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Deaf LGBTQ Patients' Disclosure of Sexual Orientation and Gender Identity to Health Care Providers

Cara A. Miller¹, Andrew Biskupiak³, and Poorna Kushalnagar^{2,3}

¹LGTBQA Resource Center

²Department of Psychology

³Deaf Health Communication and Quality of Life Center

Abstract

INTRODUCTION—Even with accessible communication, deaf patients who self-identify as LGBTQ might or might not feel comfortable disclosing their sexual orientation/gender identity to a health care provider based on social stigma concerns and previous negative experiences with healthcare providers. The current study examined whether deaf LGBTQ individuals' patient centered communication and level of comfort in sharing health information in the presence of an interpreter contributed to coming out to providers.

METHODS—Using an online health survey in American Sign Language (ASL) and English, data was gathered from 313 (32% persons of color) self-identified LGBTQ deaf adults across diverse cities in the U.S.A. Binary logistic regression was used to examine the relationships between sexual orientation, gender identity, patient centered communication, and sharing health information with healthcare providers in front of an interpreter, and disclosing orientation/identity to healthcare providers.

RESULTS—After controlling for sociodemographic and patient-related variables, cisgender women were significantly less likely to disclose their LGBTQ identities to healthcare providers compared with cisgender men. Being accepted as LGBTQ by loved ones and high perceived patient centered communication significantly increased the likelihood of coming out to providers. The presence of an ASL interpreter did not prevent or promote the deaf LGBTQ patients' decision to share health information with their healthcare provider.

CONCLUSION—Implications for future research and recommendations for providers seeking to develop greater intersectional cultural competencies are discussed, with emphasis on the need for providers to be familiar with health access challenges and inequities facing deaf bisexual and queer women.

Keywords

Deaf; LGBTQ; coming out; health; sign language

Scant but growing bodies of research have examined factors contributing to and/or conversely threatening effective healthcare access among patients from traditionally marginalized populations, including deaf and LGBTQ individuals. Studies on healthcare access among deaf patients have cited notable barriers including communication challenges, gaps in health knowledge, and lack of provider cultural competency (see Kuenberg, Fellingner, & Fellingner, 2016, for a review). Although these studies did not report LGBTQ-specific experiences among deaf patients, other studies within the general LGBTQ population have found that LGBTQ patients' healthcare access is challenged by stigma, discrimination, unequal access to insurance, and outright denials of care based on sexual orientation or gender identity (see Kates, Ranj, Beamesdefer, & Salganic, 2017, for a review). These challenges may influence LGBTQ patients' disclosure of sexual orientation or gender identity to the provider. Among both deaf-specific and LGBTQ-specific populations, research has indicated a number of predictive factors related to successful health outcomes, chiefly that of a quality relationship between patient and healthcare provider. When a patient is deaf and LGBTQ, challenges to healthcare access and therefore quality may be particularly salient in terms of disclosure of patient sexual orientation and/or gender identity. When the nondisclosure of the deaf LGBTQ patients' sexual orientation or gender identity is compounded by barriers to patient-centered communication (PCC) care, this can create significant challenges surrounding preventive care and treatment for that individual.

Health care access among deaf patients.

Healthcare access is undermined when patient-physician relationships are weak, as adversely impacted by communication challenges associated with lower satisfaction with healthcare quality (Berman et al., 2017; Iezzoni, Davis, Soukup, & O'Day, 2003; McKee, Barnett, Block, & Pearson, 2011). Woodcock & Pole (2007) note that health care settings unaccustomed to serving deaf patients (e.g. not providing sign language interpreters) frequently, even if inadvertently, create communication barriers for this medically underserved group even if the physician is culturally competent to provide care to deaf patients. The National Association of the Deaf also notes in its position paper that the absence of a strong relationship with primary care providers "frequently results in inadequate comprehension of disease management and poor treatment adherence" among deaf patients (NAD, 2018). Indicatively, U.S. physicians report significantly more difficulties communicating with some deaf patients compared with hearing patients, finding some deaf patients "less likely to trust" their doctors and less likely to understand their diagnosis and treatment (Ralston, Zazove, & Gorenflo, 1996). Pereira & Fortes (2010) found that some deaf patients experienced "fear, mistrust, and frustration" in interactions with healthcare providers, while Steinberg et al (2002) found that some deaf women explained results of their OB/GYN appointments using descriptive words such as "miscommunication," "embarrassment," and "anxiety" (p. 735). Relatedly, a review of the deaf health care access literature (Keunberg, Fellingner, & Fellingner, 2016) found that deaf patients reported more communication difficulties and greater feelings of discomfort with physicians compared with hearing patients. Many of these issues persist today, more so for

deaf patients who self-identify as LGBTQ and do not feel comfortable disclosing their sexual orientation and/or gender identity to health care providers.

Health care access among LGBTQ patients.

