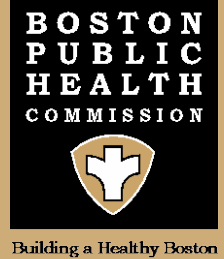


DATA BRIEF:

Healthcare Access, Health Behaviors, and Health Status Among Lesbian, Gay, Bisexual, and Transgender Adults in Boston. 2010 – 2017



Authors: Darien E. Mather, MPH; Johnna S. Murphy, MPH; Amar Mehta, ScD, MPH; Makaila Manukyan, MPP; Dan Dooley (Contact: research@bphc.org)

The authors would like to acknowledge The Fenway Institute and the Boston Public Health Commission Office of Health Equity for their input and guidance in developing this data brief.

Suggested citation: Mather DE, Murphy JS, Mehta A, Manukyan M, Dooley D. Healthcare Access, Health Behaviors, and Health Status Among Lesbian, Gay, Bisexual, and Transgender Adults in Boston, 2010 – 2017. Boston, MA: Boston Public Health Commission; 2019.

I. Introduction

This brief presents data from an analysis that leveraged multiple years of a random sample health survey to provide for a more detailed description of the health experience of Boston adult residents self-identifying as lesbian, gay, bisexual, and transgender (LGBT). Building upon an earlier brief that describe demographic and social determinant differences among Boston's adult LGBT population using data from the same survey, this brief focuses on comparing the health experience of lesbian/gay, bisexual and transgender subpopulation groups with their respective heterosexual and cisgender subpopulations.

LGBT individuals in the United States collectively experience elevated rates of certain poor health outcomes including higher rates of HIV infection among gay and bisexual males compared with heterosexual males; higher percentages of obesity among lesbian adults compared with heterosexual females; higher percentages of poor mental health among lesbian, gay, and bisexual (LGB) adults compared with heterosexual adults; and it has been shown that transgender adults experience more days per month of poor physical health and poor mental health than cisgender adults.^{1,2,3-5,6} This brief identifies differences in healthcare access, health-related behaviors, and various health status indicators among Boston's LGBT adult population groups in comparison to their respective heterosexual and cisgender peers as captured in the Boston Behavioral Risk Factor Surveillance System (BBRFSS) data. Results reflect self-report survey responses weighted to the adult population and are limited to 24 measures across BBRFSS content areas: access to care, health status, chronic disease, health-related behaviors, mental health, and exposures to violence.

The data presented here should be considered in the context of the important LGBT subgroup demographic and social determinant of health differences presented in the first brief. In part one, BBRFSS data showed that as individual groups, lesbian female adult residents and gay male adult residents presented with similar demographic and socioeconomic status (SES) profiles while residents identifying as bisexual adults presented with a profile but distinct from lesbian and gay adults. Compared with heterosexual adults, lesbian and gay adults as a group presented with a higher percentage being male, being White non-Latino, attaining college degrees, with household incomes of \$50,000 or more, and being homeowners. In contrast, bisexual adults when compared with heterosexual adults presented with a

higher percentage being female, younger age, household income below \$25,000, and being an unassisted renter.⁷ Transgender adults were diverse in terms of race/ethnicity and age, and had relatively low SES.⁷

These demographic and SES considerations informed the following LGBT subgroupings of the health-related data presented in this data brief: adult lesbian females combined with gay males, adult bisexual females combined with bisexual males, adult heterosexual females combined with heterosexual males, adults identifying as transgender, and adults identifying as cisgender. Results are presented for the sexes combined (as seen in Table 2a); results by sex (as seen in Tables 2b and 2c) are presented when they are discordant with the combined sexes results. Of note, these data were weighted to non-LGBT population parameters. The resulting weighted data suggest that Boston's adult lesbian/gay population is approximately two-thirds gay male and one-third lesbian female. Conversely, Boston's adult bisexual population is approximately three-quarters female and one-quarter male. By assessing LGBT subgroup-level data, important differences in their relative health experiences are revealed, providing information that can be used for public health program planning and policy considerations.

For this brief, as in part one, the 2010, 2013, 2015, and 2017 data years were pooled to enhance the LGBT survey sample sizes and permit a more robust analysis that allows disaggregation of the LGBT population into the subgroups mentioned above. As sexual orientation and gender identity are distinct identities (e.g., a trans woman may identify as lesbian, bisexual, or heterosexual), data describing adults identifying as transgender are presented independent of the sexual orientation results. Although transgender encompasses many identities (e.g. male to female, female to male, gender non-conforming), due to sample size limitations, the results in this data brief are presented in two groups: transgender adults and cisgender adults.

Unless otherwise noted, all comparisons between population groups (e.g., higher percentage, lower percentage, no significant difference) reflect testing for statistical significance ($p < .05$). A more thorough description of the data source, methods, and relevant definitions and measures is included at the end of this brief. Tables 1, 2a, 2b, and 2c provide all data points with corresponding 95% confidence intervals.

II. Findings

Access to Care

This brief describes access to care using two indicators: insurance coverage and whether there was a time in the past 12 months when the respondent needed to see a doctor but could not due to the cost.

