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Family Planning and Preconception Health Among Men in Their Mid-30s Developing Indicators and Describing Need

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Abstract

The Centers for Disease Control and Prevention and Healthy People 2020 call for improvements in meeting men's reproductive health needs but currently little is known about the proportion of men in need. This study describes men aged 35-39 in need of family planning and preconception care, demographic correlates of these needs, and contraception use among men in need of family planning. Using data from wave 4 (2008-2010) of the National Survey of Adolescent Males (NSAM), men were classified in need of family planning and preconception care if they reported having had sex with a female in the last year and believed that they and their partner was fecund; the former also included men who were neither intentionally pregnant nor intending to have future children and the latter included men intending to have future children. Men were classified as being in need of both if they reported having multiple sex partners in the last year. About 40% of men aged 35-39 were in need of family planning and about 33% in need of preconception care with 12% in need of both. Current partner's age, current union type, and STI health risk differentiated men in need of family planning and preconception care (all p 's<.01) and participants' race/ethnicity further differentiated men in need of preconception care (p <.01). Over half of men in need of family planning reported none of the time current partner hormonal use (55%) or condom use (52%) during the last year. This study identified that many men in their mid-30s are in need of family planning or preconception care.

Introduction

CDC guidelines recommend “women and *men* of childbearing age should have high reproductive awareness (i.e. understand factors related to childbearing) and a reproductive life plan” (i.e. determine steps needed to prevent a pregnancy or optimize health prior to a desired pregnancy) and receive quality family planning services (Gavin et al., 2014).

Although measures of need for pregnancy prevention and preconception care are described for women in the U.S. (D'Angelo et al., 2007; Sonfield, 2006), parallel measures do not exist for men. Further, across the lifespan pregnancy prevention efforts typically focus on preventing unintended pregnancy among adolescents (Thomas, 2012) and more recently young adults (Finer & Zolna, 2011), rather than among other age groups also in need. One age group of men that deserves attention in understanding their pregnancy prevention and preconception care needs is men in their 30s. This group of men contributes to 44% of births and 34% of abortions in the U.S. each year (The Alan Guttmacher Institute, 2002) and a large minority engage in risky sex behaviors or concurrent partnerships (Astone et al., 2013). The National Survey of Adolescent Males (NSAM), now in its fourth wave of data collection, is a unique dataset to examine the family planning and preconception care needs among men in their mid-30s.

Studies have shown that the majority of men believe they share equal responsibility with their female partners for decisions about contraception and about 80% of men aged 35-44 report no future desire for children (Grady et al., 1996; Heinemann et al., 2005; Mitchell et al., 2012). However, estimates of men in need of family planning are lacking. Policy makers in the United States assess “women in need of family planning” as: 1) being sexually active, 2) believing that they and their partner are fecund, and 3) neither intentionally pregnant nor trying to become pregnant (Sonfield, 2006). This measure only accounts for male partners who are sterilized thus rendering a female not in need of family planning. For women, the most recent U.S. estimate finds that about 56% (37.4 million) are in need of family planning services and about 43% (16.0 million) of those in need are aged 30-44 (Frost et al., 2013). Similar estimates for men can provide a greater understanding of men in need of family planning and specifically those men and their partners who are in need of contraception.

The goal of preconception care is to optimize a woman's health prior to conception of a first or subsequent pregnancy in an effort to reduce adverse maternal and infant outcomes such as preterm birth, low birth weight and infant mortality (Dunlop et al., 2007; Johnson et al., 2006). More recent efforts recommend inclusion of males as part of preconception care to be attuned to “anticipatory fatherhood” and minimize gender disparities (Waggoner, 2013). Specific benefits of preconception care for men include improving men's genetic and biologic contributions to a pregnancy, involving men in planning and spacing of pregnancies, and improving men's overall health (Frey et al., 2008). Policy makers in the U.S. assess preconception care needs among women with recent live births in select states via the Pregnancy Risk Assessment Monitoring System (PRAMS) (D'Angelo et al., 2007) but this represents a retrospective review of service receipt after a birth. The most current estimate identified that among all women with recent live births about 30% reported pre-pregnancy health counseling receipt, and among women aged 35 and older 42% reported such care (D'Angelo et al., 2007). Although a recent national survey showed 11% of men aged 18-64 reported having seen, heard or read anything about recommendations for women's preconception health from their healthcare provider, this study did not examine the proportion of men in need of preconception care (Mitchell et al., 2012). Estimates for men in need of preconception care can provide a greater understanding of men needing preconception health services.

