Published in final edited form as:
Ann Epidemiol. 2014 February ; 24(2): 135–143. doi:10.1016/j.annepidem.2013.10.018.

Social Disparities in Women's Health Service Utilization in the United States: A Population-Based Analysis

Kelli Stidham Hall, PhD MS [Research Investigator and "BIRCWH" NIH K-12 Scholar], Department of Obstetrics and Gynecology, Institute for Social Research, University of Michigan, L4000 Women's Hospital, 1500 E. Medical Center Dr. Ann Arbor, MI 48109, (t) 734-930-5621 (c) 859-533-0762 (e) hkelli@umich.edu (f) 734-930-609

Timothy Johnson, MD [Professor and Chair], and
Department of Obstetrics and Gynecology, University of Michigan, L4000 Women's Hospital 1500 E. Medical Center Dr. Ann Arbor, MI 48109

Vanessa Dalton, MD MPH [Associate Professor]
Department of Obstetrics and Gynecology, University of Michigan, L4000 Women's Hospital 1500 E. Medical Center Dr. Ann Arbor, MI 48109

Abstract

Purpose—Poor and disparate reproductive health outcomes in the United States may be related to inadequate and differential women's health care utilization. We investigated trends in and determinants of adult U.S. women's health service use, 2006–2010.

Methods—We analyzed population data from 7,897 women aged 25–44yrs in the National Survey of Family Growth from 2006 to 2010 using multivariable logistic regression.

Results—Women's health service utilization in the past year was reported by 74% of the sample. Among non-fertile, sexually active women, 47% used contraceptive services; fewer used pregnancy (21%) and STI (14%) services. In multivariable models, the odds of service use were greater among older, poor, unemployed women and women with less educational attainment than younger and socioeconomically advantaged women. Black women had greater odds of using pregnancy, STI and gynecological exam services than White women (ORs 1.4–1.6). Lack of insurance was associated with service use in all models (ORs 0.4–0.8).

Conclusion—While age-related differences in women's health service use may reflect fertility transitions, social disparities mirror reproductive inequalities among U.S. women. Research on women's health service utilization and outcomes across the reproductive life course and forthcoming sociopolitical climates is needed.

Keywords

women's health services; social determinants of health; preventive reproductive health care

Correspondence to: Kelli Stidham Hall.

INTRODUCTION

Women in the United States have more negative reproductive health outcomes, including higher rates of unintended pregnancy, abortion, sexually transmitted infection (STI) and cervical cancer, than women in similar developed countries [1–3]. Moreover, persistent disparities exist within the U.S., with greater numbers of racial/ethnic minority and socially disadvantaged women experiencing these reproductive health sequelae compared to their counterparts [4–9]. Inequities in reproductive health may be due, in part, to differentials in receipt of women's health care across sociodemographic groups in the U.S. [8–15].

The link between women's health service utilization and reproductive health outcomes may be particularly salient for preventive women's health care, which aims to prevent reproductive morbidity and promote healthy sexual behavior. Cervical and breast cancer screening has long been recognized as beneficial in reducing cancer-related mortality [16,17]. In response to the Women's Health Amendment to the U.S. health care reform, the Affordable Care Act, the Institute of Medicine recently called for more comprehensive preventive services, supported by evidence that receipt of services for contraceptive methods and counseling, STI counseling and screening, and well-woman exams is associated with better reproductive health outcomes [18–20].

Preventive health care, which has often been emphasized for adolescents, is relevant for women across the reproductive life course, particularly given the increasing risk of pregnancy-, cancer- and STI-related morbidity associated with increasing age [21,22]. Disproportionate access to preventive women's health services among minority and poor women of all ages may further contribute to gaps in reproductive health promotion and disease prevention, leading to growing women's health inequalities [10–14]. We have previously documented and commented on such trends and disparities in adolescent women's service use in the U.S. [10–12]. However, the social determinants of adult women's health services use across the reproductive life course, particularly following adolescence and within recent economic and political contexts, have not been well described [8–15].

We sought to examine trends and differentials in social, demographic and reproductive factors associated with utilization of women's health services in the past year among adult women ages 25–44 years in the United States from 2006 through 2010.

METHODS

Sample and Design

Data were drawn from the U.S. population-based study, The National Survey of Family Growth (NSFG). The nationally representative survey collects information on family life, marriage and divorce, pregnancy, infertility, use of contraception, and men and women's health. Household, in-person, single-session interviews were conducted with 12,279 U.S. women aged 15 to 44 years. Data were collected from 2006 through 2010. Black and Hispanic women and young women were oversampled. The response rate was 77%. Additional information about the design and sampling of the NSFG can be found at http://www.cdc.gov/nchs/nsfg.htm [23]. In brief, the NSFG used a stratified, multistage sampling design consisting of five stages of selection: primary sampling units (of four fully nationally representative samples), blocks or segments, housing units, one eligible person per housing unit and housing units or persons for phase 2 data collection. Each of these stages is described at length in the comprehensive report on design and sampling in the NSFG [23].

For this analysis, we focused on adult women aged 25–44 years (n=7,897). This study was approved by the Institutional Review Board (IRB) of the University of Michigan, as well as the IRB of the Centers for Disease Control and Prevention/National Center for Health Statistics.

Measures

For women's health service utilization, women were asked a series of questions about service use in the past year, including whether they had received care from a medical provider within the 12 months preceding the survey and the number of visits made. Women were also asked about the types of services received, including gynecological exam (Pap smear and pelvic exam), pregnancy-related (prenatal, postpartum, abortion, and pregnancy testing), sexually transmitted infection (STI) (testing, treatment and counseling), and contraceptive (contraceptive method provision, follow-up evaluation/check-up, counseling, emergency contraceptive (EC) provision and counseling) services.

To examine demographic changes in women's use of health services in the past year from 2006 to 2010, we used a 4-point indicator of survey administration year: year 1=June 2006–June 2007; year 2=July 2007–June 2008; year 3=July 2008–June 2009; year 4=July 2009–June 2010.

We examined several key demographic, social and reproductive characteristics in order to identify factors associated with service use. We considered variables that we have previously found to be significant service use covariates, and we also considered additional NSFG variables that we hypothesized might be associated with the need for or likelihood of service use among adult women [10–12]. Variables of interest included age group (25–34, 35–39, or 40–44 years); race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, or other); education (<high school, high school diploma, some college, or ≥Bachelor's degree); residence (rural, urban, or suburban); birthplace (United States or other); income (< $25,000, $25–49,999, $50–74,999, or >$74,999); poverty (above or below 200% of the federal poverty level); employment (employed or unemployed); insurance status (full coverage without any gaps in the past year or uninsured during any time in last year); religious service attendance (≥weekly, <weekly, or never); relationship status (cohabitating with non-marital partner, not cohabitating/married, married, or previously married); sexual activity (sexually active or inactive in last year, including never had sex); # of male sex partners in the last year (1, 2, or ≥3); pregnancy history (ever or never pregnant); parity (0, 1 or ≥2 births); reproductive intentions (does or does not want [more] children); and history of gynecological (GYN) problems (ovulation problem, ovarian cysts, uterine fibroids, endometriosis, or pelvic inflammatory disease).

