HHS Public Access

Author manuscript

Am J Prev Med. Author manuscript; available in PMC 2019 December 02.

Published in final edited form as:

Am J Prev Med. 2019 April ; 56(4): 512–521. doi:10.1016/j.amepre.2018.11.012.

Suicides Among Lesbian and Gay Male Individuals: Findings From the National Violent Death Reporting System

Bridget H. Lyons, MPH[1], **Mikel L. Walters, PhD**[2], **Shane P.D. Jack, PhD**[1], **Emiko Petrosky, MD, MPH**[1], **Janet M. Blair, PhD, MPH**[1], **Asha Z. Ivey-Stephenson, PhD**[1]

[1]Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, Georgia;

[2]Extramural Research Program Office, Office of the Associate Director for Science, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, Georgia

Abstract

Introduction: Information regarding the epidemiology of suicide among lesbian and gay male individuals is limited, and comprehensive information is needed. This study seeks to describe the characteristics and precipitating circumstances of suicide among lesbian and gay male decedents when compared with non-lesbian and non-gay male decedents.

Methods: An analysis was conducted of National Violent Death Reporting System data from 18 U.S. states for the years 2003–2014. Sociodemographic characteristics and precipitating circumstances of suicide among lesbian and gay male decedents were compared with non-lesbian and non-gay male decedents. Logistic regression analysis was conducted to examine the association between precipitating circumstances and suicide by sexual orientation. The analysis was conducted in December 2017.

Results: There were a total of 123,289 suicide decedents from 18 states participating in National Violent Death Reporting System during 2003–2014; of whom, 621 (0.5%) were identified as lesbian, gay, bisexual, or transgender. The majority of lesbian, gay, bisexual, or transgender decedents were identified as gay male (53.9%), followed by lesbian (28.0%), transgender (10.4%), and bisexual (7.5%). The analysis revealed several differences by age, mechanism of injury, and precipitating circumstances, including intimate partner problems among lesbian decedents, suicide planning and intent for both lesbian and gay male decedents, and mental health problems among gay male decedents.

Conclusions: Findings highlight differences in the characteristics of suicide among lesbian and gay male and non-lesbian and non-gay male decedents. It is important for suicide prevention efforts to be culturally sensitive and consider the needs of sexual minority populations.

Address correspondence to: Bridget H. Lyons, MPH, Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, 4770 Buford Hwy. NE, MS F-64, Atlanta GA 30341. blyons@cdc.gov.

INTRODUCTION

Suicide is a serious public health problem in the U.S., resulting in an estimated $50.8 billion in medical and work loss costs.[1] In 2016, a total of 44,965 people died by suicide and more than 500,000 were treated in emergency departments for self-harm injuries.[2] Although the literature provides a comprehensive picture of suicidal behavior for certain demographic characteristics, such as sex, race/ethnicity, and age, there is little information about suicide mortality by sexual orientation and gender identity.[3–5]

The 2012 National Strategy on Suicide Prevention included the lesbian, gay, bisexual, and transgender (LGBT) population among the groups at highest risk of suicide.[6] Recent studies using nationally representative and probability-based samples of LGBT youth found that suicidal thoughts and behaviors were higher among LGBT youth than non-LGBT youth.[7–10] However, most of the literature comes from self-reported suicidal ideation and attempts and not actual suicide deaths, which limits the understanding of the circumstances for suicide among LGBT individuals.[11–13] Qualitative and quantitative mortality data from the National Violent Death Reporting System (NVDRS) allows for an examination by sexual orientation.

METHODS

Study Sample

NVDRS is an ongoing, state-based, active surveillance system funded by the Centers for Disease Control and Prevention (CDC) that collects data on all violent deaths, including suicides, occurring in participating states.[14] NVDRS has been described previously.[14] CDC Human Subjects (IRB) review was not required for NVDRS as it received a non-research determination. This analysis used data collected from 18 states[a] participating in NVDRS during 2003–2014 (representing ≅34% of the 2014 U.S. population).[15,16] NVDRS data are collected from three sources: death certificates, coroner/medical examiner reports, and law enforcement reports. The sources are linked for each incident to provide a comprehensive picture of the death. Trained abstractors code investigative findings (e.g., mechanism of death, location of injury) and precipitating circumstances (i.e., events preceding the incident that were reported to have contributed to the death) using standardized coding guidance from the CDC. Abstractors also draft narratives based upon information from the coroner/medical examiner and law enforcement reports to describe the events of the fatal incident. NVDRS defines suicide as a death resulting from the intentional use of force against oneself, classified by ICD-10 underlying cause of death codes X60–X84, Y87.0, and U03.[17]

Measures

This analysis included decedents aged ≥15 years who died by suicide during 2003–2014. The assessment was restricted to decedents aged ≥15 years given that sexual identity often first manifests in adolescence, and to be consistent with previous reports that examined sexual orientation and gender identity in youth.[7,18,19] LGBT decedents were identified using