Review of the literature on healthcare access among LGBTQ patients indicates health disparities and associated challenges related to ongoing discrimination; violence, stigma, and rejection by families and communities; inequalities in the workplace that impact health insurance coverage; provision of substandard care; and sometimes outright denials of care based on sexual orientation or gender identity (Kates et al., 2017; Ward et al., 2014). Given the prevalence of significant social stigma associated with minoritized sexual orientations and gender identities, many LGBTQ patients do not disclose these identities to their healthcare providers, who are as a result may be unaware of patients' specific risk factors, medical contraindications, and healthcare needs. Omission of such information may result in under- or mis- diagnoses of conditions and missed opportunities for patient education on risky behaviors or risk susceptibilities. Furthermore, providers' outright hostility or refusal to provide services may contribute to recidivism of care, relapses of illness, and patient lack of adherence to medical regimens (Kosenko et al., 2013).

As LGBTQ patients may hesitate to disclose sexual orientation for fear of discrimination and provider bias, they may be less likely to seek timely treatment, a decision that may have disparate ramifications for different LGBTQ subgroups. In a study of 396 LGB adults in New York City, bisexual patients' resistance to self-disclosure was significantly higher than lesbian and gay patients' (Durso & Meyer, 2012). In this same study, men who came out recently were less likely to disclose sexual orientation; furthermore, being a lesbian woman of color significantly increased the likelihood of sexual orientation nondisclosure to a healthcare provider (Durso & Meyer, 2012). Similar findings were reported in a review of studies involving LGBQ patients needing preventive cancer care (Boehmer, 2018). Additionally, in a national study of 291 LGBQ cancer patients, bisexual patients were significantly less likely to self-disclose sexual orientation to cancer care providers than any other sexual orientation group (Kamen et al., 2015).

LGBTQ patients have reported that disclosing in medical situations is sometimes as challenging as coming out socially (Law et al., 2015), and fear of negative reactions is sometimes a factor in LGBTQ young adults' decisions to not disclose LGBTQ identities to healthcare providers, Rossman, Salamanca, & Macapagal, 2017). However, Law et al (2015) found that therapeutic relationships could be improved when providers purposefully recognized heteronormative value systems and changed their language and approaches to be more inclusive. Indeed, LGBTQ patients report responding favorably to healthcare providers who indicate an open, nonjudgmental stance while asking thoughtfully-worded questions about sexual orientation, partner status, sexual behaviors, and other factors. Providers with LGBTQ cultural competency may then more readily elicit patient information, build rapport, and enhance trust, contributing to more effective healthcare outcomes (Macapagal, Bhatia, & Greene, 2016). The provider working with deaf LGBTQ patients must be multiply culturally-competent in working with LGBTQ individuals as well as with deaf individuals, and equally mindful of health risks and/or needs unique to this subgroup. They must also be

competent in providing patient centered communication (PCC) care, which has been shown to increase adherence to medical recommendations and treatments.

To-date, most studies of deaf patients' access to healthcare have either overlooked or omitted the variable of LGBTQ identities, or otherwise collapsed discrete and nuanced identity self-categorizations, resulting in a monolithic, homogenous misrepresentation of acutely diverse experiences within deaf populations. Conversely, LGBTQ-related healthcare literature to-date has made scant mention of deaf LGBTQ patients, a significant oversight in light of the substantial number of such individuals and their specific healthcare needs (Fellinger, Holzinger, & Pollard, 2012; Levine, 2014; Steinberg, Sullivan, & Loew, 1998; Vernon, 2005).

Many deaf patients utilize professional sign language interpreters to access healthcare services and settings. Use of direct American Sign Language (ASL) communication or sign language interpreters in healthcare settings has been found to facilitate discussion about lung cancer tests between deaf patients and providers (Kushalnagar, Engleman, & Sadler, 2018) but may also result in actual, felt, or perceived loss of privacy by deaf patients (Phelan & Parkman, 1995) and therefore may impact patient decisions around sexual orientation or gender identity disclosure to providers. Steinberg et al (2002) found that some deaf adults report feeling uncomfortable having an interpreter present during intimate medical procedures such as a gynecological exam or Pap smear appointments. For deaf LGBTQ patients, misconceptions about or misunderstandings of provider obligation related to mandatory reporting may also impact willingness to disclose LGBTQ identities to doctors, for example about HIV/AIDS status. In a study of deaf sign language users' knowledge about HIV/AIDS, Bat-Chava et al (2007) found differing levels of education and English proficiency; the same study found that deaf sign language users reported difficulties in communication with medical providers, limiting their access to HIV/AIDS-related health information and appropriate medical care.

As such, deaf LGBTQ patients with privacy concerns may decide not to discuss sensitive health issues or medical information with providers in the presence of sign language interpreters – that is, privacy may be paramount even when alternative communication methods may be less accurate or more cumbersome. In this paper, we examined whether this was indeed the case. Additionally, we surveyed deaf LGBTQ patients' perceptions of their providers' patient-centered communication care as well as patients' disclosure/non-disclosure of sexual orientation and/or gender identity to healthcare provider.

