American Indian and Alaska Native Men's Use of Sexual Health Services, 2006–2010

CONTEXT: *American Indian and Alaska Native men experience poorer sexual health than white men. Barriers related to their sex and racial identity may prevent them from seeking care; however, little is known about this population's use of sexual health services.*

METHODS: *Sexual health service usage was examined among 923 American Indian and Alaska Native men and 5,322 white men aged 15–44 who participated in the 2006–2010 National Survey of Family Growth. Logistic regression models explored differences in service use by race and examined correlates of use among American Indians and Alaska Natives.*

RESULTS: *Among men aged 15–19 and those aged 35–44, men with incomes greater than 133% of the federal poverty level, men with private insurance, those living in the Northeast and those living in rural areas, American Indians and Alaska Natives were more likely than whites to use STD or HIV services (odds ratios, 1.5–3.2). The odds of birth control service use did not differ by race. Differences in service use were found among American Indian and Alaska Native men: For example, those with a usual source of care had elevated odds of using sexual health services (1.9–3.4), while those reporting no recent testicular exam had reduced odds of using these services (0.3–0.4).*

CONCLUSIONS: *This study provides baseline data on American Indian and Alaska Native men's use of sexual health services. Research exploring these men's views on these services is needed to help develop programs that better serve them.*

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By Megan A. Cahn, S. Marie Harvey and Matthew A. Town

Megan A. Cahn is postdoctoral research fellow, and S. Marie Harvey is associate dean for research and graduate programs and distinguished professor, both at the College of Public Health and Human Sciences, Oregon State University, Corvallis, OR. At the time this article was written, Matthew A. Town was adjunct faculty, School of Community Health, College of Urban and Public Affairs, Portland State University, Portland, OR.

American Indian and Alaska Native men have poorer sexual health outcomes than white men, including higher rates of STDs, HIV and teenage pregnancy involvement. For example, the rates of chlamydia and gonorrhea are three times higher among American Indian and Alaska Native men than among white men.[1] The incidence of HIV is 18.3 per 100,000 among American Indian and Alaska Native men, and 12.6 per 100,000 among white men.[2] And among teenagers, the rate of pregnancy involvement is three times as high among American Indian and Alaska Native men as among white men,[3] a difference that contributes to the persistent disparities in rates of teenage pregnancy and birth between these groups.[4]

American Indian and Alaska Native men need testing and treatment services if they have contracted an STD or HIV, and they need access to information, counseling and barrier methods to prevent unintended pregnancy and the transmission of STDs and HIV. The sexual health disparities between these men and white men may be partly explained by differences in the utilization of sexual health services: American Indian and Alaska Native men may be unlikely to seek care because of barriers associated with their sex and racial identity.

Despite ongoing efforts to increase the frequency with which men seek sexual health care in general, their rates of service use are persistently low.[5,6] Two studies using data from the National Survey of Family Growth (NSFG) identified correlates of men's use of sexual health services. Kalmuss and Tatum used NSFG data from 2002 to examine men's use of any sexual health service,[6] while Chabot et al. used 2006–2010 data to separately examine correlates of birth control services and of STD and HIV services.[5] In both studies, the researchers found that men who have public health insurance, those who have had at least two female sexual partners in the past year and those who have received a physical exam in the past year are more likely than others to use sexual health services. Kalmuss and Tatum found that men who are not married or cohabiting are more likely than those who are to report sexual health service use, and that Hispanic men are more likely than white men to use such services.[6] Chabot et al. found similar associations, but only for use of STD or HIV services, not birth control service use.[5] Importantly, neither of these studies examined American Indian and Alaska Native men's use of services.

Other researchers have found that barriers to men's use of health services in general include real and perceived norms surrounding masculinity[7] and lack of insurance coverage.[8] Researchers have found similar barriers to men's use of sexual health services[9] and have identified additional barriers, including a lack of guidelines for the provision of men's sexual health services,[6,10] lack of clinics and programs

focused on and designed for heterosexual men[6,11] and inadequate provider training.[6,12] Men, including American Indian and Alaska Native men, are less likely than women to seek preventive health services generally,[13,14] and they therefore have more limited opportunities to discuss birth control or STDs and HIV with a health care provider.