Statistical Analysis

We first described women's background characteristics and health service utilization in the past year using weighted proportions and unweighted frequencies. We conducted unadjusted X^2 tests to compare the proportions of women's health service use (overall and by type of service) across sociodemographic and reproductive variables, for the full sample, by survey year and by age group. We fit multivariable logistic regression models to estimate the influence of sociodemographic factors and survey year on the odds of women's health service use among the full sample and then stratified by sexual activity and age group. We further examined models for each type of service use for the following groups: 1) gynecological exam services among all women (n=7,897), 2) pregnancy-related services among sexually active women (n=6,904), 3) STI services among sexually active women (n=6,904), and 4) contraceptive services among sexually active women who were not

surgically or otherwise sterile and who were not trying to become pregnant in ≥ 6 of the past 12 months (n=5,148).

Variables were considered for inclusion in regression models if their P-value (P) in univariate models was 0.25 or less. The effects of significant sociodemographic factors on women's health service use were similar in full and reduced models, so we present full model results. For collinear variables, (e.g. reproductive history characteristics), we retained those with the strongest effect. Finally, we tested for trends over time and potential disparate changes in service use across sociodemographic groups using interaction terms for survey year. We present adjusted odds ratios (OR) with 95% confidence intervals (CI) and Ps. Weighted data were used to account for the complex, stratified sampling design of the survey; standard errors and tests of significance were computed using svy commands in Stata 12.0 (Stata Corporation, College Station, TX).

RESULTS

The mean age of the sample was 34 years (standard deviation 6). Nearly two-thirds of women identified as White (63%), 14% as Black, 18% as Hispanic, and 7% as other race/ethnicity. One-third of women (33%) held a bachelor's degree or higher, while 39% had only a high school diploma or had dropped out of high school. Less than half of women reported living below 200% of the federal poverty level (40%); 28% were uninsured at some point during the past year. Most women were sexually active in the past year (92%) and with one partner (92%); 2% had never experienced sexual intercourse. Prior pregnancy was common (81%), with 56% having given birth to ≥2 children. Over half of women did not intend to have any (more) children (52%).

Use of women's health services in the past year is described in Tables 1 and 2. Among the full sample (n=7,897), 74% of women reported using services in the past year including gynecological exam (70%), pregnancy-related (21%), STI (14%) and contraceptive (47%) services (Table 1). Proportions of all types of women's health service use were highest among women aged 25–34 years and lowest among women aged 40–44 years (all Ps <0.001). There were also significant differentials in women's health service use by nearly all other sociodemographic and reproductive characteristics in the unadjusted analysis (Table 2).

There were no differences in the proportions of women's health service use in the past year overall or by specific service types among the full sample over survey years (Table 1). When stratified by age, significant changes over time included a decline in contraceptive evaluation/check-up service use among women aged 35–39 years (P=0.02), fluctuating STI service use among women aged 25–34 years (P=0.04), and an increase in EC counseling services among women aged 40–44 years (P=0.02).

In multivariable logistic regression models (Table 3), older, poor, uninsured, married, and sexually inactive women and those reporting no religious service participation had a lower odds of using women's health services compared to their counterparts. Black women, college-educated and employed women, and those with gynecological problems had greater odds of using services compared to their counterparts. These results were stable in the model of sexually active women. Insurance status was most strongly associated with women's health service use in all models, with women who were uninsured at some point in the previous year having lower odds of service use compared to fully insured women (ORs 0.4–0.5).

In age stratified models, there were other differences in determinants of women's health service use (Table 3). Among the youngest women aged 25–34 years, the odds of service

use among those surveyed in 2009–2010 were 30% lower than compared to women in 2006–2007 (OR 0.7, CI 0.5–0.9, P=0.02). The odds of service use for Black race/ethnicity was the highest among the youngest women, while the estimated effects of poverty, education, employment, religious service attendance and parity were highest among women aged 40–45 years.

For specific types of women's health services used in the past year (Table 4), older women aged 35–39 and 40–44 years had lower odds of using all types of services across models (OR's 0.2–0.6) compared to younger women. Compared to White women, Black women had higher odds of using pregnancy (OR 1.6), STI (OR 1.6) and gynecological exam (OR 1.4) services (but not contraceptive method or counseling services); Hispanic women also had higher odds of using pregnancy services (OR 1.4). Women who were uninsured at some point in the previous year had lower odds of using all types of services (ORs 0.4–0.8) (in all models except STI services) compared to fully insured women. Highly educated women (≥bachelor's degree) were more likely to use those same services (ORs 1.4–1.6) compared to women who dropped out of high school. Additionally, poverty, unemployment, no religious service attendance and sexual inactivity were negatively associated with gynecological exam service use. Finally, reproductive history characteristics were associated with nearly all types of service use in multivariable models (Table 4).

Social and economic determinants of women's health service use in the past year appeared relatively stable over time, with similar point estimates for key variables in stratified models for years 1 and 2 (2006–2008) versus years 3 and 4 (2008–2010) (Table 5). One exception was found: women of "other" race/ethnicity had lower odds of using services in 2006–2008 compared to White women (OR 0.5, CI 0.3,0.8, P=0.008), an effect which was not noted in the 2008–2010 data. This trend was also noted in models with year-by-sociodemographic interaction terms (Table 5). Upon closer examination, "other" race/ethnicity was positively associated with women's health service use in year 4 (2009–2010) (but not all other years) compared to White women in year 1 (2006–2007) (OR 3.5, CI 1.4,8.8, P=0.008). Year interaction terms for all other sociodemographic variables were insignificant.

DISCUSSION

In our population-based analysis of women's health service utilization in the United States from 2006 through 2010, approximately three-quarters of adult women reported women's health service use in the past 12 months, most commonly gynecological exam services. Among these women, 92% of whom were sexually active and 52% of whom considered their childbearing complete, less than half received contraceptive services and even fewer received STI and pregnancy-related services in the past year.

Lower rates of pregnancy, contraceptive and STI service use among the oldest women may reflect transitions across the reproductive and social life course, with completed childbearing, diminishing fertility intentions and capabilities, relationship stability, and reduced sexual risk-taking among older women [22,24–26]. On the other hand, low rates of contraceptive service use among adult women at risk of and not wanting a pregnancy may illuminate an unmet need for preventive family planning services among older women in the U.S. Unfortunately, underreporting of abortion and STI outcomes (and likely use of corresponding services) in survey research, including the NSFG, has been documented and limited our ability to provide a more nuanced description of women's needs for and use of these reproductive services [4,27,28]. In future research, evaluation of age-related factors that help shape women's use of types of reproductive health services, especially within the context of demographic shifts and changing sociocultural norms around relationships, sex

and fertility, will help identify the most timely strategies for preventive health care across women's lives.

