

# Issue Brief

## Tobacco Use among Pregnant Women in Kentucky

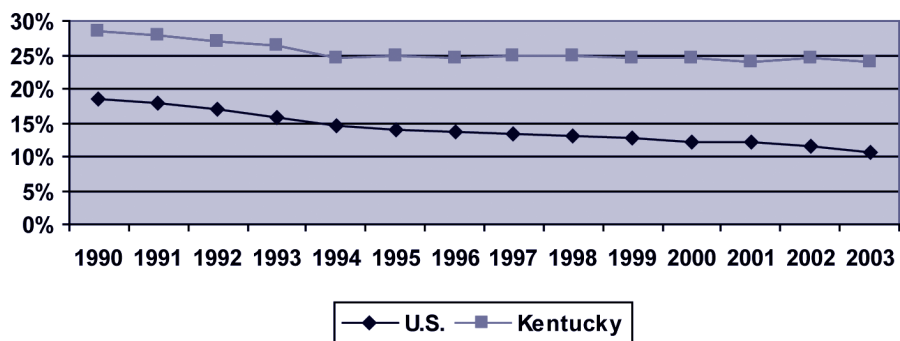
All children need a healthy start in life to reach their full potential. Yet, more than 13,000 babies in Kentucky are born each year to mothers who smoked during their pregnancy.<sup>1</sup>

Babies exposed to tobacco smoke in utero face great health risks. The U.S. Surgeon General found that exposure to cigarette smoke caused fetal growth problems, low-weight births, preterm delivery, Sudden Infant Death Syndrome, and other infant health problems.<sup>2</sup>

Exposure to cigarette smoke is the single most important known cause of low-weight births. Low-weight births often mean increased risk of health problems for newborns, as well as long-term disabilities and even death.<sup>3</sup> Low-birthweight infants are 26 times more likely than those born at normal weights to die within the first year of life.<sup>4</sup>

Low-birthweight babies also face more negative outcomes later in life, including higher risk of poor educational outcomes and long-term physical, behavioral, and developmental disabilities. Children born at low birthweight are 34 percent less likely to graduate from high school by age 19, even when compared to siblings who were raised in the same environment.<sup>5</sup> In 2004 and 2005 in Kentucky, 12.7 percent of babies born to mothers who smoked during pregnancy were low birthweight, compared to 8.3 percent of babies born to mothers who did not smoke.<sup>6</sup>

### Smoking during Pregnancy in Kentucky and the U.S., 1990-2003



Source: The Annie E. Casey Foundation, Right Start Data Online.

March 2008

### Authors

Tara Grieshop-Goodwin  
Lacey McNary

### Support

This report is funded by The Annie E. Casey Foundation. The contents of this report are the sole responsibility of Kentucky Youth Advocates and do not necessarily reflect the opinions of any funder.

### KYA Board Members

Bill Stewart, President  
Beth Myers, Vice President  
Sally Gorman, Treasurer  
Matt Benningfield  
Bob Butler  
Lois Dunner  
Lancaster Gordon  
V. Faye Jones, M.D.  
Barbara Lasky  
Lori Wilson



KENTUCKY YOUTH ADVOCATES

11001 Bluegrass Pkwy., Suite 100  
Jeffersontown, KY 40299  
(502) 895-8167

[www.kyouth.org](http://www.kyouth.org)

Quitting smoking at any point during a pregnancy improves outcomes, yet some women experience barriers to quitting.<sup>7</sup> Health insurance limits access to early and frequent prenatal care, smoking cessation programming, and education about the consequences of smoking during pregnancy. Other barriers to quitting include targeted marketing to women by tobacco companies, lack of awareness of cessation services, and lack of social supports.<sup>8</sup>

Kentucky's rate of smoking during pregnancy has historically been much higher than the rate for the United States as a whole. Though both the U.S. and Kentucky rates showed improvement between 1990 and 2003, Kentucky's rate was more than twice the national rate in 2003 (the last year for which comparable data are available).

In 2003, Kentucky adopted a revised birth certificate, which tracks data on smoking during pregnancy. More recent data comparing Kentucky to the ten other states that ask similar questions about smoking habits during pregnancy show that Kentucky's rate is highest at 26.1 percent and more than a third higher than the next highest state rate. The total rate for all states with the revised birth certificate in place – 12.4 percent – was less than half Kentucky's rate.<sup>9</sup>

In Kentucky, 31,336 babies (28.6 percent of all live births) were born during 2004 and 2005 to mothers who reported smoking during the three months prior to pregnancy. During those two years 27,818 babies (25.4 percent of all live births) were born to women who smoked during pregnancy.

