Patterns of health information technology use according to sexual orientation among US adults aged 50 and older: Findings from a national representative sample – National Health Interview Survey 2013-2014

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Abstract

Background: Health disparities among sexual minority adults ages 50 and older have been documented. Factors such as lifetime discrimination and internalized stigma may deter sexual minority individuals from seeking health services. Several studies suggest that health information technology may facilitate health education and outreach to populations whose health behaviors are affected by stigma such as older sexual minority people. In this paper, we examined the role of sexual minority identity as a factor that is associated with health information technology use.

Methods: We analyzed data from the 2013-2014 National Health Interview Survey (NHIS) for this study. Using multivariate logistic regressions, we compared the odds of using technology as a resource for health information between sexual minority versus heterosexual US adults aged 50 and older.

Results: Adjusting for sociodemographic variables and health variables, sexual minority participants had increased odds of using computers to look up health information on the Internet (OR = 2.01, 95% CI 1.53-2.64), using computers to fill a prescription (OR = 1.97, 95% CI 1.36-2.85), and using computers to communicate with healthcare provider by email (OR = 2.13, 95% CI 1.55-2.92), compared with heterosexuals.

Conclusions: Findings reveal greater use of health information technology among older sexual minority adults when compared to their heterosexual counterparts. While sensitive, competent providers and culturally appropriate prevention services are essential to meeting the needs of aging sexual minority populations, health information technology use may be an innovative means of reducing disparities in information access as structural changes are implemented.

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INTRODUCTION

Health disparities among older sexual minority adults in the United States are of emerging interest in the scientific literature. Population-based studies have reported on the high levels of poor general health, disability, and mental health among sexual minority adults over the age of 50 when compared to their heterosexual counterparts (Fredriksen-Goldsen et al., 2011; Fredriksen-Goldsen et al., 2012; Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013; Wallace, Cochran, Durazo, & Ford, 2011). Fredriksen-Goldsen and colleagues (2012) identified several risk factors, including lifetime victimization and internalized stigma, which contribute to the poor health outcomes observed among sexual minorities ages 50 and older in the United States and which may also deter these individuals from accessing healthcare services or disclosing their sexual minority status to a healthcare provider. Furthermore, over their lifetimes, older sexual minorities may encounter numerous structural barriers to accessing optimal healthcare, including a lack of tailored services, insufficient numbers of properly trained providers, and barriers related to health insurance coverage (Ramchand & Fox, 2008). More research is needed to understand the healthcare needs of aging sexual minority populations and develop targeted interventions for older sexual minority adults in the United States.

Health information technology use involves the utilization of technology platforms, such as the Internet, for the purpose of obtaining health information, communicating with a healthcare provider, or exchanging social support (Prestin, Vieux, & Chou, 2015). Understanding who is more likely to use the Internet as a health information tool is important for determining its usefulness and targeting health information technologies to specific populations. In the 2012 Health Information National Trends Survey, approximately 70% of adults reported turning to the Internet first to seek health information (Prestin, Vieux, & Chou, 2015). For older adults, despite their typically rising healthcare needs, cognitive deficits and low literacy levels may be a barrier to seeking health information on the Internet (Birru et al., 2004; Sharit, Hernández, Czaja, & Pirolli, 2008). Furthermore, some research has identified additional sociodemographic factors associated with health information technology use, including higher income, greater education level, female gender, and non-minority status (Ybarra & Sunman, 2006). However, once access is eliminated as a barrier, the use of the health information technology is similar across income, education, and race (Brodie et al., 2000). As access continues to increase in the United States, user-friendly health information technology platforms may be a potentially beneficial means of accessing a diverse group of aging adults.

While previous studies have reported demographic characteristics of health information technology users (Brodie et al., 2000; Prestin, Vieux, & Chou, 2015; Ybarra & Sunman, 2006), few have examined the role of sexual orientation. In a national survey of Internet users in the US, Berger, Wagner, and Baker (2005) concluded that individuals with stigmatized illnesses, such as mental health disorders or sexually transmitted infections, were significantly more likely to have utilized technology as a resource for health information, to have communicated with clinicians about their condition using the internet, and to have increased utilization of healthcare based on information found on the internet, than those with non-stigmatized conditions. Findings suggest that health information

technology may serve as a popular health education and outreach tool for additional populations whose health behaviors are affected by stigma. In this paper, we examined the role of sexual minority identity as a factor that is associated with the use of health information technology among older adults.