Transgender Adults

For 2010, 2013, 2015, and 2017 combined, although there was no significant difference in health insurance status for transgender adults compared with cisgender adults, a higher percentage of transgender adults did not see a doctor due to cost (34.7%) compared with cisgender adults (9.7%).

Lesbian and Gay Adults

For 2010, 2013, 2015, and 2017 combined, a lower percentage of lesbian females had health insurance (93.2%) compared with heterosexual females (96.9%). A lower percentage of lesbian and gay adults did not see a doctor due to cost (6.0%) compared with heterosexual adults (9.7%), although this appears to be driven by gay males; 3.8% of gay males did not see a doctor due to cost compared to 9.8% of heterosexual males, while the percentage of lesbian females who did not see a doctor due to cost was similar to heterosexual females (10.9% and 9.7%, respectively).

Bisexual Adults

There were no significant differences in health insurance status or not seeing a doctor due to cost for bisexual adults compared with heterosexual adults.

Health Status

For this report, health status was measured by having good, very good, or excellent overall health; poor physical health; frequent mental distress; and poor health that interfered with life.

Transgender Adults

A lower percentage of transgender adults reported having good, very good, or excellent overall health (70.3%) compared with cisgender adults (84.6%). There was no significant difference in poor health interfering with life for transgender adults compared with cisgender adults. Due to sample size limitations, poor physical health and frequent mental distress were not presented for transgender adults.

Lesbian and Gay Adults

There was no significant difference in overall health status for lesbian and gay adults compared with heterosexual adults, although a higher percentage of lesbian females had good, very good, or excellent overall health (89.9%) compared with heterosexual females (83.4%). A lower percentage of gay males had poor physical health (6.2%) compared with heterosexual males (9.2%). There were no significant differences in frequent mental distress or poor health interfering with life for lesbian and gay adults compared with heterosexual adults.

Bisexual Adults

Bisexual adults experienced frequent mental distress (27.8%) and poor health interfering with life (15.9%) at over twice the rate of heterosexual adults (12.2%, and 6.8%, respectively). A higher percentage of bisexual adults had poor physical health (17.2%) compared with heterosexual adults (10.7%). There were no significant differences in reporting good, very good, or excellent overall health between bisexual adults compared with heterosexual adults.

Chronic Disease

Chronic diseases are among the most common, costly, and preventable health conditions. This section examines asthma, diabetes, hypertension, and obesity. Obesity is defined as having a BMI over 30. In addition, this section presents data on recommended cancer screenings (mammogram, pap test, and colonoscopy or sigmoidoscopy) as they are considered chronic disease-related indicators.

Transgender Adults

A higher percentage of transgender adults had asthma (30.4%) compared with cisgender adults (11.3%). There were no significant differences in hypertension or obesity for transgender adults compared with cisgender adults.

Due to data and sample limitations, cancer screening percentages for transgender adults are not presented.

Lesbian and Gay Adults

A higher percentage of lesbian and gay adults had asthma (14.8%) compared with heterosexual adults (10.9%). A lower percentage of lesbian females had hypertension (15.8%) compared with heterosexual females (25.2%). There were no significant differences in hypertension for gay males compared with heterosexual males. There was no significant difference in diabetes or obesity for lesbian and gay adults compared with heterosexual adults. Though other research has suggested that higher percentages of lesbian females report overweight or obesity, this analysis did not find any significant differences in obesity between lesbian females and heterosexual females.

There was no significant difference in receiving any of the above recommended cancer screenings for lesbian and gay adults compared with heterosexual adults.

Bisexual Adults

A higher percentage of bisexual adults had asthma (21.7%) compared with heterosexual adults (10.9%). Consistent with their younger age, a lower percentage of bisexual adults had hypertension (16.0%) compared with heterosexual adults (24.7%). There were no significant differences in having diabetes or obesity for bisexual adults compared with heterosexual adults. Though other research has suggested that higher percentages of lesbian females report overweight or obesity, this analysis did not find any significant differences in obesity between bisexual females and heterosexual females.

There was no significant difference in receiving a colonoscopy or sigmoidoscopy as recommended for bisexual adults compared to heterosexual adults or receiving a pap test as recommended for bisexual females compared with heterosexual females. Due to sample size limitations, this is the only cancer screening data presented for bisexual adults.

Health-Related Behaviors

Personal health behaviors contribute to a person's risk for disease and overall quality of life and well-being. This brief examines smoking, exposure to secondhand smoke in the home, binge drinking, and heavy drinking. For this brief, heavy drinking is a pattern of drinking that occurs frequently, and binge drinking is a period of consuming alcohol heavily in one sitting.

Transgender Adults

There was no significant difference in binge drinking for transgender adults compared with cisgender adults. Due to sample limitations, data on smoking, secondhand smoke, and heavy drinking is not presented for transgender adults.

Lesbian and Gay Adults

A higher percentage of lesbian and gay adults reported binge drinking (35.2%) compared with heterosexual adults (25.1%), although this appears to be driven by lesbian females; lesbian females had higher percentages of binge drinking (32.1%) compared to heterosexual females (19.1%), while the percentage of binge drinking among gay males was similar to heterosexual males (36.7% and 31.0%),

respectively). Lesbian females reported heavy drinking (21.0%) at over twice the rate of heterosexual females (9.1%).

