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# Knowledge of Tobacco Usage and Consequences: A Survey of Gay, Lesbian, Bisexual, & Transgender People in Colorado

A Report from the Gay, Lesbian, Bisexual and Transgender  
Community Center of Colorado

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**Knowledge of Tobacco Usage  
and Consequences:  
A Survey of Gay, Lesbian, Bisexual,  
& Transgender People in Colorado**

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The **Gay, Lesbian, Bisexual and Transgender Community Center of Colorado** is the only statewide, nonprofit community center dedicated to providing support and advocacy for Colorado's gay, lesbian, bisexual and transgender (GLBT) population. We serve as a catalyst for community organizing, support services, social activities and cultural events.

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## INTRODUCTION

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Research has documented the increased risk of tobacco use among the lesbian, gay, bisexual, and transgender (LGBT) community for both adults (Harris Interactive, 2001; Heck & Jacobsen, 2006; Ryan, Wortley, Easton, Pederson, & Greenwood, 2001;) and youths (Petrov, 2004; Ryan et al., 2001). This increased risk has been thought to exist because of a number of factors. First, it has been documented that tobacco companies have intentionally utilized marketing strategies that have targeted the LGBT community with promotions, sponsorships of events, and corporate grants (American Legacy Foundation, 2007; Goebel, 1994). Second, the LGBT community experiences greater levels of daily stress due to oppression and marginalization based on sexual identity (Ryan et al., 2001) and greater stress has been linked to higher prevalence rates of smoking (Sheahan & Garrity, 1992; Shiffman & Wills, 1985). Finally, historically much of the LGBT community's social life has centered around bars and clubs where smoking and other behaviors associated with smoking such as alcohol and drug use are fairly common (Ryan et al., 2001; Shiffman & Wills, 1985).

This study takes a snapshot of knowledge about consequences of tobacco use, patterns of tobacco use among the LGBT community, and the availability of cessation aids among 756 LGBT community members in Colorado. The study was funded through a contract of the Gay, Lesbian, Bisexual, and Transgender Community Center of Colorado (The Center) from the Colorado Department of Public Health & Environment.

In addition to documenting the level of knowledge about tobacco usage, we also examine differences that emerge by gender (male, female, trans) or by sexual orientation (gay, lesbian, bisexual, queer, other) within the LGBT community. These findings provide more detailed information to assist providers in understanding which communities may be in need of additional outreach.

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## AGENCY PARTNERS

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Data collection for the study was conducted by The Center and four additional partner agencies in different parts of the state of Colorado. In this section, we briefly describe each of the partner agencies.

*Boulder Pride* (Boulder)

Founded in 1999 with the vision of building Boulder County as a model of equality, respect, and well-being for LGBTQ people, Boulder Pride offers a number of programs and services, including a youth empowerment program, a workplace equality project, advocacy services, community outreach and community building activities and coordination of Boulder Pridefest. In 2004, the organization opened a community center which provides a safe space for LGBTQ community groups to meet (Boulder Pride, 2007).

*The GLBT Community Center of Colorado (Denver)*

As the third oldest LGBT Community Center in the United States, The Center is the only statewide, non-profit community center providing support and advocacy for the LGBT population in Colorado. The Center works to support community organizing, support services, social activities and cultural events. In addition to coordinating Denver PrideFest, The Center operates Rainbow Alley, a youth drop-in center, SAGE Program for older adults, Family Programs for older adults and LGBT families, and a legal and advocacy program. The Center also maintains community space with meeting facilities, a lending library and the David Bohnett Cyber Center, a community access computer lab (The Center, 2009).

*Lambda Community Center (Ft. Collins)*

Located in Ft. Collins, Colorado, the Lambda Community Center is a resource center for the GLBTIQQA community in northern Colorado, providing support, educational services, outreach, advocacy, and community collaboration. (Lambda Community Center, 2007a). In addition to providing meeting space and facilities support to local area community groups, Lambda Community Center also sponsors a youth social, support, and educational group, a youth advisory board, a transgender social and support group, a young adult group, a mentoring program, community outreach, and an older adults discussion and social group (Lambda Community Center, 2007b).

