
ORIGINAL ARTICLE

Awareness of LGBTQ+ health disparities: A survey study of complementary integrative health providers

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ABSTRACT

Objective: The purpose of this study was to survey awareness of lesbian, gay, bisexual, transgender, queer/questioning, plus health disparities among complementary integrative health providers; chiropractors, naturopaths, acupuncturists, and massage therapists and secondly, examine how providers' sexual and gender identity correlated with that awareness.

Methods: An electronic survey was designed, which included demographic questions as well as closed-ended and Likert response items to measure provider awareness of LGBTQ+ patients and the health disparities they experience. Kruskal-Wallis H tests with pairwise comparisons were used to evaluate the differences between defined groups and their awareness of health disparities of LGBTQ+ adults and youth.

Results: The survey showed that most complementary integrative health care providers agreed that LGBTQ+ individuals experience discrimination and health disparities. However, providers are unaware of the specific disparities experienced in this population, including increased risk of substance abuse and mental health issues. Pairwise comparison tests demonstrated that providers that identify as a part of the LGBTQ+ community are often more aware of disparities than their heterosexual cisgender counterparts.

Conclusion: Complementary integrative health care providers demonstrated some general awareness of LGBTQ+ health disparities yet most providers lacked awareness of specific disparities that pose major health risks for this community. Cultural competency training specific to LGBTQ+ individuals is lacking and may explain some of the findings in this study. This suggests that education is needed, both in professional educational programs and in the health care community by way of conferences, webinars, and other opportunities.

Key Indexing Terms: Sexual and Gender Minorities; Healthcare Disparities; Complementary Therapies; Education

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INTRODUCTION

Diversity, equity, and inclusion awareness is increasingly recognized as an important competency for health care providers.¹ Awareness of health disparities within minority groups, including lesbian, gay, bisexual, trans-

gender, queer, and all other gender identities and sexual orientations (LGBTQ+) community members, is an important factor in providing adequate, informed health care.²

Health disparities, health, and health care differences between groups that stem from broader inequities exist for different populations due to complex interactions between a variety of factors. These factors may include social and economic differences between groups that result in systematic differences in health outcomes. These disparities are largely preventable, when health care providers recognize the health disparities present in different populations and follow best practice protocols accordingly.³

There are many well-evidenced health disparities that exist for the LGBTQ+ community compared with the

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heterosexual, cisgender community. Cisgender refers to a person whose sense of personal identity and gender corresponds to their sex assigned at birth. Adult members of the LGBTQ+ community more often experience health concerns associated with body weight, body image, and obesity.^{4,5} The prevalence of substance abuse in LGBTQ+ people is higher than in non-LGBTQ+ people, particularly alcohol misuse.⁶ Additionally, rates of drug use are also higher in sexual and gender minority populations, notably in the subpopulation of men who have sex with men where drug use is associated with increased transmission of sexually transmitted diseases.⁷ In addition to increased alcohol and drug use, tobacco use is significantly higher in LGBTQ+ communities than in non-LGBTQ+ groups. This may be, in part, due to specific marketing campaigns targeted to LGBTQ+ individuals, which promote higher tobacco use in this population.⁸⁻¹¹ Mental health related challenges, including suicidal ideation, depression, and anxiety, are more common in sexual and gender minorities. This is in part due to the occurrence of “minority stress,” which results in actual or perceived negative experiences and attitudes leading to depression, anxiety, or other disorders.⁴ LGBTQ+ youth experience health inequities like their adult counterparts. However, younger people also experience additional mental health challenges related to school experiences. LGBTQ+ bullying and victimization are noted to contribute to increased suicide rates in these young people.¹²

Little attention has been given to awareness of LGBTQ+ health disparities within the complementary integrative health provider population. Health care providers play a crucial role in preventing the continuation of health disparities for LGBTQ+ populations. To begin to mitigate these disparities, providers must be aware that they exist. Awareness regarding LGBTQ+ communities health care disparities have been explored for medical and osteopathic providers.^{13,14} To our knowledge, health care inequity awareness among complementary integrative health providers (chiropractors, naturopaths, acupuncturists, and massage therapists) has not been investigated. Limited work has been published in chiropractic or naturopathic literature regarding integrative care of patients in the LGBTQ+ communities. Integrated care of transgender patients has been addressed to a limited degree in chiropractic and naturopathic practice. Specifically, the need for culturally sensitive chiropractic care of transgender patients has been reported.¹⁵ Similarly, support of gender diverse youth through naturopathic care has been explored.¹⁶ Yet, an examination of health disparity awareness for LGBTQ+ populations has not been established outside of medical and osteopathic care. The purpose of this study was to explore LGBTQ+ health disparity awareness among complementary integrative health care providers and search for differences in perceptions of these health disparities based on the gender and sexual orientation of the complementary integrative health provider.

Determining what is known about LGBTQ+ health disparities within the complementary integrative health provider population can inform health care curricula,

create continuing education opportunities, and potentially shape licensing requirements to narrow the disparity gaps experienced within this population of patients.

METHODS

Sample

The population sampled in this study were members of The CHP Group, an Oregon-based preferred provider organization, comprised of complementary integrative health care providers that serve the people of Portland and the surrounding areas in Oregon, USA. The group includes chiropractic physicians, naturopathic physicians, licensed acupuncturists, and massage therapists. A survey designed by the authors was distributed through the leadership at the CHP Group. A link to the survey in Survey Monkey was provided to the CHP Group administration and 1988 participating providers were contacted by email. The survey was available for 1 month. Two additional reminder emails were sent before the survey closed. Responses were voluntary and anonymous. This study was expedited for review and approved by the University of Western States institutional review board.

