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## Sexual Orientation Differences in Complementary Health Approaches Among Young Adults in the United States

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### Abstract

**Purpose**—Lesbian, gay, and bisexual (LGB) young adults experience a wide range of health disparities, compared to heterosexuals. However, LGBs also experience many barriers to conventional healthcare, including social stigma, lack of LGB-specific knowledge among providers, and lower rates of health insurance coverage, which may limit utilization of traditional health services. Complementary health approaches (CHA) may represent an alternative to conventional care, but very little is currently known about CHA use in this population. We examined whether and how LGB young adults differed from heterosexual young adults in use of CHA.

**Methods**—Data were from Wave III of the National Longitudinal Study of Adolescent to Adult Health (2001-02). Fifteen types of CHA were considered. Descriptive and bivariate statistics were computed using design-based F-tests and logistic regression was used. Analyses were weighted and gender-stratified.

**Results**—Almost 46% of gay/bisexual men used CHA in the past 12 months versus 26% of heterosexual men ( $p < 0.001$ ) and 50% of lesbian/bisexual women versus 30% of heterosexual women ( $p < 0.001$ ). LGBs also differed significantly on demographics, access to conventional care, and health behaviors. Multivariate results showed higher odds of CHA among LGBs relative to heterosexuals (AOR = 2.37 for men, AOR = 1.98 for women, both  $p < 0.001$ ).

**Conclusions**—This is the first study to systematically demonstrate sexual orientation differences in CHA in a nationally representative sample of young adults. Public health wellness initiatives for sexual minorities should include evidence-based CHA in addition to traditional health services.

### Keywords

sexual orientation; lesbian, gay, bisexual; young adults; complementary and alternative medicine; health care utilization

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## Introduction

Health disparities between lesbian, gay, and bisexual persons (LGBs) and heterosexuals are well-established[1], with such disparities extending to LGB adolescents and young adults. Compared to heterosexual youth, LGB youth report significantly higher rates of depressive symptoms and suicidality[2], substance use[3], and certain risky sexual behaviors[4]. Use of complementary health approaches (CHA, e.g., acupuncture, massage, herbal remedies) has become part of American adolescents' health care practices[5]. There is growing evidence that multiple types of CHA (e.g., acupuncture, massage, chiropractic care, yoga, meditation) can be beneficial for specific health conditions and health promotion[6]. Yet relatively little is known about the ways in which sexual minority young adults utilize CHA.

Minority stress is posited as a contributing factor to sexual orientation-related health disparities, whereby sexual minorities are exposed to unique stressors including stigma, discrimination, internalized homophobia, and sexual orientation concealment[7-10]. Such experiences have been implicated as underlying explanations for why LGBs are more likely than heterosexuals to seek out and utilize mental health services[11]. In contrast, minority stress may also hinder LGB young adults from seeking conventional health care by way of personal-level barriers (enacted or perceived stigmas in health care settings) and structural barriers (institutionalized stigmas and discrimination in health care settings, lack of provider knowledge and training of sexual minority health issues), creating unmet need for health care services[12]. While speculative, use of CHA may be a means by which LGBs are able to bypass these barriers and meet their health care needs, which may be substantial given the health disparities they experience.

Only a handful of studies have examined CHA use in sexual minorities of any age group. One found lesbians seek out and use CHA at higher rates than heterosexual women[13]. Two other studies suggest lesbians are more likely to use CHA if they distrust or believe they would be discriminated against in conventional medical settings[14,15]. Among persons with HIV, use of CHA both as a complement to and in replacement of highly active antiretroviral therapy is higher among gay/bisexual men than heterosexual men[16-19]. Among persons with alcohol use disorders, LGBs are more likely to seek alternative treatment to Alcoholics Anonymous compared to heterosexuals[20]. Taken together, these findings offer evidence that CHA use may be common among LGBs, and a comprehensive investigation is warranted to examine sexual orientation differentials among young adults.