METHODS

Sample

We used the 2013-2014 National Health Interview Survey (NHIS) for this study. The NHIS is a large-scale household interview survey of a statistically representative sample of the U.S. civilian noninstitutionalized population, conducted annually by National Center for Health Statistics of the Centers for Disease Control and Prevention (2009). Detailed information about the NHIS survey is described at NHIS website.

Measures

Sexual orientation.—Adult participants ages 18 or older were asked: "Which of the following best represents how you think of yourself?" (1) gay or lesbian, (2) straight, that is, not gay or lesbian, (3) bisexual, (4) something else, or (5) I don't know the answer. In order to reduce the potential for misclassification, we excluded participants who responded "something else" or "I don't know the answer". Sexual orientation was categorized as "heterosexual" or "sexual minority"; the latter category included those who identified themselves as "gay or lesbian" or "bisexual".

General health and access variables.—Participants were asked about their general health and access to health services using the following questions: "Have you EVER been told by a doctor or other health professional that you had hypertension/high cholesterol/ diabetes/cancer/arthritis/asthma?" and "Is there a place that you USUALLY go to when you are sick or need advice about your health?"

Health information technology.—Participants were asked of their internet use for healthcare access using the following questions: "During the past 12 months, have you ever used computers for… look up health information on the Internet/fill a prescription/schedule an appointment with a healthcare provider/communicated with a healthcare provider by email/use online chat groups to learn about health topics."

Sociodemographic variables.—We included age, gender (male, female), race (White, Black/African American, American Indian, Alaska Native, Asian, Multiple or race not releasable), ethnicity (Hispanic, Not Hispanic), marital status (married or living with partner, widowed/divorced/separated, never married) and working status (currently working, not working).

Statistical Analysis

The analytic sample was restricted to participants ages 50 and older, to investigate health information technology use among older people. We selected 50 years as the lower age limit to be consistent with previous studies focusing on the health of sexual minority older adults

(Wallace, Cochran, Durazo, & Ford, 2011; Fredriksen-Goldsen, Kim, Barkan, et al., 2013). Of the 68,816 participants who self-identified as heterosexual (97.7%) or sexual minority (2.2%), we excluded 35,470 participants ages 49 and under. This yielded a total of 33,346 participants in the analytic sample, which included 98.3% (32,810) who self-identified as heterosexual and 1.7% (536) who self-identified as sexual minority. Analyses were conducted using STATA version 14.1. All analyses took into account the sampling weights and clustering within sampling strata using the *svy* command to account for the complex survey design of NHIS. Data were analyzed using weighted proportions, 95% confidence intervals (CIs), and weighted multivariable logistic regression model to generate adjusted odds ratio (AOR) adjusted for sociodemographic variables and health variables.

RESULTS

Table 1 presents weighted descriptive statistics and comparisons between heterosexual and sexual minority participants on sociodemographic characteristics, health variables, and health information technology use. The mean age of the heterosexual group was 63.9 (SD=0.08), and sexual minority group was 59.7 (SD=0.53). Compared to heterosexual participants, sexual minority participants were less likely to be married or living with a partner ($P<.001$), but more likely to be working ($P<.001$). Sexual minority participants were less likely to be told that they have hypertension ($P<.001$) and diabetes ($P=.03$) compared with heterosexual participants. For health information technology use, sexual minority participants were more likely to use computers to look up health information on the Internet ($P<.001$), to fill a prescription on Internet ($P<.001$), and to communicate with a healthcare provider by email ($P<.001$) compared with heterosexual participants.

Weighted adjusted multivariable analyses are presented in Table 2. Models adjusted for sociodemographic variables including age, race/ethnicity, marital status, and work status, and health variables such as 'ever been told you have hypertension/diabetes'. Compared to heterosexual participants, sexual minority participants had an increased odds of using computers to look up health information on the Internet (AOR=2.01, 95% CI: 1.53-2.64), using computers to fill a prescription (AOR=1.97, 95% CI: 1.36-2.85), and using computers to communicate with healthcare provider by email (AOR=2.13, 95% CI: 1.55-2.92).