A higher percentage of lesbian and gay adults were current smokers (24.2%) compared with heterosexual adults (16.9%), although this appears to be driven by gay males; a higher percentage of gay males reported current smoking (27.0%) compared with heterosexual males (20.4%), while the percentage of current smoking was similar for lesbian females compared with heterosexual females (18.0% and 13.8%, respectively). A lower percentage of lesbian and gay adults had environmental tobacco smoke exposure in their home (9.3%) compared with heterosexual adults (14.0%).

Bisexual Adults

A higher percentage of bisexual adults were current smokers (26.2%) compared with heterosexual adults (16.9%). There were no significant differences in binge drinking, heavy drinking, or secondhand smoke exposure for bisexual adults compared with heterosexual adults.

Mental Health

Mental health is an essential element of well-being, allowing individuals to participate in their own lives and within relationships to the fullest extent. For this brief, mental health indicators include persistent sadness, persistent anxiety, and treatment for sadness or depression within the past year.

Transgender Adults

Transgender adults had over twice the rate of persistent anxiety (42.2%) compared with cisgender adults (20.0%). Although sample limitations prohibit the presentation of percentage of transgender adults with persistent sadness; transgender adults received treatment for sadness or depression in the past year (31.5%) at nearly twice the rate of cisgender adults (16.8%).

Lesbian and Gay Adults

A higher percentage of lesbian and gay adults had persistent anxiety (24.2%) compared with heterosexual adults (19.2%). A higher percentage of lesbian and gay adults received treatment for sadness or depression in the past year (27.0%) compared with heterosexual adults (15.8%). There was no significant difference in persistent sadness for lesbian and gay adults compared with heterosexual adults.

Bisexual Adults

Bisexual adults had higher rates than heterosexual adults for all three mental health indicators. Bisexual adults had close to twice the rate of both persistent sadness (21.4%) and treatment for sadness and depression in the past year (39.4%) compared to heterosexual adults (11.4% and 15.8%, respectively). Bisexual adults had nearly three times the rate of persistent anxiety (45.4%) compared with heterosexual adults (15.8%). Bisexual females had higher percentages of persistent anxiety (45.2%), persistent sadness (23.8%) and treatment for depression in the past year (43.4%) compared with heterosexual adults (21.3%, 12.9% and 19.8%, respectively). Bisexual males had higher percentages of anxiety (45.9%) compared with heterosexual males (16.9%).

Exposures to Violence: Adverse Childhood Experiences (ACEs) and Direct Adult Lifetime Experiences of Violence (Physical and Sexual Assault)

Adverse Childhood Experiences (ACEs) are stressful or traumatic events that occur during childhood, including abuse and neglect. They also include household dysfunction such as witnessing domestic violence or growing up with family members who have a mental health disorder, substance use disorder and/or are incarcerated. ACEs are strongly related to the development of a wide range of health behaviors and problems.⁸ This brief addresses three ACEs: parent/caregiver with a mental health issue, parent/caregiver with a substance misuse issue, and parent/adult who was physically violent with the other (i.e., domestic abuse). Additionally, this brief presents experiencing any physical or sexual violence (i.e., physical or sexual assault) as an adult.

Transgender Adults

Over half of transgender adults (55.0%) reported experiencing at least one of the three ACEs considered; this percentage is higher than cisgender adults (36.6%). Transgender adults reported experiencing at least two of the three ACEs (36.6%) at nearly three times the rate of cisgender adults (13.4%).

For each ACE considered, almost twice the percentage of transgender adults reported experiencing the event compared with cisgender adults. A higher percentage of transgender adults had a parent or caregiver with a mental health issue (37.0%) compared with cisgender adults (16.2%), had parent or caregiver with a substance misuse issue (41.5%) compared with cisgender adults (17.8%) and lived in a household with domestic violence (34.1%) compared with cisgender adults (16.7%).

Lesbian and Gay Adults

Higher percentages of lesbian and gay adults experienced 1-3 ACEs (47.5%) and 2-3 ACEs (24.0%) compared with heterosexual adults (31.9% and 12.7%, respectively). Specifically, the percentage of lesbian and gay adults who experienced living with a parent or caregiver with a mental health issue (31.1%) was nearly twice that of heterosexual adults (15.2%). Similarly, a higher percentage of lesbian and gay adults had a parent or caregiver with a substance misuse issue (27.1%) compared with heterosexual adults (17.5%) and a higher percentage of lesbian and gay adults had lived as a child in a household with domestic violence (23.4%) compared with heterosexual adults (16.4%). When looking at direct adult lifetime experiences of violence, a higher percentage of lesbian and gay adults experienced physical or sexual assault (15.9%) compared with heterosexual adults (11.4%). This appears to be driven primarily by the difference between gay and heterosexual males, (15.0% and 6.5%, respectively) than by the difference between lesbian and heterosexual females (18.2% and 15.7%, respectively).

