

Suicide Attempts Among Gay and Bisexual Men: Lifetime Prevalence and Antecedents

Jay P. Paul, PhD, Joseph Catania, PhD, Lance Pollack, PhD, Judith Moskowitz, PhD, Jesse Canchola, MS, Thomas Mills, MD, MPH, Diane Binson, PhD, and Ron Stall, PhD, MPH

Although primarily based on opportunistic samples, prior research suggests that gay men, lesbians, and bisexual persons have higher rates of suicidal ideation, suicide attempts, and completed suicides than do heterosexual individuals. Lifetime prevalence rates of serious suicidal ideation ranging from 24% to 41% have been reported, along with lifetime prevalence rates of suicide attempts ranging from 7% to 20% among adult gay men and lesbians.^{1–3} Studies of gay, lesbian, and bisexual youths have reported levels of attempted suicide ranging from 20% to 40%, with rates in some special subpopulations (e.g., street youth, GLB youths who have been victims of violent assault) being even higher.^{4–12} The available evidence¹³ suggests that the relative risk for serious suicide attempts among gay and bisexual males is substantially greater than that among their heterosexual counterparts, but basic epidemiological research on suicidal behavior in this population is both sparse in quantity and deficient in quality, plagued by methodological deficits, particularly with respect to sampling.¹⁴

In a study using National Health and Nutrition Examination Survey III data, Cochran and Mays¹⁵ recently found that 19.3% of their sample of men who have sex with men (MSM) had attempted suicide, compared with 3.6% of the men who had only female sexual partners (and 0.5% of the men reporting no sexual partners). However, the relatively small MSM sample resulted in wide confidence intervals (CIs) for that estimate (95% CI = 7.8%, 30.8%) in contrast to the narrower confidence intervals observed with the larger sample of men reporting sex with only females (95% CI = 2.7%, 4.5%), and correlational analyses were limited to age, race/ethnicity, family income, lifetime prevalence of affective disorders, and lifetime prevalence of suicidal thoughts, wishes, plans, or actions. Russell and Joyner,¹⁶ using data from the National Longitudinal Study of Adolescent Health, found higher rates of reported suicidal

Objectives. We examined lifetime prevalence of suicide attempts and psychosocial correlates in a large population-based sample of men who have sex with men (MSM).

Methods. A telephone probability sample of US urban MSM ($n=2881$) were interviewed between November 1996 and February 1998.

Results. Twenty-one percent had made a suicide plan; 12% had attempted suicide (almost half of those 12% were multiple attempters). Most who attempted suicide made their first attempt before age 25. Although prevalence of parasuicide (i.e., attempted suicide) has remained constant across birth cohorts, mean age at initial attempts has declined.

Conclusions. MSM are at elevated risk for suicide attempts, with such risk clustered earlier in life. Some risk factors were specific to being gay or bisexual in a hostile environment. (*Am J Public Health*. 2002;92:1338–1345)

thoughts and attempts among adolescents reporting same-sex romantic attractions and romantic relationships than among adolescents not reporting such relationships, with this operationalization of sexual orientation having a significant effect above and beyond other adolescent suicide risk factors (such as depression, hopelessness, and prior victimization).

Many studies examining determinants of suicidality specific to gay and bisexual men have focused on both developmental life transitions (e.g., “coming out” or adopting an identity and sense of community based on one’s sexuality) and social and cultural stressors (e.g., stigmatization, victimization, pervasive antigay hostility).⁶ The stresses related to antigay victimization and the “coming out” process (e.g., loss of friends, antigay victimization) can be seen as having both a proximal and a distal relation to suicidality, similar to the immediate and long-term consequences of other traumatic events. First, they may provoke emotional distress sufficient to cause youths to contemplate suicide, and second, they may be linked to low self-esteem, substance abuse, and subsequent mood disorders that increase lifetime vulnerability to suicide.^{7,17–19}

