

# Smoking during Pregnancy

## Definition

*Smoking during pregnancy* is the number and percent of births to mothers who reported smoking at any point while pregnant.

## Data in context

All children need a healthy start in life, and this begins during pregnancy. The problems associated with smoking while pregnant are well-documented, and the consequences are far-reaching. The U.S. Surgeon General found a causal relationship between cigarette smoke and fetal growth problems, low birthweight, preterm delivery, Sudden Infant Death Syndrome, and other infant problems.<sup>1</sup> Babies born to mothers who smoked had a substantially higher rate of infant mortality than babies born to mothers who did not smoke (10.69 per 1,000 and 5.96 per 1,000, respectively, in 2005).<sup>2</sup>

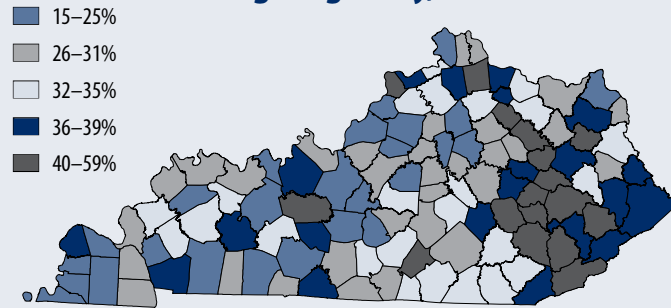
Chemicals including nicotine, cyanide, and carbon monoxide pass through the placenta into the fetal blood supply and constrict the oxygen flow to a growing infant's body.<sup>3</sup> The risk of respiratory infections and allergic immune responses in infants also increases when a pregnant woman smokes.<sup>4</sup>

If a woman stops smoking at any point in her pregnancy, even during the third trimester, the baby's health can improve.<sup>5</sup> In Kentucky, of those who smoked during the three months prior to pregnancy, 11 percent successfully quit for the duration of their pregnancy.<sup>6</sup>

Women experience many barriers to quitting smoking during pregnancy. Lacking health insurance limits access to early and frequent prenatal care, smoking cessation programming, and medical information about the consequences of smoking during pregnancy.<sup>7</sup> Disproportionate tobacco marketing to youth perpetuates tobacco use, and low-income people and people of color sometimes use tobacco as a coping mechanism for dealing with persistent poverty and racism.<sup>8,9</sup> Rates of smoking in Kentucky vary significantly by race with 29 percent of White women reporting smoking compared to 19 percent of Black women and 3 percent of Hispanic women.<sup>10</sup>

Among the 11 states with a revised birth certificate that is directly comparable to Kentucky's, 12 percent of women smoked during their pregnancy in 2005.<sup>11</sup> Kentucky's rate of women smoking during pregnancy was more than twice that at 26 percent.<sup>12</sup>

## Percent of Women Reporting Smoking during Pregnancy, 2006



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

Kentucky data show no improvement from 2004 to 2006 in the percent of births to mothers who reported smoking during pregnancy. Rates improved in just over a third of counties, led by Carlisle County. Rates range from a low of 15 percent in Fayette County to more than 50 percent of births in Menifee and Owsley Counties.

Successful strategies to end smoking during pregnancy include:

- ▶ Fund the tobacco cessation treatment and counseling program under Medicaid, authorized by the Kentucky General Assembly in 2005, and offer similar services within other health insurance plans to increase the likelihood of quitting prior to or early in the pregnancy;<sup>13</sup>
- ▶ Raise the tobacco tax to capitalize on pregnant women's responsiveness to cost of cigarettes;<sup>14,15</sup>
- ▶ Offer incentives for pediatric and prenatal health providers to deliver smoking prevention interventions;<sup>16</sup> and
- ▶ Prevent youth from starting to smoke by offering universal prevention and intervention efforts, including increasing the volume and reach of state-sponsored anti-tobacco marketing campaigns and banning cigarette vending machines.<sup>17,18</sup>

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

**Data Note:** Data are reported by mother's place of residence, not infant's place of birth. Data from 2006 are preliminary and exclude births to Kentucky mothers that occurred in Ohio. For cases where the information for this variable was missing, the case was excluded from the total number of live births.

**Rate Calculation:** (number of women who reported smoking during pregnancy in 2004 \* 100) / (total number of live births in 2004)  
(number of women who reported smoking during pregnancy in 2006 \* 100) / (total number of live births in 2006)