METHODS

The sexual and gender minority health survey used in this study included items related to sexual orientation/gender identity, patient-provider communication (PCC), and interpreter use that were drawn from the Health Information National Trends Survey in ASL (HINTS-ASL; Kushalnagar, Harris, Paludneviene, & Hoglind, 2017). Additionally, the research team added an item inquiring into deaf patients' disclosure/nondisclosure of sexual orientation and/or gender identity information (LGBTQ identities) to healthcare providers. All items were translated into ASL, tested with the target population through cognitive

interviews, and captured on film (see Kushalnagar et al., 2017, for details). The final ASL videos were then included in an online health survey and administered to deaf adults who used ASL as their primary language. Main items relevant to the current study included:

1. **Sexual orientation:** *What is your sexual orientation?*
2. **Gender identity:** *Which gender do you identify as now?* (response options below) *Are you transgender?* (yes/no)
 - a. Male
 - b. Female
 - c. Nonbinary/genderqueer
3. **Disclosure of sexual orientation/gender identity to healthcare provider:** *How open (“out”) are you regarding your sexual orientation and/or gender identity with healthcare providers?* (multiple choice responses: not open, somewhat open, very open)
4. **Patient-centered communication (PCC):** *How often did the doctors, nurses, or other health care professionals you saw during the past 12 months do each of the following:* (Likert responses [never (1) to always (5)] to each item were scored, averaged, and linearly transformed to a single scale score.)
 - 1). Give you the chance to ask all the health-related questions you had?
 - 2). Give the attention you needed to your feelings and emotions?
 - 3). Involve you in decisions about your health care as much as you wanted?
 - 4). Make sure you understood the things you needed to do to take care of your health?
 - 5). Help you deal with feelings of uncertainty about your health or healthcare?
5. **Disclosure of medical information in presence of an interpreter:** *Do you feel having an interpreter in the doctor’s office will interfere with your disclosure of health information with the doctor?* (yes/no)

Procedure

Following IRB approval, the research staff and community partners began recruitment through national channels, focusing on deaf community members who use ASL. Data collection for this study was done from October 2017 to May 2018. Purposive sampling was used to ensure adequate representation of deaf signers across the USA, including Hawaii and Alaska, with respect to key demographic characteristics including age, education, race, ethnicity, gender identity, and sexual orientation. Recruitment methods included snowball sampling through personal networks, distribution of flyers, and advertisements on deaf-centered organizations’ websites and e-newsletters. Communication between the research staff and participants occurred through accessible channels, including mail, email, social

media, and video chat programs. Prospective participants were provided with an informational flyer and given the opportunity to discuss the study's purpose and procedures, review inclusion and exclusion criteria, and address any of their questions to determine eligibility and interest. To maximize recruitment of hard-to-reach deaf LGBTQ individuals, we used relationship-building approaches such as making personal contacts and explaining the study in-depth prior to sending informed consent forms. This process frequently necessitated multiple steps of contact before prospective participants agreed to review the informed consent form in ASL and English.

Only those who self-reported using ASL as their primary language were included; exclusion criteria included being under the age of 18 years old or having unilateral hearing loss. The survey took approximately 1 hour to complete. Each participant received a \$25 gift card for participating in the study. No names or identifying information were included in the online survey, and a unique identifier was used to avoid storing personal information in the same online survey dataset. The identifying information was stored in a separate database that was accessible only to the principal investigator.

Statistical analyses

Descriptive statistics were used to summarize the sample characteristics by sexual orientation and gender identity. Chi-square tests were used to describe the relationships among the variables within sexual orientation and gender identity groups. Due to the small sample size within sexual orientation subgroups, it was necessary to collapse four categories (gay, lesbian, bisexual, queer) into two discrete categories (gay/lesbian and bisexual/queer). Individuals who self-identified as straight were excluded from the analyses. The decision to collapse the categories of bisexual and queer compared with those of gay and lesbian was made after careful review of healthcare literature yielded notable and thematic mentions of health disparities and risk factors among bisexual and queer-identified individuals compared with those identifying as gay or lesbian (Baldwin et. al, 2017; Macapagal et. al, 2016; Miller et. al, 2014; Ward et. al, 2014). This was indicated and further supported by the relative homogeneity of bisexual and queer participants with regard to self-reported age, gender identity, and indication of not feeling accepted as LGBTQ by those close to them in comparison with gay and lesbian participants. These are considerable in light of the multiple, accumulative concerns that deaf bisexual and queer women of various backgrounds may have with regard to sharing information relevant to sexual orientation, sexual behavior, or health history with their healthcare providers.

Responses to the question about deaf adults' disclosure/nondisclosure of their LGBTQ identities to healthcare providers were dichotomized into open (disclosure) and not-open (nondisclosure) responses in analyses. Bivariate correlation was used to identify variables that were associated with the disclosure-to-provider outcome. Variables that were found to be significantly associated with the disclosure-to-provider outcome at p-value of .05 or lower were entered in a binary logistic regression model. The statistical program SPSS version 25.0 was used for all analyses.

