



## Effects of state contraceptive insurance mandates



Angela K. Dills<sup>a,\*</sup>, Anca M. Grecu<sup>b</sup>

<sup>a</sup> Western Carolina University, Forsyth 224A, Cullowhee, NC 28723, United States

<sup>b</sup> Seton Hall University, JH 621 Department of Economics and Legal Studies, Stillman School of Business, Seton Hall University, 400 South Orange Ave, South Orange, NJ, 07079, United States

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### ABSTRACT

Using U.S. Natality data for 1996 through 2009 and an event analysis specification, we investigate the dynamics of the effects of state insurance contraceptive mandates on births and measures of parental investment: prenatal visits, non-marital childbearing, and risky behaviors during pregnancy. We analyze outcomes separately by age, race, and ethnicity. Among young Hispanic women, we find a 4% decline in the birth rate. There is evidence of a decrease in births to single mothers, consistent with increased wantedness. We also find evidence of selection into motherhood, which could explain the lack of a significant effect on birth outcomes.

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### 1. Introduction

Almost half of pregnancies are unintended with higher rates among younger women (Finer and Zolna, 2011). Mandates requiring private health insurers to cover contraceptives are intended to facilitate family planning by reducing the out-of-pocket cost of contraceptives. Maryland passed the first of these state-level mandates in 1998. By 2012, 27 states passed similar contraceptive insurance mandates, with the federal Affordable Care Act requiring contraceptive coverage without a copayment as of August 1, 2012. Understanding the dynamics of the impact of these policies allows us to preview the likely effects of the current Affordable Care Act mandate.

The states' mandated coverage led to a large increase in insurance plans covering reversible contraceptives (Sonfield et al., 2004) as well as increased contraceptive use (Atkins and Bradford, 2014; Mulligan, 2015) especially among privately insured women (Magnusson et al., 2012).<sup>1</sup> These changes have several plausible

effects. First, increased access to contraception allows women to shift births to older ages.<sup>2</sup> Second, by changing the relative prices of different types of contraceptives, mandates may encourage women to substitute highly effective contraceptives such as the pill, implants, intrauterine devices, or injections, for the less effective contraceptive, condoms, or for abortions.<sup>3,4</sup> Third, by lowering the cost of sexual activity, increased insurance coverage of contraceptives could increase conceptions.<sup>5</sup> Fourth, obtaining prescription contraceptives typically requires contact with a physician, potentially increasing women's information on

<sup>2</sup> Ananat and Hungerman (2012) and Bailey (2012) show that changes in the availability of contraceptives, due to the diffusion of the Pill or family planning programs, led women to shift births to later in their lives.

<sup>3</sup> To the extent that women are willing and able to use abortions to prevent unwanted births, abortions are a substitute for contraceptive use. Levine and Staiger (2004) show that, although modest liberalization of abortion laws in Eastern Europe had no effect on births, removing highly restrictive abortion laws reduced births.

<sup>4</sup> Previous research shows that higher income women are sensitive to the changes in relative prices of contraceptives. For example, Postlethwaite et al. (2007) demonstrate that changes in co-pays lead insured women to choose more effective contraceptive methods, a shift likely to affect pregnancy rates and unintended pregnancy rates.

<sup>5</sup> Zuppann (2011) suggests that the legalization of emergency contraceptives increased sexual activity within relationships and increased the number of sexual partners. Girma and Paton (2011) and Atkins and Bradford (2015) find similar results.

\* Corresponding author.

E-mail addresses: [akdills@wcu.edu](mailto:akdills@wcu.edu) (A.K. Dills), [anca.grecu@shu.edu](mailto:anca.grecu@shu.edu) (A.M. Grecu).

<sup>1</sup> The evidence in Raissian and Lopoo (2015), however, suggests that the private health insurance mandates had little effect on contraceptive uptake once they controls for state-specific trends. Reversible contraceptives include the pill, implants, intrauterine devices (IUDs and diaphragms), and injections.

contraceptive use and reproduction health.<sup>6</sup> Fifth, plans covering contraceptives may make insurance coverage more attractive, leading more women to be insured, increasing contraceptive use and health outcomes especially when expansion of coverage does not lead to changes in premium levels (Bertko et al., 2012). Sixth, the pre-adoption discussion of the legislation could have publicized and changed women's opinions regarding various contraceptive options. The variety of possible behavior changes implies that the net effect and timing of mandates on births is ambiguous and should be investigated empirically.

Previous literature using highly aggregated state-level data (Mulligan, 2015) finds no effect on births. However, regressions that impose the constraint of an equal effect for the entire population may conclude that the policy had little or no effect (Bitler and Schmidt, 2012). One of this paper's contribution to the literature is to demonstrate that the law has effects on births for one demographic category, Hispanic women.

