Employment Status in the United States and Use of Long-Acting Reversible Contraception or Moderately Effective Contraception before and after the Affordable Care Act: An Analysis of the National Survey of Family Growth 2006-2010 and 2015-2017

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# ABSTRACT

Employment Status in the United States and Use of Long-Acting Reversible Contraception or Moderately Effective Contraception before and after the Affordable Care Act: An Analysis of the National Survey of Family Growth 2006-2010 and 2015-2017

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*Objective*. Employment status has been historically associated with contraceptive use among women of reproductive age; however, the Affordable Care Act (ACA), introduced in the US in 2010, may have influenced this association. We assessed the association between employment status and long-acting reversible or moderately effective contraception use before and after the passage of the Affordable Care Act.

*Methods*. We used data from the 2006-2010 and 2015-2017 cycles of the National Survey of Family Growth (NSFG) indicating pre- and post-ACA periods, respectively. Women aged 15-44 years and at risk for unintended pregnancy were included in our analysis. Employment at the time of the survey was measured as a dichotomous variable. Multivariable logistic regression was used to estimate adjusted prevalence odds ratios (aPOR) and 95% confidence intervals (CI) of use of long-acting reversible or moderately effective contraception as compared to least effective or no methods of contraception. Further, effect modification for the main association was assessed by race/ethnicity.

*Results.* Overall, the study analyzed 5,572 women pre-ACA, and among them 53.2% were using long-acting or moderately effective contraception; post-ACA (n=2,340) the distribution was 54.7%. We found significant interaction for the main effect by race/ethnicity, and results were stratified by non-Hispanic White, non-Hispanic Black, Hispanic, and Other groups. Pre-ACA, non-Hispanic White women who were employed were significantly more likely to use long-acting reversible or moderately effective contraception (aPOR=1.66; 95% CI=1.28, 2.14). Post-ACA, there was no significant relationship between employment status and long-acting reversible or moderately effective contraceptive use in non-Hispanic white women (aPOR=0.94; 95% CI=0.67, 1.33). For other race/ethnic groups, we found no statistically significant association for the main effect during pre-ACA or post-ACA study periods.

*Conclusions*. Contrary to our expectation, we found no significant association between employment and use of long-acting reversible or moderately effective contraceptives by race/ethnicity during post-ACA period in a study sample generalizable to the US. Future studies should examine how short-term loss or interruption of employment impacts contraception use in the target population. We recommend that any modifications to the ACA should be scrutinized for the impact it may have on women's access to long-acting reversible or moderately effective contraception.

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# CHAPTER 1

## PUBLIC HEALTH SIGNIFICANCE

Approximately one half of all pregnancies in the United States are unintended [1]. There are at least 61 million women of reproductive age in the United States, and about 43 million (70%) are at risk for unintended pregnancy if access to contraception is not available to them [2-4]. Unintended pregnancies can have serious, and sometimes devasting, consequences for women [5]. As a result, there is a need to decrease and prevent a rise in rates of unintended pregnancies in the US. It is for this reason that one goal of Healthy People 2020 was aimed at decreasing the proportion of intended pregnancies in the United States primarily by increasing access to contraceptives [6]. A 2006-2010 analysis of National Survey of Family Growth (NSFG) demonstrated that women more likely to experience unintended births include unmarried women, black women, women with less education, and women with less income [7].

Widespread use of moderate to highly effective contraceptives could decrease the rates of intended pregnancies in the United States, but access to these methods require persons to have access to a healthcare provider who can prescribe and administer. 49% of Americans get their health insurance through work [8]. In the United States historically, female employment has previously been associated with increased contraceptive use and falling fertility rates [9, 10]. Employment status has also been linked to access to contraceptives in many recent studies of developing countries [11-13]. Conversely, in other developed countries, welfare reform has demonstrated that contraceptive access at least remains intact in the setting of employment loss, even if the rate of unintended pregnancies remains higher in the unemployed [14]. Studies from the United States are older and may not consider the full effects of the roll out of the Affordable Care Act (ACA).

The ACA, which was introduced in 2010 and finished its planned roll out in 2014, put into place several components that may mitigate against the loss of contraception in times of unemployment. These components included mandated insurance coverage for contraception, employee and individual mandates to buy insurance, subsidies to buy insurance through the health exchanges, Medicaid expansion in a majority of states, and allowing children to remain on parents insurance until age 26 [15, 16].

Updated analyses are necessary to fully understand the impact of this law on contraception use and unintended pregnancies. It is unclear if and how strongly employment status was linked to the use of moderate to highly effective contraceptives in the United States immediately before or following the roll out of the ACA. The purpose of this project is to understand if employment status in the United States impacted use of LARC and moderately effective contraceptives in the United States before and following the roll out of the ACA. The study hypothesis is that unemployment is a factor in use of moderate to highly effective reversible contraceptives in the United States before and after the roll out of the ACA. If found to be true, interruptions to employment status, may have the potential to disrupt contraceptive access and use in the United States.

**CHAPTER 2**

**LITERATURE REVIEW**

**Unintended pregnancies in the United States**

Approximately one half of all pregnancies in the United States are unintended [1]. There are at least 61 million women of reproductive age in the United States, and about 43 million (70%) are at risk for unintended pregnancy if access to contraception is not available to them [2-4]. Unintended pregnancies can have serious, and sometimes devasting, consequences for women and any children they have [5]. As a result, there is a need to decrease and prevent a rise in rates of unintended pregnancies in the US. A 2006-2010 analysis of the United States National Survey of Family Growth (NSFG) demonstrated that women more likely to experience unintended births include unmarried women, black women, women with less education, and women with less income [7].

Nearly half of all unintended pregnancies result in an induced abortion [17]. While the complication rates are generally low, risks are non-negligible. Confronting an unintended pregnancy and weighing the option of abortion are emotionally difficult experiences for many women and the procedure itself may involve appreciable pain and expense [5]. However, there does not appear to be an increase in long-term psychological consequences in women that have an abortion vs. those women denied an abortion [18].

For women who keep unintended pregnancies, there are also potentially significant concerns. Among adolescents mothers who have children, they are less likely to complete high school, are more likely to be single parents or experience marital dissolution, have less work experience, have lower wages and earnings, are more likely to live in poverty, and more likely to

be frequent welfare recipients [5]. Pregnancy problems such as poor weight gain, pregnancy-induced hypertension, anemia, sexually transmitted diseases appear to be elevated and they are at greater lifetime risk for obesity and hypertension. Infants of these mothers are also more likely to be low birth weight and are at higher risk of illness, injury, and death in the postnatal period [5].

For older women (greater than 35 to 40 years old) with unintended pregnancies, they are also at risk for socioeconomic and medical issues. Unintended pregnancies put strain on finances and relationships. Older mothers are more likely to have a child with aneuploidy, have high or low birth weight babies, and experience complications of the pregnancy itself [5].

