



## HEALTH HARMS CAUSED BY PREGNANT WOMEN SMOKING OR BEING EXPOSED TO SECONDHAND SMOKE

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Numerous research studies in the United States and overseas have found that smoking and exposure to secondhand smoke among pregnant women is a major cause of spontaneous abortions, premature births, stillbirths, and many other complications such as placenta previa, placental abruption, and a shorter gestation period.<sup>1</sup> Both smoking during pregnancy and secondhand smoke exposure by the pregnant mother increases the risk of sudden infant death syndrome (SIDS).<sup>2</sup> According to a meta-analysis of published studies, tobacco use is responsible each year for 19,000 to 141,000 spontaneous abortions; 1,900 to 4,800 infant deaths caused by perinatal or pre-birth disorders; and 1,200 to 2,200 deaths from SIDS.<sup>3</sup> A more recent comprehensive study found that parental smoking causes 2,800 deaths at birth and 2,000 deaths from SIDS.<sup>4</sup> Almost one quarter of all SIDS deaths have been attributed to prenatal maternal smoking; and fetal mortality rates are 35 percent higher among pregnant women who smoke than among nonsmokers.<sup>5</sup>

Smoking during pregnancy creates a more serious risk of spontaneous abortion and a greater threat to the survival and health of newborns and children than using cocaine during pregnancy.<sup>6</sup> Of the top 15 causes of infant mortality identified by the National Center for Health Statistics for 2005 (the most recent data available), smoking during pregnancy contributes to five.<sup>7</sup> It is also a much more pervasive problem. Roughly one out of every ten pregnant women smoke, accounting for half a million births per year – and many more non-smoking pregnant women are regularly exposed to secondhand smoke.<sup>8</sup> And the problem is likely larger because some pregnant women do not report their tobacco use or exposure.<sup>9</sup>

Besides the risks listed above, smoking and exposure to secondhand smoke during pregnancy directly increases the risk of each of the following:<sup>10</sup>

- ectopic pregnancies
- other birth and delivery problems
- brain damage during gestation
- growth retardation/low birth weight
- later overweight in children
- abnormal blood pressure in infants + kids
- problems requiring neonatal intensive care
- infant death from perinatal disorders
- cleft palates and lips
- cancer-causing agents in infants' blood
- potentially carcinogenic genetic mutations
- childhood leukemia
- infantile colic
- childhood wheezing
- respiratory disorders in childhood
- eye problems during childhood
- mental retardation
- attention deficit disorder
- other learning & developmental problems
- behavioral problems
- youth and adult violence and criminality
- smoking during adolescence
- various health problems in adulthood

Smoking by fathers prior to conception and while the mother is pregnant (exposing her to secondhand smoke) may also increase the risk of childhood cancers, mental retardation, and respiratory problems among offspring, even when the mother does not smoke.<sup>11</sup>

Research studies estimate that the direct additional health care costs in the United States associated just with the birth complications caused by pregnant women smoking or being exposed to secondhand smoke could be as high as \$2 billion per year.<sup>12</sup> The medical condition with the highest average hospital charges nationwide is infant respiratory distress syndrome (\$68,000 per episode), which can be caused by pregnant women smoking or being exposed to secondhand smoke; and the third highest is for premature and low-birthweight birth (\$50,000), which can also be smoking caused.<sup>13</sup> More broadly, parental smoking has been estimated to cause direct medical expenditures of more than \$4.5 billion per year to care for smoking-caused problems of exposed newborns, infants, and children, as well as to treat pregnancy and birth complications.<sup>14</sup> These estimates do not include the enormous smoking-and-pregnancy costs associated with the physical, developmental, and behavioral problems of affected offspring that can extend throughout their entire lives.

Exposure to parental smoking after birth can exacerbate all of these problems and increase related costs. For example, parental or other household smoking after birth further increases the chances that children will suffer from smoke-caused coughs and wheezing, bronchitis, asthma, pneumonia, potentially fatal lower respiratory tract infections, meningitis, SIDS, eye and ear problems, or injury or death from cigarette-caused fires.<sup>15</sup> Each year, more than 20,000 children are hospitalized for respiratory illnesses caused by their parents' tobacco use and over 1,000 die from them.<sup>16</sup> Smoking-caused fires kill another 200 children each year, and as many as 10,000 more suffer from fire-caused injuries.<sup>17</sup> According to a 1997 study, kids' exposure to secondhand smoke leads to over 500,000 physician visits for asthma and 1.3 million visits for coughs, and to more than 115,000 episodes of pneumonia, 14,000 tonsillectomies or adenoidectomies, 260,000 episodes of bronchitis, two million cases of otitis media among children (an acute or chronic inflammation of the middle ear), and 5,200 tympanostomies (middle ear operations).<sup>18</sup> In addition, poison control centers annually receive thousands of reports of young children ingesting cigarettes, cigarette butts, and other tobacco products that they find around the house, in ashtrays, or in the garbage.<sup>19</sup>

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<sup>1</sup> U.S. Department of Health and Human Services (HHS), *The health consequences of smoking: a report of the Surgeon General*, Atlanta, GA: HHS, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004, [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2004/complete\\_report/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm).

<sup>2</sup> HHS, *The health consequences of smoking: a report of the Surgeon General*, Atlanta, GA: HHS, CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004, [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2004/complete\\_report/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm); HHS, *The health consequences of involuntary exposure to tobacco smoke: a report of the Surgeon General*, Atlanta, GA: HHS, CDC, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006, <http://www.surgeongeneral.gov/library/secondhandsmoke/report/>.

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<sup>4</sup> Aligne, CA & Stoddard, JJ, "Tobacco and Children: An Economic Evaluation of the Medical Effects of Parental Smoking," *Archives of Pediatric and Adolescent Medicine* 151(7):648-53, July 1997.

<sup>5</sup> Pollack, H, "Sudden Infant Death Syndrome, Maternal Smoking During Pregnancy, and the Cost-Effectiveness of Smoking Cessation Intervention," *American Journal of Public Health (AJPH)* 91(3):432-36, March 2001; National Center for Health Statistics (NCHS), "Medical and Life-Style Risk Factors Affecting Fetal Mortality, 1989-90," *Vital and Health Statistics* 20(31), August 1996.

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<sup>7</sup> Kung, HC, et al., "Table C. Infant deaths and infant mortality rates for the 10 leading causes of infant death: United States, preliminary 2005," *Health E-Stats*, NCHS, September 2007.

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<sup>9</sup> See, e.g., Markovic, R, et al., "Substance Use Measures Among Women in Early Pregnancy," *American Journal of Obstetrics & Gynecology* 183:627-32, September 2000.

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