Even if the birth rates do not change, birth outcomes might. Mandates may affect birth outcomes in two competing ways: changing the rate of unintended pregnancies and changing the composition of women giving birth. First, mandates may lead to fewer unintended pregnancies. Increased wantedness of birth has been found to improve infant health (Reichman et al., 2009), perhaps due to maternal willingness to invest more in prenatal care (Delgado-Rodríguez et al., 1997) or through reduced stress.<sup>7</sup> An unwanted pregnancy represents a source of stress for the mother and might affect other aspects of pregnancy and delivery. For instance, meconium staining of amniotic fluid during labor, a predictor of poor infant outcomes (Stark, 1980, Nathan et al., 1994), is related to fetal stress (Rahman et al., 2013) as well as maternal stress (Currie and Rossin-Slater, 2013). Second, mandates may change selection into motherhood. One change in selection may occur because mandates affect only women with private insurance. Any reduction in births to privately insured women leads to a higher proportion of births to uninsured women or women covered by government programs. The type of insurance mediates some birth outcomes (de Jongh et al., 2012). Another change in selection may be driven by the lower cost of contraception reducing income's influence on contraceptive use and emphasizing selection into contraceptive use based on personality traits such as cautiousness. If mandates lead to greater reductions in births among women who were more likely to invest in their pregnancies, birth outcomes may worsen. These competing effects – fewer unintended pregnancies and changing selection of women into motherhood – lead to an ambiguous effect of mandates on birth outcomes. We find evidence of selection, as expected when a policy targets only part of the population. We find no evidence of improved outcomes, possibly because the effect of negative selection into motherhood offsets the effect of increased wantedness.

This paper contributes to the literature documenting the impact of state insurance mandates. This paper also adds to the literature linking access to contraceptives to pregnancy wantedness and outcomes by documenting that insurance mandates reduced the prevalence of unmarried fertility, consistent with increased wantedness. We also contribute to the literature showing that partial reforms can have unintended consequences by leading to negative selection. There is significant research investigating the

impact of expanded access to contraceptives among low socioeconomic status (SES) women. As the public policy focus shifts to privately insured women, it is important to also document whether women subject to mandates, which likely belong to middle or high SES groups, respond to changes in contraceptive accessibility.

## 2. Background

State regulations requiring that insurance plans sold in a state provide coverage for a particular condition have been adopted since the 1970's and have proliferated over time to reach a reported total of 2156 mandates in 2010 (Bunce and Weiske, 2010). Under the Employment Retirement Income Security Act (ERISA) these mandates apply to individuals who have private insurance through a plan that is not self-insured.<sup>8</sup> About one-third of women have the type of insurance potentially affected by mandates (Butler, 2000).

The impetus for the passage of contraceptive mandates was the introduction of Viagra to the market and insurance plans' quick adoption of coverage for the erectile dysfunction drug (Goldberg, 1999; Kilborn, 1998). In 2000, the Equal Employment Opportunity Commission determined that failure of an employer-provided plan to cover contraceptives violated the Pregnancy Discrimination Act although the Eighth Circuit court disagreed (Oxman, 2013). In three states, Washington, Michigan, and Montana, the mandates were imposed by the executive branch explicitly barring sex discrimination in employment (Oxman, 2013). This nondiscrimination motivation bears out in mandates' wording, which is remarkably similar across the states. In Arizona, for example, the law requires an insurance contract that covers prescription drugs to also cover "any prescribed drug or device that is approved by the United States Food and Drug Administration for use as a contraceptive."<sup>9</sup> States do not differ much in the expansiveness of the mandate. In most mandate states, the insurance plan explicitly must impose similar or smaller "deductibles, coinsurance, copayments or other cost containment measures" for prescription contraceptives as for other drugs on their approved list.<sup>10</sup> In addition, in most states, the mandate requires insurance plans to cover contraceptives; in a handful of states the mandate only requires insurance companies to offer a plan that covers contraceptives.<sup>11</sup>

These mandates significantly changed the relative prices of covered contraceptives. Privately insured women without prescription drug coverage paid about \$21 per pack of birth control pills (Liang et al., 2011). Insurance coverage likely lowered the out-of-pocket cost to \$14 per pack or less.<sup>12</sup> Coverage for IUDs varies among privately insured women. Bearak et al. (2016) calculate that, in 2012, 11% of insured women had no coverage for an IUD, 41% had no-cost coverage, and 48% had coverage with cost-sharing.

<sup>8</sup> In seventeen states the contraceptive insurance mandate applies to the individual market as well as employer-provided insurance (Oxman, 2013).

<sup>9</sup> Ariz. Rev. Stat. Ann. §20–2329 (2002).

<sup>10</sup> In results not presented, we examine whether this explicit language about copays affects the impact of the contraceptive insurance mandate. The estimated fertility declines for Hispanic women are driven by states with explicit copay language, although the lack of significant effect in the case of mandates without explicit language could be due to lack of variation given the small number of such states.

<sup>11</sup> In results not presented, we examine whether the effect of the 'mandate-to-cover' differs from the 'mandate-to-offer'. Whether employers are required to choose an insurance plan covering contraceptives does not change the core result in our paper: births decline for Hispanic women in mandate states although the estimates are less precise.

<sup>12</sup> Liang et al. (2011) provide this estimate for the out-of-pocket expense for privately insured women with prescription drug coverage.

<sup>6</sup> We thank an anonymous referee for the suggestion of this mechanism. Raissian and Lopoo (2015) find relative increases in pap tests and pelvic exams among low-education women in states with mandates to cover both contraceptives and supplemental preventative health services.

<sup>7</sup> Bailey (2013) also finds longer-term, labor market benefits to children stemming from increased access to contraceptives.

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