Bisexual Adults

A higher percentage of bisexual adults experienced at least one ACE (44.2%) compared with heterosexual adults (31.9%). Similarly, a higher percentage of bisexual adults experienced at least two ACEs (21.3%) compared with heterosexual adults (12.7%). Specifically, a higher percentage of bisexual adults had experienced (during their childhood) a parent or caregiver with a mental health issue (29.1%) compared with heterosexual adults (15.2%). There were no significant differences in living with a parent or caregiver with a mental health issue or living in a household with domestic violence. When looking at direct adult experiences of violence, the percentage of bisexual adults who experienced physical or sexual assault (35.1%) was three times the percentage of heterosexual adults (11.4%).

Table 1. Selected Indicators and Outcomes of Boston Transgender Adults Compared with Cisgender Adults, BBRFSS 2010 – 2017

Gender Identity	Transgender			Cisgender (Reference)		
	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI
Population Estimate (%)						
Access to Care						
Has health insurance	88.0	77.1	98.8	95.2	94.5	95.8
Didn't see a doctor due to cost	34.7	16.9	52.6	9.7	8.9	10.5
Overall Health						
Good Overall Health	70.3	52.9	87.7	84.6	83.7	85.4
Poor Physical Health	*			11.0	10.3	11.8
Frequent Mental Distress	*			12.6	11.7	13.5
Poor Health Interfered w/ Life	7.6	0.7	14.6 [†]	7.1	6.5	7.7
Chronic Disease						
Hypertension	30.2	15.6	44.7	24.4	23.5	25.4
Diabetes	*			7.9	7.4	8.4
Asthma	30.4	15.0	45.8	11.3	10.4	12.1
Obesity	30.1	14.1	46.2	22.1	21.0	23.1
Health-related Behaviors						
Current Smoker	*			17.1	16.0	18.1
Binge Drinking	36.9	18.8	54.9	25.0	23.7	26.2
Heavy Drinking	*			9.2	8.4	10.0
Environmental Tobacco Smoke Exposure				13.8	12.8	14.8
Mental Health						
Persistent Sadness	*			11.8	10.9	12.7
Persistent Anxiety	42.2	23.8	60.5	20.0	18.9	21.1
Mental Health Treatment for Sadness/Depression	31.5	15.1	47.8	16.8	15.8	17.7
Adverse Childhood Experiences (ACEs)						
1-3 ACEs	55.0	37.5	72.5	32.6	31.4	33.9
2-3 ACEs	36.6	17.8	55.3	13.3	12.4	14.2
Parent/Caregiver with a Mental Health issue	37.0	19.1	54.8	16.2	15.2	17.2
Parent/Caregiver with a Substance Misuse issue	41.5	22.9	60.0	17.8	16.8	18.9
Parent/Adult was physically violent to the other	34.1	15.0	53.2	16.7	15.7	17.7
Adult Lifetime Violence	*			12.0	11.2	12.9

Shading indicates statistically significant difference from reference group.

*Data not presented due to sample limitations.

[†] Interpret percentages with caution due to sample limitations.

Table 2A. Selected Indicators and Outcomes of Boston Lesbian, Gay, and Bisexual Adults Compared with Heterosexual Adults, BBRFSS 2010 – 2017

Sex Sexual Orientation	Female & Male								
	Lesbian/Gay			Bisexual			Heterosexual (Reference)		
	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI
Population Estimate (%)									
Access to Care									
Has health insurance	95.5	93.0	97.9	98.0	96.2	99.8	95.1	94.4	95.8
Didn't see a doctor due to cost	6.0	3.6	8.4	13.9	7.3	20.4	9.7	8.9	10.6
Health Status									
Good Overall Health	88.2	84.9	91.5	79.1	70.9	87.4	85.0	84.1	85.9
Poor Physical Health	8.1	5.7	10.5	17.2	9.6	24.7	10.7	9.9	11.4
Frequent Mental Distress	13.1	9.2	17.0	27.8	18.6	37.0	12.2	11.3	13.1
Poor Health Interfered w/ Life	6.0	4.0	8.0	15.9	8.3	23.6	6.8	6.2	7.5
Chronic Disease									
Hypertension	21.9	18.0	25.8	16.0	9.1	22.8	24.7	23.7	25.7
Diabetes	6.7	4.1	9.3	6.9	0.9	13.0†	7.8	7.3	8.4
Asthma	14.8	10.9	18.7	21.7	13.6	29.7	10.9	10.1	11.8
Obesity	19.2	15.1	23.3	27.1	18.0	36.2	22.0	20.9	23.1
Cancer Screening									
Colonoscopy or Sigmoidoscopy within past 5 years	67.5	61.2	73.7	57.4	42.2	72.6	65.4	63.6	67.2
Health-related Behaviors									
Current Smoker	24.2	19.1	29.4	26.2	17.3	35.1	16.9	15.8	18.0
Binge Drinking	35.2	29.6	40.9	24.7	16.4	33.0	25.1	23.8	26.4
Heavy Drinking	12.1	8.7	15.6	10.4	4.9	16.0	9.3	8.4	10.2
Environmental Tobacco Smoke Exposure	9.3	6.4	12.1	18.6	10.6	26.6	14.0	13.0	15.1
Mental Health									
Persistent Sadness	13.8	10.0	17.7	21.4	13.7	29.2	11.4	10.5	12.3
Persistent Anxiety	24.2	19.4	29.0	45.4	35.6	55.2	19.2	18.1	20.4
Mental Health Treatment for Sadness/Depression	27.0	22.4	31.6	39.4	29.6	49.2	15.8	14.8	16.8
Adverse Childhood Experiences (ACEs)									
1-3 ACEs	47.5	42.0	53.0	44.2	34.5	54.0	31.9	30.6	33.2
2-3 ACEs	24.0	19.5	28.5	21.3	13.7	29.0	12.7	11.8	13.7
Parent/Caregiver with a Mental Health issue	31.1	26.1	36.1	29.1	20.1	38.1	15.2	14.1	16.2
Parent/Caregiver with a Substance Misuse issue	27.1	22.5	31.8	24.8	16.6	32.9	17.5	16.4	18.6
Parent/Adult was physically violent to the other	23.4	18.9	27.9	19.7	12.4	26.9	16.4	15.4	17.5
Adult Lifetime Violence	15.9	12.4	19.5	35.1	25.5	44.6	11.4	10.5	12.3