RESULTS

The sample included 313 LGBTQ participants (18 to 75 years old). Table 1 describes the sample by sexual orientation. The gay/lesbian group (n=184) had more participants who were older, married or living with a partner, and self-identified as male compared with the bisexual/queer group (n=129). The gay/lesbian group was had significantly higher proportion of feeling accepted as LGBTQ by people who were close to them. Both sexual orientation groups (gay/lesbian and bisexual/queer) were similar for racial/ethnicity distribution, with about 30% identifying as people of color in each group, and coming-out age as LGBQ at around 19 to 20 years old.

Table 2 describes the sample by gender identity (120 cisgender male, 147 cisgender female, and 46 transgender or genderqueer-identified). The groups were similar for current age but differed for coming out age as LGBQ, with earlier coming out age in the transgender/genderqueer-identified group. Among the 46 trans/genderqueer-identified respondents, 19 answered a question that asked when they came out as transgender; the average coming-out age as transgender was 29 years old (SD=12). Except for self-reported sexual orientation with significantly higher proportion of cisgender women and transgender/genderqueer-identified participants falling in the bisexual/queer group and living with a partner, the gender identity groups did not significantly differ on any of the sociodemographic variables listed in Table 2.

Spearman correlation analysis was conducted to identify sociodemographic and patient-related variables that significantly correlated with LGBTQ identity disclosure/nondisclosure to healthcare providers at p-value of .05 or less. Correlates that were significant were entered as covariates in subsequent logistic regression analysis. As shown in Table 3, being accepted by others with whom one is close, self-identification as a cisgender male, self-identification as gay or lesbian, high perceived patient-centered communication, older age, better health status, and marital status were all significantly associated with the decision to disclose LGBTQ identities to healthcare providers. Self-reported education, race/ethnicity, and discussing health information in presence/absence of interpreter did not associate with LGBTQ individuals' disclosure/nondisclosure to providers.

When all significant sociodemographic covariates were entered along with gender identity/sexual orientation and discussion of health information with interpreter presence predictors in a binary logistic regression model with LGBTQ disclosure-to-provider as an outcome, the model was significant at $X^2(10)=59.31, p<.001$. As shown in Table 4, cisgender women were significantly less likely to disclose their sexual orientation or gender identity to healthcare providers compared to cisgender men (adjOR=0.39, CI 95%, 0.21, 0.72). Sexual orientation did not contribute to the disclosure/nondisclosure of gender identity/sexual orientation to the provider.

While patient-centered communication and acceptance as LGBTQ by close people were significant after controlling for all other variables, the discussion of health issues with healthcare providers in front of an interpreter variable remained nonsignificant and did not influence the LGBTQ patients' disclosure/nondisclosure of sexual orientation or gender

identity to healthcare providers. Individuals who felt accepted as LGBTQ by close people were 6-fold more likely to disclose their sexual orientation to their healthcare providers as compared to LGBTQ individuals who did not feel accepted by close people (OR=6.76, CI 95%, 2.56, 17.84).

DISCUSSION

Research to-date has shown a link between disclosure of patient sexual orientation and gender identity to providers and satisfaction with patient care (Baldwin 2017; Radix, Lelutiu-Weinberger, & Gamarel, 2014). Our study is the first to investigate deaf LGBTQ adults' disclosure/nondisclosure of sexual orientation and gender identity to healthcare providers and its relationship with patient communication care and sharing health information in the presence of an interpreter.

The finding that deaf adults who identified as bisexual or queer were significantly less likely than those who identified as gay or lesbian to disclose their LGBTQ identities to providers is consistent with the lower rates of disclosure to healthcare providers among bisexual American adults as compared with gay or lesbian adults in the general population (MAP, 2016; Durso & Meyer, 2012). This is further understood in the context of prevalent disparities and inequities, such as lower socioeconomic status and poorer health, reported by bisexual individuals as compared with gay, lesbian, and heterosexual individuals (MAP, 2016; Ward et. al, 2014; Conron, Mimiaga, & Landers, 2010). As with many other populations facing stigma, bisexual individuals contending with a lack of acceptance, harassment, and discrimination may experience significant mental and physical health concerns, as indicated by elevated rates of mental health risks and suicide-related outcomes among bisexual youth and adults, with higher suicide rates indicated by bisexual and queer women than by other sexual orientation groups (MAP, 2016; Macagapal, Bhatia, & Greene, 2016). Similarly, Conron, Mimiaga, and Landers (2010) reported that bisexual individuals were more likely than gay, lesbian, and heterosexual individuals to describe their health as "fair" or "poor" and to experience activity limitations ascribed to physical, mental, or emotional disabilities.