Healthy People 2020's and the CDC's objectives call for increasing men's access to reproductive health services (U.S. Department of Health and Human Services, 2010) and preconception care (Johnson et al., 2006), respectively. Receipt of such services by men in need can improve men's overall health and benefit the health of men as well as their partners. Understanding how men in need of family planning and preconception care in their mid-30s vary by their background characteristics can assist in identifying strategies to target services and education to this population. Thus, the goals of this study are to examine 1) the proportion of men in need of family planning and preconception care in their mid-30s; 2) how needs vary by men's background characteristics; and 3) among men in need of family planning, levels of current partner hormonal method and condom use in the last year and characteristics of men reporting less than 100% of either using the fourth wave of the National Survey of Adolescent Males.

Methods

Conceptualization of men in need measures

Measures of men in need of family planning and preconception care were conceptualized by modifying the women's measures and considering multiple sexual partners since *each* fecund partner of a man can become pregnant. Thus:

- Men in need of family planning are those who have had sex with a female in the last year, fecund, have at least one fecund partner who is not currently pregnant and do not intend to have future children.
- Men in need of preconception care are those who have had sex with a female in the last year, fecund, have at least one fecund partner and intend to have children.

Data source and procedures

Data analysis used data from wave 4 (collected 2008-10) of the National Survey of Adolescent Males (NSAM). NSAM began in 1988 with a nationally representative multistage area probability sample of non-institutionalized never-married males aged 15-19 with a response rate of 74% (N=1880). For wave 4 of NSAM, the Institute for Survey Research at Temple University interviewed 61.8% (N=1083) of the original sample members (N=1753) who were not deceased, disabled or imprisoned (Astone et al., 2013). The Johns Hopkins Bloomberg School of Public Health human subjects review board approved this survey and data analysis.

Variables contributing to men in need measures—NSAM survey questions about men's sexual and reproductive health were used to define men in need measures. Sexual behavior questions asked respondents about ever having had sexual intercourse, ever having had sex with a female, having had vaginal sex in the last 12 months, and ever having done any of the following with a male (ever received and/or gave masturbation, oral sex or anal sex; current, other recent or past partner was ever male; or in past 12 months used the internet to find a male sex partner(s)). Based on responses to these questions, respondents were coded as never having had sex, having had sex only with males or sexual behavior in the last year with a female. Respondents were considered fecund if they reported no

vasectomy or physical condition that makes it difficult or impossible to have a child. Men who reported their partner did not have a physical condition that makes it difficult or impossible to have a child or was not sterilized were considered to have a fecund partner. Respondents indicating that they had a currently pregnant partner were coded as such. Respondents who replied yes to the question “Do you intend to have a child/another child sometime?” were coded as intending to have future child(ren). Men were coded as having multiple sexual partners if they recorded 2 or more partners in the last 12 months. Data were collected about every partner's sterilization status but data regarding partner's physical ability to have children was only available for the current partner. Respondents with multiple partners who were fertile and met prior criteria were designated as being in need of family planning and/or preconception care; all respondents reported at least one non-sterile partner.

Background characteristics—Sociodemographic factors included participants' *age*, *partners' age*, *race/ethnicity* (non-Hispanic black, non-Hispanic white, Hispanic or other), *region* (Northeast, South, Midwest, or West), *education* (less than a high school diploma/graduate equivalency degree or more), *wage rate* (quartiles based on the distribution of wages for American men in 2009) (U.S. Bureau of Labor Statistics Office of Employment and Unemployment Statistics), *employment* status (Full-time or part-time versus jobless), *current union type* (married, cohabitating or not in a union).¹ Sexually transmitted infection (STI) health risk was based on respondents reporting affirmative responses to the following: three or more partners in the last year or any risky sex partner, including a sex worker(s), another man, one time only sex partners, or an IV drug user, and coded as STI health risk or not.