Younger adult women aged 25–34 years saw a modest decline in women's health service use in the past year between 2006 and 2010 (4 percentage points, OR 0.7), while use patterns were relatively stable for women 35 years and older. These lower rates of service use among the youngest group reflect an age differential consistent with a negative trend in reproductive health care utilization among adolescent women in the U.S. between 2002 and 2008 [10]. Small within-year samples precluded model stratification by year for women in different age groups, so differences in other correlates of women's health service use that may help explain age-related variations across time are not fully apparent.

Significant social disparities in women's health service use in the past year were also noted from 2006 through 2010, with poor and unemployed women and women with lower educational attainment being adversely affected. Moreover, lack of insurance (at least some point in the previous year) was the most consistent, negative determinant of women's health service use in nearly all models. The effects of these social and economic determinants of women's health service use appeared to be consistently negative throughout the 4-year study period. Reasons for these trends are not fully clear from these data, although findings appear to correspond with the timing of the economic recession, as well as to issues with a privatized U.S. health care system, both of which have created barriers to access to care for socially disadvantaged women in recent years [29–32]. It is possible that younger adult women may have been the most economically vulnerable due to life transitions out of college, off of parental insurance, and in and out of jobs [24]. Overall, our findings suggest that lack of insurance appeared to be a significant barrier to women's health service utilization in recent years, with the gap between economically advantaged and disadvantaged women widening within the U.S. health system and during the financial crisis.

Higher proportions of pregnancy and STI services use among Black women mirror the long-standing disparate unintended pregnancy and STI outcomes experienced by this demographic group; the same trend was also true for Hispanic women, pregnancy services and outcomes [2,4,6,7]. Federal and state subsidized programs including Medicaid have offered greater access to tertiary services for poor and uninsured pregnant women (whom are disproportionately of racial/ethnic minority) and for STI testing and treatment [33,34]. Proportions of preventive women's health service use (contraception, pap smear screening, and counseling), however, were not higher among Black and poor women. Compared with our previous study of disparities in U.S. adolescents' service use, the effects of race/ethnicity and socioeconomic position were even more pronounced in these adult women aged 25–45 years [12].

The U.S. Affordable Care Act, which has recently expanded eligibility for health care coverage to uninsured people between 139% and 399% of the federal poverty level, aims to increase poor and insured women's access to preventive services, including mandated contraceptive coverage [19,20]. Improved access may be further supported by state-based Medicaid extension waiver programs that extend coverage for some services like contraception [33,34].On the other hand, it is unknown whether these policies and resulting state-based insurance exchanges have the potential to negatively impact the sustainability of public sector women's health clinics, including Title X and Planned Parenthood clinics, which provide a non-trivial proportion of reproductive care to socially disadvantaged women [13,14]. Moreover, the effects remain unseen for other challenges including equity laws (requiring private sector insurance to cover contraceptives) and persistent federal and state legislative threats to restrict women's reproductive rights and access to services like

abortion (policies that also disproportionately affect poor, minority and rural-residing women) [35,36].

It is also not clear whether improved health care coverage translate to improved health seeking behavior among women. Greater insurance coverage may not change women's perceptions of their need for women's health services or their sexual risk behaviors. Alternatively, if improved access leads to greater uptake of contraceptive, condom, and health counseling services, women may subsequently practice safer sex, curtailing the need for unintended pregnancy or STI-related care. One recent analysis of state Medicaid policy changes found that expanding income-based eligibility for family planning services resulted in greater use of contraception and reduced fertility rates among reproductive aged women [37].

While ongoing research is needed to tease out these relationships between access, behavior and outcomes of women's health services in the U.S. [15,20,33, 35,38,39], our study provides a baseline understanding of social determinants of women's health service utilization in the United States from 2006 through 2010. Findings will help us interpret the impact of forthcoming political and economic changes on women's receipt of health care, and especially preventive services, ultimately to facilitate public health strategies towards reducing reproductive inequities and promoting the health and wellbeing of all women.

Acknowledgments

Acknowledgements/Funding Source: This work was supported by a NICHD Building Interdisciplinary Careers in Women's Health K-12 Career Development grant #K12HD001438 awarded to KSH (P.I. TJ) and by the Program on Women's Health Care Effectiveness Research in the Department of Obstetrics and Gynecology at the University of Michigan (Director VD).

REFERENCES

1. Darroch JE, Frost JJ, Singh S, et al. Teenage sexual and reproductive behavior in developed countries. Guttmacher Occasional Report. 2001; 3:1–120.
2. Centers for Disease Control and Prevention (CDC). [Accessed February 28, 2011] Trends in reportable sexually transmitted diseases in the United States. 2007. (http://www.cdc.gov/std/stats07/trends.htm#f1).
3. WHO/ICO Information Centre on HPV and Cervical Cancer (HPV Information Centre). [Accessed May 11, 2013] Human Papillomavirus and Related Cancers in World. Summary Report. 2010. (www.who.int/hpvcentre).
4. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. Persp Sex Reproduc Health. 2006; 38(2):90–96.
5. Dehlendorf C, Rodriguez MI, Levy K, et al. Disparities in family planning. Am J Obstet Gynecol. 2010; 202:214–220. [PubMed: 20207237]
6. Kost K, Finer LB, Singh S. Variation in state unintended pregnancy rates in the United States. Persp Reprod Health. 2012; 44(1):57–64.
7. Ventura SJ, Curtin SC, Abma JC, Henshaw SK. Estimated pregnancy rates and rates of pregnancy outcomes for the United States, 1990–2008. National Vital Stat Reports. 2012; 60(7)
8. Gavin L, MacKay AP, Brown K, et al. Sexual and reproductive health of persons aged 10–24 years – United States, 2002–2007. MMWR. 2009; 58:SS-6.
9. Abma JC, Martinez GM, Copen CE. Teenagers in the United States: sexual activity, contraceptive use, and childbearing, National Survey of Family Growth 2006–2008. Vital Health Stat. 2010; 23(30)
10. Hall K, Moreau C, Trussell J. Discouraging trends in reproductive health service use among adolescent and young adult women in the United States: An analysis of data from the National Survey of Family Growth, 2002 to 2008. Hum Repro. 2011; 26(9):2541–2548.