Children of single mothers are more likely to drop out of high school, less likely to attend college, and less likely to graduate from college. They are more likely to become teenage parents and unmarried parents themselves. They are also less likely to have a steady job after leaving school and are more likely to have encounters with the criminal justice system [5].

**Contraception**

Approximately half of all women in the Unites States who experience an unintended pregnancy in 2000-2001 reported to not use a contraceptive method in the month when the pregnancy occurred [19].  It is for this reason that one goal of Healthy People 2020 was aimed at decreasing the proportion of intended pregnancies in the United States primarily by increasing access to reliable contraceptives [6].

Birth control options for women are divided into 3 categories of effectiveness: most effective, moderately effective, and least effective methods. The most effective methods are further divided into long-acting reversible contraception (LARC) and sterilization. LARCs

methods include both hormonal and copper intrauterine devices (IUDs), as well as hormonal implants. The unintended pregnancy rates for each of these methods are less than 1% per year.

Moderately effective methods of contraception include oral contraceptive pills, injectable hormonal contraception, vaginal rings, patches, or a diaphragm. The unintended pregnancy rates for each of these methods range from 6 to 12% annually with typical use.

The least effective methods of contraception include male condom, female condoms, withdrawal, sponge, fertility-awareness based methods, and spermicide. The unintended pregnancy rates for each of these methods range from 18 to 28% annually with typical use, although the sponge may only have a failure rate of 12% in nulliparous women [20].

The effectiveness of a birth control method may be reported according to typical or perfect use [21]. However, understanding that a person may forget to use their method, use incorrectly, take medications that interfere with their method; contraception effectiveness is generally reported according to typical use rather than with perfect use. The least effective methods are generally available over the counter or do not require a healthcare provider to get. At the present time, moderate and highly effective contraceptive methods like LARC require in-person placement or administration by a healthcare provider. Therefore, access to these methods could potentially be a barrier to some patients.

**Contraceptive use, preferences, and barriers to use**

Since half of all women who experience an unintended pregnancy were not using a contraceptive method, one goal of Healthy People 2020 was aimed at increasing the proportion of intended pregnancies in the United States primarily by increasing access to reliable contraceptives [6, 19].

Data from the 2015-2017 cycle from the National Survey of Family Growth reports that among women aged 15-49 that 8.7% of women are using male condoms for contraception, 3.9% are using the withdrawal method, and 7.9% of women are sexually active but use no method to prevent pregnancy (despite not desiring pregnancy). Conversely, 24.8% of couples had completed sterilization, and 10.3% of women were using a LARC method [22, 23].

Despite the low prevalence of LARC in the general population, studies have demonstrated that when educational and financial barriers were removed, LARC methods are quite popular. For example, the contraceptive CHOICE project was a prospective cohort study of 9,000 women between 14-45 years who want to avoid pregnancy for at least one year and who were initiating a new form of reversible contraception. In this study, contraception education and birth control were provided at no cost to the participants. Once both educational and financial barriers were removed and LARC methods were introduced to all potential participants as a first-line contraceptive option, 75% of women chose LARC [24].

In studies specially examining LARC; reasons for lack of use include women's knowledge of and attitudes towards the methods [25, 26], practice patterns among providers [27, 28], and high initial up-front cost associated with these methods [29].  These reasons may be true for moderately effective methods as well. Other reasons for non-use of contraceptives in general, may include misconceptions about risk for unintended pregnancies [30], concerns about contraceptive side effects and health risks, infrequently intercourse, personal or partners beliefs that oppose contraception [31].

Among those women using contraceptives that had an unintended pregnancy, the majority of those resulted from inconsistent or incorrect birth control method as opposed to method failure [32]. Incorrect usage might be driven by the fact that only 55% of young men and

60% of young women had received formal instruction about methods of birth control in the United States [33]. Surveys of patients reveal that there is still much confusion surrounding birth control. Women tend to underestimate their risk of pregnancy, may not fully understand their options, or understand how certain contraception methods work. This remains true even though a vast majority of OB/GYNs (98%) and Family Providers (88%) counsel their patients on birth control [30, 34].

Rate of LARC use is especially low amongst adolescence, where most pregnancies are unintended. Part of these low rates appear to be secondary to gaps in counselling by healthcare providers [35, 36]. There are also disparities in uptake of highly effective contraception amongst women of various ethnicities and age groups. This is may be due to the differences in women's preferences for features of contraceptive methods or that counseling towards certain populations may be skewed towards certain methods [37, 38]. Finally, women in rural communities appear to be less likely to be offered contraception as compared to women in urban areas [39].

Both widespread and correct use of moderate to highly effective contraceptives could decrease the rates of intended pregnancies in the United States. Since medical providers are often limited for time to educate their patient in a clinical setting, improvements in formal sexual health education are probably merited.

**Association between contraception, income and employment**

Access to moderate and highly effective contraceptive method do require visiting and/or having access to a healthcare provider who can prescribe it to them or place. Access to a healthcare provider may represent a financial barrier that patients may not be able to overcome due to unemployment, lack of insurance, or limited income. Although there are many potential

challenges for low-income families to access adequate health care in the United States (limited time off work, limited childcare, lack of transportation, limited health care provider accessibility), a literature review found that the key barriers to healthcare utilize or access among low income patients in the United States include lack of education, complications with health insurance, and a distrust of health care providers [40].

As 49% of Americans get their health insurance through work [8], loss of employment may impact a patient's ability to access health care and contraception. In the United States historically, female employment has previously been associated with increased contraceptive use and falling fertility rates [9, 10]. Employment status has also been linked to access to contraceptive use in many recent studies of developing countries [11-13]. Conversely, in other developed countries, welfare reform has demonstrated that contraceptive access at least remains intact in the setting of employment loss, even if the rate of unintended pregnancies remains higher in the unemployed [14]. Studies from the United States are older and may not consider the full effects of the roll out of the Affordable Care Act (ACA).

**ACA and contraception**

The Affordable Care Act (ACA), which was passed in 2010 and finished its planned roll out in 2014, put into place several components that may mitigate against the loss of contraception in times of unemployment. These components included mandated insurance coverage for contraception, employee and individual mandates to buy insurance, subsidies to buy insurance through the health exchanges, Medicaid expansion in a majority of states, and allowing children to remain on parents insurance until age 26 [15, 16].

A US study prior to the rollout of the ACA demonstrated a 3% drop in the rate of birth control prescriptions for every 1% increase in unemployment [41].  Studies have examined the early years immediately after passage of the ACA, but these studies cannot consider potential challenges during roll out. One study noted increased uptake in LARC overall and decreases in unintended pregnancies in women on government insurance [42]. Another study determined that the rates of uninsured went down as children went on parents' insurance but did not note any significant uptake on reproductive health service utilization overall [43]. However, almost 13 million more individuals acquired health insurance in 2015 vs. 2013, and the uninsured rates fell from 13.3 to 9.1% in this time frame [44].  Therefore, up to date studies are merited.