The current study is guided by an established sociobehavioral model of CHA[21-25], which is an extension of the Andersen Behavioral Model[26]. The original Andersen model posits utilization of conventional health care is a function of individuals' predisposition to seek and use services, factors that aid or hinder access, medical need, and personal health practices[26]. Our sociobehavioral model contends that CHA use is influenced by these four domains but is additionally motivated by health promotion and wellness behaviors[25,27].

Predisposing factors include demographic characteristics, reflecting social placement, access to resources, and shape how people manage health. Sexual orientation is the key predisposing factor in this study. Because life course experiences and health concerns of

lesbians differ from those of gay men[1], we examine the effects of sexual orientation on CHA separately for men and women. Stratification by gender is also warranted because previous studies suggest the effects of characteristics such as race/ethnicity on CHA are contingent on gender[25]. Enabling resource are factors that pertain to accessibility of health services and there is some evidence that individuals who are uninsured or otherwise forgo conventional care because of cost or convenience are more likely to use CHA[23,25,28-31]. Nationally, sexual minorities, and lesbian/bisexual women in particular, are more likely to report lacking a usual source of medical care[32]. Medical need includes perceived health status and diagnosed health conditions; those with poorer health or more health problems are more likely to use CHA[28,30,31,33]. Because sexual minorities have higher risks of health problems compared to heterosexuals[1,34], medical need may be at the root of their CHA use. Last, personal health practices, such as engaging in physical activity, light or moderate alcohol consumption, and not smoking are associated with higher CHA use[23,28,30,33]. On average, sexual minorities are more likely than heterosexuals to smoke and drink excessively[1,9,35]; it may be they are more likely to use CHA than heterosexuals because these behaviors contribute to poorer health.

Our model also explicitly incorporates use of CHA providers, products, and practices. This reformulation of categories of CHA aligns with our health services perspective because it reflects CHA differences with respect to access, cost, and time [21, 22, 23]. As a whole, these three domains of CHA represent health self-management methodologies indicative of a “wellness lifestyle”[25,27]. How this lifestyle translates to LGB young adults and their health practices is largely uncharted territory. Our central hypothesis is that LGB young adults are more likely to use CHA than their heterosexual counterparts due to the varying influence of these predisposing, enabling, medical, and health practice factors.

## Methods

### Study design

The National Longitudinal Study of Adolescent to Adult Health (Add Health) is a nationally representative study, begun in 1994-1995, when respondents were enrolled in grades 7-12. A multi-stage sampling design was used to select students from representative high schools and “feeder” middle schools. Details of the study design have been described elsewhere[36]. A subset of students was selected to participate in an in-home study, and was followed prospectively. Wave III, the data source used, was conducted in 2001-2002 when respondents were 18-27 years old. The follow-up response rate at Wave III was 76%.

In Wave III only, participants were asked about recent CHA use. Individuals with valid responses for the CHA questions, information on sexual orientation, and a sample weight were included for analysis. Those who identified as “Other” races were excluded due to small sample size. The final analytic sample was 13,962.

### Measures

**CHA use measures**—Participants who mentioned using any one of 15 listed CHA therapies in the past 12 months were coded as having used “any CHA” modality. We also

examined the specific types of CHA categorized as providers (chiropractor, acupuncturist, biofeedback practitioner, hypnotist, massage therapist, energy or spiritual healer), products (vitamin therapies, homeopathic and folk remedies) and practices (relaxation techniques, self-help groups, special diets, imagery).