Data on smoking by trimester shows that, overall, the percent of women smoking decreases as the pregnancy progresses. Of all babies born, 24.8 percent were born to women who smoked during the first trimester. A smaller percentage – 23.0 percent – was born to women who smoked during the second trimester, and 22.6 percent were born to women who smoked during the third trimester.

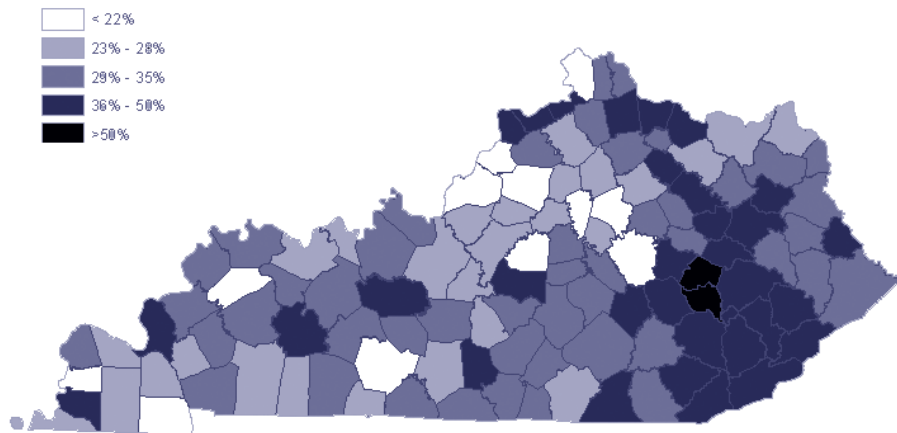
A closer look within Kentucky shows much variation across counties in rates of smoking during pregnancy. Oldham and Fayette Counties had the lowest rates of smoking during pregnancy in 2005, with rates of 15.0 and 15.1 percent, respectively. However, even these counties' rates are worse than the U.S. total.<sup>10</sup> Rates were highest in Lee and Owsley Counties where more than 1 in 2 babies were born to women who smoked during pregnancy.

**Rates of Smoking during Pregnancy in States with Revised Birth Certificate, 2005**

State	Rate
Idaho	13.3%
Kansas	16.9%
Kentucky	26.1%
Nebraska	15.5%
New Hampshire	15.6%
New York	13.0%
Pennsylvania	17.9%
South Carolina	14.3%
Tennessee	19.4%
Texas	6.1%
Washington	10.2%
Total	12.4%

Source: VitalStats, Centers for Disease Control and Prevention, National Center for Health Statistics.

## Percentage of Births to Mothers who Reported Smoking During Pregnancy



Source: Kentucky Cabinet for Health and Family Services, Vital Statistics Branch, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.

### Recommendations to Lower the Rate of Pregnant Women Who Smoke in Kentucky

The risks to women who smoke during their pregnancies are well researched and the health problems for their children have been documented. Women who are pregnant have one of the greatest motivations to quit smoking since no safe level of smoking while pregnant exists.<sup>11</sup> Kentucky should capitalize on this motivation to improve health outcomes for infants. There are three steps Kentucky can take to reduce the number of pregnant women who smoke:

**Raise Cigarette Prices.** Pregnant women are more price-sensitive to increases in tobacco costs than their non-pregnant peers.<sup>12</sup> Raising the price of cigarettes is a proven approach to increase the probability of quitting smoking during pregnancy and to reduce relapse during pregnancy.<sup>13</sup> The higher the cost of cigarettes the more effective the deterrent and the better the outcomes are for women and their babies.<sup>14</sup> For every 10 percent increase in price, 7 percent of pregnant women stop smoking.<sup>15</sup> For example, research found that a 55 cent increase in price induced 22 percent of the pregnant women who were studied to quit smoking.<sup>16</sup> In Kentucky, increasing the cigarette tax by 50 cents would reduce rates of pregnant women who smoke by 10.1 percent, protect 6,900 babies over five years from the harmful effects of smoking, and save the Commonwealth of Kentucky \$11.7 million in just five years.<sup>17</sup>