Family planning method use—Respondents reported on the percentage of time they used a condom and the percentage of time their current partner used a hormonal method of contraception in the last year, respectively. Responses ranged from 0 to 100 and responses were coded as none of the time (0%), some of the time (1-99%), or all of the time (100%) for condom and hormonal use, respectively.

Data analysis

Frequencies of the indicators contributing to the classifications of men in need or not in need categories were generated (Table 1) and men were classified as being in need of family planning, preconception care, both, or neither. Frequencies and cross-tabulations were then conducted to examine participants' characteristics in general and by need measures using bivariate Poisson analyses to assess associations (Table 2). Poisson analyses were applied to calculate a relative risk (RR) because ORs overestimate RR when the outcome event is common (incidence of 10%) (Barros & Hiraakata, 2003). Next, among men in need of family planning, frequencies of condom and hormonal birth control use with current partner were generated (Table 3) and bivariate Poisson analyses were conducted to examine associations between each participant characteristic with 100% versus <100% condom and current partner hormonal method use, respectively. All analyses were weighted to be

¹Respondents who were married but living with another partner were coded as cohabiting

nationally representative, adjusting for NSAM's clustered sample and over-representation of Black and Hispanic respondents, and also taking into account screening non-response rate, interview non-response rate, and attrition (Ku et al., 1999). Given the relatively large sample size and multiple tests, stringent criteria ($p < 0.01$) were used to determine statistical significance for all analyses. Analyses were conducted using SPSS 12.0.

Results

Forty percent of men ($n=446$) were identified in need of family planning and 33% ($n=375$) in need of preconception care (Table 1). Men in need included about 1 in 3 men (28%, $n=285$) who reported no future child intentions and were thus in need of family planning; 19% ($n=189$) who reported intentions to have future children and 1% ($n=25$) who reported current pregnant partner and intentions to have future children and were thus in need of preconception care; and about 12% ($n=161$) who reported multiple sexual partners in the last year and were thus in need of both family planning and preconception care. The majority (61%, $n=660$) of men in their mid-30s were in need of family planning or preconception care.

About 39% (61%, $n=423$) of men were not identified to be in need of either family planning or preconception care (Table 1); about 2% ($n=29$) reported having had sex with men only or no sexual experience; 37% ($n=389$) reported having had a vasectomy or a physical condition making it difficult or impossible to have children, or a partner who was sterilized or had a physical condition making it difficult or impossible to have children and no other partners in the last 12 months; and less than 1% ($n=5$) reported a current pregnant partner and no future child intentions.

Background characteristics of men in need

The percent of men in need of family planning varied by current partner's age, union status and STI health risk (all p 's $< .01$, Table 2). Men in need of family planning were 1.48 (95% Confidence Interval [95% CI]=1.10-2.00) times more likely to report current partners 29 years old or younger versus same-aged current partners; 1.76 (1.39-2.35) times more likely to report not being in a union and not cohabiting versus married only; and 2.16 (1.77-2.62) times more likely to report STI health risk versus no risk.

The percent of men in need of preconception care varied by current partner's age and respondents' race/ethnicity, current union status, and STI health risk (all p 's $< .01$, Table 2). Men in need of preconception care were 2.87 (2.02-4.10); 1.97 (1.38-2.82); and 2.08 (1.39-3.09) times more likely to report current partners 29 years old or younger, 30-34 years, and 40 years old or older versus same-aged current partners, respectively; 1.41 (1.09-1.81) times more likely to report being Black and 1.71 (1.25-2.35) times more likely to report being Hispanic versus White, respectively; 2.61 (2.01-3.41) times more likely to report not being in a union and not cohabiting versus married only; and 2.28 (1.77-2.93) times more likely to report STI health risk versus no risk.