*Pikes Peak Gay & Lesbian Community Center (Colorado Springs)*

Serving the Colorado Springs area, Pikes Peak Gay and Lesbian Community Center provides meeting space and facilities support to local area groups, and sponsors social, educational, and support groups for gay and bisexual men, lesbian and bisexual women, and trans-identified individuals. The organization also operates an internet café, provides wellness and sexual health services, the local area gay and lesbian chamber of commerce, and coordinates

Colorado Springs PrideFest (Pikes Peak Gay and Lesbian Community Center, 2010).

### *Western Equality* (Grand Junction)

Serving the Western Slope in Colorado, Western Equality provides support groups, educational activities, and social events. The organization operates a lending library, runs a monthly radio program on LGBT issues and concerns, and works collaboratively with other community organizations to address the needs of the local area LGBT community (Western Equality, 2009).

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## **METHODOLOGY**

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Surveys were collected by agency partners at more than 34 community-based events targeting the LGBT community. Events included activities such as support groups, community presentations, pride celebrations, and meetings. The survey length was purposefully kept to a minimum in order to encourage participation and completion of the survey.

Potential participants were approached at community events, agency programs, and social activities in the LGBT community. Many participants were provided incentives for their participation.

### *Measures*

In addition to demographic questions regarding sexual orientation, gender identity, and zip code, the survey included eight questions assessing the participants' knowledge of tobacco issues, a question capturing their level of concern about smoking in the LGBT community, and a question ascertaining their awareness of the availability of tobacco information about the LGBT community.

### *Demographics*

To capture the respondent's sexual orientation, they were asked, "Which term do you use to identify your sexual orientation?" with a response set that included *gay*, *lesbian*, *queer*, *bisexual*, and *other*. They were asked, "Which do you use to identify your gender identity??" and were provided with the following options: *male*,

*female, intersex, FTM trans, MTF trans, and other.* Finally, they were asked to list their zip code.

### *General Knowledge of the Consequence of Tobacco Usage*

Three questions were asked about the general impact of tobacco usage on health. First, respondents were asked, “Tobacco takes more lives each year than which of the following?” with a response set of *AIDS, alcohol, car accidents, drugs, fires, and all of the these combined.* The second asked, “Which of the following is documented as being linked with tobacco use?” and respondents were given the choices of *impotence, respiratory infections, nicotine addiction, cancer, premature aging, and all of the above.* The final question asking about general impact asked the respondent, “How many known cancer-causing chemicals are in cigarettes?” to which respondents could choose *none, 5, 25, and over 65.*

Five questions were included on the survey which focused on the impact of tobacco usage more specifically on the LGBT community. Four of the five were included as true/false questions following the stem, “Approximately 17% of Colorado adults smoke. Recent surveys have found which of the following to be true regarding the GLBT community in Colorado?” with a true/false response set. Statements assessed were (1) “Over 35% of the GLBT community smokes.” (2) “Lesbians smoke three times more than straight women.” (3) “Over 59% of people with HIV/AIDS smoke.” and (4) “Smoking combined with hormone therapy significant increases the risk of cancer for trans-identified people.”

The fifth question, also in a true/false format, was, “Tobacco industry profits are used to support anti-GLBT politicians.”

### *Concern about Smoking in the LGBT Community*

Using a 4-point Likert scale ranging from *Not at all* to *Very concerned*, respondents were asked, “How concerned are you about smoking in the GLBT community?”

