The Affordable Care Act mandates that private health insurance plans cover prescription contraceptives with no consumer cost sharing. The positive financial impact of this new provision on consumers who purchase contraceptives could be substantial, but it has not yet been estimated. Using a large administrative claims data set from a national insurer, we estimated out-of-pocket spending before and after the mandate. We found that mean and median per prescription out-of-pocket expenses have decreased for almost all reversible contraceptive methods on the market. The average percentages of out-of-pocket spending for oral contraceptive pill prescriptions and intrauterine device insertions by women using those methods both dropped by 20 percentage points after implementation of the ACA mandate. We estimated average out-of-pocket savings per contraceptive user to be $248 for the intrauterine device and $255 annually for the oral contraceptive pill. Our results suggest that the mandate has led to large reductions in total out-of-pocket spending on contraceptives and that these price changes are likely to be salient for women with private health insurance.
Contraceptives are among the most widely used medical services in the United States, and 99 percent of sexually active women have used at least one type of contraceptive in their lifetime.\textsuperscript{1} Contraceptives are much less costly than maternal deliveries for insurers and patients, and their use has been shown to result in net savings to insurers.\textsuperscript{2}

Contraceptive use also has important effects on families and the economy. Studies of the effects of legalization of the contraceptive pill in the 1960s and 1970s found that increased access to contraception was associated with lower rates of subsequent entry into poverty, higher rates of labor-force participation and entry into professional school, and higher wages for women.\textsuperscript{3-6} These economic gains also affect subsequent generations: The children of women with increased access to contraception have higher rates of college completion and higher incomes, compared to children whose mothers did not have access to family planning.\textsuperscript{7}

A variety of contraceptive products are currently available to women in the United States. Some-like the oral contraceptive pill-are relatively inexpensive but must be purchased monthly. Others can be very expensive but require only a one-time purchase for months or years of contraceptive coverage. These methods of long-acting reversible contraceptives (sometimes called LARCs) are the intrauterine device (IUD) and the subdermal implant. Both are much more effective than oral contraceptives, but before the ACA they could require a one-time out-of-pocket payment of several hundred dollars.

This high up-front cost may have deterred some women from using long-acting reversible contraception methods. A recent study of women enrolled in private health insurance who expressed interest in an IUD found that women with a lower out-of-pocket spending requirement for the device and insertion procedure were significantly more likely to receive an IUD than women who faced higher out-of-pocket expenses.\textsuperscript{8}

The Affordable Care Act (ACA) includes a mandate that "preventive services"-a category of services that includes both prescription contraceptives and their related medical services-be covered with no consumer cost sharing. This mandate went into effect August 1, 2012. It required that insurance plans come into compliance at the beginning of the subsequent plan year, which for many women was January 1, 2013. The mandate includes all contraceptive methods approved by the Food and Drug Administration (FDA), including female sterilization and prescription emergency contraception, but it excludes over-the-counter emergency contraception and abortifacients.\textsuperscript{9} The mandate does not require that insurance companies cover every brand of prescription contraceptive on the market.

The ACA mandate applies nationally to all private health insurance plans, including those offered in the health insurance Marketplaces and by employers. The only exceptions are grandfathered plans and those offered by employers that receive an exemption for religious reasons. Grandfathered plans are health plans that have not substantially changed their cost-sharing requirements since March 2010, the month when the ACA became law. These plans are gradually being phased out of the employer-sponsored health insurance marketplace but still covered 36 percent of insured workers as of 2013.\textsuperscript{10} This means that a significant subset of women are still enrolled in plans that are not yet subject to the ACA's mandate of zero cost sharing for contraception.
The inclusion of prescription contraceptive coverage in the ACA’s mandate has drawn a large amount of political attention. Much of the debate surrounding the mandate has focused on either the effect of the mandate on employers’ religious freedom or the potential impact of the mandate on women's health. Its financial impacts on women as consumers have attracted far less attention. However, one recent survey of several hundred privately insured women found that the average out-of-pocket price for the pill had dropped from $14.35 per month in 2012 to $6.48 in 2014.

Our aim was to systematically quantify declines in out-of-pocket spending between 2012 and 2013 for all available reversible prescription contraceptive methods. This will allow an understanding of relative changes in price across methods, particularly between the pill and long-acting reversible contraception methods. We also put these spending changes into their financial context for women as consumers by examining how these price declines affect both their total out-of-pocket spending on health care and the proportion of that spending that is spent on prescription contraceptives.

**Study Data And Methods**

We used a 10 percent sample of the Clinformatics(TM) Data Mart from Optum Insight, a claims database from a large national insurer, to calculate monthly out-of-pocket spending between January 2008 and June 2013 for the eight categories of prescription contraceptives listed in Exhibit 1. Our sample consisted of 17.6 million month-level observations for 790,895 women ages 13-45 who were enrolled in private health insurance for at least one month during this period. The mean and median lengths of insurance enrollment were 22.3 and 17.0 months, respectively. The data set included women in all fifty states and the District of Columbia.