DISCUSSION

The current investigation examines sexual orientation-related differences in health information technology use among adults in the United States ages 50 and older. This is a historically underserved population that has not received as much public health attention compared to younger sexual minority adults (Fredriksen-Goldsen et al., 2013). Findings in this study reveal greater use of health information technology among older sexual minority adults when compared to their heterosexual counterparts. Adjusting for potential confounders, sexual minority participants were more likely to use computers to look up health information on the Internet, to fill a prescription on the Internet, and to communicate with a healthcare provider by email. This variation in health information technology use suggests an opportunity for harnessing technology use in this population in order to deliver additional targeted information to address health disparities among sexual minority older

adults. Given previous research on the lifetime experiences of stigma and discrimination in healthcare settings (Fredriksen-Goldsen, Kim, Emlet et al., 2011), and a lack of specialized services for sexual minority people (Ramchand & Fox, 2008), these findings also suggests that health information technology can offer a safe, comfortable, and sensitive environment where older sexual minority adults can obtain information about their health.

Sexual minority populations are disproportionately affected by negative health outcomes compared to heterosexual populations. For example, sexual minority adults report more alcohol and recreation drug use than heterosexual adults (Cochran, Ackerman, Mays, & Ross, 2004; Stall et al., 2001). In addition, sexual minority men and women have a greater risk of developing anxiety and mood disorders than heterosexual men and women, with gay and bisexual men in particular also reporting greater past suicidal ideation and more suicide attempts (King et al., 2008). As a final example, the HIV/AIDS epidemic remains one of the most critical health issues faced disproportionally by certain sexual minority subgroups in the United States, namely gay and bisexual men (Institute of Medicine Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities, 2011). Health information technology may help to reduce the health disparities observed in the sexual minority literature by providing accessible information about these specific domains to older sexual minority adults.

As technology becomes increasingly integrated into the lives of aging sexual minority adults, it is important to consider potential negative consequences of health information technology use. Patients who utilize health information technology are susceptible to a breadth of false information and are prone to self-diagnosis (Hartzband & Groopman, 2010). In their longitudinal study, Bessière, Pressman, Kiesler, & Kraut (Bessière, Pressman, Kiesler, & Kraut, 2010) found that health information technology use was associated with increased depression, potentially due to increased rumination, unnecessary alarm, or over-attention to health problems. Other barriers to internet use among older adults have been identified, including issues related to privacy and sharing confidential information over the internet, physical and cognitive limitations, and lack of exposure to evolving technology (Gatto & Tak, 2008). In contrast, other studies have observed positive outcomes of health information technology use. For example, one study found that patients were using health information technology as a means of enhancing their care, such as to learn more about a specific health condition or to feel more comfortable about their healthcare provider's advice (Ybarra & Sunman, 2006). Health information technology may allow individuals to become more active participants in their care.

It is important to note the digital divide that might influence access to the Internet among older sexual minorities. For example, Sarkar and colleagues (2011) observed pervasive racial/ethnic and educational disparities in the use of a patient portal among diabetes patients that extended beyond limitations in health technology access. These inequalities have public health implications, given that populations least likely to have access to health information technology are also at greater risk of experiencing disparities in health outcomes. While the technology may enhance health information acquisition for certain high-risk groups, a multifaceted and culturally relevant approach may be necessary to ensure we are not preserving health inequities among additional disadvantaged populations.

Limitations

This study has several limitations. Primarily, NHIS relies on self-reports, which are prone to bias. Future research should implement objective measures that examine health technology trends. Second, we have limited information on the health status and other characteristics of participants. We were not able to assess various health conditions and family history that might affect participants' health information seeking behaviors. We also analyzed only one indicator of socioeconomic position that was included in the survey data (working status), and did not include other indicators of socioeconomic position such as income and education. These socioeconomic variables should be explored in future research due to their potential associations with access and comfort using information technology. Third, due to sample size restrictions, we were unable to examine within-group heterogeneity that might influence access to health information technology among sexual minorities such as biological sex, race, and age categories over 50 years. Fourth, due to limitations in sample size, we analyzed bisexual individuals within the same category as gay men and lesbians, thereby comparing sexual minority adults versus heterosexual adults. Future research will be needed to explore potential distinctions between bisexual-identified people compared with gay men and lesbians.