**Study rationale**

Updated analyses are necessary to fully understand the impact of this law on contraception use and unintended pregnancies. It is unclear if and how strongly employment status was linked to the use of moderate to highly effective contraceptives in the United States immediately before or following the roll out of the Affordable Care Act.

The purpose of this project is to understand if employment status in the United States impacted use of highly and moderately effective contraceptives in the United States before and following the roll out of the Affordable Care Act. The study hypothesis is that unemployment is a factor in use of moderate to highly effective contraceptives in the United States before and after the roll out of the Affordable Care Act. If found to be true, interruptions to employment status, such as the recent COVID-19 pandemic, may have the potential to disrupt contraceptive access and use in the United States. To test this hypothesis, we will do a secondary analysis of the National Survey of Family Growth (NSFG).

# CHAPTER 3

## METHODS

### Data source

This study was a secondary cross-sectional analysis of data from the United States National Survey of Family Growth (NSFG). The NSFG is nationally representative complex survey of non-institutionalized men and women aged 15–49 years in the United States. The survey interviews participants to gather "information on family life, marriage and divorce, pregnancy, infertility, use of contraception, and men's and women's health" [45]. Deidentified public use data files from this survey, as well as information on sampling and survey methodology are available at https://www.cdc.gov/nchs/nsfg/index.htm.

### Study Subjects

Women aged 15-44 and at risk for unintended pregnancy were included in this analysis. Women who were sterile, infertile, or had a partner with infertility; women who were abstinence for 3 months prior to the survey; women who were pregnant, trying to get pregnant, or postpartum; or had incomplete data were excluded. For the pre-ACA analysis, we used the NSFG 2006-2010 cohort. For the post-ACA analysis, we used the 2015-2017 cohort.

### Primary outcome, primary exposure & covariables

Since both highly and moderately effective contraceptive use have similar barriers to access, the primary outcome was current use of one of the methods in these groups (intrauterine devices, implants, oral contraceptive pills, injectable hormonal contraception, vaginal rings, patches, or a diaphragm). A composite of no use of contraceptives or use of lesser effective

methods (condoms, spermicide, withdrawal, fertility awareness methods, etc.) was the comparison group.

Employment at the time of the survey was measured as a dichotomous variable. A weighted univariate analysis of the response data was done in each cohort. Covariates were then examined for confounding and effect modification between employment and each covariate.

The covariates were selected based upon factors previously reported to have been associated with contraceptive use or unintended pregnancy such as race, Hispanic ethnicity, age, education, income, insurance status, and marital status [4, 46].

**Statistical Analysis**

We elected to stratify this analysis into pre-ACA and post-ACA. The primary reason conducting the pre-ACA analysis was primarily done to better understand post-ACA relationship between employment status and contraception, rather than to directly compare the two time periods. Second, we did not feel that a direct comparison of the two time periods could account for potential confounding or changes in provider comfort in counselling about or placing LARC in the second time period as opposed to the first (LARC use rose from 8.4% in the pre-ACA period to 22.0% in the post-ACA time frame). Finally, the 2 time periods had different sampling weights.

As noted above, a weighted univariate analysis of the response data was done in each cohort to estimate prevalence odds ratios (aPOR) and 95% confidence intervals (CI) of use of long-acting reversible or moderately effective contraception as compared to least effective or no methods of contraception. Covariates were then examined for confounding and effect modification between employment and each covariate. There was noted to be significant effect

modification between employment and race/ethnicity in the pre-ACA, 2006-2010 cohort (p=0.0019). We, therefore, had to further stratify each cohort based on race/ethnicity. A weighted univariate analysis of the response data was then done in each cohort stratified by race/ethnicity.

Multivariable logistic regression was then used to estimate adjusted prevalence odds ratios (aPOR) and 95% confidence intervals (CI) of use of long-acting reversible or moderately effective contraception as compared to least effective or no methods of contraception. These weighted adjusted analyses of the response data were done in each time period stratified by race/ethnicity. While income and insurance status have been associated with contraceptive use, these were excluded from our first adjusted or a priori model, due to potential concerns regarding multicollinearity between those factors and employment status as well in the interest of building a parsimonious model. Insurance status, but not income, was added in our second adjusted model given similar reasoning.

SAS 9.4 was used for the statistical analysis. Given that all data analyzed in the study was deidentified, this study was determined to be exempt from needing review from the Emory University Internal Review Board.

**CHAPTER 4**

**RESULTS**

Women aged 15-44 and at risk for unintended pregnancy were included in this analysis. Women who were sterile, infertile, or had a partner with infertility; women who were abstinence for 3 months prior to the survey; women who were pregnant, trying to get pregnant, or postpartum; or had incomplete data were excluded. This resulted in an analytic sample size of 5,572 women in the pre-ACA cohort (Fig. 1a) and an analytic sample size of 2,340 women in the post-ACA cohort (Fig. 1b). The difference in sample size was due to a 4-year sample of women prior to the ACA, but only 2 years of data available after implementation.

Pre-ACA, 53.2% were women were using long-acting or moderately effective contraception. A majority of the women were non-Hispanic white, not married, and on private insurance. A plurality of women in the early cohort were between 18 and 25 years old. In the earlier cohort, there were significant differences in our primary exposure variable of employment status by age, race/ethnicity, insurance, income, and education. Additional details on income, relationship status, and education for this time period is noted in table 1a.

Post-ACA, 54.7% were women were using long-acting or moderately effective contraception. Again, a majority of the women were non-Hispanic white, not married, and on private insurance. However, plurality of women in this later cohort were between 26 and 34 years old. Also, there were only significant differences in employment status by insurance, income, and education. Additional details on income, relationship status, and education for this period is noted in table 1b.

In Table 2, contraceptive use was stratified by all 3 categories of methods, our composite outcome of LARC and moderately efficient contraception vs. least effective methods, and LARC

vs. non-LARC methods. In the pre-ACA cohort, there was a significant difference in conceptive method by employment status by all 3 categories of methods (p=0.008) and our primary composite outcome of LARC and moderately efficient contraception vs. least effective methods (p=0.0011). In comparing LARC vs. non-LARC methods in the 2006-2010 cohort; there was no significant difference when considering employment status. In the 2015-2017 cohort, there was no significant difference between contraceptive methods when broken down by unemployment status.

**Pre-ACA: LARC or Moderately Effective Contraceptive Use in Employed vs. Unemployed individuals**

For our primary outcome, we noted a significant difference in LARC or moderately effective contraceptive use in employed individuals vs. unemployed individuals in our unadjusted analysis in the 2006-2010 cohort (POR=1.35; 95% CI =1.12, 1.62).

We found significant effect modification between employment and race/ethnicity in the pre-ACA 2006-2010 period (p=0.0019), and results were stratified by non-Hispanic White, non-Hispanic Black, Hispanic, and Other groups. The unadjusted analysis and both adjusted models are reported in Table 3.