**Predisposing factors**—Sexual orientation was based on responses to the following: “Please choose the description that best fits how you think about yourself:” 1) “100% heterosexual (straight),” 2) “mostly heterosexual (straight), but somewhat attracted to people of your own sex,” 3) “bisexual, that is, attracted to men and women equally,” 4) “mostly homosexual (gay), but somewhat attracted to people of the opposite sex,” 5) “100% homosexual (gay), and 6) “not sexually attracted to either males or females.” Sexual orientation was coded dichotomously as either heterosexual or LGB (heterosexual, option 1; LGB, options 3, 4, or 5). Following other researchers[37], “mostly heterosexual” respondents (n=1,019) and respondents “not sexually attracted to either males or females” (n=76) were excluded to most directly compare LGB and heterosexual respondents. Gender was dichotomized. Age was assessed continuously. Race/ethnicity was based on self-report with priority given to any mention of being Hispanic (non-Hispanic White, non-Hispanic Black, Hispanic, and non-Hispanic Asian). Nativity status was coded dichotomously (US born, foreign-born). Education was coded based on completion level (less than high school, high school graduate, some college, and college graduate or greater) and whether participants were currently enrolled in school (yes or no).

**Enabling resources**—Annual personal income was coded categorically (less than \$20,000, \$20,000-\$49,999, \$50,000-\$74,999, and \$75,000 or more). Current health insurance status was coded as insured versus uninsured. Recent avoidance of needed healthcare was coded dichotomously based on the following question: “Has there been any time in the past 12 months when you thought you should get medical care, but you did not?”

**Medical Need**—Perceived health status was coded using a 5-value Likert scale (excellent, very good, good, fair, and poor). An ordinal count score was created from the number of diagnosed health conditions (e.g., asthma, depression, diabetes) respondents endorsed (0, 1-2, or 3+).

**Personal health practices**—Respondents were asked 7 questions about the number of physical activities in which they participated in the prior 7 days (e.g. “in the past seven days, how many times did you bicycle, skateboard, dance, hike, hunt, or do yard work?”). A numeric response was provided to each question, and scores were summed across all 7 questions to create a total physical activity score (0, 1-2, 3-4, 5-6, 7-8, 9+). Current smoking status was assessed relative to the past 30 days (never smoked, former smoker, and current smoker). Alcohol consumption was based on reports over the past 12 months [abstainer, former drinker, current infrequent-to-light drinker (1 or 2 days in the past 12 months, once a month or less, 2 or 3 days a month, 1 or 2 days a week), and current moderate-to-heavy drinker (3 to 5 days a week, every day or almost every day)].

Missing data were minimal and multiple regression imputation was used to compute predicted values. Results were similar when observations with imputed values were excluded.

## Analysis

All analyses and estimates were conducted using Stata, version 13.0 (StataCorp LP, College Station, TX). Individual-level sampling weights were used to adjust for nonresponse post-stratification and the complex sample design. Descriptive statistics and bivariate prevalence estimates of any CHA and each of the 15 specific modalities were computed and a design-based F-test was used to test for significant differences. Logistic regression was used to first investigate the associations between predisposing factors (including sexual orientation), enabling resources, need, and personal health practices and any recent CHA use; subsequent models examined associations for each category of CHA (providers, products, and practices). Adjusted odds ratios (AORs) are presented. All analyses were stratified by gender. Study approval was obtained from the institution's human subjects review board.

## Results

Table 1 displays weighted descriptive characteristics by sexual orientation and gender. For both men and women, there were significant differences based on sexual orientation for CHA use, with LGB men and women reporting higher prevalence of use than heterosexuals. Over 45% of gay/bisexual men reported CHA use compared to only 26% of heterosexual men. Almost 50% of lesbian/bisexual women reported using CHA compared to 30% of heterosexual women.

There were no significant differences in age or nativity status between LGB and heterosexual men and women. There were racial/ethnic differences among women (lesbian/bisexual women were more likely to be white or Hispanic than heterosexual women) but not among men. Gay/bisexual men reported higher education than heterosexual men, and lesbian/bisexual women reported lower education than heterosexual women.

Gay/bisexual men had higher income than heterosexual men. Among men, there were no differences with respect to health insurance status or avoidance of needed healthcare. Although there were no differences in income between lesbian/bisexual and heterosexual women, significantly fewer lesbian/bisexual women had health insurance (65% versus 78%). Significantly more lesbian/bisexual women than heterosexual women reported they did not receive health care services when needed in the past 12 months (33% versus 20%). Fewer lesbian/bisexual women reported being in excellent or good health than heterosexual women. More lesbian/bisexual women than heterosexual women reported a greater number of health conditions. There were no differences by sexual orientation in perceived health or health conditions among men.

