Health & Economic Impact: Smoking Cessation for Pregnant Women

The Centers for Medicare and Medicaid Services (CMS) and the Centers for Disease Control and Prevention (CDC) are exploring the possibility of providing coverage for smoking cessation services for pregnant and post-partum women through Medicaid. Both agencies are dedicated to working with state Medicaid agencies and state health departments to develop and implement innovative, cost-effective ways to reduce the public health burden of tobacco use.

The Problem of Smoking During Pregnancy

Background Statistics

In 1999 21% of all U.S. women smoked (CDC 2000a) and 12.3% of women giving birth reported smoking during pregnancy (Mathews 2001). Other surveys report even higher rates (Lipscomb et al., 2000, USDHHS, 1997, Gilbert et. al., 1997)

In 1998, the proportion of pregnant women covered by Medicaid who smoked during the last 3 months of pregnancy ranged from 15.8% to 38.5% in 15 states. On average, smoking among pregnant women on Medicaid was 2.5 times that of pregnant women without Medicaid coverage (Lipscomb et al., 2000)

Many pregnant women need extra help to quit smoking. A recommended strategy is to reduce patient costs by including effective treatments as covered health insurance benefits (Fiore et al. 2000). In 2000, 33 states and the District of Columbia offered some coverage for tobacco-dependence treatments, yet only one state offered coverage for all treatments recommended by PHS (Schauffler, 2001).

Health Consequences of Smoking During Pregnancy

A pregnant woman who smokes is between 1.5 and 3.5 times more likely than a nonsmoker to have a *low birth weight* (LBW) baby (USDHHS, 2001).

Infants whose mothers smoked during pregnancy have 2.3 times the risk of SIDS (Sudden Infant Death Syndrome) than infants of nonsmoking pregnant mothers. For infants exposed to maternal smoking both during pregnancy **and** after birth, the risk of SIDS is 3 times the risk for infants not exposed (USDHHS, 2001; Gavin et al., 2001).

Annually, an estimated 150,000 to 300,000 cases of l*ower respiratory infection* in infants and children are attributable to environmental tobacco smoke (ETS). Most ETS exposure in infants and young children is from maternal smoking (EPA, 1993).

Cigarette smoking has been associated with increased risk of *ectopic pregnancy*. A pregnant woman who smokes is 1.8 times more likely than a nonsmoker to have this condition (Castles et al., 1999).

Women who smoke during pregnancy are at increased risk of *spontaneous abortions* (miscarriages). A pregnant woman who smokes is 1.6 times more likely than a nonsmoker to have a spontaneous abortion (Castles et al., 1999).

Cost of Smoking to Medicaid

The total cost of adult smoking to Medicaid in 1997 was estimated to be more than $17 billion, or 12.1% of all Medicaid expenditures (Zhang et al., 1999). This estimate does not include neonatal health care costs.

Direct neonatal health care costs attributable to maternal smoking that were paid by Medicaid in 1996 are estimated to be more than $227 million (CDC, 2002b).

Cost of Interventions to Reduce Prenatal Smoking

A fully-covered comprehensive smoking cessation benefit (counseling and pharmacotherapy) cost less than $5.92 per member per year (about $0.40 per month) (Curry et al., 1998).

A 15-minute counseling session provided to a pregnant woman by a nurse, along with written materials, costs approximately $6.00 per patient (Windsor, 1993).

A Cost-Effective Solution

Effectiveness of Cessation Interventions

Infants of women who quit smoking by the first trimester have weight and body measurements comparable to infants of nonsmokers (USDHHS, 2001).

Prenatal smoking cessation programs have been shown to have a protective effect on intrauterine growth retardation (Ershoff et al., 1990).

For pregnant women who smoke fewer than 20 cigarettes per day, a brief 5-15 minute counseling session with pregnancy-specific educational materials delivered by a trained provider increases cessation rates (Melvin et al., 2000).

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Economic Benefits of Prenatal Smoking Cessation Interventions

Earlier studies suggest that every $1 spent on smoking cessation for pregnant women could save about $3 in reduced neonatal intensive care costs (Marks et al. 1990, Ershoff et al., 1990).

A single percentage point decline in smoking prevalence among pregnant women would prevent 1,300 cases of low birth weight among babies annually and save $21 million in direct medical costs, 1995 U.S. dollars (Lightwood et al., 1999).

CDC-CMS Benefit-Cost Analysis

The smoking-attributable cost of neonatal health care per LBW birth is estimated to be $1,338 in 1999 U.S. dollars (CDC 2002b).

Smoking-attributable neonatal health care costs for the Medicaid system total almost $228 million, or about $738 per smoker whose delivery is paid for by states' Medicaid programs (CDC 2002b).

If 25% of pregnant smokers on Medicaid receive counseling that achieves an 18% quit rate, almost $10 million in excess Medicaid neonatal health care costs could be averted (CDC 2002b).

If participants receive one counseling session that costs $30 and this results in an 18% quit rate, Medicaid could save almost $3.50 in averted neonatal medical expenditures for every $1 spent on counseling pregnant smokers to quit. This ratio of net savings to program costs is similar to the 3-to-1 ratio described by Marks et al., 1990.

State Medicaid agencies and state health departments can work together to reduce smoking during pregnancy by jointly supporting initiatives to provide and increase the use of smoking cessation benefits; provide managed care organizations with data on the cost-effectiveness of cessation services; and train providers on tobacco use screening, counseling, and other behavioral and systems interventions.

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