In the statistically unadjusted pre-ACA analysis, we only noted a significant difference in LARC or moderately effective contraceptive use in employed individuals vs. unemployed individuals in non-Hispanic white women in the 2006-2010 cohort (POR 1.66; 95% CI=1.30, 2.12). In the adjusted pre-ACA analysis, non-Hispanic White women who were employed were significantly more likely to use long-acting reversible or moderately effective contraception

(aPOR=1.66; 95% CI=1.28, 2.14). These results remained statistically significant in our second adjusted model as well.

For Black, Hispanic, or Other women; we found no statistically significant association for LARC or moderately effective contraceptive use in employed individual vs. unemployed individuals during pre-ACA study periods in either the unadjusted or adjusted models.

**Post-ACA:  LARC or Moderately Effective Contraceptive Use in Employed vs. Unemployed individuals**

In the post-ACA time frame, there was no significant difference in LARC or moderately effective contraceptive use in employed individual vs. unemployed individuals (POR=1.15; 95% CI=0.92, 1.44).

Post-ACA, there was no significant relationship between employment status and long-acting reversible or moderately effective contraceptive use in non-Hispanic white women in either the unadjusted or adjusted models. (aPOR=0.94; 95% CI=0.67, 1.33).

For Black, Hispanic, or Other women; we found no statistically significant association for LARC or moderately effective contraceptive use in employed individual vs. unemployed individuals during post-ACA study periods in either the unadjusted or adjusted models.

# CHAPTER 5

# DISCUSSION

We hypothesized that unemployment is a factor in use of moderate or highly effective reversible contraceptives in the United States before and after the implementation of the ACA. Contrary to our expectation, we found this hypothesis to be true only for white women prior to the ACA. We found no significant association between employment and use of long-acting reversible or moderately effective contraceptives by race/ethnicity during the post-ACA period.

We are encouraged by the findings that would suggest that in the most recent cohort of the NSFG, there was no link between unemployment and use of LARC or moderately effective contraceptives in the United States. While we cannot directly compare our study to any past studies due to methodological differences (i.e. we needed to stratify by race), our post-ACA findings are similar to the findings from other developed countries [14]. Our recent findings are dissimilar from older studies in the Unites States [9, 10] and from studies on this topic in developing countries [11-13].

As noted previously, we found significant interaction between employment and race/ethnicity in the pre-ACA 2006-2010 period, which forced us to stratify our results. Thus, it was a bit of an unexpected finding to the researchers to discover that white women who experienced unemployment prior to the passage of ACA were more likely to experience a loss in contraceptive coverage, but not minority women. We thought that there could be several potential explanations to these findings. Historically, unemployment rate among Blacks has consistently been twice that of the general population [47] and remains true for Black and Hispanic women as compare to white women even in a recent examination [48]. Furthermore, and it is well-documented that minorities experience discrimination in the hiring process [49,

50].  Faced with the reality of more difficulty finding new employment vs. white persons, it could be that minorities took precautions to guard against contraceptive loss in the pre-ACA era, such as seeking services from Title X-funded health centers or enrolling in government insurance. Data would suggest that a higher percentage of Blacks and Hispanics are currently and traditionally rely on government insurance than white women [51, 52].  For example, in 2017, 35.2% non-Hispanic White women used a public insurance option vs. 43.8% and 39.9% for Black and Hispanic women respectively [52].  In addition, it could be that a higher percentage of white women, perhaps expecting shorter periods of unemployment, may have choose to forgo use of LARC or moderate contraceptives until insurance was re-established with a new employer. An alternate explanation of these findings is that the uninsured rates are much lower in White communities than Black and Hispanic communities at baseline [51]. It could be that the sudden loss of employment was more pronounced when there was a smaller proportion of unemployed women in the White population. This combined with a higher reliance on employee-sponsored insurance in the white community, may have contributed to the statistically significant findings we appreciated in the pre-ACA time frame.

In addition to coverage issues; prior to the ACA, Black and Hispanic women were less likely than White women to use prescription contraception; thus, loss of employment was less likely to impact prescription contraception if the baseline rate of use was lower [53]. Cultural norms, access to care, mistrust of medical system or systemic racisms are factors that potentially impact baseline contraceptive uptake in minority populations [54, 55]. One study demonstrated that women who had experienced discrimination in the past are likely to choose less effective methods, possibly contributing to lower baseline rates of highly effective contraception in

minorities. However, after barriers to contraceptive use were eliminated, these women overwhelmingly select effective methods of contraception [56].

Furthermore, in one study, a high number of Black women (49%) tended to rely on hormonal contraceptive for non-hormonal needs like heavy menses and thus might be less able to discontinue as a cost saving measure in times of unemployment [57].

Under the ACA, the opportunities to obtain alternative means to get health insurance during times of unemployment such as via the marketplace, or remaining on parents insurance, may have allowed white (and potentially all) women less interruption to their preferred contraceptive method. Furthermore, the individual mandate may have pushed additional women into buying insurance in times of unemployment, and they may have taken advantage of having insurance to remain on their preferred method of contraception. Furthermore, the ACA drove the out of pocket cost of LARC to almost nothing [58].

LARC use rose from 8.4% in the pre-ACA period to 22.0% in the post-ACA time frame in this study. Use of a LARC methods would be less likely to be impacted by loss of employment as the LARC methods last 3-10 years. One recent study demonstrated a higher acceptability of LARC in uninsured vs. insured individuals [59]. Another study demonstrated high use in housing-insecure women [60]. However, simply awareness of no-cost LARC coverage was not associated with increased LARC selection in one study [61].

There are a few strengths of this study. First, the data available to us was robust and the survey methods are well established and well validated. The study sample was therefore generalizable to the US. Furthermore, there was no appreciable missing data for our exposure, outcome, or covariates for the target study population.

This study has several important limitations. First, while the NSFG is a robust survey, the response rate is only approximately 69% [45]. So, there is the potential for systematic biases like selection bias. While the study is weighted, there could also potentially be problems in the sampling methods. If the data set were in fact not representative of the population, that could have skewed the results of our study. Next, this was a cross-sectional study and lacks individual-level longitudinal data. Therefore, it is impossible to determine causality between employment status and contraceptive use. Future studies should examine how short-term loss or interruption of employment impacts contraception use in the target population.

In addition, there could be additional unmeasured confounders that could explain the findings of this study. For example, ambivalence around pregnancy is real [62]. It could be that white women that were recently unemployed were more ambivalent about pregnancy intentions than minority women, although prior studies would not necessarily support that [63]. White women are more likely to be married than Black women; thus, with a potentially better support system, and therefore could be more ambivalent and be less impacted by the potential consequences of an unintended pregnancy [64]. However, ambivalence does not appear to correlate with less use of contraceptives in general or less effective contraceptive methods [65].