Survey Instrument

A survey was developed to query complementary integrative health care providers from the CHP Group about their awareness of health disparities between LGBTQ+ patients and heterosexual, cis-gendered patients. Several survey items were adapted from a survey distributed to medical and osteopathic physicians in London, Ontario, Canada.¹⁴ Additional items were adapted from research reported by the Center for American Progress.¹⁷ Content validity was established for the survey as the items were developed from content experts. Please see the Appendix for a complete version of the survey. The survey was divided into multiple sections: (1) demographic information, (2) experiences of providers with LGBTQ+ patients and training in LGBTQ+ focused care, (3) perceptions of the LGBTQ+ community experiences with health care, (4) perceptions of LGBTQ+ adult health care experiences and engagement in risk behaviors compared with cisgender, heterosexual adults, (5) perceptions of risk of suicidal ideation of transgender adults as compared with Lesbian, Gay, Bisexual (LGB) and cisgender, heterosexual adults, and (6) perceptions of engagement in risk behaviors among LGBTQ + youth compared with cisgender, heterosexual youth.

Awareness of disparities was measured using Likert responses of strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. Five-point Likert responses were used because evidence suggests that an odd number of responses is preferable as it allows a respondent to choose a neutral or “I don’t know” response.¹⁸

Statistical Analysis of Survey Results

The analysis was performed using SPSS software (IBM Corp, Armonk, NY). In addition to the ordinal survey scale responses, the Shapiro-Wilk test ($p < .05$) and a

Table 1 - Respondent Characteristics

Characteristic	N	%
Age		
25–34	11	10.0
35–44	31	28.4
45–54	26	23.8
55–64	21	19.2
65+	13	11.8
Prefer not to answer	9	8.26
Gender identity		
Male	35	32.1
Female	60	55.0
Nonbinary	3	2.7
Transgender	1	0.9
Prefer not to answer	10	9.2
Race/ethnicity		
White	87	79.8
Black or African American	2	1.8
Asian	4	3.7
Hispanic or Latino	2	1.8
Native American or Alaska Native	1	0.9
Two or more races	1	0.9
Prefer not to answer	12	11.0
Sexual orientation		
Heterosexual	74	67.9
Bisexual	11	10.0
Lesbian or gay	5	4.5
Queer	7	6.4
Asexual	1	0.9
Other	2	1.8
Prefer not to answer	5	4.5
Years in practice		
0–5	12	11.0
6–10	11	10.0
11–15	24	22.0
16–20	22	20.2
21–30	22	20.2
31–40	11	10.0
Over 40	1	0.9
Prefer not to answer	6	5.5
Place of practice		
Rural	15	13.7
Suburban	19	17.4
Urban city	69	63.3
Prefer not to answer	6	5.5
Credential		
Naturopathic doctor (ND)	8	7.3
Chiropractic doctor (DC)	40	36.7
Massage therapist (LMT)	30	27.5
Acupuncturist (LAc)	33	30.2
More than 1 credential	6	5.5

visual inspection of the histograms, QQ plots, and box plots revealed that the data were not normally distributed. The data were analyzed using nonparametric statistics. For this analysis, Kruskal-Wallis H tests with pairwise comparisons were run to evaluate differences in mean ranks between 3 groups and their perceptions of health disparities of LGBTQ+ adults and youth. Dunn's post hoc

tests were conducted on each pair of groups. As multiple tests are being carried out, SPSS makes adjustment to the *p*-value. The Bonferroni adjustment was used for multiple comparisons. The independent variable was computed based on gender and sexual orientation: LGB females, heterosexual males, heterosexual females. The dependent variables were selected from various portions of the survey. For these analyses, bisexual or gay males were excluded since only 1 respondent identified in that category.

RESULTS

Survey Results

The response rate was 5% (109/1988). The survey garnered 109 complete responses; 6 responses were incomplete and were excluded from analysis. The respondents included 40 chiropractors, 32 acupuncturists, 30 massage therapists, and 7 naturopaths. The majority of the respondents identified as heterosexual (68%) and cisgender female (55%), and 27% of individuals identified as LGBTQ+ (Table 1).

The amount of cultural competency training in LGBTQ+ issues varied: 48% of respondents had 1–10 hours of training, whereas 39% had no training at all with cultural competency. Only 13% had between 11–50+ hours. Thirty-nine percent of providers treated LGBTQ+ patients weekly, whereas 19% treated LGBTQ+ patients daily. A small minority, 3.7%, responded that they had never treated a patient from the LGBTQ+ community. The remaining respondents treated LGBTQ+ patients infrequently, 1–10 times per year. Interactions with LGBTQ+ patients were reported to be very good or good by 85% of respondents. Less than 1% of providers surveyed reported poor interactions with LGBTQ+ patients. Similar results were found in responses regarding comfort with LGBTQ+ disclosure from patients and confidence in caring for LGBTQ+ patients. Most respondents felt comfortable with disclosure of sexual minority identity (81%) and confident in caring for LGBTQ+ patients (82%). A small percentage reported being very uncomfortable with disclosure of sexual minority identity (11%) and not confident in caring for LGBTQ+ patients (13%).

The results of the 2 items in the survey regarding perceptions of the LGBTQ+ community experience with health care showed that most respondents strongly agreed/agreed that LGBTQ+ patients experience health disparities and discrimination (Fig. 1). In contrast, when asked about specific health disparities experienced by adult LGBTQ+ patients as compared with heterosexual cis-gendered patients, complementary integrative health care providers were less conscious. In 8 out of 10 survey items detailing specific health disparities, the percentage of providers that did not know or disagreed that a disparity existed exceeded 40%. Responses of did not know indicate a lack of awareness of understanding of LGBTQ+ health disparities. Particularly notable was the lack of awareness regarding substance abuse disparities between LGBTQ+ patients and heterosexual, cis-gendered patients (Fig. 2). Medians and interquartile ranges are reported in Table 2.

