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Self-reported suicide ideation and attempts, and medical care for intentional self-harm in lesbians, gays and bisexuals in Sweden

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Abstract

Background—Minority sexual orientation is a robust risk indicator for self-reported suicidal ideation and attempts. However, little is known about patterns of medical care for intentional self-harm in this vulnerable population. We investigate sexual orientation-related differences in self-reported lifetime suicide symptoms and medical care for intentional self-harm between 1969 and 2010, including age at initial treatment and recurrence.

Methods—We used data from the Stockholm Public Health Cohort, a population-based sample of 874 lesbians/gays, 841 bisexuals and 67 980 heterosexuals, whose self-administered surveys have been linked to nationwide registers. Estimates of risk for medical care were calculated as incidence rate ratios (IRR) with 95% CIs.

Results—Both suicidal ideation and attempts were more commonly reported by lesbian/gay and bisexual (LGB) individuals. Adjusting for risk-time and confounding, lesbians (IRR 3.8, 95% CI 2.7 to 5.4) and bisexual women (IRR 5.4, 95% CI 4.4 to 6.6) experienced elevated risk for medical care for intentional self-harm, as compared to heterosexual women. Gay men evidenced higher risk (IRR 2.1, 95% CI 1.3 to 3.4) as compared to heterosexual men. Recurrent medical care was more frequent in LGB individuals, especially in bisexual women and gay men. Lesbian and

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bisexual women were also younger than heterosexual women when they first received medical care for intentional self-harm.

Conclusions—Positive histories of suicidal ideation, attempts and medical care for intentional self-harm, including higher levels of recurrence, are more prevalent among LGB individuals in contrast to heterosexuals. Lesbian/bisexual women evidence an earlier age of onset of treatment. Tailored prevention efforts are urgently needed.

INTRODUCTION

Worldwide, suicide is the 15th leading cause of death and an estimated 4 per 1000 persons attempt suicide annually.¹ One of the strongest predictors of future suicide attempt,²⁻⁴ as well as of suicide,³⁵ is a prior history of making a suicide attempt. Hence, public health efforts often focus on identifying, and then targeting, higher risk populations for risk reducing interventions.¹ In this regard, sexual orientation has emerged in recent years as an important, but often unrecognized,¹ risk indicator for both self-reported suicide ideation and attempt.⁵⁻¹⁴ Across studies, lesbian, gay and bisexual (LGB) individuals are more likely to report histories of suicidal ideation and attempts as compared to heterosexual persons. These differences are seen in adolescents and adults and are robust whether considering recent or lifetime histories of suicide-related morbidity. Indeed, estimates from international studies conducted in several high income countries suggest that the rate of suicide attempts among LGB individuals may be 2–4 times greater than that seen among heterosexuals.⁷¹³

However, little is known about the nature of these attempts, whether LGB individuals receive medical care for intentional self-harm at differential rates than heterosexuals do, or whether the vulnerability for serious suicide risk among LGB individuals varies over the life course.¹⁵ In particular, there are concerns⁵⁸⁹ that suicide risk may be greatly elevated, especially during adolescence and young adulthood, when many LGB individuals are ‘coming out’ or beginning to live their lives as sexual minorities. Research evidence to support this view is sparse and sometimes contradictory.¹⁶ For example, in a recent study,¹⁷ it was observed that lesbian and bisexual women who reported having previously attempted suicide also retrospectively recalled doing so during their late adolescence, which is consistent with minority stress predictions.¹⁰ However, gay and bisexual men in the same study reported that they were in their late 20s when they made their first attempt, several years on average after they had come out. Accumulating evidence, as well, suggests that there is diversity of risk within the LGB population. Gender appears to moderate the sexual orientation effect with gay/bisexual men showing greater differential risk when compared to heterosexual men than lesbian and bisexual women do when compared to heterosexual women.¹⁸⁻²⁰ Oftentimes, bisexual women show greater levels of suicide risk than lesbians do.²²¹⁻²³

In the current study, we use information drawn from the Stockholm Public Health Cohort (SPHC),²⁴ a sample of nearly 70 000 adults surveyed in 2010, to investigate the association between sexual orientation (eg, identifying as LGB or heterosexual) and self-reported lifetime prevalence of suicidal ideation and attempts. We also capitalise on Sweden’s extensive record linkage system to examine SPHC respondents’ histories of medical care for

intentional self-harm since age 13 years. This historical information, untarnished by recall bias, permits investigation of sexual orientation-related differences in the most serious instances of intentional self-harm that rise to the level of medical attention. We also exploit this rich database to examine recurrence of medical care for intentional self-harm and age at initial treatment to aid in identifying optimal targeting of public health interventions.