Levels of current partner hormonal method and condom use among men in need of family planning

The majority of men in need of family planning reported in the last 12 months their current partner used a hormonal method none of the time (55%, n=211) or some of the time (6%, n=37) with only 26% (n=104) reporting partner hormonal method use all of the time (Table 3). The majority of these men reported using condoms none of the time (52%, n=202) or some of the time (19%, n=95) with only 20% (n=75) reporting condom use all of the time. Among men in need of family planning, condom use varied by men's union status but not by other participants' background characteristics; condom use all of the time was 0.34 (0.14-0.81) times less likely among men reporting current partners 29 years old or younger versus same-aged current partners. Among men in need of family planning, partner hormonal method use did not vary by any participants' background characteristics.

Discussion

This study highlights among men aged 35-39 40% were in need of family planning and 33% in need of preconception care. Further, among men in need of family planning, only about one-quarter reported using condoms all of the time and one-fifth reported their current partner used hormonal methods all of the time.

This is one of the first studies to use a similar approach that has been used to define women in need of family planning to describe the proportion of men in need of family planning. This study also examined men with future child intentions and described the proportion of men in need of preconception care. Both measures incorporated an additional factor from the original definition – that of multiple sex partners in the past year – without which men in need for family planning would have been underestimated by about 12%. Further, these same men reported intentions to have future children with at least one of their partners and thus were identified to be in need of both family planning and preconception care. Gaining a better understanding of men in need of reproductive care is important to understand the proportion of men in need of such services, how to better target services to this population, as well as track those who receive or do not receive related services. Future work should consider applying the measurement strategy used here to describe men in need of family planning and preconception care among a wider age-range of men as well as examine their access to appropriate care.

This study identified that among men aged 35-39 in need of family planning who were sexually active in the last year, less than one-quarter reported all of the time partner hormonal method use or condom use. These findings are relatively consistent with 2002 data from the National Survey of Family Growth (NSFG) (Martinez et al., 2006). However, the NSFG tabulations on condom and partner hormonal method use in the last year consider all men within an age group, rather than just among men who are in need as defined in this study; thus, NSFG estimates represent the entire population and may underestimate the reporting of men's and their partners' contraceptive method use. The NSFG tabulations on contraception method use also do not account for men with multiple partners or respondents' partners' fecundity status. Findings from this study highlight the need to identify strategies to improve contraceptive behaviors among men in their mid-30s as well as that of their

partners since interventions with this age group has historically received little attention. Preliminary findings from a large-scale national evaluation suggest that recruitment of males through clinic outreach and in-reach, restructuring clinic environments, and training clinic staff on the delivery of male services results in an increase in male patients and ultimately may translate in increased receipt of family planning services (Johnson et al., 2014).

This study identified similar participant background characteristics differentiated men in greater need of family planning and preconception care (i.e. participants with current partners 29 years old or younger, not in a union and not cohabiting, and high STI health risk) that can serve as targets for potential interventions. These findings should not be too surprising and are consistent with other studies that have shown increased risk of unintended pregnancy and STIs among college-aged men with younger aged partners (Manlove et al., 2006). These findings also highlight the need to better integrate STI, family planning and preconception care services for men as has been highlighted for women (Farr et al., 2009).

Race/ethnicity also differentiated men in greater need of preconception care (with Black and Hispanic males in greater need than White males). These findings are consistent with U.S. natality data (2011) that show higher birth rates for Black men aged 35-39 (66.7 births per 1,000) than similarly aged White males (62.5 births per 1,000) (U.S. father's birth rate data is not reported by ethnicity) (Hamilton et al., 2013). Although guidelines for preconception care are not specific with respect to race/ethnicity, one study reported that among male and female clients aged 13-44 seeking reproductive health care desired timing of childbearing varied by race/ethnicity (Foster et al., 2008). In this study, more White clients were identified to be seeking to delay pregnancy than Latino or African American clients and more Latino and African American clients were identified to be currently pregnant or seeking pregnancy or want no more children.

This study identified that men in need of family planning who also did not use condoms 100% of the time reported having current partners 29 years old or younger (representing more than half of 9% of the sample in need or about 5% of the total sample). Lack of consistent condom use may be one of the contributing factors, in part, to the high rates of unintended pregnancy among women aged 20-29 (Finer & Zolna, 2011). Future work should consider examining event specific contraceptive method use since it is possible that more than one method is being used by couples to prevent pregnancy that cannot be measured here. Future research is also needed to gain a better understanding of the factors associated with men in need of family planning who are also in need of using contraceptive methods including condoms and partner hormonal methods since this study was not able to differentiate these men by their background characteristics.