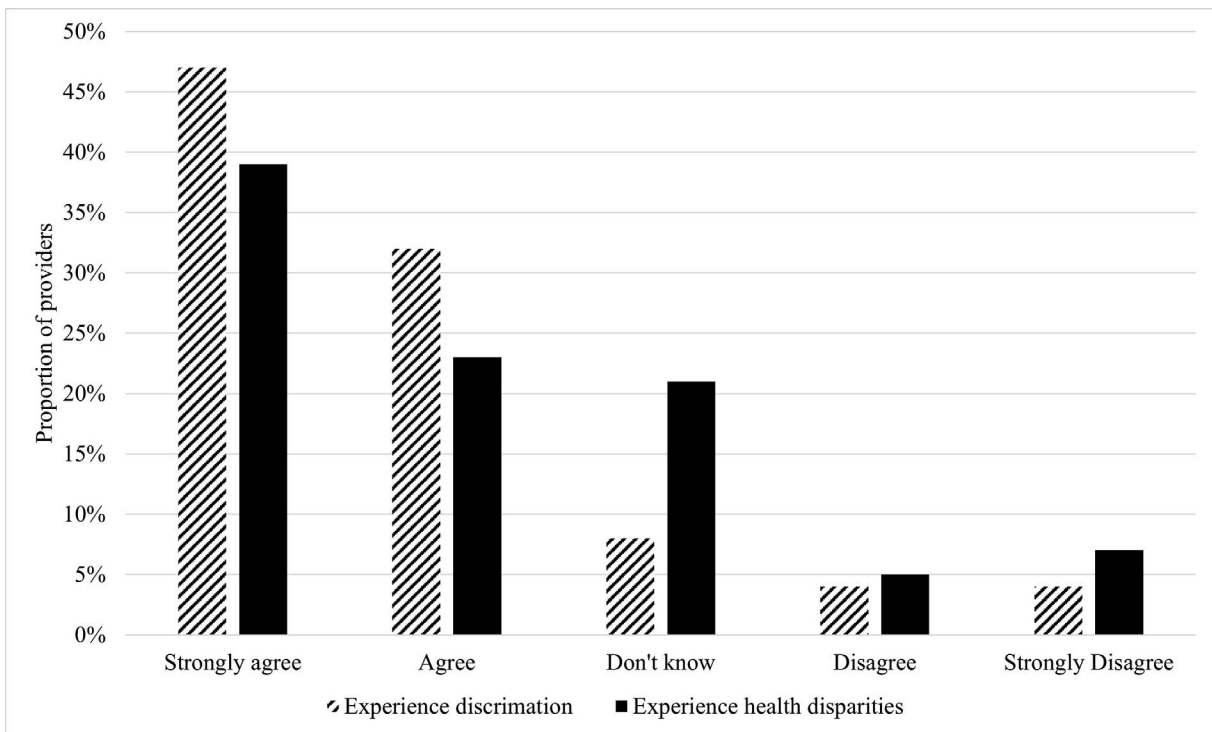


Figure 1 - Complementary integrative care providers were asked to indicate level of agreement to 2 statements: 1. LGBTQ+ individuals experience discrimination; 2. LGBTQ+ individuals experience health disparities.

Awareness regarding youth LGBTQ+ health disparities varied more than results regarding adult patients. Nearly 80% of providers reported being aware that LGBTQ+ youth are bullied more often than heterosexual, cis-

gendered youth. Yet, like the results for adults, greater than 60% of providers did not know that substance abuse is more common in LGBTQ+ young people, indicating lack of awareness (Fig. 3). Over 60% of complementary

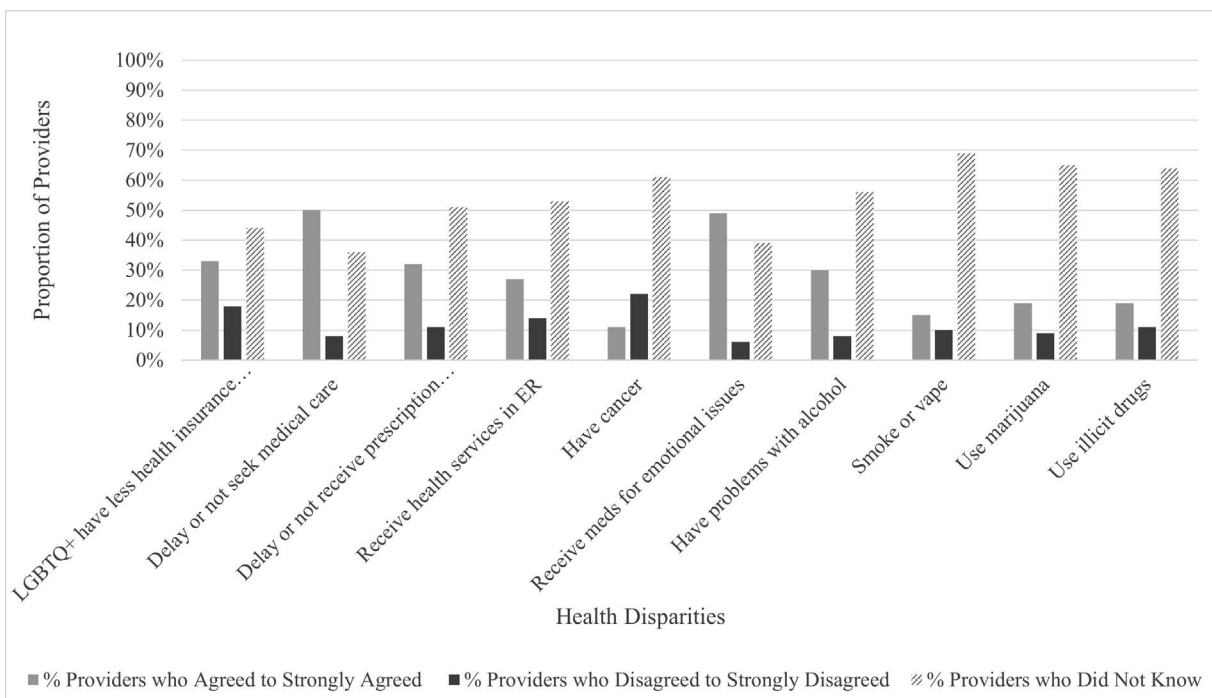


Figure 2 - Complementary integrative care providers were asked to indicate level of agreement to 10 statements regarding awareness of LGBTQ+ adult health care disparities compared with cisgender, heterosexual adults.