### *Awareness of Tobacco Information*

To ascertain the respondents’ knowledge of the availability of tobacco-related information and resources, one question asked, “Are you aware of any of the following tobacco information available to the GLBT community?” The response set included *quit smoking resources, quit aids, web resources, SmokeFree GLBT events, and online quit assistance.*

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## FINDINGS

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### *Demographics*

The surveys were collected at numerous events targeting the LGBT community in various geographical regions of Colorado. The largest proportion of the sample was gathered by Boulder Pride (46.6%,  $n=352$ ), followed by 24.3% ( $n=184$ ) collected at events sponsored by the GLBT Community Center. Almost equal proportions of the sample came from events of Pikes Peak Gay & Lesbian Community Center (13.5%,  $n=102$ ) and Western Equality (13.8%,  $n=104$ ). Less than 2% came from events of Lambda Community Center in Ft. Collins (1.9%,  $n=14$ ). Table 1 summarizes the breakdown of the sample based on partner agency site.

*Table 1: Geographic Distribution of Sample*

<b>PARTNER AGENCY</b>	<b>%</b>	<b><i>n</i></b>
Boulder Pride (Boulder)	46.6%	352
GLBT Community Center of Colorado (Denver)	24.3%	184
Western Equality (Grand Junction)	13.8%	104
Pikes Peak Gay & Lesbian Community Center (Colorado Springs)	13.5%	102
Lambda Community Center (Fort Collins)	1.9%	14
<b>TOTAL</b>	<b>100.0%</b>	<b>756</b>

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Of the respondents, 62.3% ( $n=473$ ) identified as female, 31.1% ( $n=235$ ) as male, and 2% or less each as female-to-male (FTM, 1.7%,  $n=13$ ), male-to-female (MTF, 1.2%,  $n=9$ ), transgender (1.1%,  $n=8$ ), and other (2.0%,  $n=15$ ). Because of the small size of the transgender categories, they were collapsed into one umbrella transgender/gender variant category for the purposes of statistical

analyses. Three respondents (0.4%) failed to answer the gender question. Table 2 summarizes the gender identities of the respondents.

*Table 2: Gender Identity of Respondents*

<b>Gender Identity</b>	<b>%</b>	<b><i>n</i></b>
Female	62.6%	473
Male	31.1%	235
FTM	1.7%	13
MTF	1.2%	9
Transgender	1.1%	8
Other	2.0%	15
Missing	0.4%	3
	<b>100.0%</b>	<b>756</b>

Turning our attention to sexual identities, we find that the largest percentage of the sample identified as lesbian (38.2%,  $n=289$ ), followed by gay (30.0%,  $n=227$ ). Bisexually-identified individuals made up 13.0% ( $n=98$ ) of the sample, followed by those who identify as queer (9.5%,  $n=72$ ) and as other sexual identities (8.9%,  $n=67$ ). Again, 3 respondents (0.4%) did not indicate their sexual identity. Table 3 summarizes the distribution of sexual identities of the respondents.

### ***General Knowledge of the Consequences of Tobacco Usage***

A series of questions was asked about the mortality toll from tobacco usage and the linkage between tobacco use and a number of health-related consequences.

#### *Number of Tobacco-related Deaths Compared to Other Causes of Death*

As the single most preventable cause of death (American Cancer Society, 2008), more deaths result directly from tobacco use than from HIV, illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined (Centers for

Disease Control and Prevention, 2004). In response to the question asking about the scope of tobacco-related deaths, the vast majority (74.1%,  $n=560$ ) identified

Table 3: Sexual Orientation of Respondents

Gender Identity	%	$n$
Lesbian	38.2%	289
Gay	30.0%	227
Bisexual	13.0%	98
Queer	9.5%	72
Other	8.9%	67
Missing	0.4%	3
	<b>100.0%</b>	<b>756</b>

that there were more tobacco-related deaths than deaths from the combined reasons listed above. However, that suggests that approximately 1 in 4 (25.9%,  $n=196$ ) LGBT community members fail to understand the scope of tobacco-related deaths in the U.S. See Table 4.

Males (76.6%,  $\chi^2 = 1.11, p=.29$ ) and females (74.2%,  $\chi^2 = 0.01, p=.93$ ) were not significantly different than the rest of the sample in identifying that more deaths occurred due to tobacco use than the combined other reasons listed.<sup>1</sup> However, trans-identified individuals (60.0%,  $\chi^2 = 4.96, p<.05$ ) were significantly lower than the rest of the sample identifying the correct answer.