There were no differences by sexual orientation in level of physical activity for either men or women. Lesbian/bisexual women were more likely to be current smokers and moderate/heavy drinkers than heterosexual women, with no differences in these behaviors reported among men.

Table 2 shows the multivariate results for any type of CHA use by gender. Gay/bisexual men were more likely than heterosexual men to be users of CHA, independent of predisposing, enabling, need, and personal health practice factors (AOR=2.37, p 0.001). Among men, there were no differences in CHA use with respect to age, race/ethnicity, nativity status or school enrollment. However, compared to men who did not graduate from high school, those with higher levels of education were significantly more likely to use CHA. There were also no differences in income and insurance status between men who did and did not use CHA. Men who reported they did not receive conventional medical care but needed it in the past 12 months were significantly more likely to use CHA than those who did. Neither self-reported health status nor number of health conditions were associated with CHA use. Compared to men who reported no physical activity, those who engaged in physical activity seven or more times per week were significantly more likely to use CHA. Smoking status was not associated with CHA use. Last, compared to men who were abstainers from alcohol, those who were current drinkers (regardless of amount) were significantly more likely to use any type of CHA.

Lesbian/bisexual women were more likely than heterosexual women to use CHA independent of predisposing, enabling, need, and personal health practice factors (AOR=1.98, p 0.001). Black women were less likely and Asian and Hispanic women more likely to use CHA than White women. Age, nativity status, and school enrollment status were not associated with CHA use. Compared to women who were not high school graduates, those who had some college or were college graduates or higher were more likely to use CHA. Income was not independently associated with CHA use, but women who were uninsured were less likely to use CHA than insured women. Women who said they did not receive conventional medical care but needed it were more likely to use CHA than those who did. The effects of perceived health status were modest, but women who reported a greater number of health conditions were more likely to use CHA than those with fewer. Compared to women who engaged in no physical activity, those who exercised five or more time per week were significantly more likely to use CHA. Compared to never smokers, women who were former smokers were more likely to use CHA. Last, compared to abstainers, women who were infrequent/light drinkers were more likely to use CHA.

Table 3 shows the prevalence for each of the specific CHA modalities by sexual orientation, separately by gender. Over one-quarter of gay/bisexual men reported using a CHA provider or product (compared to about 14% of heterosexual men), and gay/bisexual men were almost four times more likely to use CHA practices than heterosexual men (23% vs. 6%). For modalities administered by providers, gay/bisexual men were more likely to use chiropractic care and energy healing than heterosexual men. For CHA products, gay/bisexual men reported higher use of herbal remedies, vitamin therapies, and homeopathy than heterosexual men. For CHA practices, gay/bisexual men reported higher use of relaxation techniques, specialized diets, and imagery than heterosexual men.

About one-quarter of lesbian/bisexual women reported using a CHA provider (compared to 17% of heterosexual women), and lesbian/bisexual women were more than twice as likely to use CHA products than heterosexual women (33% vs. 15%). Lesbian/bisexual women were also more than twice as likely to use CHA practices than heterosexual women (20% vs. 8%).

For modalities administered by providers, lesbian/bisexual women were significantly more likely to use hypnosis and massage than heterosexual women. For CHA products, lesbian/bisexual women reported higher use of herbal remedies, vitamin therapies, homeopathy, and folk medicine than heterosexual women. For CHA practices, lesbian/bisexual women reported higher use of relaxation techniques, specialized diets, and imagery than heterosexual women.

Table 4 presents AORs for alternative providers, products, and practices usage for LGB men and women, compared to heterosexuals, controlling for other covariates. Gay/bisexual men were more likely than heterosexual men to use providers (AOR=2.39, p 0.001), products (AOR=2.11, p 0.01), and practices (AOR=4.26, p 0.001). Similarly, lesbian/bisexual women were more likely than heterosexual women to use providers (AOR=1.50, p 0.05), products (AOR=2.31, p 0.001), and practices (AOR=2.00, p 0.01).

