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The impact of out-of-pocket expense on IUD utilization among women with private insurance

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Abstract

Background: The study was conducted to evaluate the impact of out-of-pocket expense on intrauterine device (IUD) utilization among women with private insurance.
Study Design: We reviewed the records of all women with private insurance who requested an IUD for contraception from an urban academic gynecology practice from May 2007 through April 2008. For each patient, we determined the out-of-pocket expense that would be incurred and whether she ultimately had an IUD placed. The total charge for placement of a copper or levonorgestrel IUD (including the device) was $815.
Results: Ninety-five women requested an IUD during the study period. The distribution of out-of-pocket expense was bimodal: less than $50 for 35 (37%) women and greater than $500 for 52 (55%) women. Intrauterine device insertion occurred in 24 (25%) women, 19 of whom had an out-of-pocket expense less than $50. In univariate and multivariable analysis, women with insurance coverage that resulted in less than $50 out-of-pocket expense for the IUD were more likely to have an IUD placed than women required to pay $50 or more (adjusted odds ratio=11.4, 95% confidence interval=3.6–36.6).
Conclusions: Women requesting an IUD for contraception are significantly more likely to have an IUD placed when out-of-pocket expense is less than $50.

Keywords: IUD; Insurance; Contraception; Out-of-pocket expense

1. Introduction

Intrauterine devices (IUDs) are highly effective due in large part to high rates of user satisfaction and continuation [1]. They can be safely used by most women, including nulliparas and adolescents [2–4]. Although the upfront expense for an IUD is greater than for many other contraceptives, IUDs are cost-effective [5–7]. In 2009, the American College of Obstetricians and Gynecologists recommended that IUDs "be offered as a first-line contraceptive method and encouraged … for most women" [1].

However, IUD utilization in the United States remains low compared to other countries. According to the latest National Survey of Family Growth (2006–2008), only 5.5% of US reproductive age women using contraception use an IUD [8,9]. Barriers to IUD use include lack of clinician knowledge or skill, low patient awareness and high upfront costs [1,5]. Increased or free coverage of contraceptive methods increases contraceptive use [10], including IUDs specifically [11]. While medical insurance generally leads to lower out-of-pocket health care expenses, the amount of coverage is variable.

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Currently, there are limited data from clinical practice regarding the impact of private insurance contraceptive coverage, deductibles and out-of-pocket expenses on IUD utilization in the United States. Therefore, our primary aim was to assess the association between insurance coverage and placement of a desired IUD among women who requested such services.

2. Materials and methods

This retrospective cohort study included all women requesting an IUD for contraception from May 1, 2007, through April 30, 2008, at an urban faculty gynecology practice at Thomas Jefferson University Hospital in Philadelphia, PA. This faculty practice accepted only private insurance and Medicare. The total charge by the practice for a copper or levonorgestrel IUD and insertion was $815 during the study period. The Institutional Review Board at Thomas Jefferson University Hospital approved this study.

In the faculty practice, women desiring an IUD after appropriate counseling and medical evaluation had IUD insurance coverage verified by clinic billing staff. The staff calculated expected out-of-pocket costs, recorded this information in each patient's chart and communicated expenses to the patient by phone. Women were offered the option of using a payment plan for out-of-pocket expenses. Women who remained interested in using an IUD were then scheduled for IUD placement. The practice kept a log of all IUD insurance verifications that was used to identify women for this study.

We abstracted de-identified information on patients' demographic characteristics, individual insurance coverage for an IUD (including the out-of-pocket expense) and whether an IUD was inserted by reviewing the practice's medical records as of May 31, 2008. Total IUD expense was calculated as the cost of IUD plus the charge for IUD insertion using data provided by the practice's billing department. Out-of-pocket expense was calculated as the total charge for the IUD and placement minus any insurance coverage.

The primary outcome in this analysis was IUD placement during the study period. Insurance coverage was divided into two groups based on out-of-pocket expenses: less than $50 and $50 or more.

Distributions of demographic variables (age, race, gravidity, parity and marital status) and out-of-pocket expense for IUD use were examined using χ^2 tests for categorical variables and the Student's t test for continuous variables. Associations of individual demographic variables with IUD use were examined using univariable logistic regression to calculate unadjusted odds ratios with 95% confidence intervals. Multivariable logistic regression was used to examine the association between out-of-pocket expense and IUD use while adjusting for age, race, gravidity, parity, and marital status to calculate adjusted odds ratios (ORs) with 95% confidence intervals (CIs). p Values less than .05 were considered statistically significant. Analyses were conducted using SAS version 9.2 (SAS Institute, Inc., Cary, NC, USA).

