The Association of Health Insurance With Use of Prescription Contraceptives

By Kelly R. Culwell and Joe Feinglass

At the time this research was conducted, Kelly R. Culwell was fellow, Program in Family Planning and Contraception, Department of Obstetrics and Gynecology, Northwestern University Feinberg School of Medicine, Chicago; Joe Feinglass is research professor of medicine, Division of Internal Medicine and Institute for Healthcare Studies, Feinberg School of Medicine.

CONTEXT: *Given that substantial proportions of women of reproductive age lack health insurance coverage, it is important to assess whether lack of insurance is associated with the use of prescription contraceptives, which are the most expensive but also the most effective methods for preventing pregnancy.*

METHODS: *Data from 26,674 females aged 18–44 who participated in the 2002 Behavioral Risk Factor Surveillance System survey (representing more than 25 million women in the U.S. population) were used to assess risk of unintended pregnancy, prescription contraceptive use and health insurance status. Logistic regression models tested the likelihood of prescription contraceptive use among insured versus uninsured respondents after controlling for socioeconomic characteristics and self-reported overall health.*

RESULTS: *A significantly higher proportion of insured women than of uninsured women reported use of prescription contraceptives (54% vs. 45%). In multiple regression analysis, women lacking health insurance were 30% less likely to report using prescription contraceptive methods than were women with private or public health insurance. Results were similar across racial, age and income subgroups.*

CONCLUSIONS: *Lack of health insurance is associated with reduced use of prescription contraceptives. Universal insurance coverage is needed to ensure access to the most effective contraceptive methods for all women in need.*

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One in four American men and women aged 18–44 surveyed in 2003 did not have health insurance.[1] Although insurance coverage is more common among women, one in five women aged 15–44 surveyed in 2003 lacked insurance.[2] Given the large number of women of reproductive age who are uninsured, it is of considerable interest to determine whether lack of health insurance is a barrier to use of the most effective birth control methods for women at risk of unintended pregnancy. Lack of insurance coverage may pose a significant financial barrier to obtaining prescription contraceptives. This barrier is important to consider, as nearly all prescription contraceptives are more effective, in both typical and perfect use, than nonprescription methods.[3] Yet, no nationally representative studies to date have tested whether insurance coverage is associated with women's contraceptive choices.

Nationwide, 12% of women aged 18–44 were covered by Medicaid in 2002–2003; the proportion in some states was as high as 20%.[2] This is important because until recent budgetary cuts at the federal level, states were required to cover contraceptives under Medicaid in order to obtain federal Medicaid funding. An estimated 90% of private insurance plans currently cover prescription contraceptives, up from 28% in 1993.[4] This increase has been due in large part to the passage of 26 state mandates requiring health plans that cover prescription medications to cover contraceptives.[5] However, a subgroup of privately insured women (38–74% across states[6]) are covered by employers who self-insure. By law, self-insured plans are exempt from state coverage mandates; the degree to which these plans cover prescription contraceptives is unclear.

This study addresses one primary question: Is health insurance status associated with the likelihood of women's prescription contraceptive use? We address this question using data from the Behavioral Risk Factor Surveillance System (BRFSS), the largest nationally representative health survey in the United States.

METHODS

Sample

The BRFSS is an ongoing telephone survey conducted by state health departments and coordinated by the Centers for Disease Control and Prevention. The BRFSS collects information on health status, demographic characteristics and behavioral risk factors from a representative sample of the civilian, noninstitutionalized population aged 18 or older in each U.S. state and territory. The 2002 median state response rate was 58%; the rate ranged from 42% (in New Jersey) to 87% (in Minnesota).[7] For the first time in 2002, the core module of the BRFSS included family planning questions, which were administered to approximately 62,000 women of reproductive age (18–44) in all 50 states plus the District of Columbia. (Women in U.S. territories are also included in the BRFSS but were excluded from these analyses.)

Our analyses are restricted to female respondents who were at risk of unintended pregnancy, defined as those who were not pregnant or trying to achieve pregnancy, were currently sexually active with a man and were not protected by surgical sterilization (hysterectomy, tubal ligation or their partner's vasectomy). We identified women at risk on the basis of their answers to the four new, open-ended BRFSS family planning questions ("Are you or your husband/partner doing anything now to keep you from getting pregnant?"; "What are you or your husband/partner doing now to keep you from getting pregnant?"; "What other method are you also using to prevent pregnancy?"; and "What is the main reason for not doing anything to keep you from getting pregnant?") and two additional questions ("To your knowledge, are you now pregnant?" and "Have you had a hysterectomy?").