[a]Alaska, Maryland, Massachusetts, New Jersey, Oregon, South Carolina, and Virginia have provided statewide data since 2003; Colorado, Georgia, North Carolina, Oklahoma, Rhode Island, and Wisconsin since 2004; Kentucky, New Mexico, and Utah since 2005; Ohio since 2010; and Michigan since 2014.

inclusion criteria and keywords based on the scientific literature.[5,18,19] The authors developed case definitions for LGBT, inclusion and exclusion criteria, and identified LGBT cases using a text search of the abstractor-drafted narratives (Appendix A). LGBT decedents were defined as meeting at least one of the following case definitions: (1) decedent self-identified as LGBT (e.g., in a suicide note), (2) decedent was perceived to be LGBT by family members or other members of decedent's social network, or (3) decedent was identified as transgender upon autopsy. Cases were also classified as either gay male or lesbian if a decedent was reported by a witness to have engaged in same-sex behaviors (e.g., men who have sex with men).

LGBT cases were selected using search terms (e.g., *lesbian*, *gay*, *trans**, *bisex**) identified in the abstractor-drafted narratives (Appendix A). A random sample of 600 decedents identified from the initial search were reviewed and used to further refine the keywords and inclusion/exclusion criteria. The final list of keywords generated 3,610 potential LGBT cases (Figure 1; Appendix A). These cases were reviewed by eight trained reviewers for case ascertainment. Reviewer pairs coded each case independently and achieved high inter-rater reliability (κ range, 0.91–0.95).[20]

Statistical Analysis

Descriptive analyses of victim and incident characteristics and precipitating circumstances among suicide decedents aged ≥15 years were conducted. Chi-square tests were used to compare gay males with non-gay males and lesbians with non-lesbians. Two-tailed *p*-values <0.05 were considered statistically significant. Precipitating circumstances included the following categories: mental health and substance use, life events, suicide intent and planning, and interpersonal problems. Variables were analyzed further using separate logistic regression models, controlling for age and race/ethnicity, and presented as AORs and 95% CIs. Sexual orientation was the independent variable and mechanism of injury and precipitating circumstances were the dependent variables. Decedents identified as bisexual and transgender were excluded from further analyses because of small numbers. All statistical analyses were performed using SAS, version 9.3 software. The analysis was conducted in December 2017.

RESULTS

There were 123,289 suicide decedents from 18 states participating in NVDRS during 2003–2014; of whom, 621 (0.5%) were identified as LGBT (Figure 1). The majority of LGBT decedents were gay male (53.9%), followed by lesbian (28.0%), transgender (10.4%), and bisexual (7.5%; Table 1). Among transgender decedents, 67.7% were documented as male-to-female, 10.8% were female-to-male, and 21.5% were in the process of transitioning or their self-identified gender was unknown. Among bisexuals, 70.2% were male and 29.8% were female. Further analyses tested differences between gay male and non-gay male and lesbian and non-lesbian decedents.

There were 335 gay male and 95,784 non-gay male decedents included in this analysis (Table 2). The largest proportion of decedents were middle aged, with 38.5% of gay males and 39.2% of non-gay males aged 40–59 years. Significantly larger proportions of gay males

were aged 15–39 years than non-gay males. The majority of decedents were non-Hispanic white (82.7% among gay males and 83.9% among non-gay males). There were no significant differences by race/ethnicity between the two groups. The most commonly used mechanism of injury among gay males was hanging/strangulation/suffocation (38.2%), compared with firearms were among non-gay males (57.0%). Gay males were more likely than non-gay males to die by hanging/strangulation/suffocation (AOR=1.53, 95% CI=1.22, 1.91) or poisoning (AOR=2.90, 95% CI=2.26, 3.72), and less likely to die by firearm (AOR=0.34, 95% CI=0.27, 0.43).

Mental health problems were common among gay males and non-gay males. However, gay males were more likely than non-gay males to have had a current diagnosed mental health problem (47.8% vs 37.4%, AOR=1.52, 95% CI=1.04, 2.21) or current depressed mood (51.3% vs 35.7%, AOR=1.94, 95% CI=1.56, 2.40). There were no differences by alcohol or other substance use problems for gay males and non-gay males. However, a larger proportion of gay males than non-gay males were receiving current treatment for mental health or substance use problems (37.6% vs 24.5%, AOR=1.84, 95% CI=1.47, 2.30) or had ever been treated for a mental health or substance use problem (44.5% vs 29.6%, AOR=1.84, 95% CI=1.48, 2.29).

Gay males were more likely than non-gay males to have had a history of suicidal thoughts or plans (40.5% vs 27.2%, AOR=1.78, 95% CI=1.21, 2.60), previous suicide attempts (31.6% vs 14.1%, AOR=2.46, 95% CI=1.95, 3.11), left suicide notes (43.3% vs 28.1%, AOR=1.98, 95% CI=1.60, 2.47), or disclosed intent to complete suicide (31.3% vs 24.9%, AOR=1.33, 95% CI=1.06, 1.68).