For American Indian and Alaska Native men, characteristics associated with racial identity may compound the barriers to sexual health service use that men experience generally. Specifically, American Indians and Alaska Natives are more likely than whites to be low-income and to lack health insurance,[15] and to report cost, transportation, and racial or ethnic discrimination as barriers to using medical care.[16–18]

The Indian Health Service (IHS) plays an important role in health care access for many American Indians and Alaska Natives, and may facilitate their use of sexual health services. The IHS funds health care services at its own facilities, as well as at tribal and urban Indian health organizations, which increases tribal members' access to free and culturally relevant services. Among uninsured American Indians and Alaska Natives, those with access to the IHS are more likely than those without such access to report having a usual source of care and to have had a doctor's visit in the past year.[19] Unfortunately, fewer than half of American Indians and Alaska Natives are served by the IHS.[15] Most of those with access to the IHS reside in rural communities near federal reservations, but 71% of American Indians and Alaska Natives live in urban areas.[15,20] Urban Indian health organizations provide services (some of which are free) to American Indians and Alaska Natives residing in urban areas in 19 states; however, these organizations receive less than 1% of the IHS budget.[21]

Despite the growing body of literature on men's use of sexual health services, few studies have focused on American Indian and Alaska Native men. Of those, most have explored STD and HIV services and specific subpopulations, or have not examined service utilization outside of IHS-funded clinics.[22–25]

One national study used Behavioral Risk Factor Surveillance System data for 2000–2010 to examine HIV testing among American Indian and Alaska Native men who resided in counties with or adjacent to federally recognized tribal reservations.[22] The researchers found that these men were more likely than whites to have ever been tested for HIV. Although this study provided insight into sexual health service use in a national population of American Indian and Alaska Native men, it examined only ever-use of HIV testing and did not address the use of other sexual health services.

Two other studies examined barriers to STD and HIV services for subpopulations of American Indians and Alaska Natives. In a regional study of IHS, tribal and urban Indian health clinics, health care providers reported numerous barriers to the provision of services, including a lack of clinic resources, difficulty getting at-risk patients to come to the clinic, patient concerns about privacy and financial issues for both the clinic and the patients.[24] These provision barriers may impede American Indian and Alaska Native men's use of sexual health services. In a study of gay and two-spirit American Indian and Alaska Native men residing in Oklahoma City, participants reported additional barriers: mistrust of the government or the IHS, a lack of culturally sensitive prevention and treatment services, limited clinic hours and a lack of transportation.[25] These results suggest that American Indian and Alaska Native men face substantial barriers to accessing STD and HIV services.

Even less is known about American Indian and Alaska Native men's use of family planning services. In 2014, American Indian and Alaska Native men accounted for 0.1% of all family planning clients at Title X–supported clinics,[26] although they account for approximately 1% of the total U.S. population.[27] In addition, clients at Title X–supported clinics tend to be uninsured and under the age of 30, with incomes at or below the federal poverty level; given the proportion of American Indians and Alaska Natives with these characteristics, it seems that Title X–supported clinics are not adequately reaching American Indian and Alaska Native men.[26]

Rink et al. published one of the only scientific studies on American Indian and Alaska Native men's use of family planning services.[28] The researchers used community-based participatory research methods to examine intentions to use family planning services among 18–24-year-old American Indian men's on the Fort Peck Reservation in Montana. Overall, 88% of the men reported an intention to use family planning services within the next year, but the proportion declined with age. In addition, men who already had children were more likely to report an intention to seek family planning services than were men with no children. However, this study did not measure actual use of services, and because of its small sample size (112 men) and limited population focus, the results cannot be generalized to the national level.

The goals of the current study were to determine, using national-level data, if American Indian and Alaska Native men's use of sexual health services differs from that of white men and to identify correlates of American Indian and Alaska Native men's use of services.