### Increase Access to and Availability of Prevention and Treatment Services.

Offering tobacco cessation treatment and counseling during a woman's pregnancy increases the likelihood of quitting.<sup>18</sup> Evidence based smoking cessation program models have been developed for pregnant women who receive Medicaid services to quit or reduce smoking. States that have implemented smoking cessation programming in their Medicaid programs have seen cessation rates of up to 70 percent for all pregnant women.<sup>19</sup> There is also evidence that tobacco cessation programming is the most effective preventative clinical service, even when compared to colorectal screenings or mammography.<sup>20</sup>

### Raise Awareness.

Preventing youth from starting to smoke in the first place provides the best way to prevent pregnant women from smoking. Increasing the number and reach of state-sponsored anti-tobacco marketing campaigns, banning cigarette vending machines, and offering universal prevention and intervention are examples of efforts to prevent the start of youth smoking.<sup>21, 22</sup> Tremendous potential also exists for both pediatric and prenatal health providers to deliver smoking prevention and intervention messages to patients and their families.<sup>23</sup> Offering incentives and increasing the ease of delivery for busy medical professionals would be one way to encourage this type of education.

**Characteristics of Smoking Prior to and during Pregnancy in Kentucky, 2004-2005**

County	Babies Born to Women Who Smoked during 3 Months Prior to Pregnancy		Babies Born to Women Who Smoked during Pregnancy			All Babies Born		
	Number	Percent of all Babies	Number	Percent of all Babies Born	Cigarettes Smoked Per Day (Average)	Percent with Mothers Who Smoked during 1st Trimester	Percent with Mothers Who Smoked during 2nd Trimester	Percent with Mothers Who Smoked during 3rd Trimester
Kentucky	31,336	28.6	27,818	25.4	14.8	24.8	23.0	22.6
Adair	134	32.2	129	31.0	13.6	30.0	28.1	29.1
Allen	141	31.8	138	31.1	14.7	30.6	29.7	29.3
Anderson	154	31.7	128	26.3	14.1	25.5	23.0	22.4
Ballard	85	43.4	63	32.1	13.3	30.1	27.6	27.6
Barren	297	26.3	287	25.4	14.1	25.3	24.9	24.7
Bath	148	46.1	129	40.2	15.8	38.6	38.3	37.1
Bell	303	40.9	279	37.7	17.0	36.9	34.6	33.8
Boone	650	21.6	469	15.6	12.0	15.0	12.8	11.9
Bourbon	139	28.6	132	27.2	13.8	26.5	24.5	24.3
Boyd	367	33.6	323	29.6	14.5	28.6	25.9	25.7
Boyle	201	32.9	176	28.8	13.2	28.3	25.7	24.2
Bracken	98	41.7	80	34.0	14.2	32.8	29.8	30.6
Breathitt	140	40.6	132	38.3	16.2	36.8	35.4	35.7
Breckinridge	205	41.4	173	34.9	14.2	34.1	31.1	31.7
Bullitt	404	27.8	350	24.1	13.8	23.7	22.1	21.6
Butler	119	35.3	116	34.4	15.7	34.1	32.6	31.5
Caldwell	94	36.3	87	33.6	14.9	32.8	28.2	28.2
Calloway	206	29.5	150	21.5	15.3	20.5	18.1	18.1
Campbell	628	31.7	523	26.4	13.6	25.9	23.6	22.9
Carlisle	43	33.1	34	26.2	17.7	26.2	23.8	22.3
Carroll	125	41.9	116	38.9	14.6	37.6	35.2	35.9
Carter	224	33.8	206	31.1	15.9	30.8	27.8	26.2
Casey	129	33.9	114	30.0	14.4	29.5	27.6	26.8
Christian	701	25.2	560	20.1	36.3	19.4	17.1	16.8
Clark	282	32.3	252	28.8	14.1	28.3	26.2	25.5
Clay	275	50.1	260	47.4	16.0	46.3	43.7	44.4
Clinton	65	26.9	62	25.6	27.3	25.6	24.8	24.0
Crittenden	55	27.0	54	26.5	15.7	25.0	24.5	24.5
Cumberland	43	27.0	42	26.4	13.7	26.4	25.8	25.2
Daviess	672	26.0	625	24.1	11.2	23.4	21.9	21.7
Edmonson	75	31.0	70	28.9	13.3	28.9	26.9	26.0
Elliott	71	46.7	66	43.4	15.1	42.8	42.8	42.1
Estill	159	39.9	147	36.9	15.8	35.2	34.2	33.4
Fayette	1,279	16.5	1,170	15.1	12.4	14.8	13.3	13.1
Fleming	151	40.2	127	33.8	14.1	32.7	31.1	31.6
Floyd	388	35.3	375	34.1	15.9	33.8	33.6	33.4