Estimating Average Out-Of-Pocket Spending Per claim out-of-pocket spending was calculated using pharmacy claims for contraceptive methods delivered in a pharmacy, such as oral contraceptives, the contraceptive patch and ring, and diaphragms and cervical caps. Contraceptive methods delivered in a physician office (IUDs, implants, and injections) were identified in the medical claims data using Current Procedural Terminology, Fourth Edition (CPT-4); level 2 Healthcare Common Procedure Coding System (HCPCS); and International Classification of Diseases, Ninth Revision (ICD-9), procedural and diagnostic codes. We estimated out-of-pocket spending for these three methods by aggregating all patient cost sharing for the encounter during which the method or device was delivered, because procedural costs associated with these methods are billed separately from the cost of the device itself.

For all contraceptive methods, we report the six-month mean or median per claim out-of-pocket expense. For short-term products such as the pill, the patch, and the ring, this calculation is not equivalent to the per month out-of-pocket expense because many women receive two to three months of contraceptive supplies when they fill their prescriptions. Our cost estimates are therefore not comparable with monthly estimates reported previously in the survey literature.

Before the ACA mandate, contraceptives were subject to yearly deductibles and out-of-pocket limits. The average costs per method therefore declined predictably over the course of a given year as some women used up their deductibles or hit their out-of-pocket spending limits and incurred lower out-of-pocket expenses.
for their method of contraception. To remove the influence of deductibles and out-of-pocket limits from our estimates, in some of our analyses we regressed pre-August 2012 out-of-pocket expenses on a set of monthly dummies and then plotted the residual variation in out-of-pocket spending.14

Estimating Changes In Total Out-Of-Pocket Spending To estimate the share of out-of-pocket spending for prescription contraceptives, we focused on users of the pill and women who had new IUD insertions, since the pill and the IUD are the two most commonly used reversible prescription contraceptive methods in the United States.15 To minimize selection bias, we limited our spending analysis to women who were continuously enrolled in insurance from January 2012 to June 2013. We then compared spending patterns among pill users and women who received IUD insertions in the pre period (January-June 2012) to patterns in the post period (January-June 2013).

We defined pill users as women who had at least one claim for an oral contraceptive pill in both the pre and post periods. We included spending in both periods for pill users. We defined IUD users as women who had an IUD inserted in either the pre or the post period. We included spending for IUD users only in the period in which they received their IUD.

For each woman, we summed her out-of-pocket spending on either pills or IUD insertion and divided that value by her total out-of-pocket spending during that period. Using these percentages and the mean and median total out-of-pocket spending values for these users, we then estimated the mean and median implied savings on pills and IUD insertions per woman attributable to the ACA mandate.

Implied savings were calculated by multiplying the mean (or median) total spending by the mean (or median) percentage of spending spent on that method for each period and then subtracting the 2013 estimate from the 2012 estimate. This calculation took into account the possibility that total average out-of-pocket spending might have changed during this time period. For pill users, this value was then multiplied by two to estimate total yearly spending.

All costs are presented in inflation-adjusted 2013 dollars. Analyses were performed using Stata/MP, version 13.

Limitations There were a number of important limitations to our study. Claims for emergency contraception and diaphragms or cervical caps were infrequent in our data, so we recommend caution when interpreting estimates for these methods. Additionally, we did not include cost sharing for physician appointments or costs of IUD or implant removals in our estimates, which resulted in a conservative estimate of out-of-pocket spending.

For contraceptive methods obtained in a physician office and reported in medical claims (the IUD, implant, and injection), we calculated expenses per encounter. If a woman received another expensive service at the same encounter— for instance, if an IUD or implant was inserted immediately after maternal delivery—it is possible that we erroneously included the costs of those procedures in some of our totals. We therefore report both means and medians in our results. We also conducted a sensitivity analysis in which we excluded the top 1 percent of expenses for each of these methods. This lowered the estimated mean expenses slightly but had almost no effect on the estimated median expenses.
Finally, our implied savings estimates assumed that in the absence of the mandate, out-of-pocket expenses for consumers would have stayed the same as they were in the period January-June 2012. This could be an unrealistic assumption in particular for IUDs, which demonstrated a dynamic average monthly out-of-pocket price prior to the mandate's implementation. Because of this limitation, the savings estimates should be interpreted as short-term changes in out-of-pocket spending only and should not be used for long-term estimates of out-of-pocket spending reductions.