3. Results

During the 12-month study period, 98 women requested an IUD for contraception; 95 (97%) charts were fully available for review. The demographic characteristics of the study population are shown in Table 1. All women had private insurance; however, the out-of-pocket expense varied widely. The distribution of out-of-pocket expense was bimodal (Fig. 1) at less than $50 for 35 (37%) women and greater than $500 for 52 (55%) women. The median expense for an IUD was $540. Only 7% (7/95) of women had no out-of-pocket expense, whereas 43% (41/95) had no coverage.

Out-of-pocket expenses did not vary significantly by age, marital status, gravidity or parity (Table 2). Out-of-pocket expenses tended to be greater for nonwhite women, though this was not statistically significant (p=.06). The median out-of-pocket expenses for white (n=37) and nonwhite (n=58) women were $285 and $552, respectively. The distributions of cost did not differ significantly by race (Mann–Whitney U test p=.16; data not shown).

Overall, only 25% (24/95) of women requesting an IUD had one placed. In univariable analysis, out-of-pocket cost was the only variable predictive of IUD placement (Table 3).

Table 1
Demographic characteristics of study population[a]

	Overall (%)	IUD placed (%)	IUD not placed (%)	p value[b]
Age (years)				.09
30 or less	49 (51.6)	16 (32.7)	33 (67.4)	
More than 30	46 (48.4)	8 (17.4)	38 (82.6)	
Race				.20
White	37 (39)	12 (32.4)	25 (67.6)	
Nonwhite	58 (61.1)	12 (20.7)	46 (79.3)	
African American	49 (51.6)			
Asian	3 (3.2)			
Hispanic	4 (4.2)			
Unknown	2 (2.1)			
Gravidity				.41
Nulligravida	8 (8.4)	3 (37.5)	5 (62.5)	
Multigravida	87 (91.6)	21 (24.1)	66 (75.9)	
Parity				.73
Nullipara	13 (13.7)	4 (30.8)	9 (69.2)	
Multipara	82 (86.3)	20 (24.4)	62 (75.6)	
Marital status				.26
Single	50 (52.6)	15 (30)	35 (70)	
Married	45 (47.4)	9 (20)	36 (80)	
Out-of-pocket expense				<.001
Less than $50	35 (36.8)	19 (54.3)	16 (45.7)	
$50 or more	60 (63.2)	5 (8.3)	55 (91.7)	

[a] Values presented as mean (SD) or number (%).
[b] p Values for categorical variables generated using χ^2.

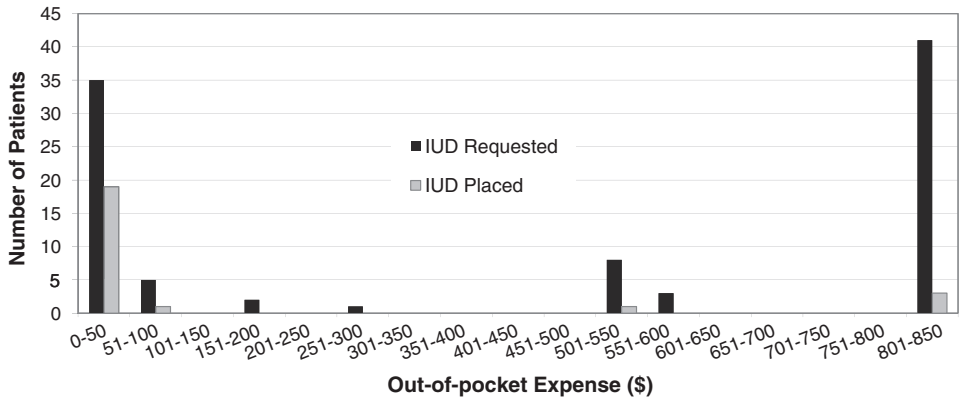

Fig. 1. Out-of-pocket expenses for insured women who requested IUD placement footer: black=IUD requested, gray=IUD placed.

Most IUDs (79%) were placed for women with out-of-pocket expense less than $50, including four of the seven women with no out-of-pocket expense. Intrauterine device placement was performed for 19/35 (54%) women with out-of-pocket expense less than $50 and 5/60 (8%) women with out-of-pocket expense of $50 or more (OR=13.1, 95% CI=4.2–40.5). Three of the five women who received an IUD and had an out-of-pocket expense of $50 or more had no insurance coverage (out-of-pocket cost of $815). In multivariable analysis (Table 3), out-of-pocket expense remained a significant predictor for IUD placement (OR=11.4, 95% CI 3.6–36.6).

4. Discussion

In this cohort of privately insured women who requested an IUD, we found that many women (43%) had no coverage for IUDs and that high out-of-pocket expense was highly associated with failure to obtain an IUD. Women requesting an IUD for contraception with an out-of-pocket expense less than $50 were significantly more likely to have an IUD placed. Women who have private health insurance should be able to receive recommended services, especially when the use of these services is highly cost-effective from the insurer's perspective [5]. However, the findings of this study indicate that high out-of-pocket expenses are associated with lower IUD placement rates, even among those with private insurance. Of further concern, nonwhite women tended to face greater out-of pocket expense than did white women.