Younger gay men, bisexual individuals, and lesbians appear more likely to both anticipate and experience stigmatization and victimization, which are linked to greater psychological distress.^{19–26} Societal stresses of being gay are

not, however, buffered by support from usual sources (such as family), because many young adults have not disclosed their sexual orientation to family members or have encountered negative reactions to such disclosure.^{27–29} As a result of the alienation and anomie experienced by many gay, lesbian, and bisexual youths, conventional constraints against self-destructive behaviors (e.g., social supports, problem-solving with others) may be weakened. Furthermore, without the coping resources and psychological resilience of maturity, youths have an increased vulnerability to distress.³⁰ Thus, we would anticipate that gay-related stressors (e.g., experiences of antigay victimization, the sense of deviance and stigmatization prompted by an awareness of one’s nonheterosexual orientation) and the paucity of psychological resources (characteristic of relative youth) are associated with greater vulnerability to suicidal behavior.

A variety of models have been proposed to explain suicidal behavior, including models that consider personality and social psychological constructs (e.g., alienation vs sense of belonging, depression, stress and coping). We could not test such alternative models because of the limitations of the study data; however, we can explore associations between suicide attempts and several life-span developmental variables.

Most prior studies primarily used opportunistic samples, making it difficult to inter-

pret the range of reported prevalence estimates. Large representative samples are needed to generalize prevalence data on suicidal intention and suicide attempts and to assess the effect of hypothetical determinants of increased suicidal risk. Drawing on data from telephone interviews with a large household-based sample of MSM, we examined data to answer the following questions:

1. What are the prevalence rates of suicidal ideation and suicide attempts among urban MSM?
2. What are the differences in the patterns of such behaviors among different demographic subgroups of MSM?
3. Are elevated levels of suicide attempts in this population primarily a reflection of elevated rates during youth (adolescence and young adulthood)?
4. Are developmental experiences relevant to sexual identity formation (early experiences of antigay harassment, and being in earlier stages of the process of "coming out" or of disclosing one's sexual orientation) more likely to be associated with earlier vs later suicide attempts?

METHODS

Sample

The data reported here were derived from the Urban Men's Health Study, a household probability-based sample of MSM (operationalized as either having had sex with a male since age 14 or self-identifying as gay or bisexual) in 4 US cities (Chicago, Ill; Los Angeles, Calif; New York, NY; and San Francisco, Calif). This broad behavioral inclusion criterion was intended to increase response rates, because asking men about behavior in the remote past is less threatening than asking about current behaviors.³¹ Further details on sampling have been provided by Catania and colleagues.³²

Disproportionate sampling³³ (i.e., heavier sampling of telephone exchanges in areas with a higher density of MSM than in areas with a lower density of MSM) and adaptive sampling techniques³⁴ (wherein release of sample is influenced by prior screening interview data identifying exchanges most likely to yield MSM-eligible households) were used to con-

struct a random-digit-dialed sample in each city. The strategies used follow those suggested previously for generating representative samples of hard-to-reach populations for AIDS studies.³⁵ The obtained MSM household prevalence across zip codes was 8.5% (range: 1.3% to 30.8%). All data presented in this article are weighted to reflect probability of selection (based on the sampling plan) and are adjusted for noncoverage (of households within the selected zip code areas that were not telephoned) and nonresponse (of households that were called), as well as to maintain proportionality between cities according to each city's estimated total MSM population.

Procedures

After presurvey community awareness efforts (publicity and public meetings), computer-assisted telephone interviewing (English and Spanish) was used to successively determine (1) whether households were within selected zip codes (of 195 152 numbers called, 95 208 households were identified, and 43 545 were zip code-eligible), (2) whether a man aged 18 or older resided there ($n=27 867$), and (3) whether 1 such man was an MSM (an adult male household resident provided this information; $n=3700$). Between November 1996 and February 1998, we completed 2881 interviews (yielding a 78% participation rate among eligible households).

Measures

This study used standardized measures, items developed to fit specific study topics, and measures revised to suit the population or needs of the survey. Field testing of measures followed established procedures,³⁶ combining qualitative and quantitative methods of evaluating problematic items for respondents or interviewers.