11. Potter J, Trussell J, Moreau C. Trends and determinants of reproductive health service use among young women in the USA. Human Reprod. 2009; 0:1–9.
12. Hall K, Moreau C, Trussell J. Determinants of and disparities in reproductive health service use among adolescent and young adult women in the United States: An analysis of data from the National Survey of Family Growth, 2002 to 2008. Am J Pub Health. 2011; 102:359–367. [PubMed: 22390451]
13. Mosher WD, Martinez GM, Chandra A, et al. Use of contraception and use of family planning services in the United States: 1982–2002. Vital Health Stat. 2004; 350:1–46.
14. Frost, JJ.; Henshaw, SK.; Sonfield, A. Contraceptive needs and services: National and state data, 2008 update. New York: Guttmacher Institute; 2010.
15. Frost JJ. Trends in women's use of sexual and reproductive health care services, 1995–2002. AJPH. 2008; 98:1814–1817.
16. American College of Obstetricians and Gynecologists. Clinical management guidelines for obstetrician-gynecologists. Cervical cytology screening (replaces committee opinion 152, March 1995). ACOG Practice Bulletin Number 45. Obstet Gynecol. 2003; 102(2):417–427. [PubMed: 12907124]
17. USPSTF. Screening for breast cancer: US Preventive Services Task Force recommendation statement. Ann Intern Med. 2009; 151(10):716–726. [PubMed: 19920272]
18. Gee RE, Brindis CD, Diaz A, et al. Recommendations of the IOM clinical preventive services for women committee: implications for obstetricians and gynecologists. Curr Opin Obstet Gynecol. 2011; 23(6):471–480. [PubMed: 22011955]
19. Henry J. Kaiser Family Foundation. Focus on health reform: summary of new health reform law. (http://www.kff.org/healthreform/upload/8061.pdf).
20. U.S. Department of Health and Human Services. [Accessed October 2011] News release: Affordable Care Act ensures women receive preventative services at no additional cost. (http://www.hhs.gov/news/press/2011pres/08/20110801b.html).
21. WHO. [Accessed May 11, 2013] Women's health. WHO Fact Sheet #334. (http://www.who.int/mediacentre/factsheets/fs334/en/).
22. Santelli JS, Sivaramakrishnan K, Edelstein ZR, et al. Adolescent risk-taking, cancer risk and life course approaches to prevention. J Adolescent Health. 2013; 52:S41eS44.
23. Lepkowski JM, Mosher WD, Davis KE, et al. The 2006–2010 National Survey of Family Growth: Sample design and analysis of a continuous survey. National Center for Health Statistics. Vital Health Stat. 2010; 2:1–36.
24. Bessett, D.; Prager, J.; Havard, J., et al. Young adults, health insurance & access to contraception in the wake of health care reform: Results from focus group discussions in the Commonwealth of Massachusetts. Cambridge, MA: Ibis Reproductive Health; 2010.
25. Lynch J, Davey Smith G. A life course approach to chronic disease epidemiology. Annu Rev Public Health. 2005; 26:1e35. [PubMed: 15760279]
26. Kuh D, Ben-Shlomo Y, Lynch J, et al. Life course epidemiology. J Epidemiol Community Health. 2003; 57:778e783. [PubMed: 14573579]
27. Fu H, Darroch JE, Henshaw SK, Kolb E. Measuring the extent of abortion underreporting in the 1995 National Survey of Family Growth. Fam Plann Perspec. 1998; 30(3):128–133.
28. Jones RK, Kost K. Underreporting of induced and spontaneous abortion in the United States: An analysis of the 2002 National Survey of Family Growth. Stud Fam Plann. 2007; 38(3):187–197. [PubMed: 17933292]
29. Alan Guttmacher Institute. A real-time look at the impact of the recession on publically funded family planning centers. Guttmacher Policy Report. 2009; 2:10.
30. Alan Guttmacher Institute. A real-time look at the impact of the recession on women's family planning and pregnancy decisions. 2009 Sep. (http://www.guttmacher.org/pubs/RecessionFP.pdf).
31. American College of Obstetricians and Gynecologists. Bad economy blamed for women delaying pregnancy and annual check-up. News Release. 2009 May 5. (http://www.acog.org/from_home/publications/press_releases/nr05-05-09-1.cfm).
32. Sobotka T, Skirbekk V, Philipov D. Economic recession and fertility in the developed world. Pop Demogr. 2011; 37:267–306.

33. Guttmacher Institute. State policies in brief. Medicaid family planning eligibility expansions. (http://www.guttmacher.org/statecenter/spibs/spib_SMFPE.pdf).
34. Lindrooth R, McCullough J. The effect of Medicaid family planning expansions on unplanned births. Womens Health Issues. 2007; 17:66–74. [PubMed: 17403463]
35. Alan Guttmacher Institute. State policies in brief: insurance coverage of contraceptives. (http://www.guttmacher.org/statecenter/spibs/spib_ICC.pdf2012).
36. Burlone S, Edelman AB, Caughey AB, et al. Extending contraceptive coverage under the Affordable Care Act saves public funds. Contraception. 2013; 87:143–148. [PubMed: 22840280]
37. Kearney, MS.; Levine, PB. NBER Working Papers 2007, #13045. National Bureau of Economic Research, Inc.; Subsidized Contraception, Fertility, and Sexual Behavior. (http://ideas.repec.org/p/nbr/nberwo/13045.html). [Accessed May 11, 2013]
38. Henry J. Kaiser Family Foundation. Health reform source: mapping the effects of the ACA's health insurance coverage expansions. (http://healthreform.kff.org/coverage-expansion-map.aspx.).
39. Martinez G, Chandra A, Febo-Vazquez I, Mosher W. Use of family planning and related medical services among women aged 15–44 in the United States: National Survey of Family Growth, 2006–2010. National Health Stat Reports. 2013; 68:1–17.

Ann Epidemiol. Author manuscript; available in PMC 2015 February 01.

Table 1

Weighted Proportions of Women's Health Service Use in the Past Year by Adult Women in the United States, Overall and by Age Group, 2006 Through 2010

(%)	All Years 2006–2010	Year 1 2006–2007 (N=1,933)	Year 2 2007–2008 (N=1,829)	Year 3 2008–2009 (N=2,029)	Year 4 2009–2010 (N=2,106)	*P*
All Women ages 25–45 years (n=7,897)						
Any women's health service visit[a]	74	75	73	74	72	0.47
Any Gynecological exam visit[a]	70	72	70	70	68	0.54
Pap smear	68	70	68	68	65	0.36
Pelvic exam	64	65	63	64	63	0.75
Any Pregnancy-related service visit[b]	21	21	20	23	21	0.48
Pregnancy testing	18	17	17	20	19	0.18
Prenatal visit	8	8	8	8	6	0.37
Postpartum visit	6	6	7	6	5	0.47
Abortion	1	1	1	1	<1	0.31
Any STI testing or treatment[b]	14	11	15	13	15	0.07
Counseling on safe sex at STI visit	42	44	42	41	42	0.97
Any contraceptive service visit[c]	47	49	47	47	46	0.77
Provision of contraceptive method	39	42	38	40	47	0.38
Provision of EC	21	18	18	25	24	0.62
Service for contraceptive counseling	19	21	19	20	17	0.49
Service for EC counseling	3	3	3	4	3	0.88
Contraceptive check-up	27	31	24	27	27	0.15
BY AGE GROUP						
Women ages 25–34 years (n=4,413)						
Any women's health service visit[a]	78	80	80	78	76	0.44
Any Gynecological exam visit[a]	74	74	75	74	72	0.73
Pap smear	71	73	73	71	68	0.41
Pelvic exam	66	65	66	67	64	0.87
Any Pregnancy-related service visit[b]	31	30	30	33	31	0.80