Shading indicates statistically significant difference from reference group.

*Data not presented due to sample limitations.

† Interpret percentages with caution due to sample limitations

Table 2B. Selected Indicators and Outcomes of Boston Lesbian and Bisexual Females Compared with Heterosexual Females, BBRFSS 2010 – 2017

Sex Sexual Orientation	Female								
	Lesbian			Bisexual			Heterosexual (Reference)		
	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI
Population Estimate (%)									
Access to Care									
Has health insurance	93.2	88.5	98.0	98.3	96.0	100.0	96.9	96.2	97.6
Didn't see a doctor due to cost	10.9	4.7	17.2	14.7	6.4	23.0	9.7	8.6	10.8
Health Status									
Good Overall Health	89.9	84.8	95.0	81.5	72.7	90.4	83.4	82.2	84.6
Poor Physical Health	12.4	6.7	18.0	19.5	9.8	29.2	12.0	11.0	13.0
Frequent Mental Distress	9.4	4.8	13.9	29.7	18.7	40.6	13.7	12.4	14.9
Poor Health Interfered w/ Life	6.6	3.2	10.1	17.6	7.7	27.4	7.5	6.7	8.3
Chronic Disease									
Hypertension	15.8	10.6	20.9	9.5	3.5	15.5†	25.2	23.9	26.5
Diabetes	6.3	2.1	10.4†	4.1	0.0	9.2†	8.3	7.6	9.1
Asthma	21.9	14.6	29.1	20.0	10.8	29.2	14.6	13.3	15.9
Obesity	23.0	16.0	30.1	29.0	18.3	39.8	23.8	22.4	25.3
Cancer Screening									
Mammogram per ACS Recommendations	75.7	67.6	83.7	*			82.6	80.9	84.4
Pap Test within past 3 years	85.4	78.8	91.9	84.1	73.3	94.8	85.9	84.3	87.4
Colonoscopy or Sigmoidoscopy within past 5 years	68.5	59.4	77.6	*			66.0	63.7	68.2
Health-related Behaviors									
Current Smoker	18.0	10.5	25.5	26.2	16.1	36.4	13.8	12.5	15.0
Binge Drinking	32.1	22.8	41.4	27.1	17.0	37.1	19.9	18.3	21.6
Heavy Drinking	21.0	13.2	28.8	*			9.1	7.9	10.2
Environmental Tobacco Smoke Exposure	8.8	4.5	13.1	18.8	9.3	28.4	13.7	12.3	15.0
Mental Health									
Persistent Sadness	18.0	10.9	25.0	23.8	13.9	33.7	12.9	11.8	14.1
Persistent Anxiety	33.3	24.6	42.0	45.2	33.7	56.6	21.3	19.8	22.8
Mental Health Treatment for Sadness/Depression	30.7	22.8	38.6	43.4	32.0	54.9	19.8	18.3	21.2
Adverse Childhood Experiences (ACEs)									
1-3 ACEs	52.2	42.9	61.5	49.9	38.4	61.5	33.4	31.6	35.1
2-3 ACEs	28.6	20.4	36.7	24.0	14.2	33.7	13.6	12.4	14.9
Parent/Caregiver with a Mental Health issue	36.2	27.9	44.6	34.8	23.4	46.1	17.6	16.1	19.0
Parent/Caregiver with a Substance Misuse issue	32.8	24.2	41.4	26.7	16.7	36.8	17.9	16.5	19.3
Parent/Adult was physically violent to the other	22.8	15.3	30.3	20.8	11.7	29.9	16.4	15.0	17.8
Adult Lifetime Violence	18.2	11.9	24.5	39.8	28.1	51.4	15.7	14.4	16.9

Shading indicates statistically significant difference from reference group.

*Data not presented due to sample limitations.

