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## Disparities in receipt of family planning services by disability status: new estimates from the National Survey of Family Growth

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### Abstract

**Background**—A substantial and increasing population of US women of childbearing age live with disability. Disability-based disparities in access to family planning services have been previously documented, but few studies have used population-based data sources or evidence-based measures of disability.

**Objective**—To determine population-based estimates of use of family planning services among women 15 – 44 years of age in the United States, and to examine differences by disability status.

**Methods**—This is a secondary analysis of a cross-sectional survey, the 2011-2015 National Survey of Family Growth. These analyses include 11,300 female respondents between the ages of 15 and 44 who completed in-person interviews in respondents' homes.

**Results**—Approximately 17.8% of respondents reported at least one disability in at least one domain. Women with disabilities were less likely than those without disabilities to receive services; the largest differences by disability status were seen among women with low education, low income, and those who were not working. Logistic regression analysis suggests that women with physical disabilities and those with poorer general health are less likely to receive services.

**Conclusions**—Women living with disabilities reported lower receipt of family planning services compared to women without disabilities, but the differences were small in some subgroups and larger among disadvantaged women. Physical disabilities and poor health may be among the

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factors underlying these patterns. Further research is needed on other factors that affect the ability of women with disabilities to obtain the services they need to prevent unintended pregnancy.

### Keywords

Family planning; Disability; National Survey of Family Growth; Disparity

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### Background

In 2009, the Centers for Disease Control and Prevention (CDC) estimated that 11% of U.S. women of childbearing age live with a disability involving difficulty with hearing, vision, cognition, ambulation (mobility), self-care, and/or independent living.<sup>1</sup> This already substantial population is predicted to increase in the coming years, due to medical advances improving survival rates of women born with disability or acquiring disability in childhood to live into childbearing age and beyond.<sup>2, 3</sup> Research investigations addressing the reproductive health of women with disabilities began earnestly in the 1990's following an NIH-sponsored conference on the reproductive health of people with physical disabilities.<sup>4-9</sup>

Nosek and colleagues conducted the first national study on the reproductive and sexual health issues of women with physical disabilities, comparing similarities and differences between 504 women with disabilities and 442 women without disabilities.<sup>10</sup> The findings indicated that women with disabilities had greater concern about inaccurate contraception information than those without disabilities. Additionally, more than one-third of women with disabilities reported not using birth control, compared with about one-fourth of women without disabilities.

Women with disabilities continue to face barriers to accessing and using contraception and related reproductive health care services.<sup>2, 3, 11-14</sup> They may encounter inaccessible health care facilities and equipment, stereotypes and discrimination, inaccessible family planning clinics, programmatic inaccessibility, transportation barriers to accessing facilities, limited coverage of health care, and providers who lack disability-related training or sensitivity and/or fail to recognize the woman as a person with sexual and reproductive health care needs.<sup>4, 12, 15-17</sup> Moreover, they may experience problematic interactions between hormonal methods of contraception and disability-related medications; difficulties using barrier methods due to limitations in manual dexterity, loss of sensation, contractures, or spasticity.<sup>5, 18</sup>

Because the sexuality and sexual health of people with disabilities have been traditionally devalued, ignored, or socially stigmatized<sup>19-21</sup>, women in this population may not be expected to use family planning services, much less consider pregnancy or its prevention<sup>15, 22</sup> nor to seek counseling about appropriate contraception options.<sup>4</sup> This may be especially true for women with intellectual disabilities who experience multiple barriers to accessing sexual health care, including the receipt of contraception for purposes of menstruation management and pregnancy prevention.<sup>21, 23-26</sup>

Until recently, most extant research studies on the reproductive health of women with disabilities were conducted with relatively small, convenience samples.<sup>3</sup> In the past five

years, however, there have been several groundbreaking studies using population-based data to investigate pregnancy and its outcomes in women with disabilities.<sup>2, 12-14</sup> Further research using population-based data is needed to understand the impact of functional limitations and other disability-related factors on the use of contraceptive methods and access to family planning services in this substantial and underserved population.

Although patterns of use of family planning and reproductive health services by the general population are available<sup>27, 28</sup>, these patterns have not been documented in the context of disability.<sup>3, 23</sup> In addition, research has often used widely-varying operational definitions of disability, making it difficult to compare findings across studies or determine disparities related to disability.<sup>23</sup> Thus, there is little population-based information on the nature, scope, and consequences of reproductive health care disparities experienced by women with disabilities. This study is a critical step toward filling that gap.