Conclusions

Despite these limitations, this study is among the first to compare heterosexual and sexual minority older adults on health information technology use. Future research should explore the development and utility of health technology interventions that ensure access and usability among a diverse group of aging sexual minority adults. At the same, continued research efforts are necessary to develop technology-assisted interventions to address ongoing health disparities facing younger sexual minority adults (Burns, Montague, & Mohr, 2013). While sensitive, competent providers and culturally appropriate prevention services are essential to meeting the needs of aging sexual minority populations, health information technology use may be an innovative means of reducing disparities in information access as structural changes are implemented.

Acknowledgement:

References

Berger M, Wagner TH, & Baker LC (2005). Internet use and stigmatized illness. Social Science & Medicine, 61(8), 1821–1827. doi:10.1016/j.soscimed.2005.03.025 [PubMed: 16029778]

Bessière K, Pressman S, Kiesler S, & Kraut R (2010). Effects of internet use on health and depression: A longitudinal study. Journal of Medical Internet Research, 12(1). doi:10.2196/jmir.1149

Birru MS, Monaco VM, Charles L, Drew H, Nije V, Bierra T, Detlefsen E, & Steinman RA (2004). Internet usage by low-literacy adults seeking health information: An observational analysis. Journal of Medical Internet Research, 6(3). doi:10.2196/jmir.6.3.e25

Brodie M, Flournoy RE, Altman DE, Blendon RJ, Benson JM, & Rosenbaum MD (2000). Health information, the Internet, and the digital divide. Health Affairs, 19(6), 255–265. doi: 10.1377/hlthaff.19.6.255 [PubMed: 11192412]

Burns MN, Montague E, & Mohr DC (2013). Initial design of culturally informed behavioral intervention technologies: developing an mHealth intervention for young sexual minority men with

generalized anxiety disorder and major depression. Journal of medical Internet research, 15(12). doi: 0.2196/jmir.2826

Center for Disease Control and Prevention. http://www.cdc.gov/nchs/nhis.htm.

Cochran SD, Ackerman D, Mays VM, & Ross MW (2004). Prevalence of non-medical drug use and dependence among homosexually active men and women in the US population. Addiction, 99(8), 989–998. doi: 10.1111/j/1360-0443.2004.00759.x [PubMed: 15265096]

Fredriksen-Goldsen KI, Kim HJ, Emlet CA, Muraco A, Erosheva EA, Hoy-Ellis CP, Goldsen J, & Petry H 2011 The aging and health report: Disparities and resilience among lesbian, gay, bisexual, and transgender older adults Seattle, WA: Institute for Multigenerational Health http://caringandaging.org/wordpress/wp-content/uploads/2011/05/Full-Report-FINAL-11-16-11.pdf.

Fredriksen-Goldsen KI, Emlet CA, Kim HJ, Muraco A, Erosheva EA, Goldsen J, & Hoy-Ellis CP (2013). The physical and mental health of lesbian, gay male, and bisexual (LGB) older adults: The role of key health indicators and risk and protective factors. The Gerontologist, 53(4), 664–675. doi: 10.1093/geront/gns123 [PubMed: 23034470]

Fredriksen-Goldsen KI, Kim HJ, Barkan SE, Muraco A, & Hoy-Ellis CP (2013). Health disparities among lesbian, gay, and bisexual older adults: results from a population-based study. American Journal of Public Health, 103(10), 1802–1809. doi:10.2105/ajph.2012.301110 [PubMed: 23763391]

Gatto SL, & Tak SH (2008). Computer, Internet, and e-mail use among older adults: Benefits and barriers. Educational Gerontology, 34(9), 800–811. doi: 10.1080/03601270802243697

Hartzband P, & Groopman J (2010). Untangling the Web—patients, doctors, and the Internet. New England Journal of Medicine, 362(12), 1063–1066. doi:10.1056/nejmp0911938 [PubMed: 20335581]

Institute of Medicine (US) Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities. (2011). The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding. Washington (DC): National Academies Press (US);

King M, Semlyen J, Tai S, Killaspy H, Osborn D, Popelyuk D, & Nazareth I (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. BMC psychiatry 8(1),70. doi:10.1186/1471-244x-8-70 [PubMed: 18706118]