Another limitation of this study is that the survey was taken in difference times periods with different economic conditions, and a different reality of the present time frame. There was an economic recession from 2007-2009 in the first cohort and uninterrupted economic expansion during the entirety of the second cohort. Furthermore, attempted repeals to the ACA in the 2017-2018 Congress may have resulted in even more women considering LARC over concerns regarding possible future contraceptive loss. Dropping the cost of the individual mandate penalty to zero may have discouraged women from buying insurance and thus impacted their ability to

access contraception in an even more recent cohort.  Additionally, the United States is in the mist of massive unemployment and economic instability due to the COVID-19 pandemic. How massive unemployment and economic instability impacts women's ability to access LARC or moderately effectively contraceptives, cannot be predicted by the results of this study, and should be an area for future research.

Another limitation of this study is that while it examines modifiable outcomes (contraception use) that are of great interests to healthcare providers, it was beyond the scope of this project to examine the more consequential outcome of unintended pregnancies. As noted in other developed countries with welfare reform, contraceptive access at least remains intact in the setting of employment loss; however, the rate of unintended pregnancies remains higher in the unemployed [14]. It is unclear if the higher rate of unintended pregnancies in the unemployed are due to short temporary interruptions to contraceptives that cannot be detected in a cross-sectional study; having more intercourse and thus more opportunities for contraceptive failure; incorrect use of contraceptives; higher rates of inconsistent use (possibly stemming from ambivalence desires for pregnancy); reproductive coercion; or potentially other reasons not mentioned here.

In conclusion, there appeared to a significant association between employment and use of LARC and moderately effective contraception prior to the implementation of the Affordable Care Act, although this only held true for white women after stratification. There was no significant association between employment and use of LARC and moderately effective contraception after the implementation of the Affordable Care Act.

As the positive association for white women prior to the ACA was quite strong, it would suggest that the ACA was helpful in allowing these women to maintain contraception coverage in times of unemployment. Therefore, given this link between unemployment and use of LARC

or moderately effective in white women prior to the passage of the ACA, policymakers should consider how any repeal or significant modifications to the ACA may impact contraceptive access for women that are or may become unemployed. We recommend policymakers considering any repeal or significant modifications to the Affordable Care Act should consider the impact to contraceptive access for women that are or may become unemployed.

Future studies should examine how short-term loss or interruption of employment or if recent changes to the ACA impacts contraception use in the target population. Future studies should also examine how mass unemployment caused specifically by the recent COVID-19 pandemic impacted contraceptive use and/or access for women experiencing loss of employment.

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**FIGURE 1A: Unweighted Analytic Sample Flow Chart for U.S. Women (18–44) in National Survey of Family Growth (NSFG), 2006–2010.**

| | | **Exclusion Criterion** |
|---|---|---|
| Female NSFG Respondents 2006-2010 n = 12,279 | → | Women <18 years or >44 years of age (n = 1,314) |
| Women of Reproductive Age (18-44 years) n = 10,965 | → | Women who are sterile, infertile for 36+ months, or partners are sterile (n = 2,667) |
| Fecund Women n = 8,298 | → | Abstinent women (n = 1,708) |
| Sexually Active Women n = 6,590 | → | Pregnant women, women seeking pregnancy, or postpartum (n = 1,018) |
| Women at risk for unintended pregnancy n = 5,572 | → | Women with incomplete employment or conception data (n = 0) |
| Analytic Study Sample (with complete data) n = 5,572 | | |

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**FIGURE 1B: Unweighted Analytic Sample Flow Chart for U.S. Women (18–44) in National Survey of Family Growth (NSFG), 2015–2017.**

| | | |
|---|---|---|
| Female NSFG Respondents 2015-2017 n = 5,554 | → | **Exclusion Criterion** |
| | | Women <18 years or >44 years of age (n = 1,220) |
| Women of Reproductive Age (18-44 years) n = 4,334 | → | Women who are sterile, infertile for 36+ months, or partners are sterile (n = 916) |
| Fecund Women n = 3,418 | → | Abstinent women (n = 645) |
| Sexually Active Women n = 2,773 | → | Pregnant women, women seeking pregnancy, or postpartum (n = 397) |
| Women at risk for unintended pregnancy n = 2,340 | → | Women with incomplete employment or conception data (n = 0) |
| Analytic Study Sample (with complete data) n = 2,340 | | |

**TABLE 1A: Descriptive characteristics by employment status NSFG Analytic Sample Characteristics, 2006-2010 time period (n = 5572).**