Turning our attention to differences based on sexual identity categories, we find that those respondents who identified as gay (75.3%,  $\chi^2 = 0.25, p=.61$ ), as lesbian (77.2%,  $\chi^2 = 2.29, p=.13$ ), as queer (70.8%,  $\chi^2 = 0.44, p=.51$ ), and as other sexual identities (74.6%,  $\chi^2 = 0.01, p=.92$ ) were not significantly different than the rest of the sample. However, a significantly lower percentage of bisexually-identified

<sup>1</sup> Post-hoc analyses were conducted by comparing each subsample to the rest of the sample. For example, respondents were categorized as *lesbian* or *not lesbian*, and a  $\chi^2$  was run to determine if those who identified as lesbians were statistically significantly different than the rest of the sample.

individuals (64.3%,  $\chi^2 = 5.66, p < .05$ ) identified the scope of tobacco deaths compared to other causes.

*Table 4: Estimation of Scope of Tobacco-related Deaths Compared to Other Causes of Death*

<b>More than</b>	<b>%</b>	<b>N</b>
AIDS	13.1%	99
Alcohol-related deaths	11.8%	89
Car accidents	17.5%	132
Drug-related deaths	11.0%	83
Fires	13.2%	100
All of the above*	74.1%	560
	<b>100.0%</b>	<b>756</b>

\*Denotes correct answer.

### *Health Consequence of Tobacco Usage*

The next question in this category asked about the consequences of tobacco use that are supported by research. Cancer was recognized as an empirically-supported consequence of tobacco usage by 91.4% ( $n=691$ ) of the sample. Next in line was nicotine addiction (89.8%,  $n=679$ ), increased respiratory infections (88.8%,  $n=671$ ), and aging (86.0%,  $n=650$ ). The lowest single health consequence recognized by respondents was impotence, although the proportion of the sample that did recognize it as a consequence supported by research was still high at 81.1% ( $n=613$ ). Respondents also had the option to indicate all of the above which would have been the best response to the question. A total of 78.6% recognized that all of the above health risks were empirically supported, meaning that almost one in five LGBT community members failed to recognize all of the above as potential consequences of tobacco usage. See Table 5.

Turning our attention to differences in identifying the best answer to the question, we find that neither males (81.7%,  $\chi^2 = 2.09, p = .15$ ), nor females (79.1%,  $\chi^2 = 0.26, p = .61$ ) were significantly different than the remainder of the

sample in correctly identifying the best answer. However, as with the previous question, trans-identified individuals were significantly less likely (55.6%,  $\chi^2 =$

*Table 5: Identifying the Following Consequences of Tobacco Usage*

	<b>%</b>	<b><i>n</i></b>
Cancer	91.4%	691
Nicotine addiction	89.8%	679
Increased respiratory infections	88.8%	671
Aging	86.0%	650
Impotence	81.5%	616
All of the above*	78.6%	594

\*Denotes best answer.

14.90,  $p=.00$ ) than male- and female-identified respondents to select the best answer.

With regard to differences based on sexual identity categories, those who identified as gay (81.9%,  $\chi^2 = 2.13$ ,  $p=.14$ ), bisexual (73.5%,  $\chi^2 = 1.78$ ,  $p=.18$ ), or queer (81.9%,  $\chi^2 = 0.53$ ,  $p=.47$ ) were significantly different than the remainder of the sample to identify the best answer. Lesbian-identified participants were significantly less likely (74.4%,  $\chi^2 = 4.98$ ,  $p=.03$ ) than the rest of the sample to select the best answer while those who identified as having an *other sexual orientation* were more likely than the remainder of the sample to do so (89.6%,  $\chi^2 = 5.23$ ,  $p=.02$ ).