Dependent Variables

Suicidality. Three items assessed lifetime suicidal ideation and behavior: (1) Has there ever been a period of a week or more when you felt very sad, blue, or unhappy, like you wanted to die? (2) Have you ever made a plan for committing suicide? I mean, have you ever figured out a specific way of ending your life? (3) Have you ever tried to take your own life? These are comparable to items used else-

where,³⁷ including the National Institute of Mental Health Epidemiologic Catchment Area study. Although these measures did not take into account the important factor of lethality,³⁸ such self-report measures have been found to be valid and meaningful in other studies.³⁹⁻⁴¹

Number of suicide attempts and age at each attempt (up to 4 times) were assessed. To examine parasuicide (i.e., attempted suicide) potentially related to gay or bisexual identity formation issues vs other issues, a cutpoint in age at attempt was defined for analyses. Current generations of gay and lesbian youths are coming out at earlier ages,⁴² with mean age at first disclosure by males being 16 years,⁴³⁻⁴⁵ compared with 23 to 28 years in earlier studies.⁴⁶⁻⁴⁸ Given (1) considerable interindividual variation in the timing of these events, (2) the fact that "coming out" is a process rather than a single discrete event, and (3) the sample's age range (18-86; median age=37), a more inclusive age cut-point seemed appropriate. Analyses used a series of dichotomous variables: (1) any lifetime suicidal plan, (2) any lifetime suicide attempt, (3) any suicide attempt before age 25, and (4) any suicide attempt after age 24. Additionally, we examined age at first suicide attempt, number of lifetime suicide attempts, and number of suicide attempts before age 25.

Independent Variables

Demographic variables. Race/ethnicity (multiethnic respondents were assigned to the lowest prevalence category they reported), birth cohort (ages were grouped by decade, beginning with those who had turned age 25 by 1970, to stress the historical time frame of respondents' identity development), formal education, parental education (the higher of both parents), employment status (working full-time, working part-time, or not working—e.g., unemployed, disabled, retired), and household income (in \$20 000 increments) were assessed.

Childhood adverse circumstances. Several studies have emphasized the contribution of disadvantageous childhood experiences to suicide risk⁴⁹⁻⁵²; thus, analyses included items on the occurrence of any parental alcohol or drug abuse, repeated (more than 1 occurrence of) interparental violence, and repeated childhood physical abuse by age 16.

Childhood sexual abuse was operationalized as coercive sexual experiences before age 18 years.⁵³ Logistic regression analyses comparing respondents who had attempted suicide by age of attempt coded no history of childhood sexual abuse when a suicide attempt preceded the age of reported sexual abuse.

First sexual experience with another male. The literature on suicidality among sexual-minority adolescents suggests that attempts are most frequent in the period between first awareness of same-sex feelings and first disclosure of sexual orientation to others.¹² Various studies of gay men, lesbians, and bisexual individuals over the past 3 decades suggest a trend in which specific developmental milestones (e.g., self-labeling as gay, lesbian, or bisexual; first homosexual sexual contact; disclosure to others) occur at earlier ages and are separated by briefer intervals.⁴² Early studies found that the mean time between first same-sex sexual relations and first self-disclosure as gay (or bisexual) among males was approximately 10 years, but more recent estimates have been closer to 4 years.⁵⁴

Therefore, in analyses, respondents were placed in one of these categories, based on the difference between age at first sexual experience and age at first suicide attempt (more than 5 years prior, 0–5 years prior, and after the attempt or never) in the anticipation that those whose suicide attempt was within 5 years of their first same-sex sexual experience were most likely to be in that vulnerable position of being aware of one's stigmatized identity but lacking social supports.

First disclosure as gay. If respondents identified as gay or bisexual, they were asked the age at which they first told anyone. To be consistent with coding of first sexual experience with a male, the age at first disclosure was also converted to a relational score based on the difference between age at first disclosure and the age at the first suicide attempt with the same categories as above (more than 5 years prior, 0–5 years prior, and after the attempt or never).