These results have particularly concerning implications for health disparities uniquely impacting bisexual-identified and/or behaviorally-bisexual people (including and in particular those who may self-identify as "queer" or other umbrella non-monosexual term, including bisexual), who may be at risk for a higher disease rate of cardiovascular disease, certain cancers, and some sexually transmitted infections (Conron, Mimiaga, & Landers, 2010). Research indicates that 80% of bisexual women are screened for breast and cervical cancers compared with lesbian (92%) and heterosexual women (93%) (MAP, 2016). Similarly, smoking and substance use are reported at higher rates by bisexual individuals than by gay and lesbian individuals (MAP, 2016).

Thus, the findings of this study are consistent with broader population health research on disparities among bisexual and behaviorally-bisexual adults, and in particular for women (who along with transgender individuals self-identified as bisexual at higher rates than do cisgender men). Study findings have concerning implications for deaf bisexual and queer

women's health outcomes, suggesting that, as with hearing bisexual and queer populations, this subgroup may face similar experiences of pervasive bias and marginalization in their families, communities, and larger society, which is further compounded in healthcare settings by communication and cultural competency challenges associated with deaf identity (McKee & Hauser, 2013).

Such disparities may be particularly salient when deaf bisexual and queer women are sexually active, experiencing intimate partner violence (as has been noted at higher rates among deaf and lesbian communities; MAP, 2016, Pollard, Sutter, & Cerulli, 2014), and/or uninformed or misinformed about sexual behavior practices for STI transmission, infection, and disease prevention.

Patient centered communication, but not sharing health issues with providers in presence of interpreters, was associated with coming out to providers. This suggests that the providers' ability to deliver high-quality patient centered communication care has greater impact on the deaf patient's decision to disclose sexual orientation and/or gender identity. The presence of a sign language interpreter does not promote nor inhibit patient's willingness to share health issues with healthcare providers. It is suggested that this finding may be attributable in part to higher saliency of LGBTQ identities in healthcare settings, or intentional prioritizing of communication efficacy over privacy concerns. It is possible that when patients are acquainted with their ASL interpreters, who may or may not also be LGBTQ-identified and/or out to patients, there may be less concern about privacy or need to guard sensitive health information. This has an important implication for training that support healthcare providers' cultural competencies in working with deaf and LGBTQ patients.

The higher percentage of deaf gay men who reported being out to their healthcare providers compared with self-identified bisexual/queer gay men in our study is consistent with current literature suggesting that a significant percentage or "strong majority" of gay men are "out" to their healthcare providers (Cahill et. al, 2018; Durso & Meyer, 2012). The findings that deaf gay cisgender and transgender men reported significantly higher likelihood (compared with deaf cisgender and transgender women) of LGBTQ identity disclosure to healthcare providers presents interesting speculative implications in terms of patient comfort with disclosure and provider receptivity.

In particular, transgender individuals seeking healthcare for routine needs and concerns as well as those seeking or receiving transition-related care frequently report concerns or challenges connected with disclosure of LGBTQ identity; these include anxieties about receiving substandard care, inaccurate and problematic record-keeping by healthcare providers, discriminatory exclusions or referrals to other providers, refusals of care, experiencing verbal harassment or physical violence, or needing to educate their healthcare providers about basic transgender-related care (Radix, Lelutiu-Weinberger, & Gamarel, 2014). The finding that deaf transgender individuals were comparable with cisgender males' rate of disclosure in our study contradicts previous literature suggesting that transgender patients have higher rates of nondisclosure to healthcare providers due to concerns including fears of exclusion from or discrimination within healthcare settings (Seelman et. al, 2017).

For instance, Seelman et. al (2017) note a significant association between self-reported “worse” general and mental health, and delays in treatment-seeking and healthcare access among transgender adults due to of fears of discrimination. Given the multiple challenges of identifying healthcare providers who are culturally competent in working with deaf and LGBTQ individuals, that a relatively substantial percentage of deaf transgender respondents in our sample reported being out to healthcare providers may have promising implications for the quality of care available; conversely, this finding may hint at an unreported mediation effect of deaf identity upon disclosure/nondisclosure of transgender identity. It is unclear whether higher self-reported likelihood of disclosing transgender identity to providers is associated with perceived higher-quality physical and mental health outcomes among deaf transgender patients. Given that the transgender/genderqueer group is quite small in our sample, and that disclosure to providers and patient-provider relationships are particularly salient with regard to health-related needs and outcomes for transgender youth and adults, this finding deserves further investigation in future research.

Finally, the findings that sharing health issues in the presence or absence of an interpreter was not associated with LGBTQA identity disclosure/nondisclosure was quite interesting. This may suggest, as Bennett and Coyle (2007) propose, that when deaf LGBTQ individuals “simultaneously ‘occupy [multiple]... socially devalued positions[s]’” in healthcare contexts LGBTQ identities may assume greater salience in terms of provider-patient relationships (Duke, 2011, p.125). That is, deaf LGBTQ patients may perceive that decisions to disclose LGBTQ identity are somehow differently received by their healthcare provider, e.g. with lower levels of acceptance, understanding, and or inclusion, than disclosing sensitive health information in front of an interpreter who might be more accepting of deaf LGBTQ individuals.