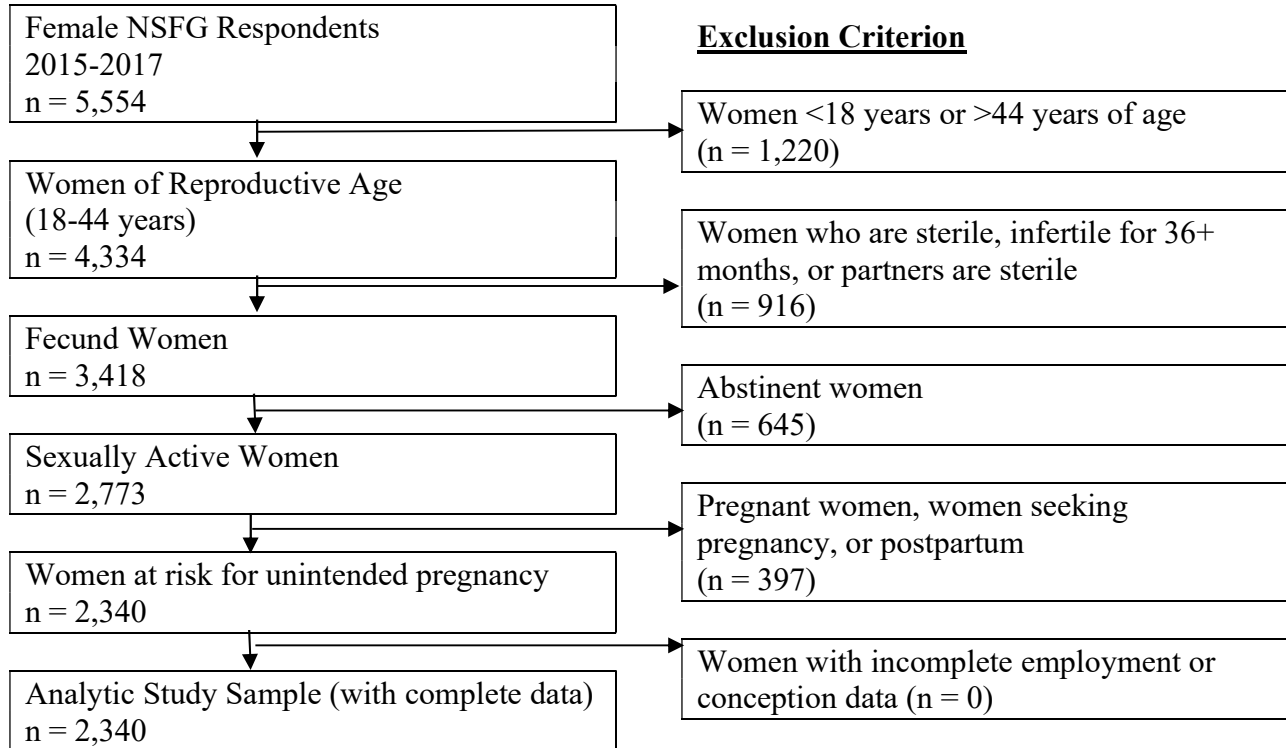| Demographics | Overall | Employed* (n = 3,964) | Unemployed* (n= 1,608) | P-value*** |
|---|---|---|---|---|
| | | **2006-2010** | | |
| **Age Group** | | | | |
| 18–25 years | 2226 (38.5%) | 1477 (36.5%) | 749 (44.2%) | **0.0043** |
| 26–34 years | 2141 (34.8%) | 1585 (35.7%) | 556 (32.1%) | |
| 35–44 years | 1205 (26.7%) | 902 (27.8%) | 303 (23.7%) | |
| | | | | |
| **Race/Ethnicity** | | | | |
| Hispanic | 1211 (16%) | 790 (14.2%) | 421 (21.3%) | **<.0001** |
| NH White | 2921 (63.4%) | 2226 (67.0%) | 695 (53.1%) | |
| NH Black | 1113 (13.5%) | 734 (12.4%) | 379 (16.7%) | |
| NH Other | 327 (7.1%) | 214 (6.5%) | 113 (8.9%) | |
| | | | | |
| **Insurance Coverage** | | | | |
| Private or Medi-gap | 3208 (63.9%) | 2632 (71.4%) | 576 (42.3%) | **<.0001** |
| Government-sponsored** | 1098 (14.9%) | 518 (9.2%) | 580 (31.5%) | |
| Single service, Indian Health Service, or uninsured | 1266 (21.2%) | 814 (19.4%) | 452 (26.2%) | |
| | | | | |
| **Income Level** | | | | |
| <100% FPL | 1334 (19.2%) | 699 (14.5%) | 635 (32.6%) | **<.0001** |
| 100–399% FPL | 3169 (58.8%) | 2349 (59.4%) | 820 (57.0%) | |
| >400% FPL | 1069 (22.1%) | 916 (26.1%) | 153 (10.4%) | |
| | | | | |
| **Education Level** | | | | |
| Less than HS | 948 (13.6%) | 472 (9.7%) | 476 (24.7%) | **<.0001** |
| HS/Some college | 2703 (47.4%) | 1921 (47.1%) | 782 (48.5%) | |
| College graduate | 1503 (30.2%) | 1222 (33.5%) | 281 (20.7%) | |
| More than college | 418 (8.8%) | 349 (9.8%) | 69 (6.0%) | |
| | | | | |
| **Relationship Status** | | | | |
| Married | 1927 (43.4%) | 1346 (43.6%) | 581 (42.8%) | 0.8928 |
| Single & cohabitating | 875 (15.0%) | 626 (14.8%) | 249 (15.3%) | |
| Single & non-cohabitating | 2770 (41.6%) | 1992 (41.5%) | 778 (41.9%) | |
| | | | | |
| **Contraception Method** | | | | |
| LARC | 499 (8.42%) | 345 (8.2%) | 154 (9.0%) | **0.0008** |
| Moderate | 2401 (44.8%) | 1802 (46.9%) | 599 (38.7%) | |
| Low | 2672 (46.8%) | 1817 (44.8%) | 855 (52.3%) | |

NSFG = National Survey of Family Growth, NH = Non-Hispanic, FPL = Federal poverty level, HS = High school, LARC = Long-acting reversible contraceptives.

* Unweighted frequency and weighted percentage are provided. Frequency is based on individual-level dataset.

** Includes Medicaid, Medicare, state-sponsored, CHIP, military (VA, CHAMPUS, TRICARE, CHAMP-VA), or other governmental.

*** P-value of chi-square analyses comparing characteristic distributions among employed vs. unemployed.

**TABLE 1B: Descriptive characteristics by employment status NSFG Analytic Sample Characteristics, 2015-2017 time period (n = 2340).**

| Demographics | 2015-2017 | | | |
| --- | --- | --- | --- | --- |
| | Overall* | Employed* (n = 1691) | Unemployed* (n=649) | P-value*** |
| **Age Group** | | | | |
| 18–25 years | 833 (35.4%) | 578 (33.9%) | 255 (40.4%) | 0.2077 |
| 26–34 years | 929 (37.7%) | 679 (38.4%) | 250 (35.5%) | |
| 35–44 years | 578 (26.8%) | 434 (27.7%) | 144 (24.1%) | |
| **Race/Ethnicity** | | | | |
| Hispanic | 494 (21.1%) | 328 (20.8%) | 166 (21.9%) | 0.1378 |
| NH White | 1131 (59.0%) | 851 (60.4%) | 280 (54.3%) | |
| NH Black | 567 (13.4%) | 411 (12.8%) | 156 (15.4%) | |
| NH Other | 148 (6.5%) | 101 (5.9%) | 47 (8.3%) | |
| **Insurance Coverage** | | | | |
| Private or Medi-gap | 1384 (65.5%) | 1131 (71.9%) | 253 (44.4%) | **<.0001** |
| Government-sponsored** | 654 (21.2%) | 375 (16.4%) | 279 (37.2%) | |
| Single service, Indian Health Service, or uninsured | 302 (13.3%) | 185 (11.8%) | 117 (18.4%) | |
| **Income Level** | | | | |
| <100% FPL | 604 (19.8%) | 349 (15.3%) | 255 (34.8%) | **<.0001** |
| 100–399% FPL | 1158 (49.2%) | 863 (50.2%) | 295 (45.7%) | |
| >400% FPL | 578 (31.0%) | 479 (34.5%) | 99 (19.4%) | |
| **Education Level** | | | | |
| Less than HS | 248 (8.7%) | 117 (6.5%) | 131 (15.7%) | **<.0001** |
| HS/Some college | 1163 (47.6%) | 818 (45.6%) | 345 (54.4%) | |
| College graduate | 680 (32.4%) | 545 (35.0%) | 135 (23.8%) | |
| More than college | 249 (11.3%) | 211 (12.9%) | 38 (6.2%) | |
| **Relationship Status** | | | | |
| Married | 785 (39.6%) | 558 (40.0%) | 227 (38.2%) | 0.4046 |
| Single & cohabitating | 352 (18.1%) | 248 (17.1%) | 104 (21.3%) | |
| Single & non-cohabitating | 1203 (42.3%) | 885 (42.9%) | 318 (40.5%) | |
| **Contraception Method** | | | | |
| LARC | 508 (22.0%) | 376 (22.5%) | 132 (20.4%) | 0.4925 |
| Moderate | 800 (32.7%) | 598 (33.0%) | 202 (31.6%) | |
| Low | 1032 (45.3%) | 717 (44.5%) | 315 (48.0%) | |

NSFG = National Survey of Family Growth, NH = Non-Hispanic, FPL = Federal poverty level, HS = High school, LARC = Long-acting reversible contraceptives.