## Characteristics of Smoking Prior to and during Pregnancy in Kentucky, 2004-2005 (continued)

	Babies Born to Women Who Smoked during 3 Months Prior to Pregnancy		Babies Born to Women Who Smoked during Pregnancy			All Babies Born		
	Number	Percent of all Babies	Number	Percent of all Babies Born	Cigarettes Smoked Per Day (Average)	Percent with Mothers Who Smoked during 1st Trimester	Percent with Mothers Who Smoked during 2nd Trimester	Percent with Mothers Who Smoked during 3rd Trimester
Fulton	41	24.6	39	23.4	20.7	22.2	22.2	22.2
Garrard	117	34.8	105	31.3	12.9	30.1	29.8	29.8
Grant	295	37.5	262	33.3	12.9	32.0	30.1	28.6
Graves	271	29.1	231	24.8	15.5	23.7	22.1	21.5
Grayson	272	40.9	245	36.8	15.5	36.1	33.2	32.3
Green	84	32.9	77	30.2	15.4	29.4	27.5	27.5
Greenup	208	27.8	178	23.8	14.7	23.3	22.1	22.2
Hancock	58	24.1	57	23.7	10.2	22.8	21.2	22.0
Hardin	907	29.1	721	23.1	13.3	22.2	19.5	19.7
Harlan	325	44.3	293	40.0	14.8	39.8	38.7	38.3
Harrison	175	40.2	148	34.0	13.3	32.6	28.7	28.0
Hart	132	27.0	125	25.6	13.1	25.2	25.2	25.4
Henderson	288	27.5	281	26.8	13.1	26.2	25.4	25.8
Henry	136	34.7	127	32.4	14.1	31.4	28.6	29.6
Hickman	31	34.4	27	30.0	22.8	27.8	26.7	24.4
Hopkins	443	36.8	388	32.3	14.5	31.2	28.2	27.3
Jackson	161	45.1	153	42.9	16.8	42.6	41.5	40.9
Jefferson	4,080	20.9	3,549	18.2	12.4	17.6	16.1	15.7
Jessamine	312	25.4	289	23.5	13.3	23.3	22.4	21.9
Johnson	182	31.4	172	29.7	15.8	29.0	28.3	27.5
Kenton	1,292	30.4	1,049	24.7	12.4	24.1	21.1	19.9
Knott	138	38.7	134	37.5	15.7	36.7	35.9	35.6
Knox	425	39.4	400	37.1	14.9	36.6	35.7	34.8
Larue	103	30.9	82	24.6	15.1	24.0	20.4	21.0
Laurel	548	37.2	508	34.5	13.8	33.6	32.2	31.8
Lawrence	121	32.8	111	30.1	15.6	29.8	27.6	27.6
Lee	82	51.9	81	51.3	15.1	50.0	50.0	50.6
Leslie	130	42.6	128	42.0	15.5	40.0	36.4	37.7
Letcher	276	43.5	256	40.3	15.0	39.2	38.0	38.0
Lewis	61	21.6	54	19.1	13.5	18.1	18.1	18.8
Lincoln	269	37.6	242	33.8	13.7	33.0	30.2	29.9
Livingston	72	36.0	66	33.0	17.5	32.0	30.5	30.5
Logan	218	30.0	203	28.0	23.6	26.7	24.5	24.5
Lyon	36	31.6	32	28.1	14.8	28.1	25.4	25.4
McCracken	470	28.7	417	25.5	13.3	24.5	22.4	22.5
McCreary	218	44.7	208	42.6	19.8	42.0	41.0	40.8
McLean	70	29.9	65	27.8	13.6	25.6	26.9	26.9
Madison	504	24.6	464	22.7	14.0	22.1	20.8	20.9
Marion	190	37.0	166	32.4	15.9	32.0	29.6	30.0
Marshall	199	30.5	166	25.4	14.6	24.2	21.0	20.7
Martin	109	35.5	103	33.6	16.4	32.9	32.6	32.2