Finally, our study findings in regard to the link between self-reported acceptance as LGBTQ by loved ones and LGBTQ identity disclosure to healthcare providers is consistent with general LGBTQ population research (Durso & Meyer, 2012). Acceptance by others with whom one is close, including family members and caregivers, may impact variables that in turn influence disclosure/nondisclosure decisions to providers, including whether one has access to insurance as well as one’s comfort and perceived safety of disclosure to others outside one’s immediate circles. Furthermore, provider cultural competency, as a variable influencing patient disclosure versus nondisclosure, may act as a mitigating factor in the better health outcomes noted by patients with higher levels of self-reported acceptance as LGBTQ by peer and close ones.

Importantly, research indicates that when LGBTQ patients do not disclose their sexual and/or gender identity to their providers, it is often because their providers do not ask but instead use language and approaches that assume patients’ heteronormativity and cisnormativity (Law, Mathai, Veinot, Webster, & Mylopoulos, 2015; Rossman, Salamanca, & Macapagal, 2017; Dutton, Koenig, & Fennie, 2008). Indeed, Sanchez et al. (2006) found that medical students with increased clinical exposure to and experiences providing care for LGBT patients were significantly more likely than other providers to: demonstrate positive attitudes toward LGBT patients, obtain more comprehensive health histories, and possess greater knowledge of LGBT health concerns. Such factors, in turn, strongly contribute to

better care and improved health outcomes for LGBTQ people. While little is known about the providers who are caring for the deaf LGBTQ adults surveyed in this study, provider assessment and further inquiry with participants into provider attributes that facilitate disclosure would be worthwhile.

Strengths and Limitations

Strengths of this study include the breadth of demographic information collected, the representativeness of diverse racial and ethnic groups in the sample, and the largest population-based sample to-date of deaf LGBTQ individuals in a healthcare study. The sample characteristics in our study also appear to be consistent with what has been reported in the literature, e.g. there is a greater likelihood for deaf LGBTQ young adults in our sample to identify as bisexual or queer compared with deaf older adults who tend to self-identify as gay or lesbian, which is consistent with Pew Research findings (2013) that a higher percentage of young adults identified as bisexual (as well as other non-monosexual identities) compared with older adults, who are more likely to identify as gay or lesbian. Regardless, the researchers recognize that the decision to collapse four major sexual identity categories self-reported by participants into two comparative categories due to the small sample size may have precluded further analysis of notably different, albeit nonsignificant subgroup differences. Additional major limitations include the nature of the survey collection, the close-knit nature of the deaf community (potentially contributing further to the small sample size) and the face-to-face meeting for the informed consent procedure may have precluded some potential deaf LGBTQ participants from joining.

Recommendations.

With regard to accessing healthcare settings and services, it is critical to identify and anticipate barriers encountered by individuals with disabilities, including deaf individuals, and to identify optimal strategies to dismantle, resolve, and/or reduce such barriers while integrating individuals' needs into various healthcare systems (Tomlinson et al., 2009). Cultural competency training related to deaf culture among healthcare providers has been found to significantly increase provider skills in caring for deaf individuals, thereby reducing health disparities (Hoang, LaHousse, Nakaji, & Sadler, 2011). Researchers have encouraged healthcare providers to facilitate positive working relationships with deaf patients to ensure patient communication access (D. D. Barnett, Koul, & Coppola, 2014; Tedesco & Junges, 2013). In particular, for deaf patients with limited English proficiency, the use of professional sign language interpreters is correlated with improved clinical care (McKee & Paasche-Orlow, 2012); deaf patients report positive experiences in healthcare encounters when medically-experienced or credentialed professional sign language interpreters are present (Karlner, Jacobs, Chen, & Mutha, 2007; Steinberg et al., 2006). Recommendations include implementation of communication technologies, utilization of sign language interpretation, and cultural awareness trainings to familiarize health professionals with the needs and related concerns of deaf patients; such suggestions include consideration of the variably heterogeneous needs of deaf individuals and may improve access to care as well as quality of care, and thereby improve patient satisfaction and perceived provider competency (Kuenburg, Fellingner, and Fellingner, 2016; Emond et al., 2015).

For LGBTQ-identified deaf patients, culturally competent providers can contribute to reduction of health disparities by appropriately inquiring about and supportively receiving and utilizing patients' disclosure of LGBTQ identity-related information in order to enhance patient-provider interactions, promote regular utilization of care, and achieve better health outcomes. Similarly, providers are encouraged to seek cultural competency training for themselves and for colleagues that take an intersectional approach to building intercultural competencies with deaf LGBTQ individuals. Furthermore, when sign language interpreter use is requested by deaf patients, regardless of patient LGBTQ identity, providers are encouraged to seek out and work with interpreters who are described by patients as LGBTQ-affirming and culturally competent; providers may also wish to consider providing deaf LGBTQ patients with multiple opportunities for disclosure of LGBTQ identity-related information, including through written questionnaires or forms.