## Discussion

This study shows LGB young adults in the US utilize CHA to a higher degree than their heterosexual counterparts. These findings are consistent across nearly all CHA modalities, and after controlling for predisposing, enabling, need, and personal health practice factors. The pattern of findings supports a sociobehavioral model of CHA use[23], with LGB young adults reporting several demographic and behavioral characteristics known to be consistent with high CHA use.

Differences in access to and use of conventional care may partly explain the observed differences in CHA use between LGB and heterosexual young adults. Given the health disparities that persist among sexual minorities[1], it is reasonable to expect young LGB men and women to report a disproportionate need for health services. However, prior work has shown that LGB individuals do not seek or receive a level of health care proportionate to their needs from conventional health care providers[1,12]. It may be CHA is used to supplement conventional care, as has been demonstrated among HIV positive LGB men and women[38]. Indeed, compared to heterosexual young women in our study, lesbian/bisexual young women were more likely to report not having received needed care, but were more likely to report higher levels of use of CHA.

Research has demonstrated that many LGB people experience stigma from conventional providers lacking competence in sexual minority health[1,4,39], and it is possible that feelings of dissatisfaction with conventional care drive the increased use of CHA among young LGBs, at least in part[14,15]. Alternative providers commonly show a greater willingness to discuss psychosocial factors associated with health, which may explain greater use of CHA by LGBs[18,40]. Use of CHA may be a means by which LGB young adults are able to bypass these barriers and meet their health care needs. Public health wellness initiatives for sexual minority populations should include evidence-based CHA since it appears to be an especially common healthcare alternative for this population.

It is possible that gay/bisexual men have different motivations for using CHA than lesbian/bisexual women. In our study, access to conventional care, self-rated health, and health



behaviors are similar between heterosexual and gay/bisexual men, thus gay/bisexual men may use CHA as part of a “wellness lifestyle” for health promotion and self-care[25]. In contrast, lesbian/bisexual women may use CHA for more “treatment” related reasons and may substitute CHA for conventional medicine to some extent because they have less access to care than heterosexual women and are more likely to engage in unhealthy behaviors.

We acknowledge limitations of this study. The data are from 2001-2002, which potentially introduces a period effect. Given the rapid progression of social and political change surrounding sexual minority issues in recent years, it is possible that sexual orientation differences in CHA use are now not as prominent because LGBs are somewhat less marginalized than in the past. Additionally, recent changes to the US healthcare system may change how LGBs receive care today. However, research published in the decade since these data were collected has shown that many LGB people still face barriers to care, experience discrimination from providers, and that many conventional clinicians still lack basic competencies in sexual minority health[1,4,39], potentially making CHA an ongoing alternative to conventional health care. Future research is needed to assess sexual orientation-related differentials in CHA use among more contemporary samples to assess this possibility. Further, while we found robust differences in CHA use between heterosexual and LGB young adults, other sexual and gender identity categorizations exist that were not measured here (e.g. “transgender”). Further research should assess CHA use among these persons. Finally, this sample was limited to young adults, and it remains unclear whether these findings relate to CHA use in other age groups. However, given these data represent the only ones to our knowledge to comprehensively assess CHA use and sexual orientation using a representative sample of US young adults, this study represents a catalyst for future investigation.

Nevertheless, this study provides compelling evidence that CHA use is higher among LGB young adults than their heterosexual counterparts, net of predisposing, enabling, need, and personal health practice factors and across a wide variety of CHA providers, products, and practices. Future research should focus on the ways in which evidence-based CHA use influences multiple health outcomes to determine if it may help to offset health disparities between LGB and heterosexual young adults. There is growing evidence that a number of types of CHA can be beneficial for specific health conditions and for health promotion and increasingly, conventional care is incorporating these CHA modalities as part of integrative care. From a public health perspective, integrative care settings may provide LGB individuals with additional opportunities and choices for managing their health.