Overall, study findings highlight the need to identify strategies to promote well-men's care among men in their mid-30s that effectively integrates sexual and reproductive health to ensure men receive appropriate family planning or preconception care since many of these services aim to improve men's overall health. One such an approach is the promotion of men to make a reproductive life plan to assist them in considering their family planning and/or preconception care needs. Health care providers may also need to take a more proactive approach with their male patients by assessing reproductive life plans so that patients'

contraception histories can be better understood in context. Although adult men do not need to see a doctor to get condoms, findings from this study show that health care providers who see men of this age group may also want to address these men's partners' hormonal method needs. Among men with preconception care needs, such care can provide an opportunity to address their overall health and, specifically, optimize their health prior to a planned pregnancy. Although the impact of preconception interventions on men's reproductive capacity, the subsequent pregnancy, and infant outcomes have yet to be conducted, it is known that certain medical conditions, medications, substance abuse, STIs, and exposure to occupational and environmental toxins can negatively influence a man's future reproductive capacity (Frey et al., 2008; Jack et al., 2008). Further, it is possible that some men with preconception care needs may also have other concerns, such as concerns about their fertility that was not assessed in this study. For example, according to the NSFG, men aged 30 or older are twice as likely to report an infertility problem as compared to males aged 15-29 (Martinez et al., 2006). Estimates of men with concerns about infertility would be more precise when considering infertility concerns among men in need of preconception care.

This study has a number of limitations. Estimates described in this study were representative of men aged 35-39 who resided in the US in 1988. Men who immigrated to the US after the initial cohort was recruited in 1988 were not represented. Further, estimates were dependent upon information solicited by the survey. In 2008-10, the instrument asked only about future child intentions but did not clarify whether the child was desired immediately or sometime in the future. This lack of clarity may have potentially deflated the percent of men in need of family planning and inflated the percent men in need of preconception care. Since the study sample was composed of men in their mid-30s, however, the majority may be closer to the end of their childbearing and the estimate may be more accurate than one developed for younger aged men. Finally, for 12% of the sample with more than one partner in the last year, physical inability to have children was not assessed for all partners. While this may have led to an overestimate of men in need, this is probably minor as it is unlikely that all non-sterile partners have a physical inability to have children. Offsetting these limitations were the study's reliance on data from a national sample of men.

Conclusions

This study highlights that about 40% of men aged 35-39 are in need of family planning, 33% in need of preconception care and 12% are in need of both secondary to involvement with multiple sex partners. Further, among men in need of family planning, all of the time use of condoms and current partner use of hormonal methods was reported by less than one-quarter of these men, respectively. Future work should apply the measures used in this study to describe family planning and preconception needs among a wider age range of men and evaluate the extent to which these men receive related services.