* Unweighted frequency and weighted percentage are provided. Frequency is based on individual-level dataset.

** Includes Medicaid, Medicare, state-sponsored, CHIP, military (VA, CHAMPUS, TRICARE, CHAMP-VA), or other governmental.

*** P-value of chi-square analyses comparing characteristic distributions among employed vs. unemployed.

**TABLE 2: Descriptive characteristics by cohort. Contraceptive breakdown by employment status.**

| | 2006-2010 | | | | 2015-2017 | | | |
|---|---|---|---|---|---|---|---|---|
| | Overall | Employed* (n = 3,964) | Unemployed* (n= 1,608) | P-value** | Overall* | Employed* (n = 1691) | Unemployed* (n=649) | P-value** |
| **Contraception Method** LARC Moderate Low | 499 (8.42%) 2401 (44.8%) 2672 (46.8%) | 345 (8.2%) 1802 (46.9%) 1817 (44.8%) | 154 (9.0%) 599 (38.7%) 855 (52.3%) | **0.0008** | 508 (22.0%) 800 (32.7%) 1032 (45.3%) | 376 (22.5%) 598 (33.0%) 717 (44.5%) | 132 (20.4%) 202 (31.6%) 315 (48.0%) | 0.4925 |
| **Contraception Method** LARC + Mod Low | 2900 (53.2%) 2672 (46.8%) | 2147 (55.2%) 1847 (44.8%) | 753 (47.7%) 855 (52.3%) | **0.0011** | 1308 (54.7%) 1032 (45.3%) | 974 (55.5%) 717 (44.5%) | 334 (52.0%) 315 (48.0%) | 0.2184 |
| **Contraception Method** LARC Non-LARC | 499 (8.42%) 5073 (91.6%) | 345 (8.2%) 3619 (91.8%) | 154 (9.0%) 1454 (91.0%) | 0.5257 | 508 (22%) 1832 (78%) | 376 (22.5%) 1315 (77.5%) | 132 (20.4%) 517 (79.6%) | 0.4011 |

NSFG = National Survey of Family Growth, NH = Non-Hispanic, FPL = Federal poverty level, HS = High school, LARC = Long-acting reversible
contraceptives.
* Unweighted frequency and weighted percentage are provided. Frequency is based on individual-level dataset.
** P-value of chi-square analyses comparing characteristic distributions among employed vs. unemployed.

**TABLE 3: Estimated prevalence odds ratios of LARC or Moderately Effective Contraceptive Use in Employed vs. unemployed individuals in 2006-2010 and 2015-2017 time periods, stratified by race.**

| | 2006-2010 | | | 2015-2017 | | |
|---|---|---|---|---|---|---|
| **Race/Ethnicity** | OR (95% CI) "Unadjusted OR stratified by race/ethnicity" | Adjusted Model 1 OR (95% CI) | Adjusted Model 2 OR (95% CI) | OR (95% CI) "Unadjusted OR stratified by race/ethnicity" | Adjusted Model 1 OR (95% CI) | Adjusted Model 2 OR (95% CI) |
| **Hispanic** | 0.84 (0.61, 1.16) | 0.87 (0.62, 1.23) | 0.84 (0.60, 1.18) | 1.44 (0.87, 2.39) | 1.44 (0.85, 2.47) | 1.44 (0.87, 2.37) |
| **NH White** | **1.66 (1.30, 2.12)** | **1.66 (1.28, 2.14)** | **1.55 (1.19, 2.02)** | 0.98 (0.71, 1.34) | 0.94 (0.67, 1.33) | 0.86 (0.60, 1.23) |
| **NH Black** | 0.87 (0.58, 1.30) | 0.76 (0.51, 1.13) | 0.70 (0.46, 1.06) | 1.22 (0.70, 2.13) | 1.17 (0.68, 2.02) | 1.04 (0.64, 1.69) |
| **NH Other** | 0.96 (0.46, 2.02) | 1.08 (0.52, 2.26) | 1.18 (0.58, 2.43) | 1.27 (0.60, 2.68) | 0.94 (0.50, 1.78) | 0.95 (0.49, 1.83) |

Adjusted Model 1 (Apriori): Adjusted for Age, Education, and Relationship Status.
Adjusted Model 2 (Full): Adjusted for Age, Insurance, Education, and Relationship Status.

**SUPPLEMENTAL TABLE A: Checking for effect modification**

|  | 2006-2010 cohort p-value* | 2015-2017 cohort p-value* |  |
|---|---|---|---|
| Age vs. Employment | 0.7323 | 0.8298 |  |
| Race vs. Employment | 0.0019** | 0.6403 |  |
| Educ vs. Employment | 0.2668 | 0.6973 |  |
| Married vs. Employment | 0.4085 | 0.4371 |  |
| FPL (Income) vs. Employment | 0.7531 | 0.2593 |  |
| Insurance vs. Employment | 0.6597 | 0.0672*** |  |

\* Joint p-values reported

\*\*p=0.0013 for Employment Status if Non-Hispanic White.

\*\*\* p=0.0245 for Employment Status if Insurance of composite group of Single service, Indian Health Service or Uninsured. (Given composite covariate it is not truly analyzable or meaningful to stratify)

**SUPPLEMENTAL TABLE B: P-values for LARC or Moderately Effective Contraceptive vs. Least Effective Contraceptive use by co-variates in each of the NSFG 2006–2010 and 2015–2017 time periods.**

| LARC and Moderate use vs. Low | 2006-2010 Cohort p-value | 2015-2017 Cohort p-value |
|---|---|---|
| **Age Group** <br> 18–25 years <br> 26–34 years <br> 35–44 years | <0.0001 | 0.2229 |
| **Race/Ethnicity** <br> Hispanic <br> NH White <br> NH Black <br> NH Other | <0.0001 | 0.0052 |
| **Insurance Coverage** <br> Private or Medi-gap <br> Government-sponsored* <br> Single service, Indian Health Service, or uninsured | <0.0001 | 0.0031 |
| **Income Level** <br> <100% FPL <br> 100–399% FPL <br> >400% FPL | 0.0565 | 0.3987 |
| **Education Level** <br> Less than HS <br> HS/Some college <br> College graduate <br> More than college | 0.0011 | 0.9779 |
| **Relationship Status** <br> Married <br> Single & cohabiting <br> Single & non-cohabiting | 0.0008 | 0.0020 |

* Includes Medicaid, Medicare, state-sponsored, CHIP, military (VA, CHAMPUS, TRICARE, CHAMP-VA), or other governmental.

**SUPPLEMENTAL TABLE C: Estimated relative odds of LARC or Moderately Effective Contraceptive Use in Employed vs. unemployed individuals in 2006-2010 and 2015-2017 time periods, stratified by race.**

| | 2006-2010 | 2015-2017 |
|---|---|---|
| **Race/Ethnicity** | Adjusted Model 3 OR (95% CI) | Adjusted Model 3 OR (95% CI) |
| Hispanic | 0.83 (0.59, 1.17) | 1.45 (0.87, 2.40) |
| NH White | **1.57 (1.22, 2.03)** | 0.88 (0.62, 1.25) |
| NH Black | 0.70 (0.47, 1.06) | 1.04 (0.64, 1.68) |
| NH Other | 1.24 (0.61, 2.53) | 1.07 (0.50, 2.29) |

Adjusted Model 3 (Extended Full): Adjusted for Age, Insurance, FPL, Education, and Relationship Status.