MATERIAL AND METHODS

Study population

The SPHC is a population-based longitudinal cohort study of nearly 90 000 residents in Stockholm, Sweden; respondents were recruited into the cohort in three successive waves (2002, 2006 and 2010).²⁴ The SPHC sampling frame consisted of all adults residing in Stockholm who were listed in the Swedish Total Population Register. For each wave, an area-stratified random sample of approximately 50 000 adults was invited to complete self-administered questionnaires assessing health, lifestyle and social characteristics. Upper age limits varied across the three waves; in 2002 and 2006, adults 18–84 years were recruited, but in 2010 the upper age limit was removed. Across surveys, response rates averaged 59.7%. In addition, all Swedish residents receive a unique personal identity number at birth or on obtaining a residency permit.²⁵ Using this identifier, we obtained the respondent's demographic information from the Longitudinal Integration Database for Health Insurance and Labor Market Studies (LISA)²⁶ and their medical histories from the National Patient Register (NPR).²⁷ In 2010, the combined SPHC cohort (N=72 261) was assessed for sexual orientation identity with 69 695 individuals providing usable responses. These individuals comprise the final study sample.

Sexual orientation

Sexual orientation was measured by a single item ('What is your sexual orientation?') with four answer options ('Heterosexual', 'Homosexual', 'Bisexual' and 'Uncertain'). From this, we classified individuals into one of three groups: lesbians/gays for those who answered 'homosexual' (n=874), bisexuals (n=841) and heterosexuals (n=67 980). Persons selecting 'uncertain' (n=486) or who failed to answer the question (n=2 080) were dropped from further consideration due to our inability to classify for sexual orientation. Analyses not shown reveal that excluded individuals were more likely to be older, female, born abroad and possess less education and income than the final study sample respondents.

Lifetime self-reported suicide ideation and attempts reported in 2010

The self-report survey assessed lifetime suicidal ideation ('Have you ever been in the situation that you seriously considered taking your own life, maybe even planned how you would do that?') and attempts ('Have you ever made an attempt to take your life?').²⁸ We coded responses to both questions as yes/no.

Medical care for intentional self-harm

To code medical care, we identified all study participants who had received at least one primary International Classification of Disease (ICD) diagnosis of intentional self-harm (ICD-8: E950-E959, ICD-9: E950-E959, ICD-10: X60-X84) from 1969 to 2010 in the NPR.

The NPR includes nationally collected records of inpatient care beginning in 1969 and specialised outpatient care starting in 2001.²⁵ Only care given by physicians is registered (ie, reports on care provided by other health providers, including psychologists, are excluded). As Sweden legally mandates reporting of medical care rendered in institutional environments, the NPR captures majority visits to emergency rooms, outpatient departments and inpatient settings in which medical care is delivered. Each episode of medical care or outpatient visit receives a physician-assigned ICD code classification capturing the purpose of the visit. Approximately 94% of medical treatment for intentional self-harm occurs in inpatient care settings (unpublished work, the Swedish National Board of Health and Welfare).

Since sexual orientation development is most likely to occur during adolescence and young adulthood,²⁹ we restricted our focus to medical care occurring after 12 years of age. We thus created three measures: (1) evidence of medical care for intentional self-harm since 1969 or age 13, (2) a count of the number of medical treatments for intentional self-harm and (3) age at initial treatment.