Although crisis in the preceding or upcoming 2 weeks was common in both groups, gay males were more likely than non-gay males to have experienced a crisis around the time of death (42.7% vs 27.0%, AOR=1.86, 95% CI=1.50, 2.31). Physical health problems were also more common among gay males (AOR=2.47, 95% CI=1.88, 3.25), but there were no differences with criminal legal or other legal problems. Although there were no differences in financial problems between the two groups, gay males were more likely to have had a job problem than non-gay males (19.7% vs 12.3%, AOR=1.60, 95% CI=1.22, 2.11).

Intimate partner problems were common among gay males and non-gay males, but gay males were more likely than non-gay males to have experienced other relationship problems, such as problems with a friend or associate (12.6% vs 2.1%, AOR=5.69, 95% CI=3.20, 10.13), or family relationship problems (16.2% vs 7.9%, AOR=1.97, 95% CI=1.17, 3.32). Gay males were more likely to have had an argument precede the death (21.2% vs 10.1%, AOR=2.03, 95% CI=1.46, 2.81). Gay males were also more likely to have experienced a recent death of a relative or a friend (both suicide and non-suicide related deaths, respectively) than non-gay males (3.9% vs 1.5%, AOR=2.25, 95% CI=1.29, 3.94 and 8.4% vs 5.5%, AOR=1.83, 95% CI=1.24, 2.69).

There were 174 lesbian and 26,840 non-lesbian decedents included in this analysis (Table 3). The largest proportion of decedents were aged 40–59 years (42.5% of lesbians and 47.6% of non-lesbians). However, a larger proportion of lesbians were aged 19–24 years compared

with non-lesbians (18.4% vs 6.9%). The majority of decedents were non-Hispanic white (79.3% among lesbians and 85.7% among non-lesbians), and among lesbians, a larger proportion were Hispanic compared with non-lesbians (7.5% vs 3.7%, respectively). Hanging/strangulation/ suffocation (35.6%) and firearm (35.1%) were the two most common mechanisms of injury among lesbians, but among non-lesbians, poisoning (37.5%) was the most common mechanism (AOR=0.54, 95% CI=0.37, 0.77). Lesbians were more likely to die by hanging/strangulation/suffocation than non-lesbians (AOR=1.55, 95% CI=1.11, 2.15).

Mental health problems were common among lesbian and non-lesbian decedents. Lesbians were more likely than non-lesbians to have had a current diagnosed mental health problem (68.8% vs 57.0%, AOR=1.72, 95% CI=1.01, 2.93) or current depressed mood (50.0% vs 38.5%, AOR=1.61, 95% CI=1.20, 2.18). There were no significant differences in alcohol problems among the two groups, but lesbians were less likely to have had other substance use problems than non-lesbians (10.3% vs 16.1%, AOR=0.50, 95% CI=0.31, 0.82). A similar proportion of lesbians and non-lesbians were receiving current treatment or had ever been treated for a mental health or substance use problem.

Lesbians were more likely than non-lesbians to have had a history of suicidal thoughts or plans (48.4% vs 32.7%, AOR=1.86, 95% CI=1.13, 3.06), previous suicide attempts (44.8% vs 30.4%, AOR=1.72, 95% CI=1.27, 2.33), left suicide notes (47.1% vs 36.1%, AOR=1.64, 95% CI=1.21, 2.21), or disclosed intent to complete suicide (45.4% vs 25.0%, AOR=2.40, 95% CI=1.77, 3.24).

Although crisis in the preceding or upcoming 2 weeks was common in both groups, lesbians were more likely than non-lesbians to have had a crisis around the time of death (46.0% vs 22.7%, AOR=2.58, 95% CI=1.91, 3.49). Physical health problems were also common, but did not differ between the two groups.

Most (70.7%) lesbians were experiencing intimate partner problems at the time of death. Odds for having an intimate partner problem were 6.49 (95% CI=4.64, 9.08) times higher among lesbians than non-lesbians. Lesbians were also more likely than non-lesbians to have had other relationship problems with a friend or associate (7.8% vs 2.1%, AOR=3.35, 95% CI=1.31, 8.59) or an argument precede the death (29.3% vs 10.6%, AOR=2.88, 95% CI=1.93, 4.29). Family relationship problems were also common among lesbians (14.1% vs 11.3%), but did not differ significantly between the two groups.

DISCUSSION

The current analysis of suicide decedents by sexual orientation from 18 states participating in NVDRS during 2003–2014 revealed several differences by age, mechanism of injury, and precipitating circumstances, including higher odds of intimate partner problems among lesbian decedents, suicide planning and intent for both lesbian and gay male decedents, and mental health problems among gay male decedents. These findings highlight the characteristics and circumstances of suicide among gay male and lesbian decedents and underscore the need for prevention strategies for this population.

To the authors' knowledge, this is the first study using data from a large, multistate surveillance system to examine suicides among gay male and lesbian decedents across the lifespan. Data from the Youth Risk Behavior Surveillance System indicate that LGB youth are at greater risk for depression, suicide, and substance use and nearly one third (29%) of LGB youth had attempted suicide at least once in the prior year compared with 6% of heterosexual youth.[7] This suggests a need to conduct suicide prevention activities across age groups, including youth.