#### *Number of Carcinogens in Tobacco Smoke*

Respondents were asked to indicate from four choices (*none, 5, 25, over 65*) the number of known carcinogens found in tobacco smoke. The largest percentage (59.0%,  $n=446$ ) recognized that there are over 65 carcinogens (Smith, Perfetti, Garg, & Hansch, 2003), 22.6% ( $n=171$ ) thought there are 25, 7.3% ( $n=55$ ) through there are 5, and less than 1% (0.5%,  $n=4$ ) thought that there were none. Slightly more than ten percent (10.6%,  $n=80$ ) did not answer this question. These

findings suggest that approximately one third of the respondents who answered the question failed to recognize how many carcinogens they are being exposed to when in the presence of tobacco smoke. See Table 6 for summary of responses.

*Table 6: Number of Carcinogens in Tobacco Smoke*

	%	<i>n</i>
None	0.5%	4
5	7.3%	55
25	22.6%	171
Over 65*	59.0%	446
Missing	10.6%	80
	<b>100.0%</b>	<b>756</b>

\*Denotes best answer.

Females were not significantly different than the remainder of the sample to identify that there were over 65 carcinogens in tobacco smoke (57.5%,  $\chi^2 = 3.02$ ,  $p=.56$ ). Males, however, were significantly more likely (65.5%,  $\chi^2 = 9.63$ ,  $p=.05$ ), and trans individuals were significantly less likely (74.4%,  $\chi^2 = 15.15$ ,  $p<.001$ ) to do so.

Statistically significant differences emerged in the examination of differences in identifying the correct answer to this question based on sexual identity category ( $\chi^2 = 19.10$ ,  $p=.04$ ). Decomposition of the chi square (Iverson, 1979) revealed that no particular category of sexual identity was significantly different than the others (gay: 63.4%,  $\chi^2 = 5.74$ ,  $p=.22$ ; bisexual: 52.0%,  $\chi^2 = 6.03$ ,  $p=.20$ ; queer: 59.7%,  $\chi^2 = 4.72$ ,  $p=.32$ ), but both lesbians (55.0%,  $\chi^2 = 8.69$ ,  $p=.07$ ) and those who identified as having an *other sexual orientation* (70.2%,  $\chi^2 = 8.22$ ,  $p=.08$ ) approached statistical significance.

### ***Tobacco and the LGBT Community***

Next, the respondents were given a series of facts about tobacco use in the LGBT community and were asked whether they thought the facts were true or false. While all of the facts were true, anywhere from 13.9% to 36.6% of the respondents answered incorrectly suggesting that the statements were false. A

summary of the percentages indicating the correct answer for the next five questions can be found in Table 7.

*Table 7: Number of Correct Answers, True/False Questions*

	%	<i>n</i>
Over 35% of the GLBT community smokes.	86.1%	651
Lesbians smoke three times more than straight women.	65.1%	492
Over 59% of people with HIV/AIDS smoke.	63.4%	479
Smoking combined with hormone therapy significantly increases the risk of cancer for trans-identified people.	81.1%	613
Tobacco industry profits are used to support anti-GLBT politicians.	77.7%	587

*Prevalence of Smoking in the LGBT Community*

Recent research indicates that more than 35% of the LGBT community in Colorado smokes tobacco products (Amendment 35 Program Evaluation Group, 2009). Among respondents in the sample 86.1% ( $n=651$ ) correctly identified this statement as true, while 10.5% ( $n=79$ ) answered false, and 3.4% ( $n=26$ ) failed to provide an answer.

No significant differences emerged in identifying the correct answer on this question by gender ( $\chi^2 = 2.03, p=.36$ ). Likewise, differences did not emerge based on sexual orientation ( $\chi^2 = 2.92, p=.57$ )

*Rate of Smoking among Lesbians compared to Heterosexual Women*

Amendment 35 Program Evaluation Group (2009) has found that lesbian-identified women in Colorado smoke at a rate that is three times that of heterosexual women in Colorado. Almost 69% of survey respondents identified the statement comparing rates between lesbians and heterosexual women as true, meaning that approximately 1/3 incorrectly thought the statement was false.