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References

- Astone NM, Pleck JH, Dariotis JM, Marcell AV, Emerson M, Shapiro S, Sonenstein FL. Union status and sexual risk behavior among men in their 30s. *Perspect Sex Reprod Health*. 2013; 45(4):204–209. [PubMed: 24188587]
- Barros AJ, Hirakata VN. Alternatives for logistic regression in cross-sectional studies: an empirical comparison of models that directly estimate the prevalence ratio. *BMC Medical Research Methodology*. 2003; 3:21. [PubMed: 14567763]
- D'Angelo D, Williams L, Morrow B, Cox S, Harris N, Harrison L, Posner SF, Hood JR, Zapata L. Preconception and interconception health status of women who recently gave birth to a live-born infant--Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 26 reporting areas, 2004. *MMWR. Surveillance Summaries*. 2007; 56(10):1–35.
- Dunlop AL, Jack B, Frey K. National recommendations for preconception care: the essential role of the family physician. *J Am Board Fam Med*. 2007; 20(1):81–84. [PubMed: 17204739]
- Farr SL, Kraft JM, Warner L, Anderson JE, Jamieson DJ. The integration of STD/HIV services with contraceptive services for young women in the United States. *Am J Obstet Gynecol*. 2009; 201(2): 142 e141–148. [PubMed: 19481723]
- Finer LB, Zolna MR. Unintended pregnancy in the United States: incidence and disparities, 2006. *Contraception*. 2011; 84(5):478–485. [PubMed: 22018121]
- Foster DG, Biggs MA, Ralph LJ, Arons A, Brindis CD. Family planning and life planning reproductive intentions among individuals seeking reproductive health care. *Womens Health Issues*. 2008; 18(5):351–359. [PubMed: 18485738]
- Frey KA, Navarro SM, Kotelchuck M, Lu MC. The clinical content of preconception care: preconception care for men. *American Journal of Obstetrics & Gynecology*. 2008; 199(6 Suppl 2):S389–395. [PubMed: 19081435]
- Frost, J.; Zolna, MR.; Frohwirth, L. *Contraceptive Needs and Services, 2010*. Guttmacher Institute; New York: 2013. <http://www.guttmacher.org/pubs/win/contraceptive-needs-2010.pdf>
- Gavin L, Moskosky S, Carter M, Curtis K, Godfrey E, Marcell AV, Tepper N, Zapata L. Guidance for providing quality family planning services: Recommendations of CDC and the U.S. Office of Population Affairs. *MMWR*. 2014; 63(4):1–54. [PubMed: 24759690]
- Grady WR, Tanfer K, Billy JO, Lincoln-Hanson J. Men's perceptions of their roles and responsibilities regarding sex, contraception and childrearing. *Family Planning Perspectives*. 1996; 28(5):221–226. [PubMed: 8886765]
- Hamilton B, Martin J, Ventura SJ. Births: Preliminary Data for 2011. *National Vital Statistics Reports*. 2013; 61(5)
- Heinemann K, Saad F, Wiesemes M, White S, Heinemann L. Attitudes toward male fertility control: results of a multinational survey on four continents. *Human Reproduction*. 2005; 20(2):549–556. [PubMed: 15608042]
- Jack BW, Atrash H, Coonrod DV, Moos MK, O'Donnell J, Johnson K. The clinical content of preconception care: an overview and preparation of this supplement. *American Journal of Obstetrics and Gynecology*. 2008; 199(6 Suppl 2):S266–279. [PubMed: 19081421]
- Johnson, DM.; Warner, L.; Carlon, A.; Fine, D. Male Reproductive Health Project 2009–2013: Program Implementation, Research Results and Implications for STD Service Delivery 2014.. Paper presented at the 2014 STD Prevention Conference; Atlanta GA. 2014. <https://cdc.confex.com/cdc/std2014/webprogram/Paper34687.html>.
- Johnson K, Posner SF, Biermann J, Cordero JF, Atrash HK, Parker CS, Boulet S, Curtis MG. Recommendations to improve preconception health and health care--United States. A report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. *MMWR Recomm Rep*. 2006; 55(RR-6):1–23. [PubMed: 16617292]
- Ku, L.; Williams, S.; Lindberg, LD.; Pernas, M.; Martinez, G. Documenting the Public-use Data Set for the Old Cohort of the 1995 National Survey of Adolescent Males. Urban Institute; Washington, DC: 1999.

- Manlove J, Terry-Humen E, Ikramullah E. Young teenagers and older sexual partners: correlates and consequences for males and females. *Perspect Sex Reprod Health*. 2006; 38(4):197–207. [PubMed: 17162312]
- Martinez GM, Chandra A, Abma JC, Jones J, Mosher WD. Fertility, contraception, and fatherhood: Data on men and women from Cycle 6 (2002) of the 2002 NSFG. *Vital Health Stat*. 2006; 23(26)
- Mitchell EW, Levis DM, Prue CE. Preconception health: awareness, planning, and communication among a sample of US men and women. *Matern Child Health J*. 2012; 16(1):31–39. [PubMed: 20734124]
- Sonfield A. Working to Eliminate the World's Unmet Need for Contraception. *Guttmacher Policy Review*. 2006; 9(1):10–13.
- The Alan Guttmacher Institute. In Their Own Right: Addressing the Sexual and Reproductive Health Needs of American Men. Alan Guttmacher Institute; 2002. p. 1-88.
- Thomas, A. Policy solutions for preventing unplanned pregnancy. Center on Children and Families at Brookings; Washington, DC: 2012. (No. CCF Brief # 47: http://www.brookings.edu/~media/research/files/reports/2012/3/unplanned%20pregnancy%20thomas/03_unplanned_pregnancy_thomas)
- U.S. Bureau of Labor Statistics Office of Employment and Unemployment Statistics. [February 10, 2013] Employment and Wages Online Annual Averages. 2009. from <http://www.bls.gov/cew/cewbultn09.htm>
- U.S. Department of Health and Human Services. [February 10, 2012] Healthy People 2020 Objectives. 2010. 2012, from <http://www.healthypeople.gov/2020/topicsobjectives2020/pdfs/HP2020objectives.pdf>
- Waggoner MR. Motherhood preconceived: the emergence of the Preconception Health and Health Care Initiative. *Journal of Health Politics, Policy and Law*. 2013; 38(2):345–371.