† Interpret percentages with caution due to sample limitations

Table 2C. Selected Indicators and Outcomes of Boston Gay and Bisexual Males Compared with Heterosexual Males, BBRFSS 2010 – 2017

Sex Sexual Orientation	Male								
	Gay			Bisexual			Heterosexual (Reference)		
	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI
Population Estimate (%)									
Access to Care									
Has health insurance	96.5	93.7	99.3	97.4	94.5	100.0	93.0	91.9	94.2
Didn't see a doctor due to cost	3.8	1.9	5.7	*			9.8	8.5	11.1
Health Status									
Good Overall Health	87.5	83.2	91.7	72.8	54.5	91.1	86.8	85.5	88.1
Poor Physical Health	6.2	4.0	8.5	*			9.2	8.1	10.3
Frequent Mental Distress	14.7	9.5	20.0	*			10.6	9.2	11.9
Poor Health Interfered w/ Life	5.8	3.3	8.2	*			6.1	5.1	7.0
Chronic Disease									
Hypertension	24.6	19.5	29.8	33.3	15.7	50.8	24.0	22.5	25.6
Diabetes	6.9	3.6	10.2	*			7.3	6.4	8.1
Asthma	11.7	7.1	16.4	*			6.8	5.7	7.8
Obesity	17.7	12.6	22.7	*			20.1	18.4	21.7
Cancer Screening									
Colonoscopy or Sigmoidoscopy within past 5 years	67.1	59.1	75.0	*			64.7	61.8	67.5
Health-related Behaviors									
Current Smoker	27.0	20.4	33.6	*			20.4	18.5	22.2
Binge Drinking	36.7	29.6	43.7	*			31.0	28.9	33.1
Heavy Drinking	8.1	4.7	11.5	*			9.6	8.2	11.0
Environmental Tobacco Smoke Exposure	9.5	5.9	13.1	*			14.4	12.8	16.0
Mental Health									
Persistent Sadness	12.0	7.4	16.6	*			9.7	8.4	11.1
Persistent Anxiety	20.2	14.5	25.8	45.9	26.9	65.0	16.9	15.2	18.6
Mental Health Treatment for Sadness/Depression	25.3	19.7	30.9	*			11.3	10.0	12.6
Adverse Childhood Experiences (ACEs)									
1-3 ACEs	45.5	38.7	52.2	29.0	14.6	43.4	30.2	28.1	32.2
2-3 ACEs	22.0	16.6	27.3	*			11.7	10.3	13.1
Parent/Caregiver with a Mental Health issue	28.8	22.5	35.0	*			12.4	11.0	13.9
Parent/Caregiver with a Substance Misuse issue	24.6	19.2	30.1	*			17.0	15.4	18.7
Parent/Adult was physically violent to the other	23.7	18.1	29.2	*			16.4	14.8	18.1
Adult Lifetime Violence	15.0	10.7	19.3	*			6.5	5.4	7.7

Shading indicates statistically significant difference from reference group.

*Data not presented due to sample limitations.

† Interpret percentages with caution due to sample limitations.

III. Summary

Boston's adult LGBT population is a diverse group of individuals that are often described with data in terms of being a single homogenous population group, masking important subgroup differences that provide a more nuanced understanding of their health care needs. Data presented here reveal both similarities and differences among LGBT subgroups in comparison to heterosexual and cisgender subgroups, respectively.

Consistent with their higher levels of social economic status (SES), **lesbian and gay adults** living in Boston experienced a lower level of *not* being able to afford needed health care as compared with heterosexual adults. With the exception of having a higher asthma rate, their levels of general health and chronic disease were similar to those of heterosexual adults. Not consistent with their higher SES, lesbian and gay residents reported cigarette smoking and binge drinking alcohol at higher rates than heterosexual adults. By comparison, **bisexual adults** experienced similar levels of the two health care access indicators (i.e., health insurance and not seeing a doctor due to cost) but elevated levels of the poor general health indicators compared with heterosexual adults. Specifically, bisexual adults had higher levels of poor physical health, frequent mental distress, and limitations resulting from these. Consistent with their younger age, bisexual adults experienced a lower hypertension rate. As with lesbian and gay adults, bisexual adults experienced both elevated rates of smoking and asthma. Additionally, **both LGB subgroups** experienced elevated rates of anxiety, adverse childhood experiences, direct physical or sexual violence as an adult, and receiving mental health care or treatment for sadness or depression during the past year.

A relatively smaller sample size for **transgender adults** limited ability to discern a number of differences, but the analysis was able to reveal transgender adults having experienced a higher rate of *not* being able to see a doctor due to cost, a lower rate of overall good health and an elevated asthma rate compared with cisgender adults. Additionally, transgender adults experienced higher rates of anxiety, adverse childhood experiences, binge drinking alcohol, and receiving mental health care or treatment for depression during the past year.