Based on the results of this research and forthcoming studies, providers aiming to offer inclusive, affirming, and culturally competent care to deaf LGBTQ individuals should also consider factors uniquely associated with risks and discrepancies among different subgroups of LGBTQ individuals, including deaf bisexual and queer-identified individuals as well as those who identify as transgender or genderqueer. Addressing subgroup-specific health concerns and reducing health disparities among deaf LGBTQ individuals will further contribute to reduction in disease transmission and progression, reduced healthcare costs, increased longevity, and increased mental and physical well-being among these communities.

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PUBLIC SIGNIFICANCE STATEMENT

This study highlights that those who are female, both cisgender and transgender, and identify as bisexual or queer are less likely to disclose their sexual orientation and gender identities to health care providers, compared with their male and gay/lesbian counterparts. In addition, it presents an emphasis on the important need for providers to develop greater intersectional cultural competencies and to be knowledgeable with challenges and inequities that deaf bisexual and queer women face in accessing health care.

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Table 1:
Sociodemographic Characteristics by Sexual Orientation (N=313)

	Gay/Lesbian n= 184	Bisexual/Queer n= 129	t-test(df), p-value
Mean age in years (SD)	36.91 (11.96)	31.38 (10.68)	4.21(311), <.001
Mean age disclosed sexual orientation to a close friend or family (SD)	18.68 (6.02)	19.64 (7.99)	-1.17(291), 0.25
BMI	27.05 (5.53)	27.22 (6.75)	-0.25(310), 0.81
PCC	61.84 (24.93)	55.03 (26.55)	2.27 (298), 0.02
	n (%) ^c	n (%) ^c	$\chi^2(df), p\text{-value}$
Gender ^a			32.89 (2), <.001
Male	101 (54.9)	29 (22.5)	
Female	71 (38.6)	84 (65.1)	
Genderqueer	12 (6.5)	16 (12.4)	
Age group			15.31(3), <.001
18–34	89 (48.4)	90 (69.8)	
35–49	61 (33.2)	25 (19.4)	
50–64	31 (16.8)	14 (10.9)	
65–75	3 (1.6)	0 (0.0)	
Ethnicity/Race			2.41(3), 0.49
Hispanic	19 (10.3)	18 (14.0)	
NonHispanic White	123 (66.8)	89 (69.0)	
NonHispanic Black/AA	18 (9.8)	11 (8.5)	
Others	24 (13.0)	11 (8.5)	
Geographic location			1.91(3), 0.59
Northeast	34 (18.5)	23 (17.8)	
South	82 (44.6)	50 (38.8)	
Midwestern	18 (9.8)	18 (14.0)	
West	50 (27.2)	38 (29.5)	
Education			1.97(2), 0.37
High school	19 (10.3)	12 (9.3)	
Some college	40 (21.7)	37 (28.7)	
College graduate	125 (67.9)	80 (62.0)	
Deaf parent(s)			.19(1), 0.66
No	120 (65.2)	81 (62.8)	
Yes	64 (34.8)	48 (37.2)	
Relationship status ^b			15.61(3), <.001
Married	33 (17.9)	7 (5.4)	
Living with a partner	31 (16.8)	19 (14.7)	
Divorced/widowed/separated	8 (4.3)	15 (11.6)	
Never married	112 (60.9)	88 (68.2)	
LGBTQ accepted by close people			7.70(1), <.01

	Gay/Lesbian n= 184	Bisexual/Queer n= 129	t-test(df), p-value
Never/Rarely/Sometimes	12 (6.7)	21 (16.8)	
Often/Always	167 (93.3)	104 (83.2)	
Missing/no response	5	4	

^aSignificant differences observed across all groups.

^bSignificant differences observed for married and divorced/widowed/separated groups.

^cPercentages are determined by total number of responses (in parentheses) to each question

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Table 2:
Sociodemographic Characteristics by Gender Identity (N=313)