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### **Implications and Contribution**

Utilization of CHA is common among young adults in the United States. This study demonstrates that sexual minority young adults utilize CHA to a significantly higher degree than their heterosexual peers, and additionally, proposes potential reasons for these observed differences.

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**Table 1**  
**Predisposing, Enabling, Need, and Personal Health Practices, by Sexual Orientation and Gender, Young Adults Ages 18-27, Weighted Proportions, Add Health Wave III, 2001-2002**

<i>Covariates</i>	Men (n=6,872)			Women (n=7,090)		
	<i>Gay/ Bisexual</i>	<i>Heterosexual</i>	<i>P-value</i>	<i>Lesbian/ Bisexual</i>	<i>Heterosexual</i>	<i>P-value</i>
<i>n (weighted %)</i>	188 (2.5)	6,684 (97.5)		284 (4.2)	6,806 (95.8)	
<b>Any recent CHA use</b>	45.5	26.0	<0.001	49.6	29.6	<0.001
<b>Predisposing Factors</b>						
<b>Age (mean, linearized SE)</b>	21.9 (0.24)	21.9 (0.12)	0.895	21.6 (0.19)	21.7 (0.12)	0.341
<b>Race/ethnicity</b>			0.668			<0.001
White	68.0	69.8		77.9	67.7	
Black	12.5	16.0		8.8	17.4	
Asian	3.5	3.9		0.3	3.7	
Hispanic	14.3	12.1		13.0	11.3	
<b>Nativity - US born</b>	91.5	94.0	0.326	96.0	94.1	0.271
<b>Currently enrolled in school</b>	34.0	32.9	0.821	33.3	39.9	0.107
<b>Years education completed</b>			0.019			0.028
< High school	7.7	16.7		19.2	11.5	
High school graduate	29.7	35.1		30.2	31.2	
Some college	44.9	36.4		39.4	41.2	
College graduate or more	17.7	11.9		11.2	16.0	
<b>Enabling Factors</b>						
<b>Personal income (\$)</b>			0.002			0.482
<20,000	62.6	69.0		78.8	81.0	
20,000-49,999	29.9	28.7		18.9	18.0	
50,000-74,999	2.3	1.6		1.5	0.7	
75,000	5.2	0.7		0.8	0.3	
<b>Insurance status - insured</b>	69.6	71.6	0.609	64.9	78.3	<0.001
<b>Did not receive needed care, past 12 months</b>	22.8	22.8	0.996	33.5	20.3	<0.001
<b>Medical Need</b>						
<b>Self-perceived health status</b>			0.585			<0.001
Excellent	34.7	36.4		16.9	30.0	
Very Good	46.3	40.3		36.5	41.7	
Good	16.4	19.6		33.7	22.9	
Fair	2.6	3.6		11.9	4.9	
Poor	0.0	0.2		1.1	0.6	

<i>Covariates</i>	<b>Men (n=6,872)</b>			<b>Women (n=7,090)</b>		
	<i>Gay/ Bisexual</i>	<i>Heterosexual</i>	<i>P-value</i>	<i>Lesbian/ Bisexual</i>	<i>Heterosexual</i>	<i>P-value</i>
<i>n (weighted %)</i>	<b>188 (2.5)</b>	<b>6,684 (97.5)</b>		<b>284 (4.2)</b>	<b>6,806 (95.8)</b>	
<b>Number of health conditions</b>			0.962			<0.001
0	71.8	72.0		47.6	64.7	
1-2	27.1	27.2		48.7	33.9	
3+	1.0	0.8		3.7	1.4	
<b>Personal Health Practices</b>						
<b>Physical activity</b>			0.201			0.174
None	20.2	15.6		18.6	23.6	
1-2 times/week	15.3	13.6		14.0	19.1	
3-4 times/week	6.0	15.1		15.6	16.2	
5-6 times/week	10.6	12.3		15.0	11.2	
7-8 times/week	12.2	12.1		13.1	11.1	
9+ times/week	35.9	31.3		23.6	18.8	
<b>Smoking status</b>			0.332			<0.001
Never	50.3	55.5		38.2	61.9	
Former	5.2	7.2		13.6	7.1	
Current	44.5	37.4		48.2	31.0	
<b>Drinking status</b>			0.548			<0.001
Never	20.3	20.2		14.0	24.1	
Former	1.0	3.6		2.6	4.5	
Current – infrequent/light	63.1	60.1		67.9	65.7	
Current – moderate/heavy	15.6	16.1		15.4	5.7	