**Characteristics of Smoking Prior to and during Pregnancy in Kentucky, 2004-2005 (continued)**

	Babies Born to Women Who Smoked during 3 Months Prior to Pregnancy		Babies Born to Women Who Smoked during Pregnancy			All Babies Born		
	Number	Percent of all Babies	Number	Percent of all Babies Born	Cigarettes Smoked Per Day (Average)	Percent with Mothers Who Smoked during 1st Trimester	Percent with Mothers Who Smoked during 2nd Trimester	Percent with Mothers Who Smoked during 3rd Trimester
Mason	138	34.6	126	31.6	13.4	30.3	29.1	28.3
Meade	161	33.5	142	29.5	15.1	28.5	24.7	25.4
Mercer	204	37.9	175	32.5	13.9	32.0	29.4	28.3
Metcalfe	99	35.2	93	33.1	13.6	32.7	32.7	33.1
Monroe	82	26.5	79	25.5	12.9	25.5	25.2	24.8
Montgomery	261	37.6	225	32.4	16.8	32.1	29.2	28.8
Morgan	119	37.2	103	32.2	14.6	30.6	28.4	28.4
Muhlenberg	321	41.9	282	36.8	14.9	35.2	33.1	30.6
Nelson	353	30.5	302	26.1	13.3	25.1	23.2	22.4
Nicholas	81	40.9	74	37.4	15.4	36.9	35.4	34.3
Ohio	211	30.6	197	28.6	12.7	28.1	27.1	27.1
Oldham	190	17.5	162	15.0	13.5	14.1	13.0	13.1
Owen	91	34.2	80	30.1	13.3	30.1	26.7	24.8
Owsley	70	54.7	69	53.9	15.4	53.9	53.9	53.9
Pendleton	149	41.4	126	35.0	13.5	34.4	30.8	30.0
Perry	326	41.3	312	39.5	16.0	39.2	38.0	37.8
Pike	481	32.5	478	32.3	15.9	32.3	32.2	32.3
Powell	163	41.1	149	37.5	14.6	36.8	33.8	33.0
Pulaski	498	32.2	431	27.8	13.8	27.1	25.3	24.9
Robertson	18	39.1	13	28.3	15.5	28.3	26.1	26.1
Rockcastle	153	36.7	150	36.0	12.8	34.8	33.1	32.9
Rowan	173	36.4	152	32.0	14.7	31.2	29.1	29.1
Russell	145	35.5	137	33.6	15.4	33.6	31.6	30.4
Scott	358	28.0	326	25.5	13.7	24.7	21.6	21.4
Shelby	289	26.7	253	23.3	14.4	22.0	20.6	20.5
Simpson	113	28.1	106	26.4	17.0	25.6	24.6	24.9
Spencer	98	27.0	86	23.7	13.7	23.1	19.8	19.3
Taylor	225	40.3	195	34.9	13.9	33.9	31.5	31.0
Todd	94	25.4	86	23.2	25.5	23.0	20.8	20.3
Trigg	99	34.4	91	31.6	21.1	30.9	27.1	26.7
Trimble	73	34.9	65	31.1	14.8	30.1	28.7	28.2
Union	84	29.3	82	28.6	12.6	27.9	26.5	26.5
Warren	556	20.5	523	19.3	15.6	19.0	18.1	17.6
Washington	61	23.8	53	20.7	14.7	20.7	18.4	18.4
Wayne	157	30.5	149	29.0	14.9	28.2	27.0	26.7
Webster	96	26.4	86	23.7	15.2	23.1	22.6	22.9
Whitley	291	36.1	267	33.1	34.2	32.5	31.8	31.8
Wolfe	95	41.9	90	39.6	15.3	37.9	35.7	36.6
Woodford	125	22.7	109	19.8	12.9	19.6	18.0	17.1

Source: Kentucky Cabinet for Health and Family Services, Vital Statistics Branch, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.