Firearms are the primary mechanism used in most suicides in the U.S. but there has been a recent increase in hanging/strangulation/suffocation deaths.[21–23] Although use of a firearm was the most common mechanism of suicide among non-gay male decedents, hanging/strangulation/ suffocation was the most common mechanism used among gay male decedents. Among lesbian decedents, hanging/strangulation/suffocation and firearms were used almost equally. Current prevention efforts often focus on reducing access to lethal means, such as firearms and prescription drugs for overdoses, among people at risk.[22,24] However, few efforts focus specifically on reducing hanging/strangulation/suffocation suicide deaths. This mechanism can present a challenge for prevention because of the widespread availability of suffocation-related materials.[24] Further research is needed to assess the factors contributing to suffocation-related suicide deaths to inform prevention efforts, especially among lesbian and gay male populations.

These findings indicate that more gay male decedents had diagnosed mental health problems, were currently being treated for mental illness or ever had treatment, disclosed their intent to die by suicide, had a history of suicidal thoughts or plans, and had previous suicide attempts than non-gay male decedents. More lesbian decedents had a history of suicidal thoughts or plans, disclosed their intent to die by suicide and had previous suicide attempts than non-lesbian decedents. Approximately half of lesbian and gay male decedents reported a current depressed mood compared with one third of non-lesbians or non-gay males. These differences may be linked in part to the minority stress and discrimination that lesbian and gay male populations experience.[25,26]

Differences in mental healthcare treatment exist between gay males, lesbians, and heterosexual individuals, with gender and sexual minority adolescents and adults using mental health services more often than heterosexual individuals.[27–30] Although mental health treatments like cognitive-behavioral and dialectic behavioral therapies have some evidence for benefits in reducing suicidal thoughts and behaviors, psychotherapy alone is often not enough, and this may be particularly the case for gay males and lesbians.[31] Some mental health providers may lack knowledge and awareness of issues (i.e., stigma and homophobia) that may be pertinent to many gender and sexual minority patients.[31,32] It is important for clinicians to become well versed on the diversity within these communities and to consider that adolescents, elderly, and racial/ethnic sexual minority clients may have additional needs (e.g., additional minority stressors and discrimination).[33,34] There are opportunities to incorporate suicide prevention efforts into primary care medical settings, where most individuals receive services prior to their suicide.[35] In some cases, culturally competent programming has been incorporated in medical schools to inform providers about interacting with LGBT patients.[36]

Lesbian decedents were significantly more likely to experience problems with a current or former intimate partner or other relationship issues compared with non-lesbian decedents. Gay male decedents were significantly more likely to have experienced additional issues (e.g., problems with job or family relationships, and recent death of a relative or friend including suicide of relative or friend) than non-gay male decedents. The significant findings of intimate partner problems and arguments preceding suicides of lesbian and gay male decedents suggests the need for a focus on interpersonal relationships within suicide prevention efforts for these populations.

CDC's Preventing Suicide: A Technical Package of Policy, Programs, and Practices describes suicide prevention strategies that are based on the best available evidence.[37] These programs may also benefit LGBT subgroups, but additional research is needed to determine their effectiveness, barriers to participation, and opportunities to tailor these strategies specifically for the LGBT population. There are few suicide prevention programs focused specifically on gender and sexual minorities.[38] Research on upstream suicide prevention approaches that are culturally appropriate and meet the needs of gender and sexual minorities is warranted.[38–40]

Limitations

To the authors' knowledge, this is the first study using NVDRS data to compare gay male to non-gay male suicide decedents and lesbian to non-lesbian suicide decedents. There are several limitations to consider. First, these results should be viewed as preliminary given the challenges of identifying sexual orientation among suicide decedents. The study did not include an estimation of the true proportion of LGBT people among suicide decedents. LGBT status is known to be underreported or misclassified on death certificates.[41] Although an estimated 4.1% of the U.S. population is LGBT, this study identified only 0.5% of suicide decedents as sexual or gender minorities.[41–43] The study results are likely a substantial underestimate given that information regarding LGBT status is not routinely collected postmortem.[40] Decedents may not have disclosed their LGBT status to their loved ones, or their next of kin may have been reluctant to disclose LGBT status because of stigma.[44] This is especially the case for older decedents, given that disclosure of sexual orientation has been shown to decrease with age.[44,45] Another potential limitation, as is the case with NVDRS data overall, is that the data are subject to the availability, completeness, and timeliness of the reports from data source providers. However, this analysis and many other NVDRS analyses attempt to deal with this limitation as well as concerns that case identification of one group could therefore bias the results. The most common way of addressing this is to compare only cases with known circumstances in both groups (Table 2, footnote a). Third, LGBT case identification relied primarily on abstractor-drafted narratives, which often lacked detailed information on intimate relationships. Fourth, given the challenges in identifying LGBT status, it is possible that a subset of suicide decedents coded as non-LGBT were misclassified, especially bisexual decedents given that studies have shown that bisexual individuals have the greatest risk of suicide attempts.[45,46] Fifth, because of the small number of decedents identified as bisexual or transgender, the authors were unable to include these subgroups in statistical models. Finally, the data for this analysis were limited

to 18 states participating in NVDRS during 2003–2014 and therefore were not nationally representative.