All percentages are weighted, P-values calculated using design-based F tests.

**Table 2**  
**Adjusted Odds Ratios for Predisposing, Enabling, Medical Need, and Personal Health Practices on any CHA Use, by Gender, Young Adults Ages 18-27, Add Health Wave III, 2001-2002**

	Men		Women	
	AOR	95% Confidence Interval	AOR	95% Confidence Interval
<b>Predisposing Factors</b>				
<b>Sexual Identity (reference = heterosexual)</b>				
Gay, lesbian, bisexual	2.37	(1.48, 3.78)	1.98	(1.41, 2.78)
<b>Age</b>	1.04	(0.98, 1.11)	0.97	(0.92, 1.03)
<b>Race/Ethnicity (reference = non-Hispanic White)</b>				
Hispanic	1.12	(0.83, 1.49)	1.38	(1.12, 1.71)
Black Non-Hispanic	0.82	(0.67, 1.00)	0.76	(0.59, 0.97)
Asian Non-Hispanic	1.25	(0.86, 1.81)	1.42	(1.01, 1.99)
<b>Nativity (reference = US-born)</b>				
Foreign born	1.04	(0.73, 1.48)	0.80	(0.54, 1.18)
<b>School enrollment (reference = not enrolled)</b>				
Enrolled	1.19	(0.97, 1.47)	1.12	(0.92, 1.35)
<b>Years education completed (reference ¼ less than high school)</b>				
High school graduate	1.27	(1.00, 1.62)	1.15	(0.89, 1.49)
Some college	1.37	(1.04, 1.80)	1.68	(1.25, 2.27)
College graduate or more	1.43	(1.02, 1.99)	2.13	(1.48, 3.05)
<b>Enabling Factors</b>				
<b>Personal income (\$, reference = less than 20,000)</b>				
20,000-49,999	0.92	(0.74, 1.14)	1.11	(0.90, 1.37)
50,000-74,999	1.06	(0.62, 1.81)	0.66	(0.28, 1.53)
75,000	0.85	(0.34, 2.14)	0.97	(0.26, 3.63)
<b>Insurance status (reference = insured)</b>				
Uninsured	1.02	(0.84, 1.23)	0.83	(0.68, 1.00)
<b>Did not receive needed care, past 12 months (reference = no)</b>				
Yes	1.51	(1.25, 1.83)	1.56	(1.29, 1.88)
<b>Need</b>				
<b>Self-perceived health status (reference = excellent)</b>				