METHODS

Data

To provide baseline data on sexual health service usage among American Indian and Alaska Native men, we used data from the NSFG because it is nationally representative, has comprehensive measures of sexual health service use, measures use at any health site, and contains a sufficiently large sample of American Indians and Alaska Natives to allow for an assessment of disparities in use. We analyzed data from the in-person and audio computer-assisted self-interview questionnaires from the 2006–2010 survey, which had a 75% response rate for males and included 10,403 men aged 15–44. Detailed information about the NSFG design and sampling can be found elsewhere.[29]

Restricted race data were required to complete our analyses. Because the sample size of American Indians and Alaska Natives in the NSFG is small, these race data are not available in the public data files. We submitted a proposal to the National Center for Health Statistics Research Data Center to access these data for our analyses, which was approved by the National Center for Health Statistics Ethics Review Board.

Sample

Our study focused on the subsample of 6,245 men who had complete data on the services of interest and were classified as either American Indian or Alaska Native (923) or white (5,322). A man was classified as American Indian or Alaska Native if he selected only "American Indian or Alaska Native" when asked to identify his racial group or if he selected that option as the term that best described his racial background. An American Indian or Alaska Native in this study could identify as either Hispanic or not Hispanic; American Indians and Alaska Natives who identified as Hispanic were included because we were interested in learning about this understudied group as a whole. We classified a man as white if he selected only "white" as the racial group that described him or as the term that best described his racial background. Any white respondent who also reported American Indian or Alaska Native as part of his racial identity or who identified his ethnicity as Hispanic was excluded. We included only non-Hispanic white men because these men historically have had better health outcomes than American Indian and Alaska Native men. Also, previous studies examining racial disparities in sexual health service use by men have used non-Hispanic whites as the comparison group.[5,6] Using the same comparison group allows us to compare our findings with those of previous studies. We included men in our study regardless of sexual experience. Thus, our sample includes sexually inexperienced men and men who reported having had sex with another man.

Measures

•***Dependent variables.*** We used data from questions assessing sexual health service use to construct our two binary dependent variables: any use of birth control services and of STD or HIV services in the last 12 months. Men were asked whether they had received services at a family planning clinic in the last 12 months and, if they had, which services they had received (including abortion counseling). A series of questions also asked about specific health services received in any medical context in the previous 12 months, including a physical exam, a testicular check, counseling about birth control methods, counseling about sterilization, and counseling about STDs or HIV. In addition, men were asked if they had ever received an HIV test other than when giving blood and, if so, when the last test was completed. We constructed a variable for HIV testing in the past 12 months that was based on the date given for the last HIV test outside of blood donation. Finally, men were asked whether they had been tested or treated for an STD in the last 12 months.

We considered a man to have used a birth control service if he reported receiving counseling about birth control methods (including sterilization) or abortion, or had received a method (condoms or sterilization). If a man reported receiving STD testing, treatment or counseling, or HIV testing or counseling, we considered him to have received STD or HIV services.

•***Independent variables.*** We used Andersen's behavioral model of health services use[30] to guide our selection of independent variables; this model has been used extensively to examine correlates of health service use among U.S. populations, including American Indians and Alaska Natives and other minority populations.[31,32] It also has been used as a framework to examine men's use of sexual health services.[5] We used it to allow for comparisons between our findings and those of previous researchers.

Andersen's model posits that health behaviors, such as the use of health services, are a product of a variety predisposing, enabling and need characteristics. Predisposing characteristics are social and cultural variables that may be associated with whether a person seeks appropriate health services. We included age, education and race as predisposing characteristics. Men's use of sexual health services may be related to their stage in life, represented by age; their ability to effectively use sexual health services may be associated with their social status, represented by education and race. Age was categorized as 15–19, 20–24, 25–34 or 35–44; education as less than high school, high school diploma or GED, some college or associate's degree, or college degree; and race as American Indian or Alaska Native, or white.

