon General

- www.cdc.gov/tobacco/data_statistics/sgr/sgr_2004/index.htm: A comprehensive report on the hazards of smoking and the benefits of quitting published by the US Department of Health and Human Services in May 2004.

Motivational Interviewing

- www.motivationalinterview.org: Motivational interviewing is a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence. This Web site is intended to provide resources for those seeking information on motivational interviewing. It includes general information about the approach as well as links, training resources, and information on reprints and recent research.

National Tobacco Technical Assistance Consortium

- www.ttac.org: The National Tobacco Technical Assistance Consortium: is dedicated to assisting organizations in building and developing highly effective tobacco-control programs.

Professional Assisted Cessation Therapy

- www.endsmoking.org: Professional Assisted Cessation Therapy is an independent consortium of leaders in the treatment of tobacco dependence whose mission is to lower barriers to broader use of cessation therapy through education and advocacy.

Smoke Free Homes

- www.kidslivesmokefree.org: Smoke Free Homes' mission is to reduce secondhand smoke exposure of children by increasing the awareness and understanding of the health benefits of creating smoke-free environments for children among members of the pediatric community.

Smokefree.gov

- www.smokefree.gov: This National Institutes of Health Web site was developed by using evidenced-based research. The site features "Live-Help," which connects smokers with a cessation counselor via instant messaging, and an interactive Web-based cessation guide based on the National Cancer Institute's "Clearing the Air" booklet.

US Environmental Protection Agency Smoke-Free Homes

- www.epa.gov/smokefree: This site offers a wealth of information on the health effects of SHS on children and helps families establish a smoke-free home.

Medical Students

Smoking Cessation: Effective Intervention Strategies

- <http://nosmoking.msm.edu>: This course is a collaborative effort of the Morehouse School of Medicine and the Mercer School of Medicine. It is intended primarily for medical students, who can register to receive academic curriculum credit.

Prevention and Cessation Education for Medical Students

- www.teachtobacco.org: Prevention and Cessation Education for Medical Students (PACE) is a consortium of 12 US medical schools funded by the National Cancer Institute to assess and improve tobacco teach-

ing. PACE aims to successfully incorporate tobacco education modules into a number of US medical schools to ensure that graduating students at these schools will be able to skillfully perform tobacco use-prevention and -cessation counseling for children, adolescents, and adults.

Nurses

Helping People Quit Smoking: Nursing Best Practice Guidelines

- www.mao.org/smokingcessation: This training Web site developed by the Registered Nurses Association of Ontario comprises a minicourse and 4 modules focusing on how nurses can provide brief interventions for smoking cessation.

Tobacco-Free Nurses

- www.tobaccofreenurses.org: A smoking-cessation site tailored for nurses and nursing students who want to quit smoking.

Perinatal

Mom's Quit Connection

- www.snjpc.org/mqc: Mom's Quit Connection is a free program of the Southern New Jersey Perinatal Cooperative that provides cessation counseling to pregnant and parenting women and teenagers who want to stop smoking. Perinatal smoking-cessation community and professional education programs are offered to health care providers, schools, and service agencies, including a practice-based, on-site American College of Obstetricians and Gynecologists 5 A's brief intervention training for clinicians.

The National Partnership for Smoke-Free Families

- www.helppregnant smokersquit.org: Smoke-Free Families is a national program supported by the Robert Wood Johnson Foundation working

to discover the best ways to help pregnant smokers quit before, during, and after pregnancy. This Web site provides information about effective, evidence-based smoking-cessation treatments to care professionals and consumers.

Counseling and Treatment Trainings, Including Systems Change

CEASE: Clinical Effort Against SHS Exposure

- www.massgeneral.org/children/professionals/cease/default.aspx: The Clinical Effort Against SHS Exposure program was developed by child health care clinicians to help other child health care clinicians adjust their office setting to address parental tobacco use in a routine and effective manner.

Clean Air for Healthy Children & Families

- www.cleanairforhealthychildren.org: The Clean Air for Healthy Children & Families program is a smoking-cessation counseling training program primarily targeted to health care professionals who care for pregnant women, mothers, and caregivers of young children and teenagers.

Mayo Clinic Nicotine Dependence Center

- www.mayoclinic.org/ndc-rst: The Nicotine Dependence Center offers educational activities to health care professionals who are interested in incorporating nicotine-dependence treatment into their practice and/or developing a service to meet the needs of tobacco-dependent patients.