## Methods

We used data from the 2011-2015 National Survey of Family Growth (NSFG). The NSFG is conducted by the CDC's National Center for Health Statistics in collaboration with other agencies of the U.S. Department of Health and Human Services. The survey is based on self-reported data and is largely focused on topics of fertility, sexual activity, contraceptive use, reproductive health care, family formation, and child care. The NSFG uses a stratified, multistage probability sample to construct nationally representative estimates for women and men aged 15-44 years residing in the household population of the United States. Interviews are conducted in respondents' homes by trained, female interviewers. The 2011-2015 NSFG contains interviews with 11,300 women with response rates of about 73%.

The NSFG collected standard demographic characteristics such as age, marital and cohabiting status, race and Hispanic origin, parity, educational attainment, household income, and self-reported health (in the self-administered questionnaire): "In general, how is your health?" with answer categories, "excellent, very good, good, fair, poor." Specific to our analyses, we included NSFG's measures of current disability status and receipt of family planning services within the past year.

In 2011, the United States Department of Health and Human Services established six standardized disability-related measurement items for all population-based, public health U.S. surveys, defining disability from a comprehensive, evidence-based functional perspective, i.e., current limitations in hearing, vision, cognition, mobility, self-care, and independent living. These were included for the first time in the 2011-2013 NSFG (released December 2014).<sup>29</sup> Disability status was measured via the following six questions, with yes/no responses: (1) *Do you have serious difficulty hearing?* (2) *Do you have serious difficulty seeing, even when wearing glasses or contact lenses?* (3) *Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering or making decisions?* (4) *Do you have serious difficulty walking or climbing stairs?* (5) *Do you have difficulty dressing or bathing?* and (6) *Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping?* For the present analyses, participant responses were collapsed into "no disability"

(i.e., “no” to all six questions) or “any disability” (i.e., “yes” to any of the disability-related questions).

Female respondents were queried about receiving a variety of family planning and reproductive health services within the 12 months prior to the interview. For the present analyses, we included the following family planning services: receiving a birth control method or prescription for a method, receiving advice or counseling about birth control, having a check-up or test in order to use a birth control method, and “all other family planning services,” which includes having received counseling for emergency contraception (EC) or sterilization, having had a sterilization operation, or having received a prescription for emergency contraception.

We compared the use of family planning services among women with and without disability in all survey respondents and within subgroups based on sociodemographic characteristics. The survey module of Stata Version 14 was used for this analysis.<sup>30</sup> Contingency table analysis with Rao-Scott second order Corrected Pearson tests were used to test the significance of differences between women with and without disabilities. Analyses took survey weights, clustering and stratification of the data into account. Statistical significance of the tests was defined by  $p < 0.05$ . The survey logistic regression procedure in Stata was used for the logistic regression analyses. We used receipt of any family planning service in the last 12 months as the outcome variable.

## Results

Among all women 15-44, 17.8% of women reported that they have at least one of the 6 types of disability. The most common type of disability reported was a cognitive disability (7.3%), representing a “yes” answer to question (3) above. About 6.5% of participants reported that they had serious difficulty hearing or seeing (even with glasses), representing a “yes” answer to question 1 or 2. Approximately 4% of participants reported other disabilities, indicated by a “yes” response to questions 4, 5, or 6.

The proportion of women 15-44 years of age in the U.S. household population who received one or more family planning services in the 12 months before the interview, overall and by disability status is shown in Table 1. Overall, this proportion was 41.5%, with 37.7% of women living with disabilities reporting having received one or more family planning services compared to 42.4% of women without disabilities ( $p < 0.01$ ). Taken together, women with disabilities were less likely to receive any family planning services, but these disparities were particularly marked within certain subgroups of women.

Among the youngest cohort of women (15-24 years old), the proportion receiving services was not significantly different by disability status (50.2% vs 47.9%). However, among women 25-44 years of age, women living with disabilities were significantly less likely than those without disability to receive any family planning service (31.9% vs 38.7%,  $p < 0.01$ ) and significantly less likely to have received a method of birth control in the previous 12 months (23.5% vs 29.6%,  $p < 0.01$ ), and less likely to have received birth control counseling (13.9% vs 17.1%,  $p < 0.01$ ).