Covariates

The 2010 SPHC questionnaire assessed sex and age. We recoded age into six categories: 18–29, 30–39, 40–49, 50–59, 60–72, 73 years or older. We also supplemented the data set with information from LISA, including country of birth (coded as Sweden, other Nordic country, other European Union country, other), 2010 level of educational attainment (9 years or less, 10–12 years and 13 years or more), and household per capita income in 2010 (categorised as less than the 25th centile, 25th to 50th centile, 50th to 75th centile, and 75th centile or more).

Statistical analysis

Using SAS V. 9.1 (SAS Institute Inc, Cary, North Carolina, USA), we first investigated differences in demographic backgrounds associated with sexual orientation. Next, we compared self-reported lifetime suicide ideation and attempts between LGBs and heterosexuals in sex-stratified analyses, using multivariate logistic regression methods. In two models, we incrementally adjusted for potential confounders: (1) ascribed characteristics of sex, age and country of birth, all of which logically predate both sexual orientation and suicide-related morbidity, and (2) additional characteristics (2010 educational attainment and household per capita income) where the influence of psychiatric treatment history could not be ruled out. We report results of χ^2 tests, OR with 95% CIs.

Next, we evaluated sexual orientation-related differences in the incidence of medical care for intentional self-harm since age 13 or the year 1969 (for those older than 43 when surveyed). Incidence rate ratios (IRR) with 95% CIs were estimated using multivariate Poisson regression analyses. Since tracking began in 1969, 2010 SPHC respondents, age 43 years or older, were left censored in 1969 potentially biasing our estimates. Therefore, we also performed a subanalysis including only individuals born in 1956 and later (36 912) and hence obtained estimates from a sample observed throughout adolescence. For both the full and subsamples, we additionally examined sexual orientation differences in age at initial

medical treatment and the occurrence of recurrent treatments while adjusting for the covariates described above.

Ethical considerations

This study was evaluated and approved by the regional ethical review board in Stockholm, Sweden (number: 2010/1185-31/1 and 2013/1118-32) and the UCLA IRB (14-001514).

RESULTS

Approximately 2.5% of the SPHC cohort reported being lesbian/gay or bisexual (see table 1). Although women and men were equally likely to report an LGB identity, women were more likely to identify as bisexual, while men were more likely to identify as gay ($p<0.001$). In addition, LGB individuals, as compared to heterosexuals, were somewhat younger ($p<0.001$), had achieved higher levels of education ($p<0.001$) and were less likely to have been born in Sweden ($p<0.001$).

LGB individuals were more likely than heterosexuals to report positive histories of suicidal ideation, especially bisexual women (40.8% as compared to 13.2% among heterosexual women; see table 2). Sexual orientation was also associated with self-reports of a prior suicide attempt. Among women, bisexual women evidenced an odds of 4.7 (95% CI 3.7 to 5.8) as compared to heterosexual women, after adjusting for confounding. Evidence for similar elevated risk among lesbians hovered at chance levels. Both gay men (OR 4.6, 95% CI 3.4 to 6.2) and bisexual men (OR 2.5 95% CI 1.5 to 4.0) reported a greater prevalence of previous attempts than heterosexual men did, after adjusting for confounding.

Approximately 1.4% of respondents in the SPHC cohort experienced medical care for intentional self-harm between 1969 (or since age 13 for individuals born after 1956) and 2010 (1.3% in the subcohort). Sexual orientation was linked to differential patterns of experiencing medical care (see table 3). Our results suggested that all sexual minority groups, and especially bisexual women, experienced higher rates of medical care for intentional self-harm per 1000 persons, as compared to heterosexual women and men.

Further, lesbians and bisexual women were younger than heterosexual women at their initial medical treatment for intentional self-harm, both in the full cohort and in the subcohort. Similar age differences were not observed among men either in the full cohort or in the subcohort.

When we investigated risk for medical care for intentional self-harm between 1969 and 2010 (or from age 13), we found minority sexual orientation to be a robust risk factor, after adjusting for time at risk and confounding (table 4). Similar findings were found in the full cohort and the subcohort.