CONCLUSIONS

The research on suicides among LGBT individuals has been limited and this study aims to fill in some of the knowledge gaps. Although this study provides new information on suicides among gay male and lesbian decedents, it is important to remember the diversity that exists across and within sexual and gender minority groups when planning and implementing prevention activities. Suicide prevention programs developed or tailored for LGBT individuals can consider the risk factors that are most salient to the targeted population and how these factors may differ from non-LGBT individuals.

ACKNOWLEDGMENTS

The authors would like to thank Katherine A. Fowler, PhD; Amanda Garcia-Williams, PhD; and Holly A. Williams, PhD for their assistance in reviewing narratives. We could not have done it without your hard work and thoughtful contributions. Additionally, the authors would like to thank the participating state Violent Death Reporting Systems; participating state agencies, including state health departments, vital registrars' offices, coroners'/medical examiners' offices, crime laboratories, and local and state law enforcement agencies.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

No financial disclosures were reported by the authors of this paper.

Tasks completed by each author are as follows: database creation (BL); narrative review (BL, MW, SJ, EP, JB, and AI-S); case definition creation (BL, MW, SJ, EP, JB, and AI-S); writing methods section (BL and SJ); writing results section (BL, SJ, and EP); writing implications section (BL, MW, SJ, EP, JB, and AI-S); editing manuscript (BL, MW, SJ, EP, JB, and AI-S); reviewing manuscript (BL, MW, SJ, EP, JB, and AI-S); table creation (BL and MW); writing introduction (MW and AI-S); and writing discussion (MW and JB).

APPENDIX A

Case Definitions Used to Identify Lesbian, Gay, Bisexual, and Transgender Decedents

The following keywords were used to search abstractor-drafted narratives of suicide decedents aged 15 years and older who died in the 18 states participating in NVDRS during 2003–2014. The keyword searches were conducted using SAS (SAS Institute, Version 9.3). All cases were independently coded by two reviewers; all discrepancies were discussed and coded to consensus. The following information lists the keywords used as well as the decision process for case ascertainment and for categorizing the cases as lesbian, gay male, bisexual, transgender, or unknown.

LGBT Narrative Keywords

- bisex
- dyke
- fag

- gay
- hate crime
- his boyfriend
- her girlfriend
- homo
- lesbian
- lgbt
- lover
- partner
- same sex
- trans
- queer

LGBT Cases

Code as “yes”

- same sex orientation (i.e., victim’s self-identified status or perceived status by family members or other members of the victim’s social network)
- same sex relationship/couple status
- same sex behavior/encounter (e.g., men who have sex with men [MSM], women who have sex with women [WSW])
- Combining same sex behavior in with sexual orientation. Not all who engage in same sex behavior identify with a particular sexual orientation.
- transgender status (i.e., victim’s identity, expression, or behavior differed from the norms typically associated with their birth-assigned gender)

Unknown

The following are considered “unknown” (versus LGBT and not a case) only if there is no gender pronoun in conjunction with the description of the relationship.

Code as “unknown”

if there is description of a relationship and no gender pronoun with

- intimate partner
- domestic partner
- life partner
- long-term partner

- lover
- companion
- spouse
- alternative lifestyle
- roommate/partner used interchangeably in the same narrative
- male victim has a partner who has HIV or dies of HIV/AIDS
- if intimate partner problem or intimate partner violence is mentioned without an explanation of the nature of the problem (example: “V had intimate partner problems” without elaboration)

Not a Case

Code as “no”

- business partner
- roommate (without the same individual being referred to as partner or lover)