Overall, LGBT adults experienced elevated levels of adverse childhood experiences. While both LGB subpopulation groups (lesbian/gay and bisexual adults) experienced elevated levels of adult lifetime violence, persistent anxiety, and mental health treatment for sadness/depression; bisexual adults additionally experienced higher levels of poor and limiting physical and mental health compared with lesbian and gay adults. This difference could be related to some degree of being *established*; gay and lesbian adults were older and had higher SES. While data for bisexual males are limited, data for bisexual females compared with lesbian females reveal a much higher rate of having experienced direct adult lifetime violence (39.8% vs. 18.2%) as well as elevated poor mental health indicators; suggesting that for bisexual females, physical and sexual assault could be compounding negative effects of childhood trauma and non-measured stigma/bias-related impacts of being LGBT on their physical and mental health.

The data in this brief offer insight into LGBT subpopulation group similarities and differences in health experience relative to heterosexual and cisgender adult residents of Boston. These findings are meant to stimulate conversation and build deeper understanding of factors influencing population group differences; by addressing these factors we promote health equity for all.

IV. Data Source and Methods

BBRFSS is administered to adults ages 18 and over living in non-institutional household settings. Data from the 2010, 2013, 2015, and 2017 BBRFSS were used for this analysis. All data are self-reported. BBRFSS data for these years were collected via stratified random sampling with a probability of selection related to the number of adults and telephone lines in each household. One adult from each eligible household contacted is randomly selected for an interview. In the 2010, 2013, 2015, and 2017 survey years, respectively, 9%, 39%, 36%, and 71% of the sample consisted of cell phone-only households. Data were post-stratified to age, sex, race/ethnicity, education, and marital status population parameters for Boston and subsequently scaled to produce weighting proportionate to the noninstitutionalized adult population size across years.

The pooled data were analyzed by lesbian, gay, bisexual, transgender, heterosexual and cisgender self-identification. There were 263 lesbian, 563 gay male, 150 bisexual female, 73 bisexual male, and 66 transgender resident respondents across the combined four data years. Transgender adult resident respondents were analyzed separately due to gender identity and sexual orientation being distinct characteristics.

a. Definitions

Disaggregating data (e.g., race, ethnicity, gender, sexuality, etc.) is beneficial toward building understanding of differences in experiences that can inform ways to improve public health. When analyzing and reporting health-related data, it is important to describe the known and potential limitations of the data, particularly when it comes to the evolving intersectionality between sex and gender.⁹ BPHC acknowledges the difference between *sex* and *gender*. Informed by the Fenway Institute's shared definitions:

- Sex is assigned at birth (female, male or intersex), and is most often based on the child's external anatomy
- Gender is a person's inner sense of being a boy/man/male, girl/woman/female, another gender, or no gender (other terms used to describe a person who identifies as another or no gender include gender diverse, gender expansive, gender fluid, gender queer, gender non-conforming, and gender variant).¹⁰

Additionally, gender, like race, is a socially constructed variable, resulting from a mixture of behaviors, expectations, cultural norms, and attitudes.^{11,9}

In analyzing and reporting on health indicators and outcomes by sex, gender, or both, BPHC makes every effort to distinguish between sex and gender as the data permits. However, many times these two terms are used interchangeably on surveys, forms, and in data analysis (e.g., some data sources do not clarify whether a question about gender or sex was asked).¹²

It is necessary to acknowledge that improved methods to measure gender are still developing and to understand that both sex and gender exists on a continuum and can shift over time.¹³ BPHC is continuously working to improve its data collection, analysis, and reporting to include experiences of transgender and gender nonconforming individuals and to increase accuracy of sex and gender data variables.

Sexual orientation refers to "how a person characterizes their emotional and sexual attraction to others."¹⁰ This data brief presents data by lesbian, gay (male), bisexual, and heterosexual orientations:

Lesbian female: a respondent who indicated female sex and “gay, lesbian, or homosexual” sexual orientation.

Gay male: a respondent who indicated male sex and “gay, lesbian, or homosexual” sexual orientation.

Bisexual: a respondent who indicated “bisexual” sexual orientation.

Heterosexual: a respondent who indicated “straight or heterosexual” sexual orientation.

Gender identity refers to a person’s inner sense of self; a person can identify as a man, woman, something else, or no gender.¹⁰ This data brief presents data by transgender and cisgender identities:

Transgender: a respondent who indicated that they considered themselves to be transgender, including “male-to-female,” “female-to-male,” or “gender nonconforming.”¹⁰ A transgender person is someone whose “gender identity and assigned sex at birth do not correspond.”¹⁰

Cisgender: a respondent who indicated that they do not identify as transgender; i.e., they identify with the sex they were assigned at birth.¹⁰

b. Measures

Has health insurance: Health insurance coverage privately, through an employer or a government sponsored plan. Health insurance coverage was assessed leveraging two variables: (1) health care coverage of any type assessed as a yes/no response and (2) a list of specific types of coverage (e.g., employer-sponsored plan, Medicare, Medicaid, MassHealth, TriCare).

Didn't see a doctor due to cost: Assessed as a yes/no response as to whether there was a time in the past 12 months when the respondent needed to see a doctor but could not due to the cost.

Good Overall Health: Assessed as good, very good, or excellent self-reported general health (additional options were fair and poor).

Poor Physical Health: 14 or more days of physical health being not good, such as physical illness and injury, as self-reported number of days in the past 30 days.

Frequent Mental Distress: 14 or more days of mental health being not good, such as stress, depression, and problems with emotions, as self-reported number of days in the past 30 days.