- 1 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.
- 2 Mathews, T., and MacDorman, M. (2008). "Infant Mortality Statistics from the 2005 Period Linked Birth/Infant Death Data Set." *National Vital Statistics Reports*, vol. 57, no. 2. Hyattsville, MD: National Center for Health Statistics.
- 3 Ibid.
- 4 Ibid.
- 5 March of Dimes (2008). *Quick Reference: Fact Sheets: Smoking During Pregnancy*. Available at <http://www.marchofdimes.com>. Accessed August 2008.
- 6 Data obtained from the Kentucky Cabinet for Health and Family Services, September 2008, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.
- 7 Adams, K., and Corrigan, J. (2003). *Priority Areas for National Action: Transforming Health Care Quality*. Washington DC: National Academies Press.
- 8 Wright, E., Wright, D., Hardy-Sellers, T., and Jay, S. (2006). *Troubling Trends in Indiana: Most Vulnerable Groups have Highest Smoking Rates*. Indianapolis, IN: Center for Urban Policy and the Environment.
- 9 Greaves, L., and Jategaonkar, N. (2006). "Tobacco Policies and Vulnerable Girls and Women: Toward a Framework for Gender Sensitive Policy Development." *Journal of Epidemiology and Community Health*, vol. 60. Liverpool, United Kingdom: BMJ Publishing Group.
- 10 Data obtained from the Kentucky Cabinet for Health and Family Services, September 2008, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.
- 11 Martin, J., Hamilton, B., Sutton, P., Ventura, S., Menacker, F., Kirmeyer, S., and Munson, M. (2007). "Births: Final Data for 2005." *National Vital Statistics Reports*, vol. 56, no. 6. Hyattsville, MD: National Center for Health Statistics.
- 12 Annie E. Casey Foundation website. KIDS COUNT Data Center. Available at <http://www.kidscount.org>. Accessed August 2008.
- 13 Campaign for Tobacco Free Kids (2007). *Tobacco Cessation Works: An Overview of Best Practices and State Experiences*. Available at <http://www.tobaccofreekids.org>. Accessed September 2008.
- 14 Campaign for Tobacco Free Kids (2007). *Raising Cigarette Taxes Reduces Smoking, Especially Among Kids (And the Cigarette Companies Know It)*. Available at <http://www.tobaccofreekids.org>. Accessed September 2008.
- 15 Ringel, J., and Evans, W. (2001). "Cigarette Taxes and Smoking during Pregnancy." *American Journal of Public Health*, vol. 91, no. 11. Washington, DC: American Public Health Association.
- 16 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.
- 17 Emery, S., Wakefield, M., Terry-McElrath, Y., Saffer, H., Szczyplka, 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.
- 18 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.

## Births to mothers who reported smoking during pregnancy (number & percent of all live births)

	2004		2006	
	Number	Percent	Number	Percent
Kentucky	13,810	26	14,734	26
Adair	56	29	74	35
Allen	55	27	92	37
Anderson	67	27	88	31
Ballard	30	30	20	36
Barren	141	25	131	27
Bath	62	40	66	43
Bell	151	41	155	39
Boone	230	17	255	19
Bourbon	70	28	84	31
Boyd	161	32	167	30
Boyle	79	26	108	31
Bracken	41	34	41	37
Breathitt	68	41	91	42
Breckinridge	92	38	80	36
Bullitt	178	25	213	27
Butler	65	38	53	34
Caldwell	48	39	53	35
Calloway	79	25	94	26
Campbell	262	32	265	30
Carlisle	19	31	11	18
Carroll	60	38	52	38
Carter	100	35	122	36
Casey	61	31	52	29
Christian	217	18	263	20
Clark	124	28	149	31
Clay	127	46	145	48
Clinton	26	21	46	34
Crittenden	20	21	37	32
Cumberland	16	23	24	28
Daviess	311	24	351	26
Edmonson	32	26	42	36
Elliott	35	46	42	48
Estill	70	34	69	38
Fayette	612	16	592	15
Fleming	76	41	62	34
Floyd	190	34	210	37
Franklin	183	30	192	30
Fulton	20	23	22	25
Gallatin	52	37	48	34
Garrard	52	31	63	32

	2004		2006	
	Number	Percent	Number	Percent
Grant	127	35	156	39
Graves	130	27	105	21
Grayson	127	38	133	41
Green	40	33	28	24
Greenup	93	28	75	23
Hancock	28	24	19	22
Hardin	354	24	396	25
Harlan	133	39	179	44
Harrison	80	36	76	32
Hart	53	22	55	24
Henderson	133	30	129	31
Henry	62	31	69	35
Hickman	13	27	11	25
Hopkins	195	33	199	34
Jackson	93	49	85	45
Jefferson	1,809	19	1,832	18
Jessamine	145	25	197	27
Johnson	75	27	98	31
Kenton	488	26	584	30
Knott	67	38	82	41
Knox	203	38	182	35
LaRue	40	27	44	25
Laurel	254	35	269	34
Lawrence	55	36	56	32
Lee	36	47	33	44
Leslie	62	41	51	40
Letcher	143	44	118	38
Lewis	30	38	25	31
Lincoln	129	36	111	32
Livingston	28	32	30	27
Logan	87	25	90	25
Lyon	17	31	16	23
McCracken	209	25	199	24
McCreary	105	43	81	35
McLean	31	27	39	33
Madison	237	24	284	26
Magoffin	66	37	68	35
Marion	65	26	84	33
Marshall	89	27	82	28
Martin	54	37	55	38
Mason	54	28	91	34

	2004		2006	
	Number	Percent	Number	Percent
Meade	60	28	69	28
Menifee	30	40	42	59
Mercer	92	33	74	30
Metcalfe	35	28	43	35
Monroe	34	21	41	30
Montgomery	104	30	126	31
Morgan	46	28	61	39
Muhlenberg	135	36	151	39
Nelson	172	30	175	29
Nicholas	37	35	37	44
Ohio	86	26	86	24
Oldham	84	15	87	16
Owen	42	34	45	34
Owsley	34	50	31	53
Pendleton	53	30	62	41
Perry	146	35	153	38
Pike	241	33	273	36
Powell	78	41	76	39
Pulaski	205	27	228	30
Robertson	3	*	7	39
Rockcastle	81	36	71	38
Rowan	65	31	88	31
Russell	73	34	81	41
Scott	155	25	157	24
Shelby	130	24	138	23
Simpson	56	28	68	31
Spencer	48	24	48	24
Taylor	96	35	98	31
Todd	47	25	48	27
Trigg	42	30	55	38
Trimble	28	30	40	48
Union	38	34	50	30
Warren	267	20	267	18
Washington	30	21	33	22
Wayne	85	32	77	33
Webster	50	27	39	22
Whitley	122	35	152	32
Wolfe	51	42	54	42
Woodford	52	19	63	22

\* Rates were not calculated for counties with fewer than 6 occurrences.