	Men		Women	
	AOR	95% Confidence Interval	AOR	95% Confidence Interval
Very Good	0.83	(0.67, 1.02)	1.22	(1.01, 1.48)
Good	0.93	(0.71, 1.22)	1.19	(0.97, 1.46)
Fair	1.02	(0.66, 1.58)	1.32	(0.91, 1.92)
Poor	1.90	(0.48, 7.55)	2.32	(0.92, 5.83)
<b>Number of health conditions (reference = 0)</b>				
1-2	1.19	(0.99, 1.43)	1.18	(1.00, 1.38)
3+	1.68	(0.79, 3.57)	1.79	(1.00, 3.23)
<b>Health Practices</b>				
<b>Physical activity (reference = none)</b>				
1-2 times	1.19	(0.83, 1.72)	1.04	(0.82, 1.31)
3-4 times	1.10	(0.79, 1.54)	1.21	(0.98, 1.51)
5-6 times	1.27	(0.90, 1.78)	1.47	(1.17, 1.84)
7-8 times	1.65	(1.15, 2.36)	1.37	(1.06, 1.77)
9+times	1.91	(1.44, 2.54)	1.61	(1.28, 2.02)
<b>Smoking status (reference = never)</b>				
Former	1.15	(0.81, 1.64)	1.51	(1.12, 2.03)
Current	1.01	(0.85, 1.20)	1.18	(0.98, 1.41)
<b>Drinking status (reference = never)</b>				
Former	1.20	(0.77, 1.88)	1.31	(0.94, 1.81)
Current-infrequent/light	1.43	(1.14, 1.78)	1.31	(1.09, 1.58)
Current-moderate/heavy	1.43	(1.10, 1.85)	1.38	(0.99, 1.92)

Analyses are weighted.



**Table 3**  
**Prevalence of CHA Use of Alternative Providers, Products, and Practices, by Sexual Orientation and Gender, Young Adults Ages 18-27, Add Health Wave III, 2001-2002**

	Men			Women		
	Gay/ Bisexual (%)	Heterosexual (%)	P-value	Lesbian/ Bisexual (%)	Heterosexual (%)	P-value
<b>Providers</b>	27.6	14.0	0.001	25.0	16.7	0.005
Chiropractic	11.0	5.6	0.017	9.4	8.1	0.593
Acupuncture	1.9	0.9	0.200	1.4	0.9	0.474
Biofeedback	1.0	0.4	0.305	0.4	0.3	0.594
Hypnosis	0.7	0.2	0.075	3.6	0.3	<0.001
Massage	11.0	8.2	0.415	14.3	9.5	0.026
Energy healing	5.7	0.7	<0.001	2.2	0.9	0.100
Spiritual healing by others	3.4	1.5	0.196	4.9	1.7	0.003
<b>Products</b>	26.6	14.0	<0.001	32.9	14.9	<0.001
Herbal remedies/supplements	17.0	9.6	0.015	26.5	11.1	<0.001
Vitamin therapy	11.8	5.2	0.003	10.3	5.2	0.002
Homeopathy	5.6	1.2	<0.001	5.7	1.4	<0.001
Folk Medicine	3.6	1.6	0.072	4.9	1.3	0.001
<b>Practices</b>	22.7	6.1	<0.001	19.5	8.3	<0.001
Relaxation techniques	17.7	4.8	<0.001	15.6	6.3	<0.001
Self-help support groups	1.4	0.9	0.628	2.3	1.2	0.214
Specialized diets	4.2	0.7	<0.001	3.3	1.3	0.039
Imagery	3.1	0.5	0.008	2.0	0.5	0.001

All percentages are weighted; P-values calculated using design-based F tests.

**Table 4**  
**AORs for Sexual Orientation Differences in Use of CHA Providers, Products, and Practices, by Gender, Young Adults Ages 18-27, Add Health Wave III, 2001-2002**

	Men		Women	
	AOR	95% Confidence Interval	AOR	95% Confidence Interval
<b>Alternative Providers</b>				
<b>Sexual Identity (reference = heterosexual)</b>				
Gay, lesbian, bisexual	2.39	(1.44, 3.96)	1.50	(1.01, 2.23)
<b>Products</b>				
<b>Sexual Identity (reference = heterosexual)</b>				
Gay, lesbian, bisexual	2.11	(1.33, 3.34)	2.31	(1.62, 3.30)
<b>Practices</b>				
<b>Sexual Identity (reference = heterosexual)</b>				
Gay, lesbian, bisexual	4.26	(2.60, 6.98)	2.00	(1.21, 3.30)

All analyses are weighted. All models control for age, race/ethnicity, nativity, school enrollment and education, personal income, insurance status, lack of conventional care when needed, perceived health status and health conditions, , physical activity, and smoking and drinking status.