Poor Health Interfered w/ Life: 14 or more days of poor physical or mental health keeping respondent from doing their usual activities (e.g., self-care, work, recreation), as self-reported number of days in the past 30 days.

Hypertension: being told by a health professional that the respondent has high blood pressure, excluding those who were borderline high blood pressure, pre-hypertensive, or were only told during pregnancy.

Diabetes: being told by a health professional that the respondent has diabetes, excluding those with pre-diabetes and gestational diabetes.

Asthma: Current asthma was assessed leveraging two variables: (1) respondent was ever told by a doctor, nurse, or other health professional that they had asthma and (2) if the respondent still had asthma at the time of the survey.

Obesity: A calculated variable based on reported height and weight assessing body mass index of 30.0 or higher (including BMI of 12.0 to 99.8).

Mammogram per ACS Recommendations: The American Cancer Society (ACS) recommends breast cancer screening annually for women ages 45-54, and biannual screening for women ages 55-74.¹⁴ Three variables were leveraged to assess the screening recommendation: (1) age, (2) has the respondent ever had a mammogram, and (3) recency of last mammogram (i.e., <1 year, 1-<2 years, 2-<3 years, 3-<5 years, 5+ years ago).

Pap Test within past 3 years: The ACS, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology recommend cervical cancer screening every three years for women ages 21-65.¹⁵ Three variables were leveraged to assess the screening recommendation: (1) age, (2) has the respondent ever had a pap test, and (3) recency of last pap test (i.e., <1 year, 1-<2 years, 2-<3 years, 3-<5 years, 5+ years ago).

Colonoscopy or Sigmoidoscopy within past 5 years: The ACS recommends colorectal cancer screening every five years for ages 50 to 75.¹⁶ Three variables were leveraged to assess the screening recommendation: (1) age, (2) has the respondent ever had a colonoscopy or sigmoidoscopy, and (3) recency of last colonoscopy or sigmoidoscopy (i.e., <1 year, 1-<2 years, 2-<3 years, 3-<5 years, 5+ years ago).

Current Smoker: Currently smoking every or some days. Two variables were leveraged to assess smoking status: (1) smoking of at least 100 cigarettes [lifetime] and (2) currently smoking every day, some days, or not at all.

Environmental Tobacco Smoke Exposure: One or more hours in the past seven days of exposure to other's tobacco smoke in the respondent's home.

Binge Drinking: Consumption of five or more [men] or four or more [women] alcoholic drinks on one occasion in the past 30 days. Two variables were leveraged to assess binge drinking: (1) number of days per week or per month in the past 30 days when an alcoholic drink was consumed and (2) number of times during the past 30 days five or more [men] or four or more [women] alcoholic drinks were consumed.

Heavy Drinking: Consumption of 60 or more [men] or 30 or more [women] alcoholic drinks in the past 30 days. Three variables were leveraged to assess binge drinking: (1) number of days per week or per month in the past 30 days when an alcoholic drink was consumed, (2) average number of alcoholic drinks consumed on the days when the respondent drank during the past 30 days and (3) sex.

Persistent Sadness: 15 or more days of feeling sad, blue, or depressed, as self-reported number of days in the past 30 days.

Persistent Anxiety: 15 or more days of feeling worried, tense, or anxious, as self-reported number of days in the past 30 days.

Mental Health Treatment for Sadness/Depression: Treatment or counseling for sadness or depression in the past year.

Adult Lifetime Violence: Physical or sexual violence experienced by the respondent during their adult life (i.e., since turning age 18) was assessed as a yes/no response.

ACEs: Adverse Childhood Experiences (ACEs) are traumatic events that occur before age 18. The cumulative ACEs score (0-3) included the three ACEs measures asked during the 2010, 2013, 2015, and 2017 survey years. These three variables assess household dysfunction during the respondent's childhood: (1) lived with a parent/caregiver who was depressed, mentally ill or suicidal; (2) lived with a parent/caregiver who was a problem drinker/alcoholic, or used drugs; (3) parents/adults who were physically violent towards each other.

c. Statistical Analysis

All statistical procedures involved a design-based approach accounting for the disproportionate probability of selection among survey respondents and subsequent poststratification to Boston's population.

Prevalence estimates and confidence intervals were calculated from weighted data. Unless otherwise noted, data were suppressed for cell counts less than 5, unweighted sample denominators less than 50, or when the coefficient of variation was 0.3 or greater. Prevalence estimates were presented when the coefficient of variation was greater than 0.3 and the estimate was less than 10%; these estimates are noted in the tables. Wald chi-square tests with logistic regression was used to assess statistically significant differences in point estimates (i.e., percentages) between LGB subgroup adults and heterosexual adults and between transgender and cisgender adults. The percentages of missing values for the primary variables in this analysis ranged from 0.2% (diabetes) to 9.1% (lifetime violence). This analysis excluded missing values from percentage calculations and conservatively treated missing responses as not missing completely at random by invoking the SAS NOMCAR option for variance estimation and statistical testing. All data analysis was performed in SAS® version 9.4.

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