Males in the sample had the highest percentage (76.0%) indicating the correct answer, followed by trans-identified individuals (68.2%) and females (65.5%). Males were more likely to identify the statement as true compared to the rest of

the sample ( $\chi^2 = 7.49, p=.01$ ), while females were significantly less likely to do so ( $\chi^2 = 6.57, p=.01$ ).

No significant differences emerged between those respondents who identified as gay (74.4%,  $\chi^2 = 4.98, p=.03$ ), lesbian (74.4%,  $\chi^2 = 4.98, p=.03$ ), queer (74.4%,  $\chi^2 = 4.98, p=.03$ ), or as *other sexual orientation* (74.4%,  $\chi^2 = 4.98, p=.03$ ). However, those respondents who identified as bisexual were significantly less likely (74.4%,  $\chi^2 = 4.98, p=.03$ ) to answer the question correctly.

Combining the two findings above suggests that bisexual women may be the group that is driving the statistical significance given that (a) females were less likely to report the statement as true, (b) lesbians were not significantly different than the rest of the sample, and (c) bisexuals were less likely to report the statement as true. Therefore, we compared lesbian women to the rest of the sample and found no statistically significant difference (68.9%,  $\chi^2 = 0.00, p=.99$ ) and similarly bisexual men were not significantly different (70.0%,  $\chi^2 = 0.01, p=.94$ ). However, as we suspected, bisexual women were significantly different than the rest of the sample (51.4%,  $\chi^2 = 10.92, p=.001$ ).

#### *Rate of Smoking among those with HIV/AIDS*

Smoking has been demonstrated to be a significant health risk for people with HIV/AIDS (Engels et al., 2006; Soysa & Ellepola, 2005). In their 200X study of the LGBT community in Colorado, XXXXXXXX found that more than 59% of respondents who identified as HIV-positive or having AIDS smoked. Almost 2/3rds (63.4%) of the respondents identified the statement about prevalence among those with HIV/AIDS as true.

Males indicated the correct answer the least among the three gender identity groups, with 66.4% doing so. Females followed at 69.3% and trans-identified individuals had the highest rate of indicating the correct answer at 70.7%. Even though the percentage of males was the lowest among the three groups, none of the differences emerged as statistically significant ( $\chi^2 = 0.68, p=.71$ ),

No significant differences emerged between those respondents who identified as gay (68.1%,  $\chi^2 = 0.04, p=.85$ ), lesbian (72.0%,  $\chi^2 = 2.27, p=.13$ ), bisexual (62.0%,  $\chi^2 = 2.16, p=.14$ ), or queer (76.9%,  $\chi^2 = 2.32, p=.13$ ). Those who identified as *other sexual orientation* (57.1%,  $\chi^2 = 4.20, p=.04$ ) were significantly less likely to have chosen true. .

#### *Hormone therapy and smoking among trans-identified people*

There is emerging concern that transgender individuals who are on hormone therapy may have elevated rates of health problems if they smoke (Meleo-Erwin, 2004). In the sample, 88.2% recognized this potential risk.

No differences emerged based on gender identity ( $\chi^2 = 0.70, p=.17$ ). Similarly, there were no significant differences across different sexual identities ( $\chi^2 = 2.22, p=.70$ ).

#### *Use of tobacco industry money to fund anti-GLBT politicians.*

The linkage between tobacco industry profits and politicians who have a negative voting record on GLBT-supportive policies has been documented (Washington, 2002), and the final question in this section attempted to assess how familiar respondents were with this linkage. The vast majority of survey participants correctly identified the linkage as true (82.9%).

No differences were found based on gender identity ( $\chi^2 = 3.76, p=.15$ ), nor were those who identified their sexual orientation as *other* significantly different than the rest of the sample. Both those who identified as gay (77.4%,  $\chi^2 = 6.59, p=.01$ ), and those who identified as bisexual (74.7%,  $\chi^2 = 4.90, p=.03$ ) had lower percentages endorsing the linkage. On the other hand those who identified as lesbian (87.5%,  $\chi^2 = 6.32, p=.01$ ) were significantly more likely, and those who identified as queer (90.0%,  $\chi^2 = 2.93, p=.09$ ), were marginally significantly more likely to do so.