Table 1

Men in need of family planning and preconception care

Contributing variables	Men not in need		Men in need of family planning		Men in need of preconception care	
	N ^a	% ^b	N ^a	% ^b	N ^a	% ^b
MSM only or never sexually active	29	2.1	-	-	-	-
Male with vasectomy or physical condition making it difficult or impossible to have children, or female partner sterilized or physical condition making it difficult or impossible to have children; and male with no multiple sexual partners in last 12 months	389	36.9	-	-	-	-
Current partner pregnant and no intentions to have future child	5	0.3	-	-	-	-
No intentions to have future children	-	-	285	27.9	-	-
Fecund and intentions to have future children	-	-	-	-	189	19.1
Fecund and multiple sexual partners in last 12 months	-	-	161	12.3	161	12.3
Fecund and current partner currently pregnant and intentions to have future child	-	-	-	-	25	1.4
Total^{c, d}	423	39.3	446	40.2	375	32.8

^aUnweighted N^bWeighted %^cTotal in need of family planning & preconception care 12.3% (n=161)^dTotal in need of family planning or preconception care 60.7% (n=660)

Participants' background characteristics, percent of men in need among background characteristics, and association between background characteristics with being in need

Table 2

Background characteristics	Total sample (n=1082)						Among background characteristics, men in need					
	Family planning (n=446)			Preconception care (n=375)			Family planning (n=446)			Preconception care (n=375)		
	N ^a	% ^b	RR (95% CI) ^c	N ^a	% ^b	RR (95% CI) ^c	N ^a	% ^b	RR (95% CI) ^c	N ^a	% ^b	RR (95% CI) ^c
Participant's age ^d												
35 or younger	144	15.3	-	59	39.4	-	62	40.0	-			
36	194	18.7	-	84	43.3	-	74	39.6	-			
37	259	20.9	-	106	42.9	-	86	33.6	-			
38	224	21.2	-	91	36.7	-	72	24.9	-			
39 or older	262	24.0	0.98 (0.90-1.06)	106	38.6	0.98 (0.90-1.06)	81	28.8	0.89 (0.81-0.99)			
Current partner's age												
29 or younger	117	9.0	1.48 (1.10-2.00)*	61	56.1	1.48 (1.10-2.00)*	73	61.2	2.87 (2.02-4.10)**			
30-34	249	22.9	0.94 (0.68-1.28)	96	35.5	0.94 (0.68-1.28)	100	42.3	1.97 (1.38-2.82)**			
35-39	421	44.1	Ref	157	38.1	Ref	100	21.5	Ref			
40 or older	146	11.4	0.99 (0.66-1.47)	56	37.4	0.99 (0.66-1.47)	37	21.0	0.97 (0.53-1.77)			
Missing on partner's age	150	12.5	1.22 (0.88-1.69)	76	46.3	1.22 (0.88-1.69)	65	44.4	2.08 (1.39-3.09)**			
Race/ethnicity												
Black	365	14.1	1.10 (0.89-1.36)	164	43.4	1.10 (0.89-1.36)	141	40.5	1.41 (1.09-1.81)*			
White	466	73.8	Ref	178	39.5	Ref	127	28.8	Ref			
Hispanic	219	9.8	0.96 (0.69-1.33)	85	37.7	0.96 (0.69-1.33)	94	49.1	1.71 (1.25-2.35)**			
Other	33	2.3	1.25 (0.75-2.07)	19	48.0	1.25 (0.75-2.07)	13	44.0	1.53 (0.86-2.74)			
Region												
Northeast	136	15.2	Ref	56	41.2	Ref	48	34.5	Ref			
Midwest	197	22.3	0.86 (0.58-1.28)	78	35.5	0.86 (0.58-1.28)	62	26.1	0.76 (0.48-1.22)			
South	531	39.9	0.99 (0.71-1.38)	219	40.7	0.99 (0.71-1.38)	179	31.8	0.93 (0.63-1.37)			
West	214	22.4	1.05 (0.26-2.96)	91	43.2	1.05 (0.26-2.96)	85	39.9	1.16 (0.77-1.75)			
Highest level of education completed												