	Cisgender men n= 120	Cisgender women n= 147	Trans/ Genderqueer n= 46	F-test(df), p-value
Mean age in years (SD)	34.58 (10.86)	35.04 (12.79)	33.43 (10.64)	0.33(2), 0.72
Mean age disclosed sexual orientation to a close friend or family (SD)	18 (6)	20 (7)	17 (8)	4.38(2), 0.02
Mean age disclosed as transgender to a close friend or family (SD) (n=16)	-	-	27.50 (13.48)	-
BMI	26.39 (5.18)	27.63 (6.73)	27.38 (5.80)	1.44(2), 0.24
PCC	63.69 (24.65)	53.71 (24.81)	64.23 (29.01)	5.95(2), <.01
	n (%)^b	n (%)^b	n (%)^b	χ^2(df), p-value
Sexual Orientation ^a				50.31(2), <.001
Gay/Lesbian	100 (83.3)	68 (46.3)	16 (34.8)	
Bisexual/Queer	20 (16.7)	79 (53.7)	30 (65.2)	
Age group				9.88(6), 0.13
18–34	63 (52.5)	87 (59.2)	29 (63.0)	
35–49	43 (35.8)	31 (21.1)	12 (26.1)	
50–64	13 (10.8)	27 (18.4)	5 (10.9)	
65–75	1 (0.8)	2 (1.4)	0 (0.0)	
Ethnicity/Race				4.97(6), 0.55
Hispanic	18 (15.0)	15 (10.2)	4 (8.7)	
NonHispanic White	74 (61.7)	104 (70.7)	34 (73.9)	
NonHispanic Black/AA	11 (9.2)	13 (8.8)	5 (10.9)	
Others	17 (14.2)	15 (10.2)	3 (6.5)	
Geographic location				6.62(6), 0.36
Northeast	16 (13.3)	33 (22.4)	8 (17.4)	
South	53 (44.2)	62 (42.2)	17 (37.0)	
Midwestern	12 (10.0)	16 (10.9)	8 (17.4)	
West	39 (32.5)	36 (24.5)	13 (28.3)	
Education				3.16(4), 0.53
High school	14 (11.7)	14 (9.5)	3 (6.5)	
Some college	32 (26.7)	31 (21.1)	14 (30.4)	
College graduate	74 (61.7)	102 (69.4)	29 (63.0)	
Deaf parent(s)				1.77(2), 0.41
No	82 (68.3)	89 (60.5)	30 (65.2)	
Yes	38 (31.7)	58 (39.5)	16 (34.8)	
Relationship status				14.67(6), 0.02
Married	18 (15.0)	20 (13.6)	2 (4.3)	
Living with a partner	16 (13.3)	25 (17.0)	9 (19.6)	
Divorced/widowed/separated	2 (1.7)	17 (11.6)	4 (8.7)	
Never married	84 (70.0)	85 (57.8)	31 (67.4)	

	Cisgender men n= 120	Cisgender women n= 147	Trans/ Genderqueer n= 46	F-test(df), p-value
LGBTQ accepted by close people				2.68(2), 0.26
Never/Rarely/Sometimes	10 (8.5)	20 (13.9)	3 (7.0)	
Often/Always	107 (91.5)	124 (86.1)	40 (93.0)	
Missing	3	3	3	

^a Significant differences were observed across all groups, with lower percentage of bisexual/queer individuals in the cisgender male group.

^b Percentages are determined by total number of responses (in parentheses) to each question

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Table 3: Correlations Between Disclosure to Health Providers and Sociodemographic/LGBTQ Patient Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Disclosure to healthcare providers	-										
2. Gender identity	-.103	-									
3. Sexual orientation	-.173**	.392***	-								
4. Patient centered communication	.240***	-.080	-.140*	-							
5. Age	.166**	-.036	-.252***	.111	-						
6. Health status	.151**	-.110	-.150**	.153**	.045	-					
7. Education	.034	.048	-.051	.059	.311***	.166**	-				
8. Interference to disclosing health information in front of an interpreter	-.064	.046	.001	-.162**	.011	-.043	.086	-			
9. Race/Ethnicity	-.045	-.113*	-.030	.025	-.042	-.065	-.031	.011	-		
10. Marital status	-.143*	-.027	.122*	-.091	-.358***	-.051	-.190**	.015	.110	-	
11. LGBTQ acceptance by close people	.289***	-.026	-.160**	.152**	-.029	.225***	.039	-.101	-.083	-.010	-

p<.001

**
p<.01

*
p<.05

Table 4.Logistic Regression for Disclosure of Sexual Orientation/Gender Identity to Healthcare Provider^a (N=295)

Variable	Log Reg Adj OR	95% CI for Log Reg (Lower to Upper)
Age	1.04 **	(1.01, 1.06)
Health status ^b		
Good	1.21	(0.43, 3.43)
Very good	1.18	(0.43, 3.27)
Excellent	1.65	(0.54, 4.99)
Patient centered communication	1.01 *	(1.00, 1.02)
LGBTQ acceptance by close people ^c	6.38 ***	(2.45, 16.60)
Interpreter interference ^d	0.96	(0.51, 1.80)
Gender identity ^e		
Cisgender female	0.39 **	(0.21, 0.72)
Transgender/genderqueer	0.84	(0.34, 2.07)
Sexual orientation ^f	1.14	(0.63, 2.06)

^aDid not disclose is the reference group^bPoor/fair is the reference group^cNever/Rarely/Sometimes is the reference group^dNo is the reference group^eCisgender men is the reference group^fBisexual/queer is the reference group*
 $p < .05$ **
 $p < .01$ ***
 $p < .001$