Forty-four percent of respondents—26,674 women, representing more than 25 million U.S. women aged 18–44—met the definition of being at risk and were included in the analyses. The remainder were excluded because they responded "do not know" or refused to answer any of the family planning questions (5%), were pregnant (5%), reported having had a hysterectomy (5%), wanted to become pregnant (4%), reported not being sexually active (15%), reported only same-sex partners (1%), or reported that they (13%) or their male partners (7%) had undergone contraceptive sterilization. Of note, no specific questions addressed desire to become pregnant, sexual activity or exclusively same-sex partners. Therefore, the relevant categories were determined from respondents' answers to questions about contraceptive use and reasons for nonuse. For example, a respondent was characterized as not sexually active if she answered "not sexually active" as a method of contraception or as a reason for nonuse.

We included in the analyses two groups of women whose fertility status we could not confirm: women who reported that they or their partners were infertile but did not report a sterilization operation (726 respondents), and women who stated they were postpartum or breastfeeding and were therefore not using birth control (192 respondents). Inclusion of these women yields a more conservative estimate of women at risk for unintended pregnancy; results were virtually identical when they were excluded in the full model or in subgroup analyses.

Measures

Respondents were categorized into four groups by their first mentioned contraceptive method: users of prescription contraceptives (the pill, diaphragm, injectable, implant or IUD), over-the-counter contraceptives (condoms and spermicidal foam, jelly and cream), other contraceptives (behavioral methods, such as rhythm or withdrawal, and unspecified methods) and no contraceptives (as indicated by a response of "no" to whether women were "doing anything to prevent becoming pregnant").

TABLE 1. Percentage distribution of U.S. women aged 18–44 at risk of unintended pregnancy, by selected characteristics, according to age, Behavioral Risk Factor Surveillance System, 2002

Characteristic	Total (N=26,674)	18–24 (N=6,014)	25–34 (N=11,445)	35–44 (N=9,215)
Insurance status				
Insured†	81	75	82	86
Uninsured	19	25	18	14
Race/ethnicity				
White, non-Hispanic	64	63	63	67
Black, non-Hispanic	11	13	11	10
Hispanic	16	16	18	14
Asian, non-Hispanic	4	3	5	4
Other‡	4	5	4	4
Education				
<H.S. diploma	9	11	8	8
H.S. diploma	25	33	21	23
Some college	31	39	28	27
College degree	35	17	43	42
Employment status				
Employed	66	58	68	70
Unemployed	34	42	32	30
Household income				
<$25,000	28	42	23	19
$25,000–50,000	36	39	37	30
>$50,000	37	19	41	51
Marital status				
Married/cohabiting	63	38	71	76
Single§	37	62	29	24
No. of children				
0	37	53	34	26
1–2	51	41	52	58
≥3	12	6	14	17
Self-reported health status				
Excellent	28	23	30	31
Very good	39	39	40	37
Good	26	32	24	24
Fair	6	6	5	6
Poor	1	<1	1	2
Total	100	100	100	100

†Includes private and public insurance. ‡Includes women who gave responses of Native Hawaiian/Pacific Islander, Native American, Alaskan native, other, multiple groups and don't know, as well as women who gave no response. §Includes never-married, divorced, separated and widowed women.

Public or private insurance status at the time of survey was assessed from a single item: "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?" Age-group was characterized as 18–24, 25–34 or 35–44. Marital status was dichotomized into single (i.e., never-married, divorced, separated or widowed) and not single (i.e., married or cohabiting). Educational attainment was categorized as having less than a high school diploma, a high school diploma, some college or a college degree. Respondents were classified as employed if they reported being employed for wages or self-employed. The number of children in the household was characterized as none, 1–2, or three or more. Self-reported overall health was categorized into five groups, using the original BRFSS categorizations of excellent, very good, good, fair and poor. Race and ethnicity were defined as white non-Hispanic, black

TABLE 2. Percentage distribution of women at risk of unintended pregnancy, by type of contraceptive method used, according to insurance status

Insurance status	Prescription	Over-the-counter	Other	None	Total
All	**52**	**21**	**10**	**17**	**100**
Insured	54	20	10	16	100
Uninsured	45***	25***	10	20***	100

***p<0.001. *Note:* Prescription methods are the pill, injectable, IUD, implant and diaphragm. Over-the-counter methods are condoms and spermicides. Other methods are rhythm, withdrawal and unspecified methods.

non-Hispanic, Hispanic, Asian non-Hispanic or other, which included those who refused to answer (fewer than 1%).