Table 2 - Health Disparities Between LGBTQ+ Adults and Cisgender, Heterosexual Adults: Medians and Interquartile Ranges

LGBTQ+ Adults are More Likely Than Cisgender, Heterosexual Adults To:	n	Median	IQR
Delay or not seek medical care	84	4.00	1.00
Delay or not get needed prescription medicine	84	3.00	1.00
Receive health care services in emergency rooms	84	3.00	1.00
Have cancer	84	3.00	0.00
Need medication for emotional health issues	84	4.00	1.00
Have suicidal ideation	84	4.00	1.00
Have problems with alcohol use	84	3.00	1.00
Smoke cigarettes or vape	84	3.00	0.00
Use marijuana	83	3.00	0.00
Use illicit drugs	84	3.00	0.00

integrative health care providers were aware that transgender and LGBTQ+ individuals have higher suicidal ideation compared with heterosexual, cis-gendered adults, but almost 30% of providers were unaware (Fig. 4). Medians and interquartile ranges are reported in Table 3.

Kruskal-Wallis tests were run to determine if provider gender and sexual identity impacted awareness of the

health disparities of LGBTQ+ adults compared with cisgender, heterosexual adults. Table 4 provides the results of the Kruskal-Wallis tests, and Table 5 presents the results of Dunn's pairwise tests for items in which significant differences were found. Differences were found in the mean ranks of at least 1 pair of the groups for the item, LGBTQ+ adults are more likely than cisgender, heterosexual adults to: delay or not seek medical care ($H [2, n = 84] = 7.812, p < .05$; Table 4). Dunn's pairwise tests were performed on the 3 groups and revealed that LGB females ($Md = 4$) had higher rates of agreement with this statement when compared with heterosexual males ($Md = 3$; Table 5). Significant differences were also found for the item, LGBTQ+ adults are more likely than cisgender, heterosexual adults to: delay or not get needed prescription medicine ($H [2, n = 84] = 9.474, p < .05$; Table 4). Pairwise comparison revealed that LGB females ($Md = 4$) had higher rates of agreement to this statement when compared with heterosexual males ($Md = 3$; Table 5). Finally, differences in mean ranks for the item, LGBTQ+ adults are more likely than cisgender, heterosexual adults to: need medication for emotional health issues ($H [2, n = 84] = 9.337, p < .05$; Table 4). Pairwise comparison revealed that heterosexual males ($Md = 4$) had higher rates of agreement to this statement when compared with heterosexual females ($Md = 3$) (Table 5). No other differences were found.

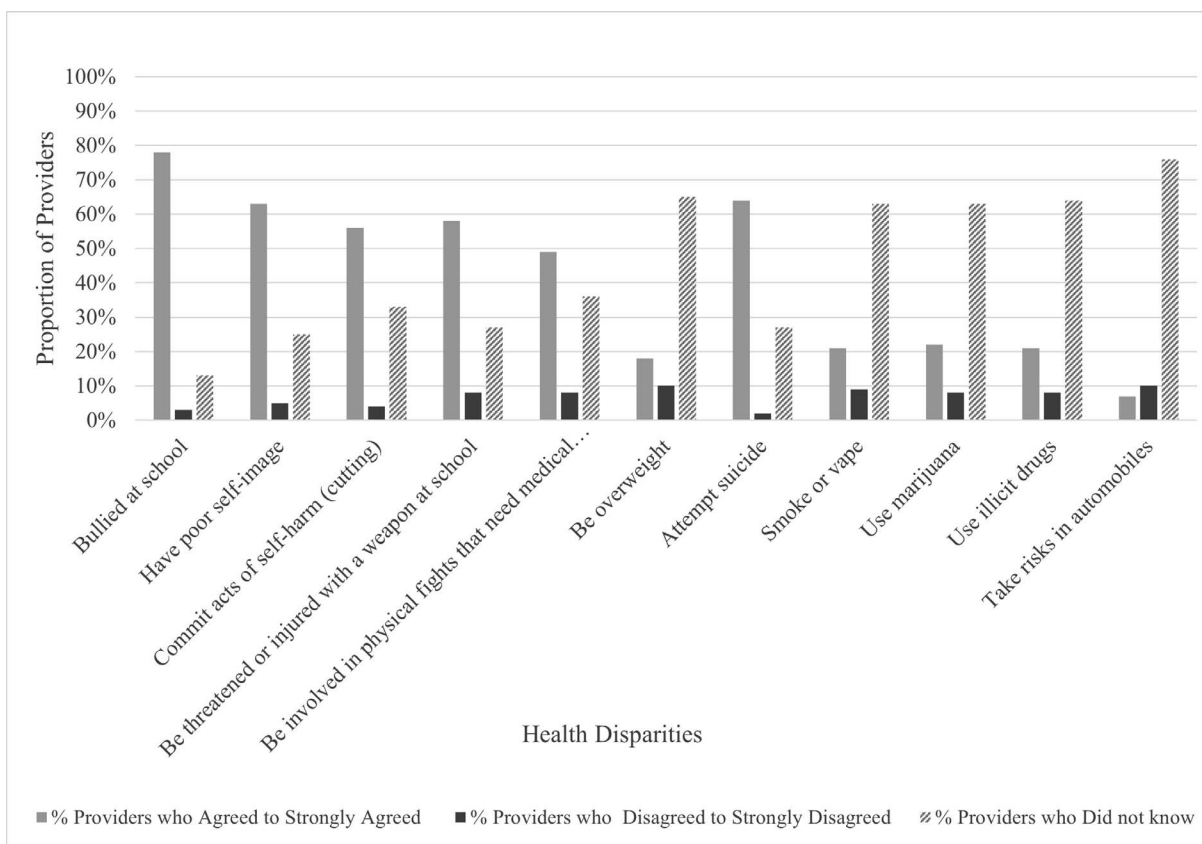


Figure 3 - Complementary integrative care providers were asked to indicate level of agreement to 10 statements regarding awareness of LGBTQ+ youth health care disparities compared with cisgender, heterosexual youth.