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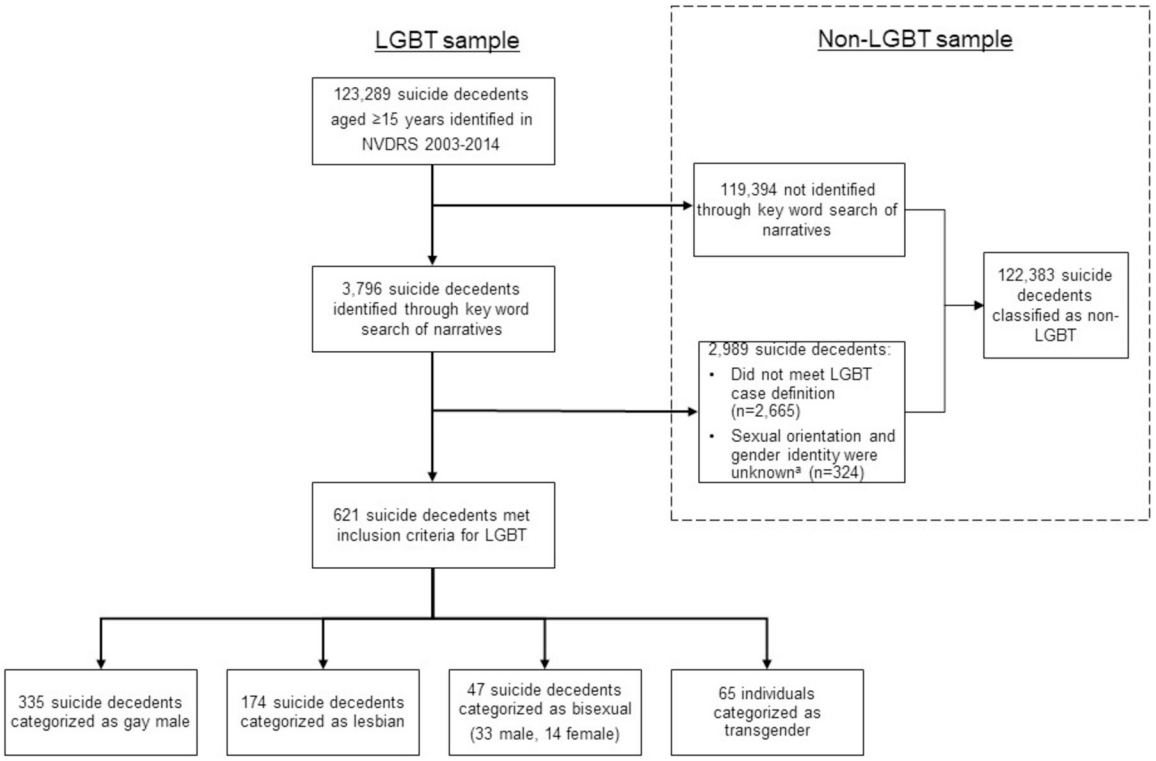

Figure 1. LGBT sample creation flow diagram.

[a]Decedents for which there was not enough information in the incident narratives to determine sexual orientation or gender identity.

LGBT, lesbian, gay, bisexual, transgender; NVDRS, National Violent Death Reporting System.

Table 1.

Sociodemographic Characteristics and Methods Used by Suicide Victims Aged ≥15 Years[a] by Sexual Orientation[b]

Characteristics	Gay male (N=335)	Lesbian (N=174)	Bisexual (N=47)	Transgender (N=65)	Non-LGBT (N=122,383)
	n (%)	n (%)	n (%)	n (%)	n (%)
Age group, years					
15–18	16 (4.8)	8 (4.6)	8 (17.0)	3 (4.6)	3,341 (2.7)
19–24	60 (17.9)	35 (20.1)	9 (19.2)	13 (20.0)	12,596 (10.3)
25–39	111 (33.1)	51 (29.3)	8 (17.0)	15 (23.1)	29,523 (24.1)
40–59	129 (38.5)	74 (42.5)	22 (46.8)	29 (44.6)	50,312 (41.1)
≥60	19 (5.7)	6 (3.5)	0	5 (7.7)	26,611 (21.7)
Sex					
Male	335 (100.0)	0	33 (70.2)	50 (76.9)	95,784 (77.7)
Female	0	174 (100.0)	14 (29.8)	15 (23.1)	26,840 (21.8)
Race/Ethnicity					
White, non-Hispanic	277 (82.7)	138 (79.3)	42 (89.4)	51 (78.5)	103,395 (84.3)
Black, non-Hispanic	20 (6.0)	14 (8.1)	–	–	7,896 (6.4)
Hispanic[c]	25 (7.5)	13 (7.5)	–	8 (12.3)	5,581 (4.6)
Other[d]	13 (3.9)	9 (5.2)	–	–	5,572 (4.5)
Method					
Hanging, strangulation, suffocation	128 (38.2)	62 (35.6)	22 (46.8)	27 (41.5)	29,860 (24.5)
Firearm	93 (27.8)	61 (35.1)	14 (29.8)	15 (23.1)	63,136 (51.7)
Poisoning	88 (26.3)	39 (22.4)	8 (17.0)	16 (25.0)	20,686 (16.9)
Other[e]	23 (6.9)	10 (5.7)	–	–	5,724 (4.7)

Notes: "–" Value is not reported when number of deaths is <5.

[a] Excludes decedents with missing, unknown, and other race/ethnicity (*n*=224). Percentages might not total 100% due to rounding.

[b] Decedents identified and classified as lesbian, gay, bisexual, and transgender (LGBT). Non-LGBT decedents were those decedents not identified or classified as LGBT.

[c] Includes decedents of any race.

[d] American Indian/Alaska Native, Asian/Pacific Islander, and decedents with two or more races.

[e] Includes fall, sharp instrument, blunt instrument, drowning, fire/burns, motor vehicle, personal weapons, and other.

Table 2.