Repeated antigay harassment in adolescence. Respondents were asked about antigay harassment ("including being called names") before age 17; the initial categories were dichotomized so that "repeatedly harassed" meant 4 or more times.

Data Analyses

Chi-square tests were used to examine univariate correlates of (1) ever having planned suicide and (2) ever having attempted suicide for categorical independent variables. Analysis of variance was used to examine the relationship of demographic characteristics (e.g. birth cohort, educational level) to mean number of suicide attempts and mean age at first attempt.

Two different multivariate logistic regression analyses are reported. The aim of the first was to predict lifetime occurrence or nonoccurrence of a suicide attempt based on only those independent variables that were temporally antecedent to the dependent variable. Identifying potential risk factors for suicidal behavior in cross-sectional survey research is problematic because of questions of temporal sequencing (i.e., did risk factors develop subsequent to or before the suicide attempt?).⁵⁵ The temporal confounding issue limited the number of variables examined as potential antecedents (excluding variables such as income, education, substance use, and depression) and limited the sample included in the first logistic regression. Because our measures of childhood traumas covered respondents' lives before age 17, the first regression analysis compared those who had never attempted suicide ($n=2550$) with those whose first or only attempt was after age 17. This process excluded 142 suicide attempters whose first or only attempt was before age 18.

The second logistic regression analysis was limited to respondents who had attempted suicide ($n=326$) and examined independent variables that might differentiate between a first suicide attempt that occurred before age 25 and an attempt that occurred at or after age 25. The reported models include all variables that were statistically significant at $P < .10$ on entry. Backward and forward stepwise regressions were run and compared for goodness of fit with the Hosmer-Lemeshow test. Because of the disproportionate sampling design, data had to be weighted, which precludes the assumption of a simple random sample. Weighting necessitates adjustment of both P values for evaluating χ^2 statistics and the estimated standard errors of means and obtained regression coefficients (with appropriate SVY procedures in Stata⁵⁶).

RESULTS

Sample demographics are shown in Table 1 (column 1). Racial/ethnic distribution in these urban centers is influenced by heavy in-migration of White MSM that dilutes the "indigenous" racial/ethnic minority representation in the MSM communities (e.g., analyses of persons aged 18–29 years found that only 9% of the White MSM, compared with 39% of the African American and 33% of the Hispanic MSM, had lived in these cities for more than 10 years).

The most immediately compelling findings were the high rates of suicidal ideation and attempts in this cohort. More than 1 in 5 men reported having made a suicide plan (21.3%; 95% CI=19.4%, 23.2%). Twelve percent of the sample (95% CI=10.5%, 13.5%) reported suicide attempts (with 70% of this subgroup reporting suicide attempts before age 25). Furthermore, 45% of those who had attempted suicide had done so more than once (mean number of attempts=2.1, SE=0.1). Of the 8.3% (95% CI=7.6%, 9.1%) of the sample who reported a suicide attempt before age 25, most had attempted suicide only before that age. However, 1.5% of the sample had made suicide attempts both before and after their 25th birthday.

An increased likelihood of suicidal plans and attempts was found among men with less education (high school or less), lower annual income, and less than full-time employment (Table 1). The highest prevalence of suicide attempts was found among Native American respondents and bisexual and nonidentified respondents ("other," i.e., neither homosexual/gay, heterosexual, nor bisexual). Prevalence of suicide attempts was consistent across birth cohorts (lifetime prevalence and mean number of attempts), but substantial differences in age at initial or only attempt were found, with increasing prevalence rates since 1970 of attempts in those younger than age 25. Men who were HIV positive were significantly more likely to have had a suicide plan but were not more likely to report having attempted suicide.