Marshal MP, Friedman MS, Stall R, King KM, Miles J, Gold MA, Bukstein OG, & Morse JQ (2008). Sexual orientation and adolescent substance use: A meta-analysis and methodological review. Addiction, 103(4), 546–556. doi:10.1111/j.1360-0443.2008.02149.x [PubMed: 18339100]

Prestin A, Vieux SN, & Chou WS (2015). Is online health activity alive and well or flatlining? Findings from 10 Years of the Health Information National Trends Survey. Journal of health communication, 20(7), 790–798. doi:10.1080/10810730.2015.1018590 [PubMed: 26042588]

Ramchand R & Fox CE (2007). Access to optimal care among gay and bisexual men: Identifying barriers and promoting culturally competent care. Unequal opportunity: Health Disparities Affecting Gay and Bisexual Men in the United States, 355–378. doi:10.1093/acprof:oso/9780195301533.003.0013

Sarkar U, Karter AJ, Liu JY, Adler NE, Nguyen R, Lopez A, & Schillinger D (2011). Social disparities in internet patient portal use in diabetes: Evidence that the digital divide extends beyond access. Journal of the American Medical Informatics Association, 18(3), 318–321. doi:10.1136/jamia.2010.006015 [PubMed: 21262921]

Sharit J, Hernández MA, Czaja SJ, & Pirolli P (2008). Investigating the roles of knowledge and cognitive abilities in older adult information seeking on the web. ACM Transaction on Computer-Human Interaction, 15(1), 1–25. doi:10.1145/1352782.1352785

Stall R, Paul JP, Greenwood G, Pollack LM, Bein E, Crosby GM, & Catania JA (2001). Alcohol use, drug use and alcohol-related problems among men who have sex with men: The Urban Men's Health Study. Addiction, 96(11), 1589–1601. doi: 10.1046/j/1360-0443.2001.961115896.x [PubMed: 11784456]

U.S. Department of Health and Human Services. Center for Disease Control and Prevention National Center for Health Statistics. (2009). http://www.cdc.gov/nchs/data/nhis/brochure2010january.pdf.

Wallace SP, Cochran SD, Durazo EM, & Ford CL (2011). The health of aging lesbian, gay and bisexual adults in California. Policy Brief UCLA Center for Health Policy Research. PB2011-2:1–8

Ybarra ML, & Suman M (2006). Help seeking behavior and the Internet: A national survey. International Journal of Medical Informatics, 75(1), 29–41. doi:10.1016/j.ijmedinf.2005.07.029 [PubMed: 16129659]

Table 1.

Participant Characteristics on Sociodemographic Variables, General Health and Access Variables, and Health Information Technology Use by Sexual Orientation: NHIS 2013-2014