Characteristics and Circumstances[a] of Male Suicide Decedents Aged ≥15 Years[b] by Sexual Orientation[c]

Characteristics	Gay males (N=335) n (%)	Non-gay males (N=95,784) n (%)	AOR (95% CI)[h]
Age group, years			
15–18	22 (6.6)	3,522 (3.7)	–
19–24	54 (16.1)	9,462 (9.9)	–
25–39	111 (33.1)	23,332 (24.4)	–
40–59	129 (38.5)	37,524 (39.2)	–
≥60	19 (5.7)	21,732 (22.7)	–
Race/Ethnicity			
White, non-Hispanic	277 (82.7)	80,394 (83.9)	–
Black, non-Hispanic	20 (6.0)	6,529 (6.8)	–
Hispanic[d]	25 (7.5)	4,581 (4.8)	–
Other[e]	13 (3.9)	4,148 (4.3)	–
Circumstances			
Mechanism			
Hanging/strangulation/suffocation	128 (38.2)	23,868 (24.9)	**1.53 (1.22, 1.91)**
Firearm	93 (27.8)	54,573 (57.0)	**0.34 (0.27, 0.43)**
Poisoning	88 (26.3)	10,620 (11.1)	**2.90 (2.26, 3.72)**
Mental health and substance use			
Current diagnosed mental health problem[f]	53 (47.8)	8,058 (37.4)	**1.52 (1.04, 2.21)**
Current depressed mood	172 (51.3)	34,342 (35.7)	**1.94 (1.56, 2.40)**
Alcohol problem	63 (18.8)	15,835 (16.5)	1.08 (0.82, 1.43)
Other substance problem	57 (17.0)	12,204 (12.7)	1.10 (0.83, 1.47)
Current treatment for mental health/substance use	126 (37.6)	23,514 (24.5)	**1.84 (1.47, 2.30)**
Ever treated for mental health/substance use	149 (44.5)	28,469 (29.6)	**1.84 (1.48, 2.29)**
Suicide intent and planning			
History of suicidal thoughts or plans[g]	45 (40.5)	5,841 (27.2)	**1.78 (1.21, 2.60)**
Previous suicide attempts	106 (31.6)	13,557 (14.1)	**2.46 (1.95, 3.11)**

Characteristics	Gay males (N=335)	Non-gay males (N=95,784)	AOR (95% CI)[h]
	n (%)	n (%)	
Person left a suicide note	145 (43.3)	27,044 (28.1)	**1.98 (1.60, 2.47)**
Disclosed intent to complete suicide	105 (31.3)	23,884 (24.9)	**1.33 (1.06, 1.68)**
Life events			
Crisis in the previous or upcoming 2 weeks	143 (42.7)	25,836 (27.0)	**1.86 (1.50, 2.31)**
Physical health problem	77 (23.0)	18,153 (18.9)	**2.47 (1.88, 3.25)**
Criminal legal problem	30 (9.0)	9,600 (10.0)	0.75 (0.51, 1.09)
Other legal problem	7 (2.1)	3,218 (3.4)	0.56 (0.26, 1.18)
Financial problem	44 (13.1)	10,475 (10.9)	1.24 (0.90, 1.71)
Job problem	66 (19.7)	11,810 (12.3)	**1.60 (1.22, 2.11)**
Problems with school	9 (2.7)	798 (0.8)	2.05 (0.98, 4.29)
Interpersonal problem			
Intimate partner problem	122 (36.4)	26,875 (28.0)	1.20 (0.96, 1.50)
Other relationship problem[f]	14 (12.6)	455 (2.1)	**5.69 (3.20, 10.13)**
Family relationship problem[f]	18 (16.2)	1,705 (7.9)	**1.97 (1.17, 3.32)**
Argument or conflict[g]	47 (21.2)	5,805 (10.1)	**2.03 (1.46, 2.81)**
Recent death of relative or friend	28 (8.4)	5,242 (5.5)	**1.83 (1.24, 2.69)**
Suicide death of relative or friend	13 (3.9)	1,483 (1.5)	**2.25 (1.29, 3.94)**
Perpetrator of violence in past month	15 (4.5)	4,106 (4.3)	0.95 (0.57, 1.61)

Note: Boldface indicates statistical significance ($p<0.05$).

[a]Includes suicides with one or more precipitating circumstances: 331 (99%) among gay males; 85,019 (89%) among non-gay males. Numbers do not equal the sums of the columns because more than one circumstance could have been present per decedent.

[b]Excludes decedents with missing, unknown, and other race/ethnicity (n=212). Percentages might not total 100% due to rounding.

[c]Decedents identified and classified as gay males. Non-gay male decedents were those not identified or classified as gay.

[d]Includes decedents of any race.

[e]American Indian/Alaska Native, Asian/Pacific Islander, and decedents with two or more races.

[f]Variable was added to NVDRS in 2013 therefore the denominator for this variable was 21,477.

[g]Variable was added to NVDRS in 2009 therefore the denominator for this variable was 57,372.

[h] Adjusted for age and race/ethnicity.

NVDRS, National Violent Death Reporting System.

Table 3.