Similarly, differences in family planning service use were notable by disability status among unmarried women. Specifically, unmarried women with disabilities were less likely than unmarried women without disabilities to have received any family planning services (38.7% vs. 44.5%,  $p < 0.01$ ). They were especially less likely to receive a method of birth control ( $p < 0.01$ ). Differences for married women by disability status in receipt of family planning services were smaller, and most were not significant.

For women with no previous births, there were not significant differences in family planning service receipt by disability status. However, among women with 1 or more prior births, women with disability reported less receipt of any family planning services compared to women with no disability (33.6% vs. 38.9%,  $p < 0.01$ ) and specifically, lower percentages of receipt of a birth control method (23.8% vs. 28.6%,  $p < 0.01$ ).

Among non-Hispanic white women, those with disabilities were less likely to have received any family planning service than those without disabilities (39.2% vs. 45.0%,  $p < 0.01$ ) or to have received birth control counseling or a birth control-related checkup/test. Among non-Hispanic black women, the difference for the receipt of any family planning service by disability status was even larger (32.9% vs. 40.7%,  $p < 0.01$ ), and significant differences also existed with significantly fewer Non-Hispanic black women with disability receiving a birth control method or a birth control checkup/test.

Differences in receipt of services by education, income, and current employment status were also examined. Although women with disabilities generally reported less receipt of family planning services across most categories, significant differences by disability status appeared primarily among women of low socio-economic status. For example, among women who had a high school diploma or less, 36.9% of women without disabilities had received one or more services, compared with 30.2% of women with disabilities ( $p < 0.01$ ). A significant difference was also seen in terms of lower proportions of women with disabilities reporting receipt of a birth control method (27.9% vs. 21.4%,  $p < 0.01$ ) and in receipt of most other family planning services. In contrast, among women with some college or more, the difference by disability status was not significant (45.8% vs. 44.5%), although this group of women with disability were significantly less likely to have received a birth control checkup/test and more likely to report “all other family planning services.”

Differences by income followed a similar pattern to those by education. Among women living in households with incomes less than twice the poverty level (about \$40,000 per year or less), those with disabilities were significantly less likely to receive services (40.3% vs. 34.1%,  $p < 0.01$ ), and less likely to receive a method of birth control (30.8% vs. 25.1%,  $p < 0.01$ ) than low-income women without disabilities. Among women with higher incomes, the pattern of differences in receipt of services by disability status was similar but none of the differences were statistically significant.

Similarly, among women who were employed, there were not significant differences in use of any family planning services between women without a disability and women with a disability (45.3% and 42% respectively). In contrast, among women who were unemployed,

those without disabilities were more likely to utilize family planning services than those with disabilities (38.5% and 30.9%,  $p < 0.01$ ).

Finally, women with no disability who rated their health as “excellent” or “very good” represented the highest percentage of women receiving services (44.1%). Women with a disability and women with “good, fair, or poor” health reported significantly lower percentages receiving family planning services (37-39%).

Table 2 shows logistic regression results. Use of any family planning service was the outcome variable of interest, with age, parity, disability, and self-reported general health as the independent variables. Model 1 shows that, unadjusted for other variables, women living with a disability were significantly less likely to report receiving any family planning services as compared to their non-disabled counterparts (OR = 0.82). Model 2 shows that after adjusting for age, parity, and general health, women living with a disability were significantly less likely than women without a disability to report receiving any family planning services (aOR = 0.80; 95% CI = 0.69 - 0.93). Older age and poorer health also significantly reduce the odds of receiving services.

Models 3 and 4 distinguish between those participants with only a cognitive disability (Yes to question 3), those with only physical disabilities (Yes to any other question), and those with both cognitive and physical disabilities. In both the unadjusted and adjusted odds ratios, there were no significant differences in receipt of family planning services for those women living with a cognitive disability (aOR = 0.89; 95% CI = 0.72 - 1.10). Women with only physical disabilities (aOR = 0.74; 95% CI = 0.57 - 0.95) and women with both physical and cognitive disabilities (aOR = 0.74; 95% CI = 0.55 - 0.98) were significantly less likely to receive family planning services than those women without a disability. Also, those women reporting good, fair, or poor health were less likely to report receiving services than those women reporting excellent or very good health (aOR = 0.84; CI = 0.73 - 0.96).