		Heterosexual		Gay, Lesbian, or Bisexual	
		N=32810		N=536	
		n (weighted %)	95% CI	n (weighted %)	95% CI
Demographics					
Age[a]		63.9, 0.08		59.7, 0.53	
Gender	Male	14,141 (46.7)	45.9- 47.5	284 (51.2)	45.2-57.1
	Female	18,669 (53.3)	52.6-54.1	252 (48.9)	43.0-54.8
Race	White	25,806 (83.3)	82.6-83.9	443 (87.5)	83.9-90.4
	African American	4,679 (10.5)	9.9-11.0	70 (9.4)	7.0-12.6
	American Indian/Alaska Native	294 (0.6)	0.5-0.8	2 (0.6)	0.1-2.4
	Asian	1,498 (4.5)	4.2-4.9	10 (1.7)	0.8-3.7
	Multiple race, or race not releasable	533 (1.1)	1.0-1.3	11 (0.8)	0.4-1.5
Ethnicity	Hispanic	3,604 (9.4)	8.9-9.9	54 (9.4)	6.0-14.4
	Not Hispanic	29,206 (90.6)	90.1-91.1	482 (90.7)	85.6-94.0
Marital Status	Married or living with partner	16,159 (64.8)	64.0-65.6	190 (50.1)	44.1-56.1
	Widowed/Divorced/Separated	13,616 (28.8)	28.1-29.5	132 (18.3)	14.2-23.2
	Never married	2,948 (6.4)	6.1-6.8	210 (31.7)	26.7-37.0
Working status	Working	13,076 (43.9)	43.1-44.7	269 (52.0)	46.0-57.9
	Not working	19,718 (56.1)	55.3-56.9	267 (48.0)	42.1-54.0
Health Variables					
Have place usually go when sick	Yes	30,564 (93.6)	93.1-93.9	493 (93.1)	89.9-95.3
	No	2,241 (6.5)	6.1-6.9	43 (6.9)	4.7-10.1
Ever been told you have hypertension	Yes	17,424 (50.6)	49.9-51.4	241 (42.8)	37.2-48.7
	No	15,344 (49.4)	48.7-50.1	295 (57.2)	51.3-62.9
Ever had hypertension on 2+ visits	Yes	15,597 (89.5)	88.7-90.1	217 (84.8)	76.8-90.4
	No	1,800 (10.5)	9.9-11.3	24 (15.2)	9.6-23.2
Ever told you had high cholesterol	Yes	7,968 (47.4)	46.3-48.5	134 (46.2)	38.2-54.5
	No	9,124 (52.6)	51.5-53.7	149 (53.8)	45.5-61.8
Ever been told to take low-dose aspirin	Yes	13,777 (40.9)	40.3-14.6	193 (35.4)	30.0-41.1
	No	18,971 (59.1)	58.4-59.7	343 (64.6)	58.9-70.0
Ever been told you have cancer	Yes	5,388 (16.3)	15.7-16.8	92 (16.9)	12.9-21.8
	No	27,385 (83.8)	83.2-84.3	444 (83.1)	78.2-87.1
Ever been told you have diabetes	Yes	5,835 (17.2)	16.7-17.7	76 (12.4)	9.2-16.6
	No	26,093 (82.8)	82.3-83.3	455 (87.6)	83.4-90.9
Ever been told you had asthma	Yes	3,913 (11.5)	11.1-11.9	98 (13.8)	10.9-17.4
	No	28,860 (88.5)	88.1-89.0	438 (86.2)	82.6-89.1
Ever been told you had arthritis	Yes	13,644 (39.8)	39.0-40.6	213 (39.4)	33.7-45.3
	No	19,105 (60.2)	59.4-61.0	323 (60.7)	54.7-66.3

		Heterosexual		Gay, Lesbian, or Bisexual	
		N=32810		N=536	
		n (weighted %)	95% CI	n (weighted %)	95% CI
Health information technology use past 12 months					
Looked up health information on the Internet	Yes	11,484 (39.2)	38.4-40.0	293 (59.0)	52.7-65.0
	No	21,300 (60.8)	60.0-61.6	243 (41.0)	35.0-47.3
Filled a prescription on the Internet	Yes	2,250 (8.2)	7.8-8.6	78 (14.9)	11.0-19.7
	No	30,548 (91.8)	91.4-92.2	458 (85.1)	80.3-89.0
Scheduled medical appointment on the Internet	Yes	1,427 (5.3)	5.0-5.7	47 (7.9)	5.2-11.8
	No	31,370 (94.7)	94.3-95.0	489 (92.1)	88.2-94.8
Communicated with healthcare provider by email	Yes	2,094 (7.6)	7.2-8.0	94 (16.1)	12.5-20.4
	No	30,705 (92.4)	92.0-92.8	442 (83.9)	79.6-87.5
Used chat groups to learn about health topics	Yes	676 (2.1)	1.9-2.3	19 (3.5)	2.1-5.9
	No	32,122 (97.9)	97.7-98.1	517 (96.5)	94.1-97.9

[a.]Mean, SD

Table 2.

Adjusted multiple regressions comparing health information technology use in sexual minority versus heterosexual, NHIS 2013-2014

Participant characteristics	Gay, Lesbian, or Bisexual
	OR (95% CI)
Ever used computers to look up health information on the Internet	2.01 (1.53-2.64)
Ever used computer to fill a prescription on the Internet	1.97 (1.36-2.85)
Ever used computers to schedule medical appointment	1.39 (0.87-2.21)
Ever used computers to communicate with healthcare provider by email	2.13 (1.55-2.92)
Ever used computers to chat groups to learn about health topics	1.64 (0.89-3.02)

Note: Heterosexual as reference group. Adjusted for age, race/ethnicity, marital status, work status, 'ever been told you have hypertension' and 'ever been told you have diabetes'.