Quitters Win, No Ifs, Ands or Butts

- www.mdhelpquit.org: This Web-based continuing education activity examines smoking cessation in pri-

mary care, with the goal of affecting physicians' clinical practices regarding smoking-cessation counseling and use of valuable resources such as "quitlines."

Rx for Change

- <http://rxforchange.ucsf.edu>: Rx for Change: Clinician-Assisted Tobacco Cessation is a comprehensive, turn-key, tobacco use-cessation training program that equips health professional students and licensed clinicians with state-of-the-art knowledge and skills for assisting patients with quitting.

Smoking Cessation in the Pediatric Office

- www.cme.erep.uab.edu/scpo/index.html: Sponsored by the University of Alabama, among others, this program assists pediatric health care providers in determining the smoking status of the parents of pediatric patients and influencing those who smoke to quit.

TobaccoCME.com

- www.tobaccocme.com: TobaccoCME.com is a Web-based program that provides training in tobacco treatment that prepares physicians to provide clinical tobacco interventions for prevention and cessation.

Treating Tobacco Use and Dependence

- www.medscape.com/viewprogram/3607: A continuing medical education credit course for physicians, nurses, and pharmacists developed by the University of Wisconsin Center for Tobacco Research and Intervention and offered through Medscape.

University of Massachusetts Center for Tobacco Prevention and Control Tobacco Treatment Specialist: Training and Certification Program

- www.umassmed.edu/tobacco/index.aspx: The Tobacco Treatment Spe-

cialist: Training and Certification Program is a nationally recognized, professional certification program.

University of Medicine and Dentistry of New Jersey School of Public Health's Tobacco Dependence Program

- www.tobaccoprogram.org: The Tobacco Dependence Program has developed certified trainings to prepare professionals to provide intensive specialist treatment for tobacco dependence.

Youth

Helping Young Smokers Quit

- www.helpingyoungsmokersquit.org: The Helping Young Smokers Quit initiative works to fill a gap in knowledge about the numbers and distribution of youth cessation programs, as well as the types of treatment approaches and program components that are currently offered across the United States.

Youth Tobacco Cessation Collaborative

- www.youthtobacco cessation.org: The Youth Tobacco Cessation Collaborative was created to address the gaps in knowledge about what cessation strategies are most effective in assisting youth to quit smoking.

Patients and Consumers

1-800-QUIT-NOW

- <http://1800quitnow.cancer.gov>: 1-800-QUIT-NOW is the toll-free national telephone counseling service to help people stop smoking or quit other forms of tobacco use. Spanish-speaking counselors are available.

Become an EX

- www.becomeanex.org: This free quit plan sponsored by the American Leg-

acy Foundation uses a systematic program to help prepare a customized quitting plan for each person.

Freedom From Smoking Online

- www.ffsonline.org: This online smoking-cessation program sponsored by the American Lung Association is an interactive course designed to educate and modify the behavior patterns of a smoker. Freedom From Smoking Online can be accessed day or night, 7 days per week, on any schedule the smoker chooses. It is ready whenever a smoker wants to start the process of quitting and is free of charge (registration is required).

Nicotine Anonymous

- www.nicotine-anonymous.org: Nicotine Anonymous welcomes all those seeking freedom from nicotine addiction, including those using cessation programs and nicotine-withdrawal aids. The organization offers group support and recovery using the "12 steps," as adapted from Alcoholics Anonymous, to achieve abstinence from nicotine.

QuitNet

- www.quitnet.com: This Web site includes a quitting guide, a national directory, pharmaceutical product overview, and Web resource directory with links to other online resources, programs, and self-help materials. Registered users can access customized advice, peer support, quitting tools and tips, and referrals to counselors.

Smokefree.gov

- www.smokefree.gov: This National Institutes of Health Web site was developed by using evidence-based research. The site features "LiveHelp," which connects smokers with a cessation counselor via instant messaging, and an interactive Web-based cessation guide based on the

National Cancer Institute's "Clearing the Air" booklet.

SHS Exposure Reduction

California EPA Office of Environmental Health Hazard Assessment

- www.oehha.ca.gov: This office's overall mission is to protect and enhance public health and the environment by scientific evaluation of risks posed by hazardous substances.
- www.oehha.ca.gov/air/environmental_tobacco/kidets041906.html—Secondhand Smoke Tobacco Smoke & Children's Health. Also available in Spanish at www.oehha.ca.gov/air/environmental_tobacco/pdf/smoke2_final_span.pdf.