Because some of the key variables in our analyses (age at disclosure of gay or bisexual identity to others; early antigay harassment) varied with respect to cohort, we compared

TABLE 1—Sample Demographics and Prevalence of Suicidality, by Demographic Group

	% of Sample	Total Sample (n = 2881)			Those Who Attempted Suicide Only (n = 326)	
		Had Suicide Plan?	Attempted Suicide?	Attempt Before Age 25?	Mean No. of Attempts	Mean Age at First Attempt, y
Overall numbers		21%	12%	8%	2.1	22.6
Race/ethnicity		NS	P = .006	P = .0002	NS	P = .06
White	79	21%	11%	8%	2.0	23.7
African American	4	21%	12%	8%	2.3	18.9
Latino	9	20%	10%	9%	2.2	18.9
Asian or Pacific Islander	4	21%	11%	8%	2.4	20.0
Native American	3	33%	30%	25%	2.8	18.2
Education		P = .01	P = .01	NS	NS	NS
< College	30	25%	15%	11%	2.3	21.9
College degree	45	20%	11%	7%	2.0	22.9
Graduate work or degree	25	19%	10%	7%	1.9	23.1
Annual income, \$		P = .0001	P = .0001	P = .0001	NS	NS
≤20 000	16	33%	22%	14%	2.3	23.6
20 001–40 000	26	21%	12%	9%	2.0	22.1
40 001–60 000	20	18%	8%	6%	2.0	20.3
60 001–80 000	13	16%	10%	8%	2.0	21.4
>80 000	25	19%	9%	7%	2.0	24.1
Employment		P = .004	P = .0001	P = .0001	NS	NS
Full-time	73	19%	10%	7%	2.0	20.1
Part-time	8	25%	15%	12%	2.3	19.6
Not working	19	28%	19%	10%	2.2	26.8
Birth cohorts		NS	NS	P = .0001	P = .05	P = .0001
≤25 y in 1970	14	20%	12%	3%	1.7	37.4
25 y in 1971–1980	22	22%	12%	8%	1.9	22.5
25 y in 1981–1990	37	22%	12%	8%	2.2	21.2
25 y after 1990	27	21%	12%	11%	2.4	16.9
Sexuality: self-label		P = .03	P = .01	NS	NS	NS
Homosexual or gay	84	20%	11%	8%	2.0	22.6
Heterosexual	3	17%	12%	7%	1.5	24.5
Bisexual	9	30%	16%	11%	2.3	22.1
Other	4	25%	21%	13%	2.4	22.0
HIV status		P = .0001	NS	NS	NS	NS
Positive	17	29%	15%	8%	2.3	23.8
Negative	72	21%	12%	8%	2.0	22.0
Not tested	11	13%	10%	7%	2.5	21.5

Note. NS = not significant.

changes across cohorts. Examination of mean age at disclosure of sexual orientation (both to anyone and to a family member) by birth cohort revealed a steady decline over successive generations in the age at which respondents “came out” to others, consistent with other reports.^{46,57} Increases also were found in reported rates of repeated antigay harassment before age 17 (from 28% among those

aged 25 or older by 1970 to 52% among those turning 25 after 1980).

To examine antecedents of suicide attempts, we ran a logistic regression with the following variables: birth cohort, race/ethnicity, parental education, childhood sexual coercion, repeated interparental violence, repeated childhood physical abuse, parental substance abuse, and repeated antigay harassment be-

fore age 17. The final logistic model included only 4 variables: suicide attempts (after age 17) were more likely in those whose parents had alcohol or drug problems, who had experienced repeated childhood physical abuse, who had experienced childhood sexual coercion, and who had come of age by 1970 (Table 2). The Hosmer-Lemeshow goodness-of-fit test result for this model was .66.