Enabling characteristics are the resources available to finance health behaviors and the organization of available health services. We examined income (less than or equal to versus greater than 133% of the federal poverty level), health insurance (private, public or none)* and the availability of health services. Five measures assessed health service availability: having a usual source of care, receipt of a physical exam in the last 12 months, receipt of a testicular exam in the last 12 months, region of residence (categorized as Northeast, Midwest, South or West) and urban-rural residence. Men with lower incomes and those without insurance may experience greater difficulties accessing services than men with higher incomes and those who are insured. Region and place of residence may be associated with the type of services available because of differences in government policies, resources and funding efforts across the country.

Need characteristics reflect one's perception of the existence or risk of a health condition, whether one has

*Private insurance denoted coverage through private plans, Medi-Gap and single-service plans. Public denoted coverage through coverage through Medicaid, the Children's Health Insurance Program, state-sponsored plans, Medicare, the military, other government plans and the Indian Health Service.

TABLE 1. Percentage distribution of American Indian and Alaska Native men and of white men aged 15–44, by selected characteristics with various types of theoretical links to health services use, National Survey of Family Growth, 2006–2010

Characteristic	American Indian/ Alaska Native (N = 923)	White (N = 5,322)
PREDISPOSING		
Age		
15–19	17.4 (1.6)	16.8 (0.8)
20–24	15.8 (1.9)	17.3 (1.4)
25–34	36.2 (2.6)	30.7 (1.1)
35–44	30.5 (2.5)	35.2 (1.4)
Education* **		
<high school	50.6 (2.7)	22.1 (1.1)
High school/GED	29.2 (2.5)	23.0 (1.1)
Some college/associate's degree	15.4 (1.6)	29.5 (1.4)
College degree	4.8 (1.0)	25.4 (1.2)
ENABLING		
Income (as % of federal poverty level)* **		
≤133%	42.3 (2.4)	17.6 (1.0)
>133%	57.7 (2.4)	82.4 (1.0)
Current insurance* **		
Private	34.3 (4.0)	73.7 (1.3)
Public	14.4 (1.8)	10.1 (0.8)
None	51.3 (4.4)	16.2 (1.0)
Has usual source of care* **		
Yes	59.3 (3.5)	77.5 (1.0)
No	40.7 (3.5)	22.5 (1.0)
Physical exam in last 12 mos.		
Yes	41.9 (3.2)	47.8 (1.1)
No	58.1 (3.2)	52.2 (1.1)
Testicular exam in last 12 mos.		
Yes	31.3 (3.0)	37.5 (1.1)
No	68.7 (3.0)	62.5 (1.1)
Region* **		
Northeast	6.5 (1.1)	17.8 (1.9)
Midwest	13.6 (3.4)	32.0 (3.0)
South	27.6 (4.7)	30.8 (2.7)
West	52.4 (6.1)	19.4 (2.9)
Residence		
Urban	80.5 (7.1)	72.8 (2.4)
Rural	19.5 (7.1)	27.2 (2.4)
NEED		
Marital/cohabitation status		
Not married or cohabiting†	43.8 (2.5)	49.5 (1.2)
Married or cohabiting	56.2 (2.5)	50.5 (1.2)
No. of female partners in past year		
Never had sex	11.1 (1.3)	15.4 (1.2)
0	7.8 (1.5)	7.0 (0.5)
1	65.5 (2.4)	63.8 (1.0)
≥2	15.6 (1.7)	13.9 (0.8)
General health status* *		
Fair/poor	8.4 (1.6)	4.5 (0.5)
Excellent/very good/good	91.6 (1.6)	95.5 (0.5)
Total	100.0	100.0

**p<.01. ***p<.001. †Includes men who are formerly married or never-married. *Notes:* Percentages are weighted and do not always add to 100.0 because of rounding. Figures in parentheses are standard errors. Characteristics are categorized as predisposing, enabling or need, according to Andersen's behavioral model of health services use; for details, see the Measures section of the text (source: reference 30).