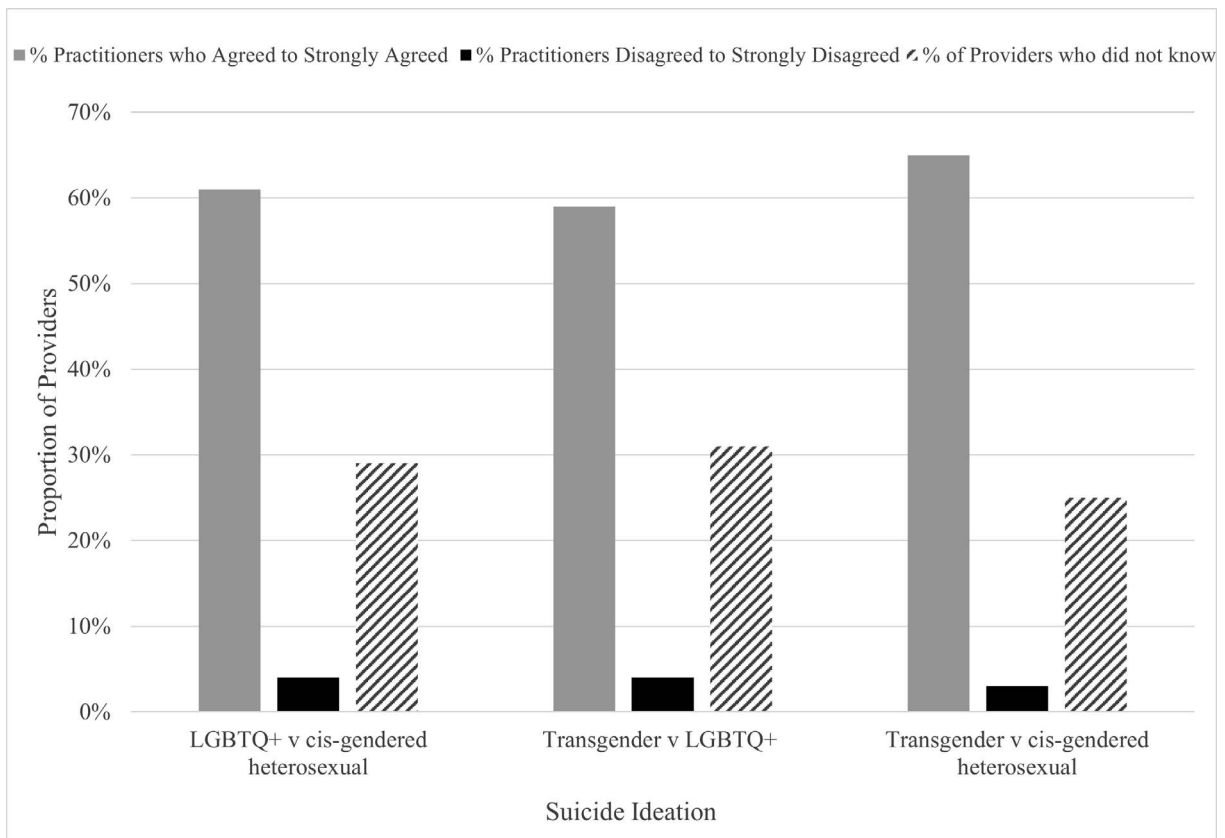


Figure 4 - Complementary integrative care providers were asked to indicate level of agreement to 2 statements regarding awareness of LGBTQ+ suicidal ideation: 1. Awareness of risk of suicidal ideation of transgender adults as compared with LGB; 2. Awareness of risk of suicidal ideation of transgender adults as compared with cisgender, heterosexual adults.

Kruskal-Wallis tests were run to determine if a provider's gender and sexual identity impacted awareness of the health disparities of LGBTQ+ youth as compared with cisgender, heterosexual youth. Table 6 provides the results of the Kruskal-Wallis tests, and Table 7 presents

Table 3 - Comparison of Health Disparities Between LGBTQ+ Youth and Cisgender, Heterosexual Youth: Medians and Interquartile Ranges

LGBTQ+ Youth are More Likely Than Cisgender, Heterosexual Youth To:	n	Median	IQR
Be bullied at school	83	4.00	0.00
Experience homelessness	83	4.00	2.00
Have a poor self-image	83	4.00	2.00
Commit acts of self-harm (cutting)	83	4.00	2.00
Be threatened or injured with a weapon in school	83	4.00	2.00
Be involved in physical fights that require medical treatment	83	4.00	1.00
Be overweight	83	3.00	0.00
Attempt suicide	83	4.00	1.00
Smoke cigarettes or vape	83	3.00	0.00
Use marijuana	83	3.00	0.00
Take risks in automobiles	83	3.00	0.00
Use illicit drugs	83	3.00	0.00

the results of Dunn's pairwise tests for items in which significant differences were found. Differences were found in the mean ranks of at least 1 pair of the groups for the item, LGBTQ+ youth are more likely than cisgender, heterosexual youth to: be bullied at school ($H [2, n = 83] = 7.610, p < .05$; Table 6). Dunn's pairwise tests were performed on the 3 groups and revealed that LGB females ($Md = 4$) had higher rates of agreement with this statement when compared with heterosexual males ($Md = 3$; Table 7). Significant differences were also found for the item, LGBTQ+ youth are more likely than cisgender, heterosexual youth to: experience homelessness ($H [2, n = 83] = 14.355, p < .01$; Table 6). Pairwise comparison revealed that LGB females ($Md = 4$) had higher rates of agreement to this statement when compared with heterosexual females ($Md = 3$) and males ($Md = 3$) (Table 7). Differences by gender and sexual identity were also found for the item, LGBTQ+ youth are more likely than cisgender, heterosexual youth to: have a poor self-image ($H [2, n = 83] = 6.427, p < .05$; Table 6). Pairwise comparisons revealed that LGB females ($Md = 4$) had higher rates of agreement to this statement when compared with heterosexual females ($Md = 3$) and males ($Md = 3$; Table 7). Differences by gender and sexual identity were also found for the item, LGBTQ+ youth are more likely than cisgender, heterosexual youth to: be threatened or injured with a weapon in school ($H [2, n = 83] = 11.816, p < .01$; Table 6). Pairwise comparison revealed that LGB females ($Md = 4$) had

Table 4 - Comparison of Health Disparities Between LGBTQ+ Adults and Cisgender, Heterosexual Adults: Perceptions by Gender and Sexual Identity of Health Care Provider