## Endnotes

- 1 Data from the Kentucky Cabinet for Health and Family Services, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.
- 2 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. (2004). *The Health Consequences Of Smoking: A Report of the Surgeon General*. Washington, DC: U.S. Government Printing Office.
- 3 March of Dimes (2005). *Low Birthweight*. White Plains, NY: March of Dimes. Available at <http://www.marchofdimes.com>. Accessed August 2007.
- 4 Annie E. Casey Foundation (2007). *2007 KIDS COUNT Data Book: State Profiles of Child Well-Being*. Baltimore, MD: Annie E. Casey Foundation.
- 5 Shore, R. (2005). *KIDS COUNT Indicator Brief: Preventing Low Birth Weight*. Baltimore, MD: Annie E. Casey Foundation.
- 6 Data from the Kentucky Cabinet for Health and Family Services, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.
- 7 March of Dimes (2004). *Quick Reference: Fact Sheets: Smoking During Pregnancy*. Available at <http://www.marchofdimes.com>. Accessed August 2007.
- 8 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. (2004). *The Health Consequences Of Smoking: A Report of the Surgeon General*. Washington, DC: U.S. Government Printing Office.
- 9 VitalStats, Centers for Disease Control and Prevention, National Center for Health Statistics.
- 10 Rates are higher than the U.S. total among states that have implemented the new birth certificate and the U.S. total among states that have not implemented the revised birth certificate. VitalStats, Centers for Disease Control and Prevention, National Center for Health Statistics.
- 11 Ventura, S.J., Hamilton, B.E., Matthews, T.J., and Chandra, A. (2003). *Trends and Variations in Smoking during Pregnancy and Low Birthweight: Evidence From the Birth Certificate, 1990-2000*; Pediatrics, Vol. 111, 1176-1180.
- 12 Ringel, J.S. and Evans, W.N. (1999) *Higher Cigarette Prices Reduces Smoking by Pregnant Women*. American Journal of Public Health. Vol. 91, No.11.
- 13 Colman, G., Grossman, M., and Joyce, T. (2003). *The Effect of Cigarette Taxes on Smoking before, during, and after Pregnancy*. Journal of Health Economics. Vol. 22. 1053-1072.
- 14 Ringel, J.S. and Evans, W.N. (1999) *Higher Cigarette Prices Reduces Smoking by Pregnant Women*. American Journal of Public Health. Vol. 91, No.11
- 15 Ibid.
- 16 Ringel, J.S. and Evans, W.N. (1999) *Higher Cigarette Prices Reduces Smoking by Pregnant Women*. American Journal of Public Health. Vol. 91, No.11.
- 17 Campaign for Tobacco Free Kids (2007). *Pregnancy Related Benefits and Cost Savings from Raising Cigarette Taxes*.
- 18 Mathews, T.J., (2004) *Smoking during Pregnancy – United States 1990-2002*. National Center for Health Statistics. Vol.53, No. 39, 911-915.
- 19 Melvin, C.L., Mullen-Dolan, P., Windsor, R.A., Whiteside, H. P., and Goldenberg R. L. (2000). *Recommended Cessation Counseling for Pregnant Women Who Smoke: A Review of the Evidence*. Tobacco Control 2000; 9(Suppl III):iii80-84
- 20 Coffield, A.B. (2001). *Priorities among Recommended Clinical Preventive Services*. American Journal of Preventive Medicine, Volume 21, Issue 1, July 2001, Pages 66-67
- 21 Emery, S., Wakefi eld, M., Terry-McElrath, Y., Saffer, H., Szczypka, G., O'Malley, P., Johnston, L., Chaloupka, F., and Flay, B. (2005). *Televised State-Sponsored Anti-Tobacco Advertising and Youth Smoking Beliefs and Behavior in the United States, 1999-2000* Archives of Pediatrics and Adolescent Medicine, Vol. 159, No. 7. Chicago, IL: American Medical Association.
- 22 Kandel, D., Kiros, G., Schaffran, C., and Hu, M. (2004). *Racial/Ethnic Differences in Cigarette Smoking Initiation and Progression to Daily Smoking: A Multilevel Analysis*. American Journal of Public Health, Vol. 94, No. 1. Washington, DC: American Public Health Association.
- 23 Pbert, L., Fletcher, K., Flint, A., Young, M., Druker, S., and DiFranza, J. (2006). *Smoking Prevention and Cessation Intervention Delivery by Pediatric Providers, as Assessed with Patient Exit Interviews*. Pediatrics, Vol. 118, No. 3. Elk Grove, IL: American Academy of Pediatrics.