## Discussion

In this study, we analyzed family planning service usage patterns by disability status among US women 15-44 years of age in the 2011-2015 NSFG, using an evidence-based 6-item measure of disability. About 41% of respondents overall reported receiving one or more family planning services in the previous 12 months with significant differences noted by disability status. Specifically, women living with disabilities were less likely to utilize family planning services compared with women without disabilities. The multivariate analysis shows that these effects occur primarily among women with physical disabilities, and the effects are independent of self-rated general health. This study adds substantially to the extant literature in that it represents the first population-based analysis of family planning service utilization to use the six-item measure of disability that is the current standard for federal surveys. Although the analysis of these associations is limited by the cross-sectional nature of NSFG data, the patterns of difference, and no difference, are informative.

Overall, we found significant differences in receipt of family planning services by disability status. However, associations between family planning services and disability within select

sociodemographic factors suggest some groups were not significantly different. These results suggest there may be some progress towards improved healthcare access for some women living with disabilities. In general, women with a disability tended to report lower receipt of most types of family planning services than their peers without disability. The multivariate analysis suggests that this difference is independent of age and parity. Receipt of services was also reduced if the woman's self-rated health was worse. These relationships deserve further exploration with particular attention given to types and severity of disability as well as living with multiple disabilities.

A notable and equally important exception to this pattern of women with disabilities tending to report lower receipt of family planning services was that women with disability were more likely to report having received services within the category “all other family planning services.” In the NSFG, this category encompasses having received counseling or a prescription for emergency contraception (EC), counseling for sterilization, or having had a sterilization operation. Given the history of sterilization being involuntarily and disproportionately used on women with disabilities<sup>31</sup>, this finding should be explored in greater depth in future research.

Indeed, an enhanced understanding of the role interpersonal violence may play in EC and sterilization is needed. Women with disabilities experience elevated and disproportionate rates of interpersonal violence. When compared to women without disabilities, women with disabilities may be more likely to experience higher rates of physical and sexual violence as well as increased severity, longer duration, and multiple forms of violence including denial of information about reproductive health and contraception, forced sterilization, and forced abortions.<sup>10, 20, 32, 33</sup>

While globally there were differences between women with disabilities compared to those without, we also found that the most significant and marked disparities in family planning service receipt were experienced by particular subgroups of women with disability, i.e., those who were 25-44 years of age, were unmarried, who had at least one prior birth, were non-Hispanic black, or were of lower socioeconomic status, subpopulations of women already at higher risk for unintended pregnancy.<sup>39</sup> These findings are consistent with other research findings that social determinants of health intersect substantially with disability status<sup>34</sup>, potentially increasing the risk of adverse outcomes for women with disability who experience an unintended pregnancy. Given that socioeconomic disadvantage is especially well-known to overlap and intersect with disability<sup>34, 35</sup>, it is particularly problematic that this population of women may systematically lack equal access to one of the most powerful maternal-child health interventions of the last century.<sup>36</sup> While people with disabilities have not always been recognized on a federal level as a health disparities population<sup>17</sup>, we suggest that our findings of disability-related disparities in this large, nationally-representative sample of U.S. women lends credence to the arguments that they should be acknowledged as a health disparities population whose reproductive and other health issues are addressed in national health care policy.

We found significant differences in the receipt of any family planning service receipt or a method of birth control by disability status among unmarried women, a population of

women giving birth to 43.9% of live-born infants in the prior 5 years in prior NSFG data and thus another key group of women in need of family planning services.<sup>37</sup> Among married women, there were significant differences by disability status in having received an examination related to birth control. Specifically, women who reported a disability were significantly less likely to report having received an examination as compared to their nondisabled counterparts (16.6% and 23.3%, respectively).