To gain statistical power, we then dichotomised sexual orientation into two groups (LGB and heterosexual). Here too, we found sexual orientation to be a robust risk indicator for medical care for intentional self-harm among both women (in full cohort IRR:4.9, 95% CI 4.1 to 5.9, in subcohort: IRR 5.4, 95% CI 4.4 to 6.6) and men (full cohort IRR1.9, 95% CI 1.3 to 2.9, in subcohort IRR2.2, 95% CI 1.3 to 3.7) (data not shown).

DISCUSSION

Sexual orientation-related differences in prevalence of suicidal ideation and attempts have been well documented internationally.⁵⁸⁹¹¹⁻¹³¹⁵ In this study, we capitalised on Sweden's extensive and high-quality national registers to investigate whether these known differences are also reflected in elevated risk for medical care linked to intentional self-harm. Like others, we observed more frequent self-reports of lifetime suicidal ideation and attempts among LGB SPHC respondents, especially bisexual women and gay men, when compared to their heterosexual counterparts. Further, we found, both in the full cohort of SPHC respondents and in a subset of respondents specifically followed since age 13, that LGB individuals also have a greatly elevated risk for receiving medical treatment for intentional self-harm. Highest risks were evidenced by bisexual women, lesbians and gay men, as compared to heterosexual women and men. Our results also suggest that medical care for intentional self-harm may be a more recurring phenomenon in LGB individuals than in heterosexuals, especially among bisexual women. Thus, our findings underscore that suicide-related ideation and attempt is more common among LGB individuals, especially among bisexual women, and it also appears that the symptoms are more frequently severe enough to result in more extensive treatment profiles. Whether this elevated risk is also matched by elevated risk for suicide mortality remains an important but unresolved question in the field.³⁰⁻³⁴

At the same time, our findings underscore the heterogeneity of risk for suicide-related morbidity among sexual minorities in the SPHC. Thus, minority sexual orientation possibly entails slightly different consequences for women and men, as well as for those who identify as lesbian or gay versus those who identify as bisexual. Across studies, there have been several mechanisms explaining the association between sexual minority orientation and suicidal behaviour. Russell and Joyner⁹ have argued that the higher risk for suicidal ideation and attempts in LGB adolescents is mediated by depression, hopelessness, alcohol abuse and experiences of victimisation. In general, the single strongest risk factor for suicide is depression, and LGB individuals have repeatedly been shown to have a higher risk for depression as compared to heterosexuals.¹⁶²²³⁵ Discrimination and victimisation appear to be more strongly associated with adverse mental health effects in sexual minority men than in lesbian and bisexual women.¹⁹³⁶ For example, a Dutch population-based study showed that whereas only 13% considered a straight couple kissing in the streets as offensive, 27% considered two women kissing as offensive, and 40% considered it offensive if the kissing involved two men.³⁷ Further, women in general seem to get more supportive reactions when being open about their sexual orientation as compared to men.³⁸ As a possible consequence, lesbian and bisexual women have reported lower levels of internalised homonegativity than LGB men.³⁸

However, it is also true that lesbian and bisexual women have to confront stigma and prejudice related to gender, in addition to sexual orientation.

These differences within the sexual minority population might also be reflected in differences in suicide-related morbidity and medical care. For example, a British study on intentional self-harm and heterogeneity among lesbian and bisexual women found that

bisexuals were 37% more likely to have a history of intentional self-harm in the past year as compared to lesbians.³ This is in line with other results where excess suicidality in bisexual women versus lesbians has been reported.³⁹ Our results also indicated that bisexual women may be more vulnerable than lesbians for both self-reported suicide attempts and receiving medical care for intentional self-harm.

Further, our analyses revealed that lesbian and bisexual women were younger when they first received medical care for intentional self-harm, as compared to heterosexual women. This may, at least to some degree, coincide with the time of 'coming-out' (disclosing of one's same-sex preference), which is a process of increasing adaptability as the individual adjusts to her or his sexual orientation in a context in which heterosexuality is the norm and homosexuality is stigmatised.⁴⁰ It is unclear why we did not find sexual minority men to be younger at initial medical treatment for intentional self-harm as compared to heterosexual men, especially as prior research has found females to experience same-sex attraction, self-identification as LGB and have their first same-sex sexual experience significantly later than sexual minority males.²⁹ Sexual minority men seemed, somewhat surprisingly, to be closer to 30 at their first intentional self-harm event that led to medical care. However, since we had few male cases, these results await corroboration in future studies.