Study Results

Adjusted mean per claim out-of-pocket spending declined for both the pill and the IUD after implementation of the ACA mandate (Exhibit 2). The average adjusted out-of-pocket expense for a pill prescription fell from $33.58 in June 2012 to $19.84 in June 2013, and the out-of-pocket expense for an IUD insertion fell from $293.28 to $145.24.

To better examine the change in costs for all contraceptive methods, we report the unadjusted six-month mean and median per claim outof-pocket spending for each prescription contraceptive method in the pre and post periods (Exhibit 3). At baseline in 2012, the method that was most expensive up front was the implant, with a mean expense of $320.31, followed by the IUD, at $262.38. The methods with the lowest per claim expense were the pill ($32.74), emergency contraceptives ($26.16), and diaphragms or cervical caps ($34.48).

However, out-of-pocket spending for short-term methods compared to that of long-term methods must be considered in the context of the length of time the methods are used. Short-term methods such as the pill must be purchased repeatedly over time, while the out-of-pocket expense for long-term methods such as IUDs is a one-time expense. In the long run, long-acting reversible contraception methods such as the IUD or implant have been shown to be less costly than repeatedly purchasing a short-term method such as the pill for an equivalent length of time.16

We observed large decreases in the mean outof-pocket expenses of most methods following implementation of the mandate (Exhibit 3). From June 2012 to June 2013 the mean out-of-pocket expense for the pill declined by 38 percent, and the mean out-of-pocket expense for an IUD declined by 68 percent. We also found decreases in spending for emergency contraception (93 percent), diaphragms or cervical caps (84 percent), the implant (72 percent), and the injection (68 percent). In contrast, spending for the ring and the patch declined only 2 percent and 3 percent, respectively, over this period.

Median out-of-pocket per prescription spending fell to zero for almost all prescription contraceptive methods following implementation of the ACA mandate. This suggests that while some women were still paying large amounts out of pocket for their contraception, the majority of women were paying nothing by June 2013. The ring and the patch were the exceptions: Their mean and median out-of-pocket expenses remained similar during this time period.

To assess the relative magnitude of these out-of-pocket spending changes for contraceptive users, we examined total mean and median out-of-pocket spending and the percentage of that spending spent on contraceptives for pill users and women who received IUD insertions (Exhibit 4). Because the mandate was implemented mid-2012, we compared spending percentages in the first six months of 2012 with those in the first six months of 2013. For women who were enrolled in insurance continuously and had at least one claim
for oral contraceptive pills in both periods, the mean and median percentages of out-of-pocket spending spent on the pill dropped from 44.0 percent and 36.0 percent to 22.4 percent and 0.0 percent, respectively. For women who received an IUD during the same periods, the mean and median out-of-pocket spending percentages in the period they received their IUD dropped from 30.3 percent and 13.2 percent to 11.3 percent and 0.0 percent, respectively.

We used these values to estimate the per woman savings on yearly oral contraceptive pill costs for pill users and on IUD insertions for women receiving IUDs. We estimated that the average pill user saved $254.91 per year, and the median pill user saved $204.65 per year (Exhibit 4). The mean and median savings on IUD insertions were estimated to be $248.30 and $107.95, respectively, per woman.

Discussion

Out-of-pocket expenses used in this study for the period before the implementation of the ACA mandate were roughly equivalent to those in other available data.16,17 However, we found substantial drops in both the mean and the median out-of-pocket spending for most contraceptive methods after the mandate's implementation. Median spending for almost all contraceptive methods fell to zero within ten months of implementation, and mean spending dropped by large percentages (38-93 percent, depending on the method). Mean out-of-pocket spending remained above zero for two reasons: Not all brands are required to be covered with zero cost sharing, and a subset of women in the data were enrolled in grandfathered plans that were not yet subject to the mandate.

Before the mandate's implementation, out-of-pocket expenses for contraceptives for women using them represented a significant portion (30-44 percent) of these women's total out-of-pocket health care spending. This is a finding that, to our knowledge, has not been previously reported. It is likely that contraceptives are a significant proportion of total health spending because contraceptive users tend to be young women with few serious health issues. For these women, obtaining contraceptives is likely their primary reason for visiting a health care provider and paying out-of-pocket amounts. Because contraceptives represented a large portion of their health care spending before the mandate, the price reductions caused by the ACA are likely to be salient for these women.

A recent industry report estimated that the ACA mandate saved women $483 million in out-of-pocket spending on the pill in 2013.18 Our findings suggest that reductions in out-of-pocket expenditures on contraceptives in 2013 were in fact much higher, as demonstrated using a quick back-of-the-envelope calculation. The most recent estimates suggest that there are 6.88 million privately insured pill users in the United States.15 Multiplying this by our conservative median estimate of $204.65 per year yields an estimate of $1.4 billion per year in out-of-pocket savings on the pill alone.