received a diagnosis or not. We measured men's need with the variable "perceived general health status." Men in good health may be less likely to use health services than men in poor health. In addition, we included marital and cohabitation status and number of female sexual partners in the last year as need characteristics because men's needs for specific sexual health services may vary depending on their relationship status and their sexual activity.[33] Men with multiple partners may be at increased risk for contracting an STD or HIV, and thus may be more likely than others to use sexual health services.[34] Men who have never had sex are still in need of education. For marital and cohabitation status, men were categorized as "not married or cohabiting" (which includes those formerly married or never-married) or "currently married or cohabiting." Number of female partners in the past year was categorized as zero, one, or two or more, and a separate category was added for men who had never had sex. General health status was dichotomized as "fair or poor" versus "excellent, very good or good."

Analysis

We used descriptive statistics, including the Rao-Scott chi-square test, to compare predisposing, enabling and need characteristics by race.[35] Also, we examined men's use of sexual health services by race, using both our composite birth control and STD and HIV service measures and the individual service measures that comprise the composite measures. All proportions presented are weighted national estimates that accounted for the complex, stratified sampling design of the survey.

We created multivariate logistic regression models using the full study sample to assess differences in service use between American Indian and Alaska Native men and white men. These models contained interaction terms between race and selected variables to assess differences in service use by subgroup. Using marginal means,[36] we calculated odds ratios comparing service use by race within subgroups. Another set of multivariate logistic regression models assessed associations of the predisposing, enabling and need characteristics with American Indian and Alaska Native men's use of services.

We conducted all analyses through the National Center for Health Statistics Research Data Center's remote access system, ANDRE. The system analyzed the data with SAS software, version 9.2. To account for the complex sampling design, we used the series of *survey* commands, which incorporate sampling weights, strata and cluster statements, for all analyses. We used the Benjamini-Hochberg method to adjust p values for multiple comparisons, which limited the false discovery rate to no more than 5%.[37]

RESULTS

Descriptive and Bivariate

American Indians and Alaska Natives and whites in our sample had similar age distributions; two-thirds of both groups were aged 25–44 (Table 1). However, American

TABLE 2. Percentage of men reporting use of selected sexual health services in the last 12 months, by race/ethnicity

Service	American Indian/ Alaska Native	White
Birth control services	**10.2 (1.1)**	**9.8 (0.7)**
Birth control counseling/method	10.2 (1.1)	9.8 (0.7)
Abortion counseling	0.1 (0.1)	0.2 (0.1)
STD/HIV services	**23.7 (2.3)**	**19.1 (0.8)**
STD testing/treatment	13.5 (1.5)	13.1 (0.7)
HIV testing	11.5 (1.6)	10.4 (0.6)
STD counseling**	10.3 (1.1)	7.4 (0.5)
HIV counseling**	10.1 (1.1)	6.8 (0.6)

**p<.01. *Note:* Percentages are weighted; figures in parentheses are standard errors.

Indians and Alaska Natives were less educated than whites: Whereas 51% of the former had had less than a high school education and 20% had had at least some college, 22% of the latter had not completed high school and 55% had had at least some college.

American Indians and Alaska Natives were poorer than whites; 42% had incomes equal to or lower than 133% of the federal poverty level, compared with 18% of whites. They were more likely than white men to be uninsured (51% vs. 16%), and were less likely to have private insurance (34% vs. 74%) and to have a usual source of care (59% vs. 78%). No significant racial differences were found in the proportions of men who reported having recently received a physical exam (42–48%) or a testicular exam (31–38%). In addition, American Indians and Alaska Natives were more likely than whites to live in the West (52% vs. 19%). Approximately three-quarters of men, regardless of race, lived in an urban setting.

Similar proportions of American Indians and Alaska Natives and whites were currently married or cohabiting (51–56%) and reported having had one female sexual partner in the past year (64–66%). American Indians and Alaska Natives, however, were more likely than whites to report being in fair or poor health (8% vs. 5%).