(%)	All Years 2006–2010	Year 1 2006–2007 (N=1,933)	Year 2 2007–2008 (N=1,829)	Year 3 2008–2009 (N=2,029)	Year 4 2009–2010 (N=2,106)	*P*
Pregnancy testing	26	24	25	29	27	0.44
Prenatal visit	11	11	12	12	9	0.23
Postpartum visit	10	11	11	10	7	0.22
Abortion	1	2	1	1	<1	0.08
Any STI testing or treatment[b]	20	15	24	19	21	0.04
Counseling on safe sex at STI visit	44	47	44	43	43	0.95
Any contraceptive service visit[c]	57	58	58	58	53	0.32
Provision of contraceptive method	49	51	51	50	45	0.26
Provision of EC	24	22	20	30	22	0.64
Service for contraceptive counseling	24	25	24	26	22	0.70
Service for EC counseling	4	4	5	5	3	0.41
Contraceptive check-up	33	35	33	33	32	0.86
Women ages 35–39 years (n=1,798)						
Any women's health service visit[a]	70	75	67	67	69	0.24
Any Gynecological exam visit[a]	67	73	64	65	64	0.19
Pap smear	64	69	63	63	61	0.40
Pelvic exam	61	68	59	60	58	0.22
Any Pregnancy-related service visit[b]	17	17	15	19	15	0.60
Pregnancy testing	14	14	11	17	14	0.32
Prenatal visit	7	6	8	8	7	0.93
Postpartum visit	5	3	6	5	5	0.55
Abortion	<1	<1	2	<1	1	0.09
Any STI testing or treatment[b]	10	11	10	10	10	0.95
Counseling on safe sex at STI visit	38	31	49	29	44	
Any contraceptive service visit[c]	41	46	37	38	43	0.54
Provision of contraceptive method	33	40	29	29	33	0.22
Provision of EC	14	0	13	7	33	
Service for contraceptive counseling	16	19	18	15	12	0.41
Service for EC counseling	3	2	2	3	4	0.51

(%)	All Years 2006–2010	Year 1 2006–2007 (N=1,933)	Year 2 2007–2008 (N=1,829)	Year 3 2008–2009 (N=2,029)	Year 4 2009–2010 (N=2,106)	*P*
Contraceptive check-up	22	31	14	19	23	0.02
Women ages 40–45 years (n=1,686)						
Any women's health service visit[a]	69	69	67	71	67	0.78
Any Gynecological exam visit[a]	68	67	65	69	66	0.90
Pap smear	66	66	64	67	64	0.85
Pelvic exam	62	61	60	64	64	0.73
Any Pregnancy-related service visit[b]	8	8	7	8	7	0.89
Pregnancy testing	7	8	6	7	7	0.95
Prenatal visit	2	2	2	1	1	0.26
Postpartum visit	1	1	1	1	1	0.60
Abortion	<1	<1	<1	1	<1	0.80
Any STI testing or treatment[b]	5	4	6	4	7	0.32
Counseling on safe sex at STI visit	32	57	11	43	30	
Any contraceptive service visit[c]	29	32	28	29	27	0.89
Provision of contraceptive method	22	24	18	27	18	0.38
Provision of EC	16	18	<1	<1	16	
Service for contraceptive counseling	10	16	8	8	8	0.51
Service for EC counseling	1	1	<1	<1	3	0.02
Contraceptive check-up	17	20	13	17	17	0.48

Abbreviations: emergency contraception (EC); sexually transmitted infection (STI)

Results are unadjusted weighted survey proportions of types of women's health services used in the past 12 months among adult women in the United States from 2006–2010, overall, by year and by age group. P-value (*P*) is from unadjusted X^2 for association between type of service and survey year. *P* significant for two-tailed alpha at <0.05*, <0.01**, and <0.001***. Blank entry for P-value indicates subsample insufficient to perform statistical test.

[a]Denominator for women's health service use overall and for gynecological exam service use includes all adult women (N=7,897).

[b]Denominator for pregnancy-related services and STI service use (including STI counseling at time of STI testing/treatment visit) includes women who reported sexual intercourse activity in the past 12 months (N=6,904).

[c]Denominator for contraceptive service use includes sexually active women who were not surgically or otherwise sterile and who reported they were not trying to become pregnant for at least 6 of the past 12 months (N=5,148).

Table 2

Weighted Proportions of Women's Health Service Use in the Past Year Among Adult Women in the U.S., by Demographic, Social and Reproductive Characteristics, 2006 through 2010

	Used Women's Health Services[a] (N=5,891, 74%)		Used Gynecological Exam Services[a] (N=5,584, 70%)		Used Pregnancy-related Services[b] (N=1,662, 21%)		Used STI Services[b] (N=1,144, 14%)		Used Contraceptive Services[c] (N=2,557, 47%)	
	%	*P*	%	*P*	%	*P*	%	*P*	%	*P*
Age group		0.001		<0.001		<0.001		<0.001		<0.001
25–34 years (n=4413, 48%)	78		74		31		20		57	
35–39 years (n=1798, 26%)	70		67		17		10		41	
40–44 years (n=1686, 26%)	69		67		8		5		29	
Race/ethnicity		0.01		0.001		0.004		<0.001		0.02
White (n=4083, 63%)	75		71		20		12		48	
Black (n= 1600, 14%)	78		75		26		22		50	
Hispanic (n=1756, 18%)	68		64		25		13		45	
Other (n=458, 7%)	68		63		20		11		37	
Education level		<0.001		<0.001		0.004		0.27		0.01
<High school (n=1422, 15%)	64		60		23		16		44	
High school diploma/GED (1979, 24%)	68		65		17		13		42	
Some college (n=2247, 28%)	75		72		22		14		48	
≥Bachelor's degree (n=2249, 33%)	80		77		23		13		50	
Residence		0.20		0.13		0.86		0.003		0.81
Rural (n=1170, 20%)	73		70		21		11		46	
Urban (n=3238, 30%)	76		73		22		17		48	
Suburban (n=3438, 50%)	72		69		21		13		47	
Birthplace		0.005		0.001		0.53		0.30		0.002
Born inside U.S. (n=6277, 83%)	75		64		21		14		49	
Born outside U.S. (n=1617, 17%)	68		71		22		12		40	
Annual Income		<0.001		<0.001		0.43		<0.001		0.65
<$25,000 (n=2525, 25%)	65		62		23		18		48	
$25–49,999 (n=2149, 28%)	71		67		21		14		45	