LGBTQ+ Adults are More Likely Than Cisgender, Heterosexual Adults To:	Gender and Sexual Identity of Provider	n	Mean Rank	H
Delay or not seek medical care	LGB female	19	54.26	7.812*
	Hetero female	37	41.55	
	Hetero male	28	35.77	
	Total	84		
Delay or not get needed prescription medicine	LGB female	19	53.66	9.474*
	Hetero female	37	43.09	
	Hetero male	28	34.14	
	Total	84		
Receive health care services in emergency rooms	LGB female	19	51.13	6.953
	Hetero female	37	42.05	
	Hetero male	28	37.23	
	Total	84		
Have cancer	LGB female	19	45.95	1.087
	Hetero female	37	42.66	
	Hetero male	28	39.95	
	Total	84		
Need medication for emotional health issues	LGB female	19	43.63	9.337*
	Hetero female	37	35.05	
	Hetero male	28	51.57	
	Total	84		
Have suicidal ideation	LGB female	19	48.79	3.433
	Hetero female	37	37.82	
	Hetero male	28	44.41	
	Total	84		
Have problems with alcohol use	LGB female	19	51.58	5.716
	Hetero female	37	37.85	
	Hetero male	28	42.48	
	Total	84		
Smoke cigarettes or vape	LGB female	19	46.16	2.534
	Hetero female	37	39.11	
	Hetero male	28	44.50	
	Total	84		
Use marijuana	LGB female	18	44.50	2.700
	Hetero female	37	38.31	
	Hetero male	28	45.27	
	Total	83		
Use illicit drugs	LGB female	19	48.79	7.508
	Hetero female	37	38.16	
	Hetero male	28	43.96	
	Total	84		

* $p < .05$

higher rates of agreement to this statement when compared with heterosexual males ($Md = 3$; Table 7). Gender and sexual identity contributed to respondent's perceptions of whether LGBTQ+ youth are more likely than cisgender, heterosexual youth to: attempt suicide ($H [2, n = 83] = 10.714, p < .01$; Table 6). Pairwise comparison revealed that LGB females ($Md = 4$) had higher rates of agreement to this statement when compared with heterosexual males ($Md = 3$; Table 7). Finally, it was found that there were also significant differences in the mean ranks of the groups for the item, LGBTQ+ youth are more likely than cisgender, heterosexual youth to: smoke cigarettes or vape

($H [2, n = 83] = 6.247, p < .05$; Table 6). Pairwise comparison revealed that LGB females ($Md = 4$) had higher rates of agreement to this statement when compared with heterosexual females ($Md = 3$; Table 7). In summary, for the disparities described above differences existed related to gender and sexual orientation of the provider.

DISCUSSION

This study found that complementary integrative health care providers are aware that health disparities and discrimination generally exist within the LGBTQ+ com-

Table 5 - Comparison of Health Disparities Between LGBTQ+ Adults and Cisgender, Heterosexual Adults: Perceptions by Gender and Sexual Identity of Health Care Provider: Dunn's Pairwise Comparisons

LGBTQ+ Youth Are More Likely Than Cisgender, Heterosexual Youth To:	Gender and Sexual Identity of Provider	Test Statistic	SE	Standard Test Statistic
Delay or not seek medical care	Hetero male-Hetero female	5.786	5.743	1.008
	Hetero male-LGB female	18.495	6.814	2.714*
	Hetero female-LGB female	12.709	6.471	1.964
Delay or not get needed prescription medicine	Hetero male-Hetero female	8.952	5.437	1.646
	Hetero male-LGB female	19.515	6.452	3.025**
	Hetero female-LGB female	10.563	6.126	1.724
Need medication for emotional health issues	Hetero male-Hetero female	8.578	6.383	1.344
	Hetero male-LGB female	-16.517	5.665	-2.916*
	Hetero female-LGB female	-7.940	6.723	-1.181

* $p < .05$; ** $p < .01$

munity in both adults and youth. Perhaps this is due to the result of campaigns like Healthy People 2030 that highlight the topic of health access to remove barriers to care.³ However, they are less aware of the specific and important disparities that contribute to negative health outcomes experienced by this community compared with cis-gendered, heterosexual peers.

Providers were aware of the increased risk of suicidal thoughts in transgender adults. This finding may stem from a recent increase in mainstream news coverage of high-profile individuals disclosing their transgender identity and mental health challenges. Transgender identities are being represented in public arenas such as politics and sports for the first time. This may have increased current awareness of transgender disparities over LGB populations.

Providers agreed that LGBTQ+ youth were at increased risk of being bullied in school and have poorer self-image and engage in self-harm. This may be due to the many campaigns that exist to increase awareness of bullying in schools, including those that highlight increased bullying in LGBTQ+ youth such as Stomp Out Bullying.¹⁹ Mental health challenges for youth are perhaps more well-known due to organizations such as the Trevor Project that raise awareness in the public arena using social media and internet advertisements.²⁰

Notably, LGB female providers were more aware that LGBTQ+ adults delay or not seek medical care, delay or not receive needed prescription medications, and have a greater need for medication for emotional issues. LGB providers were also more aware that LGBTQ+ youth were more likely than cis-gendered, heterosexual youth to be bullied at school, experience homelessness, have a poor-self-image, be threatened, or injured with a weapon in school, attempt suicide, and smoke cigarettes or vape.

Providers are more aware that LGBTQ+ youth attempt suicide more than their cis-gendered, heterosexual peers. Conversely, providers are less aware that alcohol, tobacco, and drug use are more likely to be present in both LGBTQ+ adults and youth. In nearly all categories of specific health disparity, the percentage of complementary integrative health care providers that “did not know” or

“disagreed” that a particular known health disparity was present exceeded those that agreed.

This may reflect the differing amounts of cultural competency training experienced in this sample. The majority of providers had very little LGBTQ+ training, so it might be anticipated that only a minority of individuals would be aware of specific health care disparities.