The proportions of men reporting use of any sexual health services in the last 12 months did not differ by race (Table 2). About 10% of each group had used a birth control service, and fewer than one-quarter had used an STD or HIV service. Of all the individual services examined, there were differences found on only two. Although similar proportions of American Indians and Alaska Natives and whites had received an STD test or treatment or an HIV test, American Indians and Alaska Natives were significantly more likely than whites to have received STD counseling and HIV counseling (10% vs. 7% for each).

TABLE 3. Odds ratios (and 95% confidence intervals) from logistic regression analysis assessing differences between white men and American Indian and Alaskan Native men in the likelihood of using STD or HIV services, by selected characteristics

Characteristic	White	American Indian/ Alaska Native
PREDISPOSING		
Age		
15–19	1.0 (ref)	2.2 (1.3–3.6)**
20–24	1.0 (ref)	1.0 (0.6–1.5)
25–34	1.0 (ref)	1.1 (0.8–1.6)
35–44	1.0 (ref)	2.0 (1.2–3.3)*
ENABLING		
Income (as % of federal poverty level)		
≤133%	1.0 (ref)	1.5 (0.9–2.3)
>133%	1.0 (ref)	1.5 (1.0–2.0)*
Current insurance		
Private	1.0 (ref)	2.0 (1.3–3.2)***
Public	1.0 (ref)	1.0 (0.6–1.8)
None	1.0 (ref)	0.8 (0.5–1.2)
Region		
Northeast	1.0 (ref)	2.2 (1.2–4.0)**
Midwest	1.0 (ref)	1.9 (0.9–4.1)
South	1.0 (ref)	1.2 (0.7–2.0)
West	1.0 (ref)	1.4 (1.0–2.0)
Residence		
Rural	1.0 (ref)	3.2 (1.7–5.8)**
Urban	1.0 (ref)	1.2 (0.9–1.5)

*p<.05. **p<.01. ***p<.001. *Notes:* All analyses use weighted data and adjust p values to account for multiple comparisons. The model controls for all characteristics shown in Table 1; only characteristics with significant results are shown. ref = reference group. Characteristics are categorized as predisposing, enabling or need, according to Andersen's behavioral model of health services use; for details, see the Measures section of the text (source: reference 30).

Multivariate

After the covariates were adjusted for, we did not find racial differences in birth control service use in any of the subgroups analyzed (not shown). However, in a number of subgroups, American Indians and Alaska Natives were more likely than whites to use STD or HIV services (Table 3). Specifically, American Indians and Alaska Natives aged 15–19 and 35–44 were more likely than their white counterparts to use STD or HIV services (odds ratios, 2.2 and 2.0, respectively). Among men with incomes greater than 133% of the federal poverty level and among those with private health insurance, American Indians and Alaska Natives were more likely than whites to use STD or HIV services (1.5 and 2.0, respectively). In addition, American Indians and Alaska Natives residing in the Northeast and those living in rural areas had higher odds of using STD or HIV services than their white counterparts (2.2 and 3.2, respectively).

Correlates of sexual health service use among American Indians and Alaska Natives varied by service (Table 4). Age was the only predisposing characteristic associated with service use, and it was significant only for birth control services. American Indian and Alaska Native men aged 20–24 were more likely than those aged 35–44 to use these services (odds ratio, 4.3).

Several enabling characteristics were associated with service use. American Indians and Alaska Natives with a usual source of care were more likely than those without one to use birth control services (odds ratio, 3.4) and STD or HIV services (1.9). In addition, men who had not had a physical exam in the last year had reduced odds of using birth

TABLE 4. Odds ratios (and 95% confidence intervals) from logistic regression analysis assessing characteristics associated with American Indian and Alaska Native men's use of birth control or STD or HIV services