One caution is that only a small number of suicide attempts led to medical attention. Indeed, one Danish study found that only 50–60% of self-harm events were known to the healthcare system.⁴¹ Prior studies have also demonstrated that LGB individuals more frequently seek psychiatric care.^{42,43} This may have led to a greater propensity for seeking medical care for self-harm episodes. To what extent these facts influenced our results is unknown.

Three additional study limitations warrant further discussion. First, while sexual orientation was measured in 2010, as were self-reports of lifetime suicide symptoms, a history of medical care predated that assessment. To the extent that sexual orientation was unstable during the years 1969 (or age 13) to 2010, our estimates of the association between sexual orientation and medical care are most likely somewhat biased. However, both the consistency of our results with other studies and evidence that minority sexual orientation typically emerges during early adolescence²⁹ lends support to the validity of our findings. Second, while the SPHC is a large cohort and the number of LGB-identified individuals is also quite large, medical care for intentional self-harm is a relatively rare event. Hence, some of our estimates, particularly for gay and bisexual men, are based on a small number of cases, and thus our estimates for gay and bisexual men are likely to be unstable.⁴⁴ Additional cohorts or a longer follow-up of the SPHC will improve the accuracy of the estimates we report here. Finally, while the NPR captures a sizeable proportion of medical care rendered within Sweden, under-reporting of psychiatric diagnoses,⁴⁵ the fact that the only group of mental healthcare providers who are designated reporters are physicians, and the possibility that instances of intentional self-harm may receive alternate diagnoses, such as major depression, may have biased our prevalence estimates.

In conclusion, this study provides important evidence that both suicidal ideation and attempts are markedly prevalent among LGB individuals, and foremost among bisexual women and gay men. LGB individuals, especially lesbian and bisexual women, are also

more likely to utilise medical care for intentional self-harm, to make their first attempt at a younger age and to repeat it. Whether these increased risks also entail a higher risk for suicide mortality in this vulnerable group needs to be studied further. Altogether, these findings indicate that tailored prevention efforts directed at LGB individuals are urgently needed. Primary prevention should target schools and include the presence of school psychologists and LGB education, both for teachers and students. Extra resources should be provided within the healthcare system to decrease LGB individuals' higher risk for recurring treatment for intentional self-harm. Since we found indications that LGB men might be closer to 30 years of age at first treatment for intentional self-harm, preventions directed at sexual minority men should focus on adolescents as well as on early adult years. Finally, the increased risk for recurrent episodes underscores the need to provide discharged individuals a tailored follow-up programme structured to deal with stressors and problems that are unique to LGB individuals.

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What is already known on this subject

Minority sexual orientation is a known risk factor for suicidal ideation and suicide attempts. However, less is known about whether these attempts lead to medical care, if they are recurrent events or if age at first attempt differs between sexual minority individuals and heterosexuals.

What this study adds

Positive histories of suicidal ideation, attempts and medical care for intentional self-harm, including higher levels of recurrence, are more prevalent among lesbian/gay and bisexual individuals in contrast to heterosexuals. Lesbian/bisexual women evidence an earlier age of onset of treatment.

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Table 1
Demographic characteristics among respondents in the SPHC as of 2010, by sexual orientation