US Environmental Protection Agency Smoke-Free Homes

- www.epa.gov/smokefree: This site offers a wealth of information on the health effects of SHS on children and helps families establish a smoke-free home. Materials are available in Spanish.

Policy and Advocacy

Addressing Tobacco in Health Care

- www.atmc.wisc.edu: The Addressing Tobacco in Healthcare Network, supported by the Robert Wood Johnson Foundation, connects researchers, health care providers, and other partners interested in developing and implementing changes to health care systems that will improve the delivery of evidence-based tobacco-dependence treatment.

Allergy & Asthma Network Mothers of Asthmatics

- www.aanma.org: AANMA is a national nonprofit network of families whose desire is to overcome, not cope with, allergies and asthma.

American Legacy Foundation

- www.americanlegacy.org: The American Legacy Foundation was established in March 1999 as a result of the Master Settlement Agreement between a coalition of attorneys general in 46 states and 5 US territories and the tobacco industry. The foundation is dedicated to promoting tobacco-free generations.

Americans for Nonsmokers' Rights

- www.no-smoke.org: Americans for Nonsmokers' Rights is the leading national lobbying organization dedicated to nonsmokers' rights, taking on the tobacco industry at all levels of government to protect nonsmokers from SHS and youth from tobacco addiction.

Campaign for Tobacco-Free Kids

- <http://tobaccofreekids.org>: The campaign is dedicated to protecting children from tobacco addiction by raising awareness of its use.

Global Tobacco Research Network

- <http://tobaccoresearch.net>: The Global Tobacco Research Network's mission is to enhance research by promoting collaboration and partnerships, providing information, facilitating training, and sharing research tools with the goal of reducing the burden of disease and death caused by tobacco.

Institute for Global Tobacco Control

- www.jhsph.edu/global_tobacco: Established in 1998 in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health, the Institute for Global Tobacco Control works to prevent death and disease from tobacco use through research, education, and policy development.

National Action Plan for Tobacco Cessation

- www.ctri.wisc.edu/Researchers/NatActionPlan%2002-04.pdf: This report, prepared by the Interagency Committee on Smoking and Health's Subcommittee on Cessation, outlines a series of feasible, science-based action steps to promote smoking cessation, reduce smoking prevalence, and prevent millions from starting to smoke.

National African American Tobacco Education Network

- www.naaten.org: The National African American Tobacco Education Network is a collaborative of national African American stakeholders that have an interest in establishing or augmenting tobacco prevention and control activities within their organizations as well as the African American community.

National African American Tobacco Prevention Network

- www.naatpn.org: The National African American Tobacco Prevention Network is a national organization dedicated to facilitating the development and implementation of comprehensive and community-competent tobacco-control programs to benefit communities and people of African descent.

National Latino Council on Alcohol and Tobacco Prevention

- www.nlcatp.org: The National Latino Council on Alcohol and Tobacco Prevention is the only Latino national organization dedicated solely to reducing the harm caused by alcohol and tobacco in the Latino community through research, advocacy, policy analysis, community education, training, and information dissemination.

North American Quitline Consortium

- www.naquitline.org: The North American Quitline Consortium seeks to unite quitline professionals in the United States and Canada to enable them to work together to increase access to and the effectiveness of quitline services that help people in their quitting attempts.

Policy Advocacy on Tobacco and Health

- www.thepraxisproject.org: Policy Advocacy on Tobacco and Health is an initiative of the Praxis Project Inc, designed to simultaneously build bridges between tobacco-control policy initiatives and strengthen the voice and capacity of communities of color in the tobacco-control movement.

Smoke Free Movies

- www.smokefreemovies.ucsf.edu: This project aims to sharply reduce the US film industry's usefulness to the tobacco industry's domestic and global marketing.

Smoking Cessation Leadership Center

- <http://smokingcessationleadership.ucsf.edu>: The Smoking Cessation Leadership Center is a national program office of the Robert Wood Johnson Foundation that aims to increase smoking-cessation rates and increase the number of health professionals who help smokers quit.

Tar Wars

- www.tarwars.org: Tar Wars is a pro-health, tobacco-free education program and poster contest of the American Academy of Family Physicians designed to discourage tobacco use among fourth- and fifth-grade students.

Tobacco.org

- www.tobacco.org: Tobacco news and information.