Characteristic	Birth control	STD/HIV
PREDISPOSING		
Age		
15–19	2.6 (0.9–8.0)	1.3 (0.5–3.5)
20–24	4.3 (1.6–11.3)**	0.9 (0.5–1.7)
25–34	2.2 (1.1–4.7)	1.1 (0.5–2.1)
35–44 (ref)	1.0	1.0
ENABLING		
Has usual source of care		
Yes	3.4 (1.7–6.6)***	1.9 (1.1–3.1)*
No (ref)	1.0	1.0
Physical exam in last 12 mos.		
Yes (ref)	1.0	1.0
No	0.4 (0.1–0.9)*	0.7 (0.4–1.1)
Testicular exam in last 12 mos.		
Yes (ref)	1.0	1.0
No	0.4 (0.1–0.9)**	0.3 (0.2–0.5)***
NEED		
No. of female partners in past year		
Never had sex	0.4 (0.1–1.2)	0.2 (0.1–0.4)***
0	1.1 (0.3–4.2)	1.0 (0.4–2.6)
1 (ref)	1.0	1.0
≥2	1.6 (0.8–3.4)	1.1 (0.6–2.0)

*p<.05. **p<.01. ***p<.001. *Notes:* All analyses use weighted data and adjust p values to account for multiple comparisons. The models control for all characteristics shown in Table 1; only characteristics with significant results are shown. ref = reference group. Characteristics are categorized as predisposing, enabling or need, according to Andersen's behavioral model of health services use; for details, see the Measures section of the text (source: reference 30).

control services (0.4), and those who had not received a testicular exam in the last 12 months had reduced odds of using both kinds of services (0.3–0.4).

Number of female partners in the past year was the only need characteristic that was significant, and it was associated only with use of STD or HIV services. American Indians and Alaska Natives who had never had sex with a female were less likely than those with one female partner in the past 12 months to use STD or HIV services (odds ratio, 0.2). Notably, American Indians and Alaska Natives with two or more partners, who are likely at the greatest risk for STDs or HIV, were no more likely to use STD or HIV services than were those with one partner.

DISCUSSION

Findings from this study address several gaps in the literature on American Indian and Alaska Native men's sexual health service use. To our knowledge, this is the first study that uses the NSFG to examine these men's use of sexual health services and the correlates of their sexual health service use. As did men in other populations,[5,6] American Indian and Alaska Native men had low levels of birth control and STD or HIV service use. Although not surprising, this finding is disturbing. A growing body of research has demonstrated the importance of men's involvement in sexual decision making for their health and the health of their partners and children.[9–11]

The finding that American Indian and Alaska Native men's birth control service use did not differ from white men's is similar to findings from a study that found no difference in use between white men and either Hispanics or men of other races.[5] Birth control services are generally targeted to women despite men's need for and interest in receiving them, and this has been cited as a reason few men use these services.[9,11] Given that American Indian men are actively involved in making decisions about pregnancy prevention with their partners,[38] strategies should be implemented to engage them and Alaska Native men in birth control service utilization.

American Indian and Alaska Native men in many subgroups were more likely than whites to use STD or HIV services. These findings parallel previous research that found that Hispanic and black men were more likely than white men to use STD or HIV services,[5,6] and that American Indian and Alaska Native men were more likely than whites to report ever having received an HIV test.[22] An earlier study cited changes in IHS policies and practices related to government reporting requirements as a reason for higher rates of HIV testing among American Indian and Alaska Native populations.[22] Others posit that differences may be related to awareness that racial minority men are disproportionately infected with STDs and HIV.[5] Our finding that American Indian and Alaska Native men were significantly more likely than whites to use STD and HIV counseling services, but not testing or treatment services, further supports this argument. Further research to understand American Indian and Alaska Native men's motives for using STD and HIV services could improve outreach efforts to increase use.

We also found that among men residing in rural communities, American Indians and Alaska Natives were more likely than whites to report using STD or HIV services. This difference was not altogether unexpected. Although rural populations in the United States generally have more difficulty accessing needed health care services than urban populations,[39] the reverse is generally true for American Indians and Alaska Natives. Even though most American Indians and Alaska Natives live in urban areas, health facilities and funding for this population's health care tend to be more limited in urban than in rural communities.[40] Because American Indians and Alaska Natives residing in rural communities often live on reservations, clinics operated by the IHS and tribes are available to them.[19] These clinics are often more accessible than ones in urban areas, and more likely to provide free services and tailor services to address community needs in a culturally sensitive way.[40] The lack of services aimed at American Indians and Alaska Natives in urban areas may be fueling the disparities in sexual health between them and whites, and merits further attention.