Strengths of this study include data from a mix of private insurance payers in a diverse, urban environment. Though all women in our cohort had private insurance coverage, contraceptive coverage varied because Pennsylvania does not mandate insurance coverage of contraception. As compared to previous studies that examined IUD costs using online drug databases [7] and average wholesale prices [5], this analysis reports actual IUD expenses.

Table 2
Demographic characteristics and out-of-pocket expense[a]

	Out-of-pocket expenses		p value
	Less than $50 n=35	$50 or more n=60	
Age (years)			.21[b]
30 or less	21 (42.9)	28 (57.1)	
More than 30	14 (30.4)	32 (69.6)	
Race			.06[b]
Caucasian	18 (48.7%)	19 (51.4%)	
Non-Caucasian	17 (29.3%)	41 (70.7%)	
Gravidity	2.5±2.0	2.8±2.0	.55[c]
Parity	1.7±1.5	1.9±1.2	.47[c]
Marital status			
Single	21 (42%)	29 (58%)	.27[b]
Married	14 (31.1%)	31 (68.9%)	

[a] Values presented as mean (SD) or number (%).
[b] p values for categorical variables generated using χ^2.
[c] p values for continuous variables generated using t test.

Table 3
Univariable and multivariable logistic regression predicting IUD placement

	Unadjusted OR	95% CI	Adjusted OR[a]	95% CI
Out-of-pocket expense				
Less than $50	13.1	4.2–40.5	11.4	3.6–36.6
$50 or more (ref)	1.0	–	1.0	–
Age				
30 or less	2.3	0.9–6.1	2.0	0.7–6.4
More than 30 (ref)	1.0	–	1.0	–
Race				
Caucasian	1.8	0.7–4.7	1.5	0.4–5.5
Non-Caucasian (ref)	1.0	–	1	–
Gravidity				
Nulligravida	1.9	0.4–8.6	1.5	0.1–29.2
Multigravida	1.0	–	1.0	–
Parity				
Nullipara	1.38	0.4–5.0	0.6	0.1–7.6
Multipara	1.0	–	1.0	–
Marital status				
Married	0.6	0.2–1.5	0.7	0.2–2.4
Single (ref)	1.0	–	1.0	–

Ref=referent.
[a] Adjusted for all variables shown in table.

Limitations of this study include the relatively small sample from a single practice, the lack of information on women's annual income and the lack of detailed information regarding why women who requested an IUD did not ultimately have the IUD placed. For instance, some women may have found the inconvenience of returning to the office for placement a greater barrier than their out-of-pocket expense. In addition, more follow-up data on outcomes for women who did not receive a desired IUD, such as contraceptive method used in place of desired IUD and pregnancy rates, will be of interest in future studies.

This analysis highlights the important role that out-of-pocket expense plays in IUD utilization, even for women with private insurance, and strengthens previous research that has shown that "cost concerns are an important factor in contraceptive method choice and use" [12]. Eliminating prohibitive out-of-pocket expenses for IUDs will likely require a two-pronged approach. First, women in the United States need access to lower cost IUDs. While IUDs in developing countries can be purchased very cheaply, currently there are only two companies in the United States that manufacture FDA-approved IUDs, and both of these companies are for-profit. In contrast to other medications or devices that usually decrease in cost the longer they are on the market, the cost of IUDs has been increasing. In March of 2010, the average wholesale price of the levonorgestrel IUD in the United States increased 43%, from $586 to $843 [13].

Second, women in the United States need improved insurance coverage for IUDs. As discussion and debate about the Patient Protection and Affordable Care Act (PPACA) continues, we are at an important crossroads for decision making. The Women's Health Amendment, the portion of the PPACA that addresses women's preventive health services, has the potential to recognize and incorporate all contraceptive options under the umbrella of women's preventive services. Recognizing contraception as part of women's preventive health services would ensure that all new private health plans provide contraception without any cost-sharing. This is an important opportunity to minimize the financial barriers to IUD use for US women.

When we discuss contraceptive efficacy and effectiveness, we compare perfect vs. typical use. In fact, one of the reasons IUDs are so effective is because their effectiveness with typical use is the same as the efficacy seen with perfect use. There is a similar comparison to be made here. In a perfect world, women would be willing and able to pay out-of-pocket for IUDs. However, as this analysis shows, "typical" or actual IUD use is strongly associated with expense. If we are committed to decreasing rates of unintended pregnancy, high-quality IUDs at affordable prices need to be available.

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