**SUPPLEMENTAL TABLE D: Descriptive characteristics by contraceptive status NSFG Analytic Sample Characteristics, 2006-2010 time period (n = 5572).**

| Demographics | 2006-2010 | | | |
| --- | --- | --- | --- | --- |
| | Overall | LARC + Mod* (n =2900) | Low or None* (n=2672) | P-value*** |
| **Age Group** | | | | |
| 18–25 years | 2226 (38.5%) | 1240 (42.4%) | 986 (34.0%) | **<.0001** |
| 26–34 years | 2141 (34.8%) | 1142 (35.6%) | 999 (33.8%) | |
| 35–44 years | 1205 (26.7%) | 518   (22.0%) | 687 (32.2%) | |
| **Race/Ethnicity** | | | | |
| Hispanic | 1211 (16%) | 573 (14.3%) | 638 (18.1%) | **<.0001** |
| NH White | 2921 (63.4%) | 1689 (69.5%) | 1232 (56.4%) | |
| NH Black | 1113 (13.5%) | 503 (11.4%) | 610 (15.9%) | |
| NH Other | 327 (7.1%) | 135 (4.9%) | 192 (9.7%) | |
| **Insurance Coverage** | | | | |
| Private or Medi-gap | 3208 (63.9%) | 1806 (68.3%) | 1402 (58.9%) | **<.0001** |
| Government-sponsored** | 1098 (14.9%) | 596 (15.7%) | 502 (14.1%) | |
| Single service, Indian Health Service, or uninsured | 1266 (21.2%) | 498 (16.0%) | 768 (27.1%) | |
| **Income Level** | | | | |
| <100% FPL | 1334 (19.2%) | 646 (18.8%) | 688 (19.6%) | 0.0565 |
| 100–399% FPL | 3169 (58.8%) | 1626 (57.3%) | 1543 (60.5%) | |
| >400% FPL | 1069 (22.1%) | 628 (23.9%) | 441 (19.9%) | |
| **Education Level** | | | | |
| Less than HS | 948 (13.6%) | 419 (11.3%) | 529 (16.2%) | **0.0011** |
| HS/Some college | 2703 (47.4%) | 1419 (48.4%) | 1284 (46.3%) | |
| College graduate | 1503 (30.2%) | 840 (32.0%) | 663 (28.1%) | |
| More than college | 418 (8.8%) | 222 (8.3%) | 196 (9.4%) | |
| **Relationship Status** | | | | |
| Married | 1927 (43.4%) | 927 (40.3%) | 1000 (46.9%) | **0.0008** |
| Single & cohabitating | 875 (15.0%) | 495 (16.5%) | 380 (13.2%) | |
| Single & non-cohabitating | 2770 (41.6%) | 1478 (43.2%) | 1292 (39.9%) | |

NSFG = National Survey of Family Growth, NH = Non-Hispanic, FPL = Federal poverty level, HS = High school, LARC = Long-acting reversible contraceptives.

\* Unweighted frequency and weighted percentage are provided. Frequency is based on individual-level dataset.

\*\* Includes Medicaid, Medicare, state-sponsored, CHIP, military (VA, CHAMPUS, TRICARE, CHAMP-VA), or other governmental.

\*\*\* P-value of chi-square analyses comparing characteristic distributions among LARC + Mod users vs. Low or No contraceptive users.

**SUPPLEMENTAL TABLE E: Descriptive characteristics by contraceptive status NSFG Analytic Sample Characteristics, 2015-2017 time period (n = 2340).**

| Demographics | 2015-2017 | | | |
| --- | --- | --- | --- | --- |
| | Overall* | LARC + Mod* (n = 1308) | Low or None* (n=1032) | P-value*** |
| **Age Group** | | | | |
| 18–25 years | 833 (35.4%) | 486 (37.7%) | 347 (32.7%) | 0.2229 |
| 26–34 years | 929 (37.7%) | 525 (37.8%) | 404 (37.7%) | |
| 35–44 years | 578 (26.8%) | 297 (24.5%) | 281 (29.6%) | |
| **Race/Ethnicity** | | | | |
| Hispanic | 494 (21.1%) | 239 (19.4%) | 255 (23.1%) | **0.0052** |
| NH White | 1131 (59.0%) | 704 (62.9%) | 427 (54.2%) | |
| NH Black | 567 (13.4%) | 302 (13.3%) | 265 (13.6%) | |
| NH Other | 148 (6.5%) | 63 (4.4%) | 85 (9.0%) | |
| **Insurance Coverage** | | | | |
| Private or Medi-gap | 1384 (65.5%) | 828 (68.8%) | 556 (61.5%) | **0.0031** |
| Government-sponsored** | 654 (21.2%) | 364 (21.2%) | 290 (21.2%) | |
| Single service, Indian Health Service, or uninsured | 302 (13.3%) | 116 (10.0%) | 186 (17.3%) | |
| **Income Level** | | | | |
| <100% FPL | 604 (19.8%) | 320 (20.8%) | 284 (18.6%) | 0.3987 |
| 100–399% FPL | 1158 (49.2%) | 632 (47.3%) | 526 (51.4%) | |
| >400% FPL | 578 (31.0%) | 356 (31.9%) | 222 (30.0%) | |
| **Education Level** | | | | |
| Less than HS | 248 (8.7%) | 125 (8.6%) | 123 (8.7%) | 0.9779 |
| HS/Some college | 1163 (47.6%) | 643 (47.4%) | 520 (47.9%) | |
| College graduate | 680 (32.4%) | 393 (32.3%) | 287 (32.5%) | |
| More than college | 249 (11.3%) | 147 (11.7%) | 102 (10.9%) | |
| **Relationship Status** | | | | |
| Married | 785 (39.6%) | 390 (33.9%) | 395 (46.4%) | **0.0020** |
| Single & cohabitating | 352 (18.1%) | 201 (19.0%) | 151 (17.0%) | |
| Single & non-cohabitating | 1203 (42.3%) | 717 (47.1%) | 486 (36.6%) | |

NSFG = National Survey of Family Growth, NH = Non-Hispanic, FPL = Federal poverty level, HS = High school, LARC = Long-acting reversible contraceptives.

* Unweighted frequency and weighted percentage are provided. Frequency is based on individual-level dataset.
** Includes Medicaid, Medicare, state-sponsored, CHIP, military (VA, CHAMPUS, TRICARE, CHAMP-VA), or other governmental.
*** P-value of chi-square analyses comparing characteristic distributions among LARC + Mod users vs. Low or No contraceptive users.