Finally, respondents were asked to provide their household income. Some 13% of participants did not provide this information; we imputed income for these respondents, using predicted values based on race and ethnicity, insurance status, employment status, educational attainment, age and self-reported overall health. Household income was then classified as less than $25,000, $25,000–50,000 or more than $50,000; results did not vary significantly when other income category thresholds were used.

Statistical Analysis

All analyses were performed with the STATA version 7.0 survey module to account for the complex BRFSS survey sampling design. Chi-square tests were used to analyze the associations between contraceptive use and respondent characteristics. Multiple logistic regression analyses were used to estimate the likelihood that prescription contraceptive use was associated with respondents' insurance status, controlling for socioeconomic characteristics and self-reported overall health.

To assess the potential for differential associations for specific populations, we conducted separate analyses for all categories of age, income, race and ethnicity, and marital status. Because results were relatively consistent across all age-groups, income categories and marital status categories, only selected subgroup results are shown. We converted odds ratios to relative risks using a previously published formula.[8]

RESULTS

Overall, 19% of women in the sample were uninsured; the uninsured included 14% of women aged 35–44 and 25% of 18–24-year-olds (Table 1, page 227). Two-thirds of women were white, and most of the rest were black or Hispanic. The majority had at least some college education, were employed and had a household income of $25,000 or more. Overall, 63% were married or living with a partner, although marriage rates ranged from 76% of women aged 35–44 to 38% of women 18–24. Thirty-seven percent—including 53% of the youngest women and 26% of the oldest—were childless.

Fifty-two percent of respondents reported using prescription contraceptives (Table 2): 43% pills, 6% injectables, 3% IUDs, fewer than 1% implants and 1% the diaphragm (not shown). Twenty-one percent reported using over-the-counter contraception (20% condoms and fewer than 1% foam, cream or jelly). Ten percent were categorized as "other" method users (1% reported withdrawal, 3% said they used rhythm, 2% indicated other methods, and 4% did not answer or said they did not know). Seventeen percent reported using no contraceptive method. A significantly higher proportion of women who were insured than of those with no insurance reported use of prescription contraceptives (54% vs. 45%). Uninsured women were correspondingly more likely to report using over-the-counter methods (25% vs. 20%), but they also were more likely to report using no method (20% vs. 16%).

Differences in prescription contraceptive use between insured and uninsured respondents were fairly consistent across subgroups (Table 3). An 8–11-point gap in the proportion of women reporting prescription contraceptive use is seen between insured and uninsured women across multiple subcategories. Smaller (or nonsignificant) differences between insured and uninsured women appear in the highest income category and among married or cohabiting women, and a greater difference (16 points) is seen among single women.

Results from the multivariate analysis show that women who were uninsured were 30% less likely than women with some form of health insurance to use prescription contraceptives (relative risk, 0.7—Table 4). The likelihood of prescription method use varied directly with respondents' age; compared with women in the oldest age-group, women aged 18–24 were more than twice as likely, and those aged 25–34 were 60% more likely, to use prescription contraceptives. As compared with white women, blacks, Asians and those of other races

TABLE 3. Percentage of women at risk of unintended pregnancy using prescription contraceptives, by selected characteristics, according to insurance status

Characteristic	Insured (N=22,345)	Uninsured (N=4,328)
Age		
18–24	58	48***
25–34	56	47***
35–44	42	31***
Race/ethnicity		
White	57	47***
Black	46	37*
Hispanic	54	48
Asian	39	34
Other	44	34
Household income		
<$25,000	55	45***
$25,000–50,000	53	45***
>$50,000	54	48
Marital status		
Married/cohabiting	51	47*
Single	59	43**

*p<0.05. **p<0.01. ***p<0.001.

TABLE 4. Relative risks (and 95% confidence intervals) from multiple logistic regression analyses assessing associations between selected characteristics of women at risk of unintended pregnancy and use of prescription contraceptive methods

Characteristic	Relative risk
Insurance status	
Insured (ref)	1.0
Uninsured	0.7 (0.6–0.8)
Age	
35–44 (ref)	1.0
25–34	1.6 (1.5–1.8)
18–24	2.1 (1.9–2.3)
Race/ethnicity	
White (ref)	1.0
Black	0.6 (0.6–0.7)
Hispanic	1.0 (0.8–1.1)
Asian	0.6 (0.6–0.7)
Other	0.6 (0.5–0.7)
Education	
College degree (ref)	1.0
Some college	1.0 (0.9–1.1)
H.S. diploma	0.9 (0.8–1.0)
<H.S. diploma	0.9 (0.7–1.0)
Employment status	
Unemployed (ref)	1.0
Employed	1.2 (1.1–1.3)
Household income	
<$25,000 (ref)	1.0
$25,000–50,000	0.9 (0.8–1.0)
>$50,000	1.0 (0.9–1.1)
Marital status	
Married/cohabiting (ref)	1.0
Single	1.1 (1.0–1.2)
No. of children	
0 (ref)	1.0
1–2	1.0 (0.9–1.1)
≥3	1.0 (0.9–1.2)
Self-reported health status	
Excellent (ref)	1.0
Very good	0.9 (0.9–1.2)
Good	0.8 (0.8–0.9)
Fair	0.7 (0.6–0.9)
Poor	0.6 (0.4–0.8)

Note: ref=reference group.