While the reasons for such disparities in this sample are not clear, the potential public health implications of these findings are significant, given that approximately 17.8% of this nationally-representative sample had at least one disability in at least one domain, a percentage which extrapolates to an estimated population of 10.9 million US women of childbearing age living with disability. More research is needed to identify potential points of intervention to improve access to family planning for women with disability. Prior research with smaller samples suggests that important factors may include transportation barriers; limited insurance coverage; inaccessible programs, health care facilities, and/or equipment; stereotypes, discrimination, and/or providers who lack training or sensitivity and/or fail to recognize women with disabilities as reproductive and sexual beings.<sup>4, 12, 15-17</sup>

This study has several strengths including a large, nationally representative sample with a good response rate, an evidence-based measure of disability, and a comprehensive measure of use of family planning services. It does, however, have notable limitations relevant to the present analyses. First, data on disabilities are measured at the date of interview, so the timing of key predictor variables, such as education, as they relate to the onset of disability are difficult to disentangle. Second, using data from the household population means that the smaller population of women aged 15-44 living in institutions are not included in the NSFG. Finally, our measure of disability does not provide context for the severity of disability.

In summary, we consistently found in this analysis of nationally-representative data that US women living with disabilities report lower receipt of family planning services compared to their counterparts without disabilities. The most marked differences were found among the most vulnerable subgroups. These disparities may increase the risk of avoidable health outcomes such as unintended pregnancy among women with disabilities; unintended pregnancy is in turn associated with increased risk of adverse maternal-child health outcomes.<sup>38-41</sup>

Further research is needed to determine the best ways to measure and classify disabilities in the household population represented by large health surveys in the United States, so that disparities in health outcomes can be studied most effectively. This study is a start in that direction. We concur with Horner-Johnson and colleagues<sup>12</sup> who stated, “Research into the contraception preferences and needs of women with disabilities is essential to inform future care” (p. 529.e8). Further research is critical to identify key interventions in practice and policy to address these disparities. Family planning is one of the most effective public health interventions for improved maternal-child health.<sup>36</sup> Thus, ongoing attention to reducing these disparities is critically needed so that women with disabilities can achieve their desired number and timing of births ultimately improving maternal-child health in the US.



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**Table 1**  
**Percent of women 15-44 years of age who received family planning services in the last 12 months, by type of service, disability status, and selected characteristics**

	N	Use of any family planning services <sup>a</sup>	Received a birth control method	Received birth control counseling	Received birth control checkup/test	Received all other family planning services <sup>b</sup>
<b>Total</b>	11,300	41.5%	33.0%	18.8%	25.0%	7.9%
No disability	9,018	42.4%	33.8%	19.2%	25.7%	7.7%
Any disability	2,282	37.7%*	29.2%*	16.6%*	21.9%*	8.9%
<b>Age</b>						
15-24						
No disability	3,072	50.2%	42.8%	23.9%	30.7%	8.3%
Any disability	888	47.9%	39.3%	21.4%	31.4%	8.6%
25-44						
No disability	5,946	38.7%	29.6%	17.1%	23.3%	7.5%
Any disability	1,394	31.9%*	23.5%*	13.9%*	16.6%*	9.2% NS
<b>Marital Status</b>						
Married						
No disability	2,917	39.2%	29.4%	17.0%	23.0%	7.2%
Any disability	493	35.3%	25.6%	14.3%	15.9%*	8.5%
Not married						
No disability	6,101	44.5%	36.8%	20.7%	27.5%	8.1%
Any disability	1,789	38.7%*	30.6%*	17.5%	24.3%	9.2%
<b>Parity</b>						
No births						
No disability	4,055	46.4%	40.1%	20.9%	29.2%	6.5%
Any disability	1,037	43.3%	36.3%	18.5%	26.7%	8.1%
1 or more births						
No disability	4,963	38.9%	28.6%	17.9%	22.7%	8.8%
Any disability	1,245	33.6%*	23.8%*	15.2%	18.3%*	9.7%