Policy Implications

Our findings suggest that the ACA mandate will likely significantly reduce the out-of-pocket expenditures of contraceptive users, in some cases to nothing. But it is still too early to predict the final impact of the mandate on health care use and spending, or the mandate's impact on other health and socioeconomic outcomes for women.
Economic theory and empirical evidence suggest that decreasing out-of-pocket contraception expenses to consumers will result in increased use. An increase in the use of contraceptives could have long-ranging impacts upon women's health and the economy, potentially lowering fertility rates and increasing economic opportunities for women and their families.

The ACA mandate also changes the relative prices of different contraceptive methods. Because long-acting reversible contraceptive methods are more costly up front, it is possible that removing financial barriers to all methods might induce women to choose long-acting reversible contraceptive methods at higher rates.

The CHOICE Project, a recent prospective cohort study of 9,256 women ages 14-45, offered participants their choice of contraceptive at no cost after they received counseling and education about all available methods. With the barriers of cost, knowledge, and access removed, 75 percent of participants chose a long-acting reversible contraception method. Participants who chose such methods had higher rates of continuing to use their device and of satisfaction at twelve and twenty-four months of follow-up. In addition, their rates of pregnancies, births, and abortions in the twenty-four-month followup period were much lower than national rates during the same period.

Some policy makers and media outlets have raised concerns that no-cost contraceptives, or increased use of more effective contraceptives, might increase risky sexual behavior. However, the CHOICE Project found no evidence of increased sexual risk taking among the study cohort.

The CHOICE Project enrolled only women who were interested in starting a new contraceptive method and specifically counseled participants about the relative effectiveness of long-acting reversible contraception methods compared to more short-term methods. In contrast, the ACA mandate lowered the out-of-pocket expense for contraceptives for all women in private health plans, many of whom might be uninterested in changing their current contraceptive method.

Furthermore, the ACA mandate does not directly change providers' behavior or affect consumers' knowledge about contraceptives, although some providers may take it upon themselves to educate their patients about the mandate. In some cases, women may not even be aware that their coverage has changed. A recent study of young adults' experiences in shopping for health insurance on HealthCare.gov found that many were unaware that well-women visits and contraception were included as preventive services with no cost sharing.

The impact of the ACA mandate on contraceptive utilization will therefore depend on how sensitive consumers are to out-of-pocket expenses for contraceptives and how many women were dissuaded from using contraceptive products by that expense before the mandate's implementation. Very few studies have estimated the responsiveness of consumers to the out-of-pocket expense of contraceptives in the United States, and no study has estimated it for the population of privately insured women affected by the ACA mandate. Future work will need to measure whether these spending changes result in increased use of contraceptives or changes in the choice of contraceptive methods.

Lastly, insurance companies are required to cover all contraceptive methods with no consumer cost sharing in plans that are not grandfathered, but they are not required to cover all brands. The large national insurer that provided our data appeared to be interpreting this broadly, as out-of-pocket spending for the patch and
the vaginal ring did not follow the same pattern as spending for other methods. Mean and median out-of-pocket expenses for the patch and vaginal ring remained very similar to premandate levels.

These findings are consistent with results from several recent studies suggesting that not all insurers are fully complying with the mandate. In response to these reports, the Departments of Labor, Health and Human Services, and the Treasury jointly issued new guidelines May 11, 2015, clarifying the requirements of the mandate. These guidelines specify that insurers must cover with no cost sharing at least one of the eighteen FDA-approved contraceptive methods, including methods such as the patch and the ring. Insurers can use cost sharing to direct consumers to lower-cost methods within a category, as long as at least one method within each category is covered with zero cost sharing.

With this new clarification from the administration of President Barack Obama, we expect that the pattern of out-of-pocket expenses for the patch and the ring among the population we studied will soon resemble that of other methods.

Conclusion

We found the ACA-mandated removal of consumer cost sharing for prescription contraceptives in nongrandfathered insurance plans resulted in large reductions in out-of-pocket spending on contraceptives. A woman who uses oral contraceptive pills or the IUD, the two most commonly used reversible prescription contraceptive methods, has the potential to save several hundreds of dollars each year. This represents a significant portion of the average total out-of-pocket medical spending in this population. The impact of these reductions in out-of-pocket expenditures on the use of contraceptives, fertility, and women's health will depend on the price sensitivity of privately insured women for prescription contraceptives. 

Sidebar

The inclusion of prescription contraceptive coverage in the ACA's mandate has drawn a large amount of political attention.

$255 Per year

The average user of the pill saved $254.91 per year after the ACA mandate took effect.

It is still too early to predict the final impact of the mandate on health care use and spending, or on other health and socioeconomic outcomes for women.

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Footnote

NOTES


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