The second logistic regression included all respondents who had attempted suicide, and identified the correlates that differentiated those who attempted suicide before age 25 from those who first attempted suicide after age 24. The correlates initially included in this regression were parental substance abuse, repeated interparental violence, repeated childhood physical abuse, childhood sexual coercion, repeated harassment before age 17 about being gay, age at first disclosure of gay or bisexual identity to others compared with age at first or only suicide attempt, age at first sexual experience with another male compared with age at first or only suicide attempt, birth cohort, parental educational level, and race/ethnicity. In the final model (Table 3), suicide attempts before age 25 were associated with birth cohort (coming of age after 1970), parental drug or alcohol abuse, repeated early antigay harassment, childhood sexual coercion, either recent disclosure or nondisclosure of being gay or bisexual to someone else, and either recent onset of same-sex sexual relations or not yet having had sex with another male. The Hosmer-Lemeshow goodness-of-fit test result for this model was .22.

Because findings in the literature suggest that antigay harassment and other experiences linked to the "coming out" process may mediate the relation between birth cohort and age at initial (or only) suicide attempt, we re-ran this second logistical analysis as a hierarchical logistic regression model in which birth cohort was entered first. No evidence of mediation was found.

DISCUSSION

This study provides further epidemiological evidence that gay and bisexual males—particularly younger gay and bisexual males—constitute a high-risk group for attempted suicide. Although our prevalence estimates for suicidal ideation and behavior are somewhat lower than those from prior research cited in the introduction, the seriousness of this health concern remains. Any population in which 21.3% report ever making a suicide plan and 11.9% report prior suicide attempt(s) demonstrates much greater risk than the general population. By comparison, in 2 different US

TABLE 2—Logistic Regression Differentiating "Never Attempters" From Those Who Attempted Suicide After Age 17 (n = 2550)

	Odds Ratio	95% Confidence Interval
Birth cohort		
25 y in 1971–1980 vs before 1971	0.67	0.39, 1.17
25 y in 1981–1990 vs before 1971	0.58	0.35, 0.96
25 since 1990 vs before 1971	0.41	0.23, 0.73
Parental alcohol or drug abuse	1.34	0.93, 1.95
History of repeated childhood physical abuse	2.13	1.45, 3.13
Childhood sexual coercion before attempt	1.62	1.06, 2.48

population-based studies focused on mental health (the National Institute of Mental Health Epidemiologic Catchment Area study and the National Comorbidity Survey), the prevalence levels for lifetime suicidal ideation among males were 8.87% ($\pm 0.44\%$) and 14.66% ($\pm 0.81\%$), respectively.⁵⁸ The prevalence levels for lifetime suicide attempts were 1.52% ($\pm 0.19\%$) and 3.19% ($\pm 0.40\%$), respectively. Despite the need for caution in comparing data from different sources, these rates suggest that US gay and bisexual males have more than a 3-fold increased risk of ever attempting suicide in comparison with their heterosexual male counterparts.

The continuing high levels of suicide across birth cohorts suggest that this problem has not diminished in the past few decades. Despite the accumulated evidence that "coming out" and association with affirmative

gay/lesbian/bisexual social networks have positive effects in terms of psychological adjustment (particularly with respect to self-esteem),^{57,59–61} this process can also be associated with some negative experiences.

Psychological benefits derive from openness and a more integrated sense of self, but disclosure of a gay or bisexual identity to others can potentially lead to ostracism, harassment, violence, and consequent distress. Furthermore, data suggest that antigay violence has dramatically increased since the 1980s.²⁰ The consequences of such victimization and harassment can be severe, potentially including depression, a heightened sense of vulnerability and powerlessness, anger, anxiety, and posttraumatic stress symptoms.^{62–64}

Previously identified correlates in research on general population samples^{49,50,65–69} also were suggested by both our univariate find-

TABLE 3—Logistic Regression of Respondents Who Attempted Suicide: Differentiating Those Who First Attempted Before Age 25 From Those Who Attempted at Age 25 or Older (n = 326)

