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Original article

Social disparities in women's health service use in the United States: a population-based analysis

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ABSTRACT

Purpose: Poor and disparate reproductive health outcomes in the United States may be related to inadequate and differential receipt of women's health care. We investigated trends in and determinants of adult U.S. women's health service use, 2006–2010.
Methods: We analyzed population data from 7897 women aged 25–44 years in the National Survey of Family Growth from 2006 to 2010 using multivariable logistic regression.
Results: Women's health service use in the past year was reported by 74% of the sample. Among non-infertile, sexually active women, 47% used contraceptive services; fewer used pregnancy (21%) and sexually transmitted infection (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, sexually transmitted infection and gynecologic examination services than white women (odds ratio, 1.4–1.6). Lack of insurance was associated with service use in all models (odds ratio, 0.4–0.8).
Conclusions: Although 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 use and outcomes across the reproductive life course and forthcoming sociopolitical climates is needed.

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 United States, with greater numbers of racial/ethnic minority and socially disadvantaged women experiencing these reproductive health sequelae compared with 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 United States [8–15].

The link between women's health service use 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 examinations 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 United States [10–12]. However, the social determinants of adult women's health services use across the reproductive life course, particularly

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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 the use of women's health services in the past year among adult women aged 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's and women's health. Household, in-person, single-session interviews were conducted with 12,279 U.S. women aged 15–44 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 ($n = 7897$). This study was approved by the Institutional Review Board of the University of Michigan, as well as the Institutional Review Board of the Centers for Disease Control and Prevention/National Center for Health Statistics.

Measures

For women's health service use, 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 gynecologic (GYN) examination (Pap smear and pelvic examination), pregnancy-related (prenatal, postpartum, abortion, and pregnancy testing), STI (testing, treatment, and counseling), and contraceptive (contraceptive method provision, follow-up evaluation/check-up, counseling, emergency contraceptive 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 four-point indicator of survey administration year: year 1 = June 2006–June 2007; year 2 = July 2007–June 2008; year 3 = July 2008–June 2009; and year 4 = July 2009–June 2010.

We examined several key demographic, social, and reproductive characteristics 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 (less than high school, high-school diploma, some college, or Bachelor's degree or higher); 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 the last year); religious service attendance (weekly or more, less weekly, or never); relationship status (cohabitating with nonmarital partner, not cohabitating/married, married, or previously married); sexual activity (sexually active or inactive in last year, including never had sex); number 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 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 use in the past year using weighted proportions and unweighted frequencies. We conducted unadjusted χ^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) GYN examination services among all women ($n = 7897$); (2) pregnancy-related services among sexually active women ($n = 6904$); (3) STI services among sexually active women ($n = 6904$); 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 months or longer of the past 12 months ($n = 5148$).

Variables were considered for inclusion in regression models if their *P* in univariate models was .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 (ORs) with 95% confidence intervals (CIs) and *P*s. 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, whereas 39% had only a high-school diploma or had dropped out of high school. Less than half of the 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 two children or more. Over half of the 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 ($n = 7897$), 74% of women reported using services in the past year including GYN examination (70%), pregnancy-related (21%), STI (14%), and contraceptive (47%)