	N	Use of any family planning services	Received a birth control method	Received birth control counseling	Received birth control checkup/test	Received all other family planning services§
<b>Race</b>						
Non-Hispanic White						
No disability	4,216	45.0%	36.6%	19.4%	28.5%	6.5%
Any disability	1,069	39.2% *	32.4%	14.5% *	23.7% *	7.2%
<b>Non-Hispanic Black</b>						
No disability	1,882	40.7%	31.8%	20.8%	23.5%	8.9%
Any disability	538	32.9% *	23.1% *	16.5%	17.8% *	8.5%
<b>Hispanic</b>						
No disability	2,288	40.1%	30.4%	19.1%	22.0%	11.5%
Any disability	564	37.8%	24.9%	22.4%	20.8%	13.6%
<b>Education</b>						
<b>HS grad or less</b>						
No disability	2,634	36.9%	27.9%	18.2%	21.8%	9.2%
Any disability	992	30.2% *	21.4% *	12.3% *	17.2% *	8.6%
<b>Some college or more</b>						
No disability	4,835	45.8%	37.0%	19.5%	28.5%	7.7%
Any disability	792	44.5%	34.9%	20.3%	23.7% *	10.9% *
<b>Income/Poverty Level</b>						
<b>0-199</b>						
No disability	3,813	40.3%	30.8%	19.0%	23.7%	9.4%
Any disability	1,264	34.1% *	25.1% *	14.5% *	18.4% *	9.9%
<b>200+</b>						
No disability	3,656	45.2%	36.8%	19.2%	28.5%	7.3%
Any disability	520	41.7%	32.1%	18.6%	23.3%	9.2%
<b>Employment status</b>						
<b>Employed</b>						
No disability	4,937	45.3%	36.5%	19.2%	28.5%	7.8%
Any disability	880	42.1%	32.1%	16.5%	22.5% *	11.3% *

	N	Use of any family planning services <sup>^</sup>	Received a birth control method	Received birth control counseling	Received birth control checkup/test	Received all other family planning services <sup>§</sup>
Not Working						
No disability	2,532	38.5%	29.3%	18.9%	21.9%	9.1%
Any disability	904	30.9%*	22.4%*	15.4%	17.5%*	7.8%
<b>General Health</b>						
Excellent or very good						
No disability	6,415	44.1%	35.6%	19.7%	27.2%	7.3%
Any disability	1,041	38.9%*	29.6%*	18.4%	24.0%	9.0%
Good, fair, poor						
No disability	2,603	37.5%	28.9%	18.1%	21.3%	8.9%
Any disability	1,241	36.8%	28.8%	15.1%	20.2%	9.0%

<sup>^</sup> Any family planning services: Includes received a birth control method, received birth control counseling, received birth control checkup or testing, received emergency contraception, received emergency contraception counseling, received a sterilization procedure, or received sterilization counseling

<sup>§</sup> All other Family Planning Services: Includes received emergency contraception, received emergency contraception counseling, received a sterilization procedure, and received sterilization counseling

\* = p<0.01

**Table 2**  
**Predictors of receipt of any family planning services in the past 12 months among women aged 15-44**

	Model 1	Model 2	Model 3	Model 4
Predictor	Crude Odds Ratio with dichotomous disability measure	Adjusted Odds Ratio with dichotomous disability measure	Crude Odds Ratio with 4-category disability measure	Adjusted Odds Ratio with 4-category disability measure
Sample N	11,300	11,300	11,300	11,300
Women with Disability (ref. no disability)	0.82* (0.72-0.95)	0.80* (0.69-0.93)	----	----
Cognitive Disability only	---	----	0.99 (0.81-1.21)	0.89 (0.72-1.10)
Physical Disability only	----	---	0.76* (0.62-0.93)	0.74* (0.57-0.95)
Both Cognitive & Physical disability	---	---	0.69* (0.54-0.88)	0.74* (0.55-0.98)
Age (ref. 15-24 years)				
25-29 years	1.10 (0.95-1.29)	1.16 (0.97-1.38)	1.10 (0.95-1.29)	1.16 (0.97-1.39)
30-34 years	0.75* (0.64-0.89)	0.79* (0.65-0.98)	0.75* (0.64-0.89)	0.80* (0.66-0.98)
35-44 years	0.38* (0.33-0.44)	0.41* (0.34-0.50)	0.38* (0.33-0.44)	0.41* (0.34-0.51)
Parity (ref: no births)				
Parity 1+	0.61* (0.54-0.70)	0.95 (0.81-1.12)	0.61* (0.54-0.70)	0.95 (0.81-1.12)
General Health (ref: excellent or very good)				
Good, fair, or poor	0.77* (0.69-0.85)	0.83* (0.73-0.95)	0.77* (0.69-0.85)	0.84* (0.73-0.96)
Specification Tests				
_hat	---	0.76*	---	0.74*
_hat <sup>2</sup>	---	-0.24	---	-0.25

\* = p < 0.01

ref: referent group