	Used Women's Health Services[a] (N=5,891, 74%)		Used Gynecological Exam Services[a] (N=5,584, 70%)		Used Pregnancy-related Services[b] (N=1,662, 21%)		Used STI Services[b] (N=1,144, 14%)		Used Contraceptive Services[c] (N=2,557, 47%)	
		P		*P*		*P*		*P*		*P*
	%		%		%		%		%	
$50–74,999 (n=1372, 21%)	77		74		20		14		47	
>$74,999 (n=1400, 26%)	82		80		20		10		48	
Poverty level		<0.001		<0.001		0.07		0.009		0.20
≥200% federal poverty (n=4124,59%)	79		75		20		12		48	
<200% federal poverty (n=3773,41%)	66		62		23		15		45	
Employment status		<0.001		<0.001		<0.001		0.48		0.01
Employed (n=5576, 73%)	76		73		20		14		49	
Unemployed (n=2321, 27%)	68		63		26		13		43	
Insurance status		<0.001		<0.001		0.39		0.05		0.04
Fully insured last year (n=5537, 73%)	79		76		22		13		49	
Uninsured any last year (n=2353, 28%)	61		56		21		16		44	
Religious service attendance		<0.001		<0.001		0.30		0.002		0.002
≥Weekly (n=2485, 32%)	74		71		22		11		44	
<Weekly (n=3703, 47%)	76		73		22		15		51	
Never (n=1701, 21%)	68		63		19		16		43	
Relationship status		0.03		0.02		0.05		<0.001		<0.001
Cohabiting (n=954, 11%)	78		74		25		20			59
Not cohabiting/married(n=2108,18%)	71		67		20		28			55
Married (n=3638, 58%)	75		71		22		8			43
Previously married (n=1197, 13%)	70		66		17		18			51
Sexual activity		<0.001		<0.001						
Never had sex (n=212, 2%)	46		39							
Sexually active last year (n=6904,92%)	75		72							
Sexually inactive last year (n=781, 6%)	60		58							
Number of sexual partners last year		0.63		0.92		0.85		<0.001		0.04
1 (n=6008, 92%)	75		72		21		12		47	
2 (n=525, 6%)	78		73		22		27		56	

	Used Women's Health Services[a] (N=5,891, 74%)		Used Gynecological Exam Services[a] (N=5,584, 70%)		Used Pregnancy-related Services[b] (N=1,662, 21%)		Used STI Services[b] (N=1,144, 14%)		Used Contraceptive Services[c] (N=2,557, 47%)	
		P		*P*		*P*		*P*		*P*
	%		%		%		%		%	
≥3 (n=277, 3%)	75		72		19		41		57	
Pregnancy history		0.47		0.40		<0.001		0.008		<0.001
Ever pregnant (n=6263, 81%)	73		70		23		13		45	
Never pregnant (n=1634, 19%)	75		71		12		17		55	
Parity		<0.001		<0.001		<0.001		<0.001		0.02
0 (n=2172, 25%)	76		73		21		19		52	
1 (n=1605, 18%)	78		73		27		14		48	
≥2 (n=4120, 56%)	71		68		20		11		44	
Reproductive intentions		<0.001		0.01		<0.001		<0.001		<0.001
Wants (more) children (n=4006, 48%)	77		72		27		18		52	
Doesn't want (more) children (n=3888, 52%)	71		68		16		9		44	
Gynecological history		<0.001		0.001		0.001		0.10		0.98
No GYN diagnosis (n=2675, 36%)	72		68		20		13		47	
Diagnosis GYN problems (n=5222, 64%)	77		74		24		15		47	

Abbreviations: gynecological (GYN); sexually transmitted infection (STI)

Results are unadjusted weighted survey proportions of women's health services used in the past year (overall and for specific service types) by adult women in the U.S. from 2006–2010, according to demographic, social and reproductive characteristics. P-value (*P*) is from unadjusted X^2 analysis of association between service use and each demographic, social and reproductive characteristic. *P* significant for two-tailed alpha at <0.05*, <0.01**, and <0.001***.

[a]Denominator for women's health service use overall and for gynecological exam service use includes all adult women (N=7,897).

[b]Denominator for pregnancy-related and STI service use includes women who reported sexual intercourse activity in the past 12 months (N=6,904).

[c]Denominator for contraceptive service use includes sexually active women who were not surgically or otherwise sterile and who reported they were not trying to become pregnant for at least 6 of the past 12 months (N=5,148).

Table 3

Sociodemographic and Reproductive Factors Associated with Women's Health Service Use in the Past Year Among Adult Women in the U.S., 2006 Through 2010

	Full sample (N=7,897)		Sexually active women (N=6,904)		By Age groups					
					Aged 25–34 years (N=4,413)		Aged 35–39 years (N=1,798)		Aged 40–45 years (N=1,686)	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Survey year										
June 2006–June 2007	1		1		1		1		1	
July 2007–June 2008	0.6	0.7,1.1	0.8	0.7,1.1	0.9	0.7,1.3	0.7	0.5,1.2	0.9	0.6,1.4
July 2008–June 2009	0.9	0.7,1.1	0.9	0.7,1.2	0.8	0.6,1.1	0.7	0.4,1.2	1.1	0.7,1.7
July 2009–July 2010	0.8	0.7,1.1	0.8	0.6,1.1	0.7	0.5,0.9	0.9	0.5,1.3	1.1	0.7,1.8
Age group										
25–34 years	1		1							
35–39 years	0.6	0.5,0.7	0.6	0.4,0.7						
40–44 years	0.5	0.4,0.7	0.6	0.4,0.7						
Race/ethnicity										
White	1		1		1		1		1	
Black	1.4	1.1,1.8	1.4	1.1,1.9	1.6	1.1,2.3	1.4	0.8,2.3	1.3	0.7,2.3
Hispanic	1.1	0.8,1.5	1.0	0.7,1.4	1.1	0.7,1.7	1.1	0.6,2.1	0.9	0.5,1.8
Other	0.8	0.8,1.5	0.8	0.5,1.3	0.7	0.5,1.1	1.8	0.7,4.7	0.4	0.2,1.0
Education level										
<High school	1		1		1		1		1	
High school diploma or GED	1.0	0.8,1.2	1.0	0.8,1.3	0.8	0.6,1.2	0.8	0.5,1.4	1.4	0.9,2.2
Some college	1.3	1.0,1.6	1.2	0.9,1.6	1.0	0.7,1.5	1.2	0.7,2.1	1.7	1.0,3.0
≥Bachelor's degree	1.6	1.2,2.1	1.6	1.1,2.1	1.7	1.0,2.7	1.3	0.7,2.6	2.2	1.2,4.0
Residence										
Rural	1		1		1		1		1	
Urban	1.0	0.7,1.3	0.9	0.7,1.3	0.9	0.6,1.2	1.4	0.7,2.6	0.8	0.5,1.3
Suburban	0.8	0.6,1.1	0.8	0.6,1.0	0.9	0.6,1.3	1.1	0.6,2.1	0.5	0.3,0.7