The lack of awareness of many health disparities in both adults and youth is perhaps at odds with the finding that a majority of providers treat LGBTQ+ patients on a daily to weekly basis and are confident that they can properly care for the LGBTQ+ community. This suggests that although providers see many LGBTQ+ patients, they may not understand or be aware of important risk factors among this population. Providers that treat LGBTQ+ patients on a regular basis should have a better understanding of increased risks for LGBTQ+ people surrounding mental health disorders and increased risk of substance abuse disorders.

Complementary integrative health care providers that identify as part of the LGBTQ+ community are often more aware of disparities than heterosexual, cisgender providers. This may reflect the lived experience of an LGBTQ+ person who is a complementary integrative health care provider. Lived experience is the concept that personal knowledge of the world through first-hand experience, rather than by a description of that experience, creates a different level of awareness.²¹ This means that, for example, a lesbian or gay provider may be more aware of alcohol misuse in a gay patient simply because the provider identifies within the LGBTQ+ community. Individuals who identify as being part of the LGBTQ+ community have personal experiences that inform their perception of health disparities.

Limitations of this study include sample size, sample composition, and geographical location. Despite being distributed to the entire CHP Group Network, the number of respondents was low. This is comparable with other recent LGBTQ+ survey studies.¹⁴ Holbrook et al²² found evidence that although lower survey response rates decreased demographic representativeness within the range of variables examined, it did not do so by much.

Table 6 - Comparison of Health Disparities Between LGBTQ+ Youth And Cisgender, Heterosexual Youth: Perceptions by Gender and Sexual Identity of Health Care Provider

LGBTQ+ Youth Are More Likely Than Cisgender, Heterosexual Youth To:	Gender and Sexual Identity of Provider	n	Mean Rank	H
Be bullied at school	LGB female	18	54.47	7.610*
	Hetero female	37	39.93	
	Hetero male	28	36.71	
	<i>Total</i>	83		
Experience homelessness	LGB female	18	58.58	14.355**
	Hetero female	37	41.1	
	Hetero male	28	32.45*	
	<i>Total</i>	83		
Have a poor self-image	LGB female	18	54.03	6.427*
	Hetero female	37	39.36	
	Hetero male	28	37.75	
	<i>Total</i>	83		
Commit acts of self-harm (cutting)	LGB female	18	49.97	5.007
	Hetero female	37	43.43	
	Hetero male	28	34.98	
	<i>Total</i>	83		
Be threatened or injured with a weapon in school	LGB female	18	56.28	11.816**
	Hetero female	37	42.27	
	Hetero male	28	32.46	
	<i>Total</i>	83		
Be involved in physical fights that require medical treatment	LGB female	18	48.50	3.508
	Hetero female	37	43.35	
	Hetero male	28	36.04	
	<i>Total</i>	83		
Be overweight	LGB female	18	47.75	3.374
	Hetero female	37	38.20	
	Hetero male	28	43.32	
	<i>Total</i>	83		
Attempt suicide	LGB female	18	56.94	10.714**
	Hetero female	37	36.19	
	Hetero male	28	40.07	
	<i>Total</i>	83		
Smoke cigarettes or vape	LGB female	18	51.47	6.247*
	Hetero female	37	37.68	
	Hetero male	28	41.63	
	<i>Total</i>	83		
Use marijuana	LGB female	18	48.83	3.487
	Hetero female	37	38.39	
	Hetero male	28	42.38	
	<i>Total</i>	83		
Take risks in automobiles	LGB female	18	45.19	1.111
	Hetero female	37	40.84	
	Hetero male	28	41.48	
	<i>Total</i>	83		
Use illicit drugs	LGB female	18	46.19	1.581
	Hetero female	37	39.53	
	Hetero male	28	42.57	
	<i>Total</i>	83		

* $p < .05$; ** $p < .01$

Additionally, a meta-analysis of 45 studies found that the response rates for Web surveys were on average 11% lower than those of surveys distributed differently.²³ The low response rate may have been caused, in part, by the absence of mailed alternative/backup surveys and com-

pensation to participants for their time; the necessary funds were unavailable. Shorter, more targeted surveys might increase sample size in the future. The majority of respondents were cisgender female providers; this limited the use of some groups for statistical comparison due to

Table 7 - Comparison of Health Disparities Between LGBTQ+ Youth and Cisgender, Heterosexual Youth: Perceptions by Gender and Sexual Identity of Health Care Provider: Dunn's Pairwise Comparisons

LGBTQ+ Youth Are More Likely Than Cisgender, Heterosexual Youth To:	Gender and Sexual Identity of Provider	Test Statistic	SE	Standard Test Statistic
Be bullied at school	Hetero male-Hetero female	3.218	5.553	.580
	Hetero male-LGB female	17.758	6.698	2.6551*
	Hetero female-LGB female	14.540	6.371	2.282
Experience homelessness	Hetero male-Hetero female	8.716	5.737	1.519
	Hetero male-LGB female	26.137	6.920	3.777***
	Hetero female-LGB female	17.421	6.582	.282
Have a poor self-image	Hetero male-Hetero female	1.615	5.733	.282
	Hetero male-LGB female	16.278	6.915	2.354*
	Hetero female-LGB female	14.663	6.577	2.229
Be threatened or injured with a weapon in school	Hetero male-Hetero female	-3.949	4.918	-.020
	Hetero male-LGB female	13.797	5.527	2.496*
	Hetero female-LGB female	9.847	5.8111	1.695
Attempt suicide	Hetero male-Hetero female	-3.882	5.610	-.092
	Hetero male-LGB female	20.755	6.436	3.225**
	Hetero female-Sex minor female	16.873	6.766	2.494*
Smoke cigarettes or vape	Hetero male-Hetero female	-3.949	4.818	-.820
	Hetero male-LGB female	13.797	5.527	2.496*
	Hetero female-LGB female	9.847	5.811	1.695

* $p < .05$; ** $p < .01$

small numbers. Lastly, the study was conducted in Oregon with complementary integrative health care providers that have primarily urban or suburban practices. A broader survey distribution across multiple geographic regions would provide a bigger picture of complementary integrative health care providers awareness of LGBTQ+ health disparities.