#### *Perception of Level of Concern in the LGBT Community.*

The next question asked respondents to indicate how much of a concern they perceived tobacco usage to be in the queer community. Almost 1 in 4 (23.8%,  $n=180$ ) identified the community as being *very concerned*. The largest proportion of the sample (42.3%,  $n=320$ ) suggested that the community was *somewhat concerned*. Of the sample, 17.5% ( $n=132$ ) thought that the community was *slightly concerned*, and 15.7% ( $n=119$ ) thought that the community was *not at all concerned*. These results suggest that approximately one third of the sample viewed the LGBT community as minimally or not at all concerned about smoking. These findings are summarized in Table 8.

Comparing the perception of concern across gender identity categories in the sample, we obtain a  $\chi^2$  value of 5.55 which is not statistically significant ( $p=.48$ ),

suggesting that males, females, and trans-identified/other-identified individuals in the sample see a similar level of concern about tobacco usage in the LGBT

*Table 8: Tobacco as a Concern in the LGBT Community*

	%	<i>n</i>
Not at all	15.7%	119
Slightly	17.5%	132
Somewhat	42.3%	320
Very	23.8%	180

community. However, we do find a statistically significant difference ( $\chi^2 = 34.44$ ,  $p < .001$ ) in differences in perception across sexual orientation identity categories. Post-hoc analyses finds that lesbian-identified and queer-identified respondents had significantly higher rates of answering that the community is *somewhat concerned* or *strongly concerned* than the rest of the sample

#### *Knowledge of Cessation Supports*

Finally, respondents were asked about their awareness of various supports that are available to the community that have been tailored specifically for the LGBT community. Knowledge of available resources was much lower than general knowledge of tobacco or even knowledge about the impact of tobacco on the LGBT community. Only 44.4% ( $n=336$ ) knew that there were cessation resources available that had been tailored to the LGBT community. Slightly more than one third (34.3%,  $n=259$ ) knew about SmokeFree GLBT social supports and networks. Slightly less than one third of the sample were aware of Web-based resources (29.9%,  $n=226$ ), of the availability of quit aids (28.6%,  $n=216$ ), or of online support (27.5%,  $n=208$ ). Table 9 summarizes the knowledge of smoking cessation resources.

Looking at gender differences in awareness of cessation resources, a pattern emerges where females in the sample were the least aware of the resources, in two cases reaching a level of statistical significance. With the exception of awareness of online resources, trans-identified individuals were most aware of

the cessation resources. See Table 10 for a summary of the differences by gender identity.

*Table 9: Awareness of Cessation Resources*

	<b>%</b>	<b><i>n</i></b>
Quit resources	44.4%	336
Quit aids	28.6%	216
Web-based resources	29.9%	226
SmokeFree GLBT	34.3%	259
Online resources	27.5%	208

*Table 10: Awareness of Cessation Resources, by Gender Identity*

	<b>Male</b>	<b>Female</b>	<b>Trans</b>
	<b>%</b>	<b>%</b>	<b>%</b>
Quit resources	52.3%	39.3% <sup>a</sup>	55.6%
Quit aids	30.6%	26.9%	37.8%
Web-based resources	31.9%	28.5%	35.5%
SmokeFree GLBT	35.7%	31.9% <sup>b</sup>	51.1%
Online resources	34.9%	23.7% <sup>a</sup>	31.1%

Note: <sup>a</sup>Difference was statistically significantly ( $p < .05$ ) different than rest of sample.

<sup>b</sup>Difference was marginally statistically significantly ( $p < .10$ ) different than rest of sample.