	Full sample (N=7,897)		Sexually active women (N=6,904)		By Age groups					
					Aged 25–34 years (N=4,413)		Aged 35–39 years (N=1,798)		Aged 40–45 years (N=1,686)	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Born inside U.S.	1		1		1		1		1	
Born outside U.S.	1.1	0.9,1.5	1.2	0.9,1.6	1.0	0.7,1.3	1.1	0.6,1.8	1.6	0.9,2.8
≥200% federal poverty level	1		1		1		1		1	
<200% federal poverty level	0.7	0.6,0.9	0.7	0.5,0.8	0.9	0.7,1.1	0.6	0.4,0.9	0.6	0.4,0.9
Unemployed	1		1		1		1		1	
Employed	1.2	1.0,1.5	1.2	1.0,1.4	1.1	0.9,1.4	1.3	0.9,1.9	1.5	1.2,2.1
Fully insured last year	1		1		1		1		1	
Uninsured any time last year	0.5	0.4,0.5	0.5	0.4,0.5	0.5	0.4,0.6	0.4	0.3,0.6	0.4	0.3,0.6
Religious service attendance										
≥Weekly	1		1		1		1		1	
<Weekly	1.0	0.8,1.3	1.1	0.8,1.3	1.3	1.0,1.8	1.2	0.8,1.9	0.6	0.5,0.9
Never	0.7	0.6,0.9	0.7	0.5,0.9	0.9	0.7,1.3	0.8	0.5,1.3	0.5	0.3,0.9
Relationship status										
Cohabiting	1		1		1		1		1	
Not cohabitating/married	0.8	0.6,1.0	0.9	0.7,1.2	0.8	0.6,1.2	0.9	0.4,1.7	0.8	0.4,1.5
Married	0.7	0.5,0.9	0.7	0.5,0.9	0.7	0.5,1.0	0.6	0.3,1.2	0.6	0.4,1.1
Previously married	0.9	0.6,1.3	0.9	0.6,1.3	0.7	0.4,1.1	0.9	0.5,1.8	1.2	0.6,2.5
Sexually active last year	1				1		1		1	
Sexually inactive last year	0.5	0.4,0.6			0.4	0.3,0.6	0.7	0.4,1.3	0.4	0.2,0.6
Never pregnant	1		1		1		1		1	
Ever pregnant	1.4	0.9,2.0	1.4	0.9,1.4	1.2	0.8,2.0	1.2	0.5,2.7	2.0	0.9,4.5
Parity										
0	1		1		1		1		1	
1	0.9	0.6,2.0	0.9	0.6,1.4	1.3	0.8,2.3	1.0	0.5,2.1	0.4	0.2,0.9
≥2	0.8	0.5,1.0	0.7	0.5,1.0	1.0	0.6,1.7	0.8	0.4,1.5	0.4	0.2,0.8
Reproductive intentions										
Wants (more) children	1		1		1		1		1	

	Full sample (N=7,897)		Sexually active women (N=6,904)		By Age groups					
					Aged 25–34 years (N=4,413)		Aged 35–39 years (N=1,798)		Aged 40–45 years (N=1,686)	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Doesn't want more children	1.0	0.8,1.2	1.0	0.8,1.2	0.8	0.6,1.1	1.1	0.8,1.5	0.9	0.6,1.3
No GYN diagnosis	1		1		1		1		1	
Diagnosed GYN problems	1.4	1.1,1.7	1.3	1.1,1.6	1.3	1.0,1.7	1.5	1.0,2.0	1.4	1.0,1.9

Abbreviations: confidence intervals (CI); gynecological (GYN); odds ratios (OR)

Results are presented as adjusted ORs and 95% CI from full multivariable logistic regression models for women's health service use in the past 12 months (yes/no) among all adult women (n=7,897), among sexually active women (n=6,904) and by age groups.

Table 4

Sociodemographic and Reproductive Factors Associated with Types of Women's Health Services Used in the Past Year Among Adult Women in the United States, 2006 Through 2010

	Model 1 Gynecological Exam Services (N=7,897)[a]		Model 2 Pregnancy-related Services (N=6,904)[b]		Model 3 STI Services (N=6,904)[b]		Model 4 Contraceptive Services (N=5,148)[c]	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Survey year								
June 2006–June 2007	1		1		1		1	
July 2007–June 2008	0.9	0.7,1.1	0.9	0.7,1.1	1.4	1.0,2.0	0.9	0.7,1.2
July 2008–June 2009	0.9	0.7,1.1	1.1	0.8,1.4	1.1	0.8,1.6	0.9	0.7,1.1
July 2009–July 2010	0.9	0.7,1.1	1.0	0.8,1.2	1.2	0.8,1.7	0.8	0.6,1.1
Age group								
25–34 years	1		1		1		1	
35–39 years	0.6	0.5,0.8	0.4	0.3,0.5	0.6	0.4,0.7	0.5	0.4,0.7
40–44 years	0.6	0.5,0.8	0.2	0.1,0.2	0.3	0.2,0.4	0.3	0.2,0.4
Race/ethnicity								
White	1		1		1		1	
Black	1.4	1.1,1.8	1.6	1.2,2.0	1.6	1.2,2.2	1.0	0.8,1.3
Hispanic	1.1	0.8,1.4	1.4	1.1,1.8	1.1	0.8,1.4	0.9	0.7,1.3
Other	0.7	0.5,1.1	0.9	0.6,1.4	1.1	0.6,1.3	0.7	0.5,1.0
Education level								
<High school	1		1		1		1	
High school diploma or GED	1.0	0.8,1.3	0.8	0.6,1.1	0.9	0.6,1.3	0.9	0.7,1.2
Some college	1.2	1.0,1.6	1.1	0.9,1.5	0.9	0.6,1.2	1.2	0.8,1.6
≥Bachelor's degree	1.6	1.2,2.1	1.5	1.1,1.9	1.0	0.7,1.4	1.4	1.1,1.9
Residence								
Rural	1		1		1		1	
Urban	1.0	0.8,1.3	0.9	0.7,1.1	1.3	0.9,2.1	1.1	0.8,1.4
Suburban	0.8	0.6,1.0	0.9	0.8,1.3	1.2	0.8,1.8	1.1	0.8,1.4
Born inside U.S.	1		1		1		1	

	Model 1 Gynecological Exam Services (N=7,897)[a]		Model 2 Pregnancy-related Services (N=6,904)[b]		Model 3 STI Services (N=6,904)[b]		Model 4 Contraceptive Services (N=5,148)[c]	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Born outside U.S.	1.1	0.8,1.4	1.0	0.8,1.3	1.1	0.7,1.6	0.9	0.7,1.2
≥200% federal poverty level	1		1		1		1	
<200% federal poverty level	0.8	0.6,0.9	1.2	0.9,1.4	1.0	0.8,1.2	0.9	0.7,1.2
Unemployed	1		1		1		1	
Employed	1.3	1.1,1.5	0.8	0.6,0.9	1.1	0.9,1.3	1.2	1.0,1.6
Fully insured last year	1		1		1		1	
Uninsured any time last year	0.4	0.4,0.5	0.8	0.7,1.0	1.0	0.7,1.2	0.8	0.6,0.9
Religious service attendance								
≥Weekly	1		1		1		1	
<Weekly	1.0	0.8,1.2	1.3	0.9,1.2	1.2	0.9,1.5	1.2	1.0,1.5
Never	0.7	0.5,0.9	0.9	0.7,1.2	1.3	0.9,1.7	0.8	0.6,1.1
Relationship status								
Cohabiting	1		1		1		1	
Not cohabitating or married	0.8	0.6,1.0	0.8	0.6,1.1	1.2	0.8,1.6	0.7	0.5,1.3
Married	0.7	0.5,0.9	1.1	0.8,1.4	0.5	0.3,0.6	0.5	0.5,0.6
Previously married	0.8	0.6,1.2	0.9	0.6,1.3	1.0	0.7,1.4	0.8	0.6,1.2
Sexually active in last year	1							
Sexually inactive in last year	0.5	0.4,0.6						
# sexual partners last year								
1			1		1		1	
2			1.0	0.7,1.4	1.4	1.0,1.9	1.1	0.7,1.5
≥3			0.8	0.5,1.4	2.6	1.5,4.6	1.0	0.6,1.7
Never pregnant	1		1		1		1	
Ever pregnant	1.4	1.0,1.9	6.5	4.4,9.8	1.7	1.1,2.5	0.6	0.4,0.9
Parity								
0	1		1		1		1	
1	0.8	0.5,1.1	0.5	0.4,0.7	0.7	0.4,1.1	1.6	1.0,2.4
≥2	0.7	0.5,0.9	0.4	0.3,0.6	0.7	0.5,1.1	1.7	1.1,2.4