Respondent characteristics	Sexual orientation				p Value
	Lesbian/gay N (%)	Bisexual N (%)	Heterosexual N (%)	Total N (%)	
Total N (%)	874 (1)	841 (1)	67 980 (98)	69 695	
Sex					<0.0001
Female	355 (41)	554 (66)	37 977 (56)	38 886 (55)	
Male	519 (59)	287 (34)	30 003 (44)	30 809 (45)	
Age, in years					<0.0001
18–29	97 (11)	235 (28)	5 980 (8)	6 312 (9)	
30–39	187 (21)	193 (23)	10 572 (15)	10 952 (16)	
40–49	235 (27)	148 (18)	13 075 (19)	13 458 (19)	
50–59	149 (17)	108 (13)	12 063 (17)	12 320 (18)	
60–72	124 (14)	92 (11)	14 655 (21)	14 871 (21)	
73–84	82 (9)	67 (8)	11 635 (17)	11 782 (17)	
Country of birth					<0.0001
Sweden	701 (80)	678 (81)	57 694 (85)	59 073 (85)	
Other Nordic country	56 (6)	29 (3)	3 435 (5)	3 540 (5)	
European Union	51 (6)	51 (6)	3 251 (5)	3 353 (5)	
Other	66 (8)	83 (10)	3 600 (5)	3 749 (5)	
Educational attainment					<0.0001
9 years or less	73 (8)	135 (16)	9 978 (15)	10 186 (15)	
10–12 years	373 (43)	389 (47)	31 820 (47)	32 582 (47)	
13 years or more	417 (48)	300 (36)	25 595 (38)	26 312 (38)	
Household per capita income					<0.0001
<25th centile	180 (22)	339 (41)	16 462 (25)	16 981 (25)	
25th to <50th centile	237 (27)	213 (26)	16 974 (25)	17 424 (25)	
50th to <75th centile	227 (26)	156 (19)	17 046 (25)	17 429 (25)	
75th centile or more	221 (25)	125 (15)	17 089 (25)	17 435 (25)	

Information obtained from the 2010 SPHC survey and the linked Longitudinal Integration Database for Health Insurance and Labor Market Studies (LISA; Statistics Sweden). Household per capita income measured relative to respondents in the total SPHC cohort. Statistical significance evaluated by χ^2 tests.

Retrospective self-reports of lifetime suicidal ideation and attempts in the 2010 SPHC, by sex and sexual orientation: prevalence presented as per cent and absolute numbers, and partial results of logistic regression (OR) models shown

Table 2

Respondent characteristics	Lifetime prevalence		Adjusted ORs (95% CIs)	
	Per cent	n	Model A [*]	Model B [†]
<i>Lifetime suicidal ideation</i>				
Female				
Heterosexual	13.2	5 016	1 (REF)	1 (REF)
Lesbian/gay	26.2	93	2.1 (1.6 to 2.6)	2.1 (1.6 to 2.7)
Bisexual	40.8	226	3.5 (2.9 to 4.1)	3.3 (2.8 to 3.9)
Male				
Heterosexual	9.5	2 865	1 (REF)	1 (REF)
Gay	21.0	113	2.4 (1.9 to 3.0)	2.4 (1.9 to 2.9)
Bisexual	23.0	66	2.6 (2.0 to 3.5)	2.5 (1.9 to 3.3)
<i>Lifetime suicide attempt</i>				
Female				
Heterosexual	3.8	1 439	1 (REF)	1 (REF)
Lesbian/gay	5.6	20	1.4 (0.9 to 2.2)	1.4 (0.9 to 2.2)
Bisexual	19.2	106	4.7 (3.8 to 5.9)	4.7 (3.7 to 5.8)
Male				
Heterosexual	2.2	657	1 (REF)	1 (REF)
Gay	10.0	52	4.5 (3.4 to 6.1)	4.6 (3.4 to 6.2)
Bisexual	6.3	18	2.7 (1.7 to 4.5)	2.5 (1.5–4.0)

For females, the cohort includes 37 977 heterosexuals, 355 lesbians and 554 bisexuals; for males, the cohort includes 30 003 heterosexuals, 519 gays and 287 bisexuals. Suicidal ideation measured by reports of 'ever seriously considering committing suicide'.

^{*} Model A: adjusted for age and country of birth.

[†] Model B: with additional adjustments for educational attainment 2010 and household per capita income 2010.

SPHC, Stockholm Public Health Cohort; n, number reporting ideation or attempt; REF, referent group.