In our examination of differences in use of services within the American Indian and Alaska Native population, we found strong associations with enabling correlates—having a usual source of care and having received a physical exam

or a testicular exam in the last 12 months. These findings support previous research that found strong associations between recent receipt of a physical exam and men's use of sexual health services.[5] A potential mechanism for increasing the use of these services among American Indian and Alaska Native men may, therefore, be Medicaid's patient-centered medical home model, a central tenet of which is to provide a usual source of care for patients. Although not an indigenous model of care, which views health holistically, places importance on one's interconnectedness with community and the environment, and acknowledges the relationship between historical traumas experienced by indigenous peoples and one's present health,[41] the medical home model addresses the whole health of a person and as such may align with tribal views that perceive the need for balance between a person's physical, mental, spiritual and social well-being.[42]

It is noteworthy that health insurance status was not associated with sexual health service use for American Indian and Alaska Native men. Consistent with this finding, a study conducted with data from 2006–2009 found that having health insurance was not associated with improved access to health care among urban American Indians and Alaska Natives.[16] Other characteristics associated with this population's use of health services in general—cultural barriers, discrimination, perceptions of bias and mistrust, dissatisfaction with care, and lack of knowledge of free or low-cost health care[18,43–45]—may also be limiting men's use of sexual health services. These findings call for more research to explore American Indian and Alaska Native men's barriers to sexual health care. Qualitative studies and community-based participatory research will allow for a richer story of their perceptions and contribute to the design of culturally relevant programs and services. Also, future research that captures measures of fecundity, pregnancy intention, sexual behavior and contraceptive use would increase our understanding of additional correlates of sexual health service use.

This study provides baseline data on American Indian and Alaska Native men's use of sexual health services. Because NSFG data continue to be collected, future analyses can inform policymakers about how American Indian and Alaska Native men's use of sexual health services is related to new national policies and health care reforms. Specifically, future research should examine the association between Medicaid expansion and these men's use of sexual health services. Medicaid expansion has been touted as a way to improve American Indians' and Alaska Natives' access to health care services. Indeed, this population has experienced gains in Medicaid coverage since the implementation of the Affordable Care Act, especially in states that expanded Medicaid coverage.[46]

Limitations

Our study has several limitations. First, NSFG data were self-reported and thus subject to recall bias, which may have affected reported levels of sexual health service use. Second, the NSFG sampling design does not allow for state- and county-level estimates of sexual health service use. American Indians and Alaska Natives are a highly diverse population, consisting of members of 567 federally recognized and 400 unrecognized tribes,[47,48] with varied economic, social and community resources. Thus, care should be taken in applying findings from the nationally representative data to specific tribal populations. Third, although the NSFG included a larger number of American Indians and Alaska Natives than other studies, the sample remained small. Consequently, we were unable to conduct analyses of some subgroups, and were limited in the number of variables we could include in our models. The failure to find a difference in sexual health service use between racial groups for some analyses may also be due to insufficient sample size. Because of concerns about adequate statistical power, especially when numerous interaction terms were included in the models, we ran the analyses with only the significant interaction terms. The results were generally consistent. However, insignificant findings should be interpreted with caution. In the future, the NSFG should oversample the American Indian and Alaska Native population, as it does for other racial and ethnic minorities, to ensure an adequate sample size for analyses of subgroups.

Conclusion

Our national-level estimates of American Indian and Alaska Native men's use of a broad range of sexual health services provide a baseline against which future researchers can assess whether Healthy People 2020 objectives are being met in this population. Future researchers should use qualitative and indigenous methods[41] to explore why few American Indian and Alaska Native men use sexual health services and how to best tailor services to meet this population's need.

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Author contact: *megan.cahn@oregonstate.edu*