Characteristics and Circumstances[a] of Female Suicide Decedents Aged ≥15 Years[b] by Sexual Orientation[c]

Characteristics	Lesbians (N=174) n (%)	Non-lesbians (N=26,840) n (%)	AOR (95% CI)[h]
Age group, years			
15–18	11 (6.3)	1,103 (4.1)	–
19–24	32 (18.4)	1,849 (6.9)	–
25–39	51 (29.3)	6,191 (23.1)	–
40–59	74 (42.5)	12,785 (47.6)	–
≥60	6 (3.5)	39 (18.0)	–
Race/Ethnicity			
White, non-Hispanic	138 (79.3)	22,997 (85.7)	–
Black, non-Hispanic	14 (8.1)	1,367 (5.1)	–
Hispanic	13 (7.5)	999 (3.7)	–
Other[e]	9 (5.2)	1,424 (5.3)	–
Circumstances			
Method			
Hanging/strangulation/suffocation	62 (35.6)	5,984 (22.3)	**1.55 (1.11, 2.15)**
Firearm	61 (35.1)	8,542 (31.8)	1.25 (0.91, 1.72)
Poisoning	39 (22.4)	10,062 (37.5)	**0.54 (0.37, 0.77)**
Mental health and substance use			
Current diagnosed mental health problem[f]	44 (68.8)	3,569 (57.0)	**1.72 (1.01, 2.93)**
Current depressed mood	87 (50.0)	10,386 (38.5)	**1.61 (1.20, 2.18)**
Alcohol problem	28 (16.1)	3,667 (13.5)	1.17 (0.78, 1.76)
Other substance problem	18 (10.3)	4,341 (16.1)	**0.50 (0.31, 0.82)**
Current treatment for mental health/substance use	78 (44.8)	12,102 (44.8)	1.03 (0.76, 1.40)
Ever treated for mental health/substance use	89 (51.2)	13,629 (50.5)	1.03 (0.76, 1.39)
Suicide intent and planning			
History of suicidal thoughts or plans[g]	31 (48.4)	2,049 (32.7)	**1.86 (1.13, 3.06)**
Previous suicide attempts	78 (44.8)	8,203 (30.4)	**1.72 (1.27, 2.33)**

Characteristics	Lesbians (N=174)	Non-lesbians (N=26,840)	AOR (95% CI)[h]
	n (%)	n (%)	
Person left a suicide note	82 (47.1)	9,754 (36.1)	**1.64 (1.21, 2.21)**
Disclosed intent to complete suicide	79 (45.4)	6,741 (25.0)	**2.40 (1.77, 3.24)**
Life events			
Crisis in the previous or upcoming 2 weeks[h]	80 (46.0)	6,090 (22.7)	**2.58 (1.91, 3.49)**
Physical health problem	27 (15.5)	5,541 (20.5)	1.00 (0.66, 1.53)
Criminal legal problem	7 (4.0)	1,081 (4.0)	0.82 (0.39, 1.76)
Other legal problem	–	784 (2.9)	–
Financial problem	19 (10.9)	2,316 (8.6)	1.37 (0.85, 2.22)
Job problem	13 (7.5)	2,053 (7.6)	0.90 (0.51, 1.59)
Problems with school	–	183 (0.7)	–
Interpersonal problem			
Intimate partner problem	123 (70.7)	6,382 (23.6)	**6.49 (4.64, 9.08)**
Other relationship problem[f]	5 (7.8)	133 (2.1)	**3.35 (1.31, 8.59)**
Family relationship problem[f]	9 (14.1)	708 (11.3)	1.10 (0.53, 2.27)
Argument or conflict[g]	36 (29.3)	1,718 (10.6)	**2.88 (1.93, 4.29)**
Physical fight	–	32 (0.1)	–
Recent death of relative or friend	13 (7.5)	1,779 (6.6)	1.29 (0.73, 2.28)
Suicide death of relative or friend	6 (3.5)	586 (2.2)	1.42 (0.62, 3.23)
Perpetrator of violence, in past month	5 (2.9)	302 (1.1)	2.14 (0.87, 5.28)

Note: Boldface indicates statistical significance ($p<0.05$). "–" Value is not reported when number of deaths is <5.

[a] Includes suicides with one or more precipitating circumstances: 174 (100%) among lesbians: 24,596 (92%) among non-lesbians. Numbers do not equal the sums of the columns because more than one circumstance could have been present per decedent.

[b] Excludes decedents with missing, unknown, and other race/ethnicity (n=73). Percentages might not total 100% due to rounding.

[c] Decedents identified and classified as lesbians. Non-lesbian decedents were those not identified or classified as lesbian.

[d] Includes decedents of any race.

[e] American Indian/Alaska Native, Asian/Pacific Islander, and decedents with two or more races.

[f] Variable was added to NVDRS in 2013 therefore the denominator for this variable was 6,260.

[g] Variable was added to NVDRS in 2009 therefore the denominator for this variable was 16,251.

[h] Adjusted for age and race/ethnicity.

NVDRS, National Violent Death Reporting System.