(but not Hispanics) were significantly less likely to use prescription methods. Being employed and being single were also significantly associated with increased levels of prescription contraceptive use. Women who considered their health only good, fair or poor were less likely than those who rated their health as excellent to report use of a prescription contraceptive. Lack of health insurance was associated with 20–40% reductions in the likelihood of prescription contraceptive use in all age, racial and ethnic, income and marital status subgroups, despite relatively low overall levels of use in some (not shown).

DISCUSSION

The typical American woman spends three decades trying to avoid unintended pregnancy. Despite these efforts, it is estimated that half of all pregnancies in the United States are unintended, and half of those pregnancies end in abortion.[9] This analysis helps elucidate barriers that may prevent some women from using the most effective methods to prevent unintended pregnancy.

This study presents the first population-based analysis to suggest that insurance has an independent association with prescription contraceptive use, even among subgroups who are relatively unlikely to use a prescription method. These findings are consistent with insured women's having greater access to health care providers and lower out-of-pocket expenses for prescription methods, and suggest that insurance coverage may provide improved access to prescription contraceptives for all American women at risk of unintended pregnancy, regardless of their background characteristics.

Limitations

One important limitation of the BRFSS data is the lack of direct measures of some factors central to identifying women at risk of unintended pregnancy. For example, with no direct question on current sexual activity, we characterized respondents as not sexually active if they listed lack of sexual activity or lack of a partner as a reason for not using contraceptives or as a contraceptive method. Under these criteria, 15% of women 18–44 were categorized as not sexually active. By comparison, in the 2002 National Survey of Family Growth (NSFG), 13% of such women reported not being sexually active.[10] Thus, our analysis may have led to an underestimation of those at risk of unintended pregnancy. In addition, an equally important limitation of BRFSS data is that, as in all surveys of sexual behavior, self-reports of sexual activity and use of birth control may be subject to biased reporting.

Another limitation of using the BRFSS for this analysis is that the insurance variable collapses all types of insurance into a single dichotomous variable, thereby eliminating the possibility of analysis by insurance type. Women who are covered by Medicaid may have different contraceptive use patterns than women covered by private insurance, particularly those in unregulated self-insured plans. We are unable to evaluate these differences using the BRFSS.

A woman's choice of contraceptive method depends on many factors other than those covered here. Prescription contraceptives are not the most appropriate method for all women. For example, the BRFSS does not address the use of condoms for the dual purpose of contraception and disease prevention. Women who choose condoms as their primary form of contraception may be appropriately considering their risks of acquiring STDs when making their decision.

Finally, the decision to become pregnant is complex. Women who responded that they did not use birth control because they desired to become pregnant were excluded from the definition of at risk of unintended pregnancy. However, this simple question may not fully capture real-life decisions that lead to pregnancies that, although unintended, may not be unwanted.[11] In fact,

15% of women at risk of unintended pregnancy who were classified as nonusers of contraceptives gave "don't care if I become pregnant" as a reason for nonuse. Thus, included in those at risk may be women who have ambivalent feelings about potential pregnancy and make their contraceptive choices accordingly.

The NSFG is considered the gold standard source of information on contraceptive use patterns on a national level in the United States. Many of the limitations of this analysis would not be present using data from the NSFG, which includes separate categories for the privately and publicly insured, as well as more detailed questions regarding pregnancy intention, sexual activity, contraceptive use and protection against STDs. However, the NSFG has a much smaller number of respondents because of the in-person nature of the interviews. Despite the limitations of the BRFSS, its huge sample size makes it an equally valuable source of population-based data for analyses of smaller subgroups.

Conclusion

Insurance coverage may be a major factor when a woman chooses a contraceptive method, and it may help determine if she will continue using that method. It is important that all women, regardless of insurance status, have equal access to a wide variety of contraceptive options in order to make the appropriate decision regarding contraception for their individual circumstances. While prescription contraceptive methods are not the methods of choice for all women, the most effective methods are prescription contraceptives, and access to the most effective contraceptives should not be limited by a woman's insurance status.

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Author contact: *krculwell@gmail.com*