Individuals who identified as gay were significantly more likely to report being aware of quit smoking resources than others in the sample (50.7%,  $\chi^2 = 5.23$ ,  $p = .02$ ), while those who identified as lesbian were significantly less likely to do so (39.8%,  $\chi^2 = 3.96$ ,  $p = .05$ ). No significant differences emerged in terms of

awareness of quit aids ( $\chi^2 = 3.52, p=.48$ ) or awareness of web resources ( $\chi^2 = 4.76, p=.31$ ). Bisexually-identified respondents indicated that they were less aware of SmokeFree GLBT events (22.5%,  $\chi^2 = 6.98, p=.01$ ) than the rest of the sample, while gay-identified respondents reported that they were more aware of online quit assistance than the rest of the sample (38.5%,  $\chi^2 = 9.44, p<.01$ ).

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## CONCLUSION

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What emerges from the data is a picture of the LGBT community in Colorado where the vast majority of members are aware of the general negative consequences of tobacco use and smoking, but that there is a sizable portion that underestimates the scope of those consequences. Almost one fourth of the respondents failed to recognize that tobacco usage causes more annual deaths than a series of other causes combined. One third of the sample underestimated the number of carcinogenic substances in tobacco smoke, and about one fifth failed to recognize the scope of the negative health impacts of tobacco usage that have been supported by research.

While a majority of the sample had knowledge of the facts about the relationship between tobacco and the LGBT community, the knowledge was less known than that regarding the general negative consequences of tobacco usage. Less than two thirds of the sample were aware that lesbians were three times more likely than heterosexual women to smoke or that more than 59% of people with HIV infection smoke. Almost one in four failed to recognize that the tobacco industry donates funds to politicians who have an anti-LGBT voting record.

The community was the least knowledgeable about resources available to support the smoker in quitting. None of the resources were recognized by a majority of the respondents. Ranges of awareness of cessation resources went from about 25% to almost one-half being aware of specific resources.

For smoking cessation programs to be successful in the LGBT community, these results suggest that there needs to be significant investment in two areas. First, there is a sizable portion of the community that is unaware of the linkage between tobacco and the community. As such, educating the community on the specific negative impact of tobacco usage on the LGBT community to increase awareness of the success of the tobacco industry's marketing a dangerous product to the community, as well as the industry's use of profits to support policies that are detrimental to the community.

The second area that needs to be addressed is the lack of awareness of the availability of resources to support community members who wish to stop smoking. It was clear from the data that this was the area in which LGBT community members had the least amount of information. While data were not available to indicate if there were differences between knowledge of resources between smokers and non-smokers, insuring that all of the community knows where to turn for support provides tools for non-smokers to further support their family members and friends who smoke and want to quit.

A number of interesting patterns emerged which warrant additional research, particularly if research were able to utilize a random sample of the LGBT community.

First, bisexual women were significantly less likely than other groups in the LGBT community to recognize that lesbians in Colorado smoke at a rate that is greater than three times the rate of heterosexual women in Colorado. Different social patterns frequently emerge for individuals within the LGBT community based on different sexual identities (Poteat, Aragon, Espelage, & Koenig, 2009; Worthington & Reynolds, 2009). This may partly be due to having different social networks or participating in different types of social activities (Walls, Woodard, & Ostermiller, 2006), biphobia and bisexual invisibility within the greater gay and lesbian community (Keppel & Firestein, 2007; Mulick & Wright, 2002; Weiss, 2003), or difficulty that social service agencies have reaching and providing culturally competent services to the bisexual community (Centre for Addiction and Mental Health, 2008; Keppel & Firestein, 2007). Regardless of the underlying reason, results such as these suggest the need to more concentrated effort to reach this community.

Second, respondents who identified as gay or bisexual were less likely to be aware of the connection between the tobacco industry profits and anti-LGBT politicians as lesbian- and queer-identified respondents. It is possible that lesbians in the sample may be more politically engaged than gay men and bisexual men and women. Similarly, part of queer identity is typically seen as a commitment to a progressive political agenda (Jones, 2009; Khayatt, 2002; Trask, 1996). Educating those who identify as gay or bisexual on the linkage that has been documented might be a beneficial strategy to further engage these populations in smoking cessation activities.

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