	Model 1 Gynecological Exam Services (N=7,897)[a]		Model 2 Pregnancy-related Services (N=6,904)[b]		Model 3 STI Services (N=6,904)[b]		Model 4 Contraceptive Services (N=5,148)[c]	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Reproductive intentions								
Wants (more) children	1		1		1		1	
Does not want (more) children	1.0	0.9,1.3	0.7	0.6,0.9		0.7,0.9	1.1	0.9,1.3
No GYN diagnosis	1		1		1		1	
Diagnosed GYN problems	1.3	1.1,1.5	1.5	1.3,1.8	1.4	1.1,1.8	1.0	0.9,1.2

Abbreviations: confidence interval (CI); gynecological (GYN); odds ratio (OR); sexually transmitted infection (STI)

Results are presented as adjusted ORs and 95% CIs from full multivariable logistic regression models for each type of women's health service use (yes/no) as outcomes.

[a] Denominator for gynecological exam services includes all adult women (N=7,897).

[b] Denominator for pregnancy-related and STI service use includes women who reported sexual intercourse activity in the past 12 months (N=6,904).

[c] Denominator for contraceptive service use includes sexually active women who were not surgically or otherwise sterile and who reported they were not trying to become pregnant for at least 6 of the past 12 months (N=5,148).

Table 5

Sociodemographic and Reproductive Factors Associated with Women's Health Service Use in the Past Year Among Adult Women in the United States, by Time Period

No GYN diagnosis	**1**		**1**		**1**	
Diagnosed GYN problems	**1.4**	**Model 1 1.1,1.9**	**1.3**	**Model 2 0.9,1.8**	**0.9**	**0.8,1.1**
	June 2006 – June 2008 (N=3,639)[a]		**July 2008 – June 2010 (N=4,070)[a]**		**Interaction term for survey year[b]**	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Age group						
25–34 years	1		1		1	
35–39 years	0.5	0.4,0.7	0.6	0.4,0.9	1.1	0.9,1.3
40–44 years	0.5	0.4,0.7	0.6	0.4,0.9	1.2	1.0,1.4
Race/ethnicity						
White	1		1		1	
Black	1.4	1.0,2.1	1.4	1.0,1.8	1.1	0.9,1.4
Hispanic	1.0	0.6,1.6	1.2	0.8,1.7	1.1	0.9,1.3
Other	0.5	0.3,0.8	1.4	0.7,2.5	1.4	1.1,1.9
Education level						
<High school	1		1		1	
High school diploma or GED	1.0	0.7,1.5	0.9	0.7,1.3	1.0	0.8,1.2
Some college	1.4	1.0,2.0	1.2	0.9,1.6	1.0	0.8,1.2
≥Bachelor's degree	1.6	1.1,2.4	1.5	1.0,2.3	1.0	0.8,1.2
Residence						
Rural	1		1		1	
Urban	0.8	0.5,1.3	1.2	0.8,1.9	1.2	1.0,1.4
Suburban	0.7	0.5,1.1	0.9	0.6,1.4	1.0	0.9,1.3
Born inside U.S.	1		1		1	
Born outside U.S.	1.3	0.9,1.9	1.0	0.7,1.5	1.0	0.9,1.3
≥200% federal poverty level	1		1		1	
<200% federal poverty level	0.7	0.5,0.9	0.7	0.5,0.9	1.0	0.9,1.2

No GYN diagnosis	**1**		**1**		**1**	
Diagnosed GYN problems	**1.4**	**Model 1 1.1,1.9**	**1.3**	**Model 2 0.9,1.8**	**0.9**	**0.8,1.1**
	June 2006 – June 2008 (N=3,639)[a]		**July 2008 – June 2010 (N=4,070)[a]**		**Interaction term for survey year[b]**	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Unemployed	1		1		1	
Employed	1.2	0.9,1.5	1.3	1.0,1.7	1.0	0.9,1.2
Fully insured last year	1		1		1	
Uninsured any time last year	0.5	0.4,0.7	0.4	0.3,0.5	0.9	0.8,1.0
Religious service attendance						
≥Weekly	1		1		1	
<Weekly	1.1	0.8,1.6	1.0	0.7,1.3	1.0	0.8,1.2
Never	0.8	0.5,1.1	0.7	0.5,0.9	1.0	0.8,1.2
Relationship status						
Cohabiting	1		1		1	
Not cohabitating or married	1.0	0.6,1.6	0.7	0.5,0.9	0.9	0.7,1.2
Married	0.8	0.5,1.3	0.5	0.4,0.8	0.9	0.7,1.1
Previously married	1.0	0.5,1.7	0.9	0.5,1.4	1.0	0.8,1.3
Sexually active in last year	1		1		1	
Sexually inactive in last year	0.5	0.4,0.8	0.4	0.3,0.6	1.1	0.8,1.3
Never pregnant	1		1		1	
Ever pregnant	1.3	0.7,1.3	1.4	0.8,2.3	1.0	0.8,1.2
Parity						
0	1		1		1	
1	1.1	0.5,2.2	0.9	0.5,1.5	0.9	0.7,1.2
≥2	0.8	0.4,1.3	0.8	0.5,1.2	1.0	0.8,1.2
Reproductive Intentions						
Wants (more) children	1		1		1	
Does not want (more) children	1.0	0.8,1.3	0.9	0.7,1.2	1.0	1.0,1.5

Abbreviations: confidence interval (CI); gynecological (GYN); odds ratio (OR)

Results are presented as adjusted ORs and 95% CIs from full multivariable logistic regression models for women's health service use (yes/no) in June 2006–June 2008 (n=3,639) and July 2008– June 2010 (4,070).

[a] A single sampling strata (#156) was dropped due to insufficient sample size in year-stratified models.

[b] Interaction term for survey year is continuous year by each sociodemographic variable. Interaction models treating survey year as categorical term by each sociodemographic variable were also examined with similar results and so not shown here.