Implications of employer coverage of contraception: Cost-effectiveness analysis of contraception coverage under an employer mandate☆,☆☆

W. Canestaroa, E. Vodicka,⁎, D. Downinga, J. Trusselb

aUniversity of Washington School of Pharmacy, Seattle, WA 98195, USA
bPrinceton University, Princeton, NJ 08544, USA

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Abstract

Objectives: Mandatory employer-based insurance coverage of contraception in the US has been a controversial component of the Affordable Care Act (ACA). Prior research has examined the cost-effectiveness of contraception in general; however, no studies have developed a formal decision model in the context of the new ACA provisions. As such, this study aims to estimate the relative cost-effectiveness of insurance coverage of contraception under employer-sponsored insurance coverage taking into consideration newer regulations allowing for religious exemptions.

Study design: A decision model was developed from the employer perspective to simulate pregnancy costs and outcomes associated with insurance coverage. Method-specific estimates of contraception failure rates, outcomes and costs were derived from the literature. Uptake by marital status and age was drawn from a nationally representative database.

Results: Providing no contraception coverage resulted in 33 more unintended pregnancies per 1000 women (95% confidence range: 22.4; 44.0). This subsequently significantly increased the number of unintended births and terminations. Total costs were higher among uninsured women owing to higher costs of pregnancy outcomes. The effect of no insurance was greatest on unmarried women 20–29 years old.

Conclusions: Denying female employees' full coverage of contraceptives increases total costs from the employer perspective, as well as the total number of terminations.

Implications: Insurance coverage was found to be significantly associated with women’s choice of contraceptive method in a large nationally representative sample. Using a decision model to extrapolate to pregnancy outcomes, we found a large and statistically significant difference in unintended pregnancy and terminations. Denying women contraception coverage may have significant consequences for pregnancy outcomes.

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1. Introduction

Current contraceptive methods are efficacious [1], safe [2] and cost-effective [3]. The Affordable Care Act (ACA) included a provision to expand coverage of contraception through mandated employer-sponsored insurance for women and families at no cost sharing to employees. The ACA’s expansion of insurance coverage for contraceptive services is predicted to improve women’s health and reduce unintended pregnancies [4]. In addition, the expansion of contraception coverage under the ACA has been predicted to result in approximately 25,000 fewer abortions annually [5]. The uptake of contraceptive methods by insurance status is available via national databases; however, the cost-effectiveness of private, employer-sponsored insurance coverage of contraception is unknown.
More than half of all pregnancies in the US are unintended, the majority of which occur among low-income women and women aged 18–24 years old [6,7]. Costs resulting from unintended pregnancies are burdensome for the government and individual taxpayers: in 2006, an estimated US$11.6 billion in public funds was spent on births that resulted from unintended pregnancies [8]. In addition, unintended pregnancies may be costly for employers who provide insurance to their employees through private health plan contracts. Private health plans may spend as much as US$4.6 billion in costs related to unintended pregnancies each year [9].

Prior research has examined the cost-effectiveness of contraception in general and found it to be a highly cost-effective health care strategy [3]. Additional studies have found contraception coverage to be cost-effective and even cost saving from the perspective of public insurers [10,11]. However, to our knowledge, no studies have developed a formal decision model of private insurance coverage for contraception in the context of the new ACA provisions. This study aims to estimate the impact on pregnancies, pregnancy outcomes and costs of private, employer-sponsored insurance coverage for contraceptives.

2. Materials and methods

A decision model was developed from the employer perspective to simulate costs and outcomes associated with employer-sponsored coverage of contraception methods as mandated by the ACA. (Fig. 1) The model simulates a cohort of 1 million women offered either (1) full contraceptive coverage through an employer-sponsored private health insurance plan or (2) no coverage to estimate the effect of complete contraceptive coverage on US women of child-bearing age. The model includes seven sequential decision points: pregnancy risk, pregnancy seeking status, sexual activity, uptake of various methods of contraception, pregnancy, pregnancy intendedness and pregnancy outcome. Sexual activity, contraception uptake, pregnancy, intendedness and pregnancy outcomes were modified by patient age and current marital status since they are potentially influential demographic characteristics [12,13]. Age and marital status distributions were determined from the 2010 US census [14–16]. Women in the model were assumed to have up to a year of exposure to contraception. The number of pregnancies that resulted during this 1-year time horizon was then followed to final outcome, even if the outcome was to occur sometime beyond the 1-year time frame. The model was developed in Microsoft Excel™ (Redmond, WA).

2.1. Probability of events and health outcomes

Joint probabilities for key patient characteristics described in our model — sexual activity by marital status and choice of contraceptive method by insurance status, sexual activity and marital status — were derived through descriptive analysis of National Survey of Family Growth (NSFG) survey data [17]. The NSFG is a federally funded, nationally representative annual survey administered by the Centers for Disease Control and Prevention that gathers information on marriage, divorce, family life, infertility, pregnancy and use of contraception. The 2006–2010 cycle of the NSFG includes surveys with over 12,000 women of reproductive age (ages 15–44 years). For our analytic approach, we first replicated a descriptive report of similar patient characteristics published by the NSFG to ensure consistency with established methods [12]. We then estimated sample-weighted frequencies for the probabilities required by our model. All analyses were conducted using Stata (Release 13, College Station, TX: StataCorp LP).

The NSFG defines sexually active women as those who have had sex in the past 3 months. Sexually inactive

![Fig. 1. Decision model structure.](image-url)
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