Tobacco Policy Change

- www.tobaccopolicychange.org: This national initiative of the Robert Wood Johnson Foundation was created to provide resources and technical assistance for community, regional, and national organizations and tribal groups interested in advocating for effective tobacco use-prevention and -cessation policy initiatives.

UAMS Smoke-Free Hospital Toolkit

- www.uams.edu/coph/reports/smokefree_toolkit: This guide for implementing smoke-free policies was developed by the University of Arkansas for Medical Sciences College of Public Health.

UMICH Implementing a Smoke-Free Environment CD and Toolkits

- www.med.umich.edu/mfit/tobacco/freeenvironment.htm: The University of Michigan Health System's Tobacco Consultation Service has developed a CD and toolkits to guide hospitals and other health care facilities on the steps to creating a smoke-free workplace.

Research*Academic Pediatric Association: Pediatric Tobacco Issues Special Interest Group (The "Cig SIG")*

- www.ambpeds.org/specialInterestGroups/sig_ped_tobacco.cfm: The "Cig SIG's" mission is to bring members and friends of the Academic Pediatric Association together for networking, dissemination of information, and discussion of research and funding opportunities, education, health care delivery, public policy, and advocacy related to pediatric tobacco control.

Global Tobacco Research Network

- <http://tobaccoresearch.net>: The Global Tobacco Research Network's mission is to enhance research by promoting collaboration and partnerships, providing information, facilitating training, and sharing research tools with the goal of reducing the burden of disease and death caused by tobacco.

Society for Research on Nicotine and Tobacco

- www.srnt.org: This Web site provides information on the latest research, abstracts, publications, and events related to nicotine and tobacco.

University of Wisconsin Center for Tobacco Research and Intervention

- www.ctri.wisc.edu: The University of Wisconsin Center for Tobacco Research and Intervention was founded and is directed by Michael Fiore, MD, MPH, and is recognized internationally as a leading authority on tobacco-use treatment.

APPENDIX 3: SMOKE-FREE MULTIUNIT HOUSING

See www.aap.org/richmondcenter/AAP_Tobacco_Policy.html for updates.

Community Initiatives*California*

- www.smokefreehousing.org—California Smoke Free Housing Project: Smokefreehousing.org was created to provide a source for accessing information on smoke-free housing in Northern California.
- www.smokefreeapartments.org—Southern California Smokefree Apartment House Registry: A free information service for owners and managers of smoke-free apartment

buildings, condominiums, townhouses, and rental houses and for prospective tenants. It is based in southern California and is starting out with names of owners and managers in the Los Angeles area who offer smoke-free housing.

Maine

- www.smokefreeforme.org/tenant.php—Smoke Free For Maine: A Web site on tenants' and landlords' rights in ensuring a smoke-free housing environment. A page on the Web site addresses public housing.

Michigan

- www.tcsg.org/sfelp/apartment.htm—The Smoke-Free Environments Law Project: Based in Ann Arbor, this Web site includes methods to help create a smoke-free housing environment and addresses issues of public opinion and frequently asked questions about the smoke-free housing market.

Oregon

- <http://smokefreeoregon.com/index.php>—Smokefree Oregon: A Web site dedicated to helping landlords, tenants, bar owners, and bar goers create a smoke-free environment.

Utah

- www.tobaccofreeutah.org/aptcondoguide.html—Utah Smoke-Free apartment and condominium guide: The statewide directory is a listing of rental properties that provide smoke-free housing in the state of Utah.

Washington

- www.metrokc.gov/health/tobacco/housing.htm—The Seattle and King County Tobacco Prevention Program: Includes a "how-to" guide and Power-Point presentation for landlords, ten-

ants, and housing authorities to stop smoking in their housing developments.

West Virginia

- www.wvsmokefreehousing.com—West Virginia Smoke-Free Housing Project

National

- www.s-fhc.com—Smoke-Free Housing Consultants: This site will help

you understand the demand for, advantages of, and legalities of owning or managing smoke-free apartment and condominium buildings. Smoke-Free Housing Consultants is available for consultation in all states that do not currently have a state- or tax-funded smoke-free housing advisory organization. They will refer you to someone in your area that can help you if an agency

is working on this problem in your area.

- www.tcsg.org/sfelp/fha_01.pdf—Federal Fair Housing Act and the Protection of Persons Who Are Disabled by SHS in Most Private and Public Housing:
- www.no-smoke.org/goingsmokefree.php?dp=d11—How landlords can prohibit smoking in rental housing