In general, lack of awareness may stem from provider-patient miscommunication, lack of continuing provider educational opportunities, and/or the result of a provider's real-world implicit biases.²⁴

Increasing awareness among complementary health care providers can be accomplished through continuing educational opportunities and improving Diversity, Equity, and Inclusion curriculum for students in integrative medicine programs.^{24,25} Morris et al²⁴ propose 3 steps toward successfully reducing implicit bias among health career professions students. The first step is to build motivation for change through awareness training around health disparities and how provider implicit bias adds to these disparities. The second step is to practice bias awareness training in a safe environment using patient simulation to mitigate student defensiveness. Lastly, the curriculum should emphasize that implicit biases are universal and occur in everyone.²⁴

The types of awareness training that is most notable are through conferences or workshops, case-based training, simulation/standardized patients, small group discussions, and lectures.²⁴ Small group LGBTQ+ patient and/or provider panels assist providers with perspective taking and provide a source for counter-stereotypic information. The University of Western States Online Panel: LGBTQ+ Chiropractic Profession Insights (<https://www.youtube.com/watch?v=F5oRorK9s00>) is an example of this kind of opportunity.

com/watch?v=F5oRorK9s00) is an example of this kind of opportunity.

One example of a free, online resource for practicing providers and students is The Safe Zone Project (SZP), co-created by Meg Bolger and Sam Killermann in 2013. This is a free online resource providing curricula, activities, and other resources for educators facilitating Safe Zone trainings (sexuality, gender, and LGBTQ+ education sessions), and learners who are hoping to explore these concepts on their own.²⁶

CONCLUSION

Complementary integrative health care providers demonstrated some general awareness of LGBTQ+ health disparity and discrimination, yet the majority of providers lacked awareness of specific disparities that pose major health risks for this community. For example, the evidence suggests that some providers are unaware of the risks of particular behaviors such as increased alcohol consumption, tobacco use or self-harm present in the LGBTQ+ community that contribute to health disparities. Cultural competency training specific to LGBTQ+ individuals is lacking and may explain some of the findings in this study. This suggests that education is needed, both in professional educational programs and in the health care community by way of conferences, webinars, and other opportunities.

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- transgender
 - queer
 - other
 - Prefer not to answer
3. Please select the response that best describes your sexual orientation
 - heterosexual
 - lesbian or gay
 - bisexual
 - asexual
 - queer
 - other
 - Prefer not to answer
 4. Are you: (Select all that apply.)
 - American Indian or Alaskan Native
 - Asian
 - Black or African American
 - Hispanic or Latino
 - Native Hawaiian or other Pacific Islander
 - White
 - Prefer not to answer
 5. How many years have you been in practice?
 - 0–5
 - 6–10
 - 11–15
 - 16–20
 - 21–30
 - 31–40
 - over 40
 - Prefer not to answer
 6. Where do you primarily practice?
 - urban city
 - suburb
 - rural
 - Prefer not to answer
 7. Select all of the credentials that are applicable to you. (Select all that apply.)
 - ND
 - Lac
 - DC
 - LMT
 - Prefer not to answer

APPENDIX. COMPLEMENTARY INTEGRATIVE CARE PROVIDERS: AWARENESS OF LGBTQ+ HEALTH DISPARITIES SURVEY

In this first section, please tell us a few things about yourself.

1. Select the age range that best reflects your current age
 - 25–34
 - 35–44
 - 45–54
 - 55–64
 - 65 or older
 - Prefer not to answer
2. Please select the response that best describes your gender
 - male
 - female
 - nonbinary

Please answer the following questions about your experiences with treating members of the LGBTQ+ community.

8. How many hours of LGBTQ+ cultural competency training have you had?
 - 0 hours
 - 1–10 hours
 - 11–20 hours
 - 21–30 hours

- 31–40 hours
 - 41–50 hours
 - over 50 hours
9. What is the frequency of your experience working with or treating members of the LGBTQ+ community?
- daily
 - weekly
 - monthly
 - 6–11 times a year
 - 1–5 times a year
 - unaware of any
10. How would you rate your interactions with LGBTQ+ patients?
- a. very bad
 - b. bad
 - c. neutral
 - d. good
 - e. very good
 - f. not applicable
11. How comfortable are you with a patient disclosing that they are part of the LGBTQ+ community?
- a. very comfortable
 - b. somewhat comfortable
 - c. neither comfortable nor uncomfortable
 - d. somewhat uncomfortable
 - e. very uncomfortable
12. How confident are you that you possess enough knowledge to care for LGBTQ+ patients in a culturally appropriate manner?
- a. very confident
 - b. somewhat confident
 - c. neither confident nor unconfident
 - d. somewhat unconfident
 - e. very unconfident

In this section, we would like for you to indicate your level of awareness of the social, psychological, and health experiences that the members of the LGBTQ+ may experience. Please indicate how much you agree or disagree with each of the following statements.

Strongly disagree (1); Disagree (2); Neither agree nor disagree/don't know (3); Agree (4); Strongly agree (5)

13. LGBTQ+ individuals experience discrimination.
14. LGBTQ+ individuals experience health disparities.
15. LGBTQ+ individuals have less health insurance coverage compared with heterosexuals.

LGBTQ+ adults are more likely than cisgender, heterosexual adults to:

16. delay or not seek medical care
17. delay or not get needed prescription medicine
18. receive health care services in emergency rooms
19. have cancer
20. need medication for emotional health issues
21. have suicidal ideation
22. have problems with alcohol use
23. smoke cigarettes or vape
24. use marijuana
25. use illicit drugs
26. Transgender adults are more likely to have suicidal ideation than adult members of the broader LGBTQ+ community.
27. Transgender adults are more likely to have suicidal ideation than cisgender, heterosexual adults.

LGBTQ+ youth are more likely than cisgender, heterosexual youth to:

28. be bullied at school
29. experience homelessness
30. have a poor self-image
31. commit acts of self-harm (cutting)
32. be threatened or injured with a weapon in school
33. be involved in physical fights that require medical treatment
34. be overweight
35. attempt suicide
36. smoke cigarettes or vape
37. use marijuana
38. take risks in automobiles
39. use illicit drugs