Background characteristics	Total sample (n=1082)						Among background characteristics, men in need					
	N ^a	% ^b	N ^a	% ^b	RR (95% CI) ^c	N ^a	% ^b	RR (95% CI) ^c	N ^a	% ^b	RR (95% CI) ^c	
<High school	522	40.1	233	44.2	Ref	176	26.5	Ref	176	26.5	Ref	
High school diploma/GED	561	59.9	213	37.4	0.85 (0.68-1.06)	199	36.8	1.39 (1.05-1.83)	199	36.8	1.39 (1.05-1.83)	
Wage rate quartile ^{d, e}												
1st quartile	254	17.3	111	44.9	-	99	33.2	-	99	33.2	-	
2nd quartile	232	17.2	96	40.9	-	79	34.2	-	79	34.2	-	
3rd quartile	277	27.0	104	34.2	-	92	31.7	-	92	31.7	-	
4th quartile	303	36.5	127	42.7	0.98 (0.89-1.09)	100	33.3	1.00 (0.89-1.12)	100	33.3	1.00 (0.89-1.12)	
Employment status												
Not employed	162	11.0	70	36.1	Ref	60	39.2	Ref	60	39.2	Ref	
Employed	920	88.9	376	40.7	1.12 (0.78-1.59)	314	31.9	0.82 (0.56-1.18)	314	31.9	0.82 (0.56-1.18)	
Current union type												
Married only	643	63.6	203	32.5	Ref	158	22.4	Ref	158	22.4	Ref	
Cohabiting regardless of marriage status	158	11.0	76	44.5	1.38 (1.01-1.88)	64	32.8	1.46 (0.99-2.16)	64	32.8	1.46 (0.99-2.16)	
Not in a union & not cohabiting	282	25.4	167	57.5	1.76 (1.39-2.34) **	153	58.5	2.61 (2.01-3.41) **	153	58.5	2.61 (2.01-3.41) **	
STI health risk												
No	888	81.6	307	33.1	Ref	241	26.5	Ref	241	26.5	Ref	
Yes	195	18.4	139	71.4	2.16 (1.77-2.62) **	134	60.3	2.28 (1.77-2.93) **	134	60.3	2.28 (1.77-2.93) **	

* $p < .01$ ** $p < .001$ ^a Unweighted N^b Weighted %^c Data represent unadjusted relative risk (RR) and 95% Confidence Intervals (95% CIs) from separate bivariate Poisson regression models examining the association between participants' background characteristics with being in need of family planning and preconception care.^d Modeled as a continuous variable^e Based on 2008 national averages

Table 3

Level of current partner hormonal and condom use among men in need of family planning who were sexually active in the last 12 months (n=405)

Level of current partner hormonal & condom use during last 12 months	% Distribution	
	N ^a	% ^b
Current partner hormonal use ^c		
None of the time (0%)	211	55.0
Some of the time (1-99%)	37	5.8
All of the time (100%)	104	25.7
Condom use ^d		
None of the time (0%)	202	51.7
Some of the time (1-99%)	95	19.2
All of the time (100%)	75	20.0

^aUnweighted N

^bWeighted %

^cMissing data = 53 cases (13.4%)

^dMissing data = 33 cases (9.1%)