Table 3

Medical care for intentional self-harm between 1969* and 2010 in the SPHC, by sex and sexual orientation

Respondent characteristics	N	Total number of individuals treated	Age in years at first episode of medical care (SD)	Per cent with recurrent episodes	Total number of episodes of medical care	Any episode of medical care per 1000 persons	Number of episodes of medical care per person ever treated (SD)
<i>Full cohort</i>							
<i>Female</i>							
Heterosexual	37 977	622	33.5 (0.6)	26.4	935	24.6	1.5 (0.1)
Lesbian/gay	519	12	24.3 (2.3)	25.0	33	63.6	2.8 (1.6)
Bisexual	554	31	23.2 (1.3)	48.4	119	214.8	3.8 (1.5)
<i>Male</i>							
Heterosexual	30 003	263	38.6 (0.9)	24.7	399	13.3	1.5 (0.1)
Gay	519	7	35.7 (5.2)	85.7	17	32.8	2.4 (0.4)
Bisexual	287	5	38.0 (5.4)	20.0	7	24.4	1.4 (0.4)
<i>Subcohort (individuals born in 1956 or later)</i>							
<i>Female</i>							
Heterosexual	20 629	331	25.7 (0.5)	26.9	487	23.6	1.5 (0.1)
Lesbian/gay	273	10	21.9 (1.7)	20.0	30	109.9	3.0 (1.9)
Bisexual	469	28	22.5 (1.3)	50.0	115	245.2	4.1 (1.7)
<i>Male</i>							
Heterosexual	15 034	113	30.4 (1.0)	23.0	169	11.2	1.5 (0.1)
Gay	342	4	28.8 (5.0)	100.0	12	35.1	3.0 (0.4)
Bisexual	165	2	29.5 (12.5)	50.0	4	24.2	2.0 (1.0)

N=69 695 for the full cohort; N=36 912 for the subcohort of individuals born in 1956 or later. Episodes of medical care for intentional self-harm received a primary diagnosis in the National Patient Register (NPR) of ICD-8: E950-E959, ICD-9: E950-E959, or ICD-10: X60-X84. Since individuals born before 1956 are left censored with follow-up beginning in 1969, we also present information on the subcohort of persons born in 1956 or later, all of whom were followed up from age 13 through 2010.

* Or since age 13 for individuals born in 1956 or later.

SPHC, Stockholm Public Health Cohort.

Table 4

Risk for medical care for intentional self-harm between 1969^{*} and 2010 in the SPHC: adjusted IRR with 95% CIs shown, by sex and sexual orientation

Respondent characteristics	Total cohort		Subcohort (Individuals born in 1956 or later)	
	IRR (95% CI)		IRR (95% CI)	
	Model A [†]	Model B [‡]	Model A [†]	Model B [‡]
Female				
Heterosexual	1 (REF)	1 (REF)	1 (REF)	1 (REF)
Lesbian/gay	3.7 (2.6 to 5.2)	3.8 (2.7 to 5.4)	4.4 (3.0 to 6.3)	4.5 (3.1 to 6.5)
Bisexual	7.9 (6.5 to 9.6)	5.4 (4.4 to 6.6)	9.3 (7.6 to 11.5)	5.8 (4.6 to 7.2)
Male				
Heterosexual	1 (REF)	1 (REF)	1 (REF)	1 (REF)
Gay	2.3 (1.4 to 3.8)	2.1 (1.3 to 3.4)	2.8 (1.5 to 5.0)	2.4 (1.4 to 4.4)
Bisexual	1.9 (0.9 to 4.1)	1.6 (0.8 to 3.4)	2.4 (0.9 to 6.5)	1.9 (0.7 to 5.2)

N=69 695 for the full cohort; N=36 912 for the subcohort of individuals born in 1956 or later. Episodes of medical care for intentional self-harm received a primary diagnosis in the National Patient Register (NPR) of ICD-8: E950-E959, ICD-9: E950-E959, or ICD-10: X60-X84. Since individuals born before 1956 are left censored with follow-up beginning in 1969, we also present results from the subcohort of persons born in 1956 or later, all of whom were followed up from age 13 through 2010.

^{*} Between age 13 and 2010 for individuals born after 1956.

[†]Model A: adjusted for age and country of birth.

[‡]Model B: with additional adjustment for educational attainment as of 2010 and household per capita income in 2010.

IRR, incidence rate ratios; SPHC, Stockholm Public Health Cohort; REF, referent.