	Odds Ratio	95% Confidence Interval
Birth cohort		
25 y in 1971–1980 vs before 1971	27.84	5.10, 151.84
25 y in 1981–1990 vs before 1971	6.38	1.30, 31.17
25 since 1990 vs before 1971	125.48	12.56, 1254.04
Parental alcohol or drug abuse	6.36	1.59, 28.55
Repeated antigay harassment before age 17	2.88	0.90, 9.16
Childhood sexual coercion before attempt	2.90	0.90, 9.30
Tell anyone you were gay before attempt?		
0–5 y prior vs >5 y prior	114.61	21.37, 614.60
After suicide attempt vs >5 y prior	111.40	24.78, 500.75
First sex with a man before attempt?		
0–5 y prior vs >5 y prior	37.37	6.35, 219.93
After suicide attempt vs >5 y prior	10.10	1.92, 53.18

ings (e.g., limited education, not working, limited income, being Native American) and our first logistic regression analysis in Table 2 (e.g., exposure to physical and/or sexual abuse, parental substance use). Birth cohort was negatively related to suicide risk (those who reached age 25 by 1971 were more likely to have attempted suicide after age 17 than were those in younger cohorts). However, the exclusion from analysis of all those whose first attempt was before age 18 may limit the generalizability of our analysis and may skew the findings for this variable, because mean age at first attempt decreased in each successive cohort (thus, a larger proportion of those who had attempted suicide was excluded in each successive cohort). The higher prevalence of suicide attempts after age 17 in the oldest birth cohort in this multivariate analysis is consistent with univariate findings showing a comparable prevalence across all birth cohorts for lifetime suicide attempts but a higher prevalence for the younger birth cohorts of suicide attempts before age 25. The power of adverse familial experiences to predict later suicidal behavior reaffirms the long-term potential consequences of such traumas.^{51,52}

Because most (70%) first attempts occurred before age 25, we hypothesized that such attempts might be associated with developmental issues related to recognizing one's same-sex interests and coping with subsequent social stigmatization and hostility. This association is suggested in the second logistic regression model by some of the specific correlates of suicide attempts identified for this age period compared with attempts at age 25 or older. Some of the specific correlates of suicide attempts before age 25 include early repeated antigay harassment, recency of first sexual experience with another man, and recent disclosure of one's gay or bisexual identity to others. This fact lends strength to the suggested link between antigay harassment in childhood and suicide risk.^{11,23,70} Furthermore, the finding that more recent birth cohorts showed an increased risk of earlier (before age 25) suicide attempts suggests that prevalence of parasuicide during gay and bisexual males' younger years may be increasing rather than declining.

The logistic regression model in Table 3 is suggestive rather than definitive, because it includes only those who have ever attempted

suicide and is limited by the analytic constraints of the available measures. The wide confidence intervals obtained for several variables reflect small cell sizes in some cases. Despite the imprecision of the parameter estimates and the concomitant limitation in power, significant differences were detected. The exact magnitude of the effect may be larger or smaller, but it would not alter the fact that a statistically significant relation exists between these variables. Although the association of race/ethnicity with suicide risk was significant in univariate analyses (where the prevalence of suicide attempts among Native Americans was about 3 times that of other groups), race/ethnicity was not associated with suicide risk in multivariate analyses. The finding that HIV serostatus did not differentiate "early" suicide attempts from those occurring at age 25 or later (and was not correlated with prior suicidal behavior in univariate analyses) is consistent with other reports.⁷¹⁻⁷³

Despite the stable prevalence of reported parasuicide over the different birth cohorts of men studied, the trend for younger mean ages at first attempts and increased rates over time of suicide attempts before age 25 is striking. Although ample evidence documents a marked recency bias with respect to the recollection and reporting of serious psychiatric symptoms,⁷⁴ this does not fully explain the dramatic decline in mean age at first suicide attempt after 1970. The increase in rates of attempted suicide noted among adolescents in the past several decades^{75,76} may play some contributing role but by itself does not seem sufficient to produce these changes. Although no evidence is available to explore this question, it is possible that historical context had an effect, given that the 1969 Stonewall Inn riots in New York City are widely viewed as a marker of the birth of the modern "gay liberation" movement.⁷⁷ The parallel declines during this period in age at self-identification as gay or bisexual along with age at first or only suicide attempt^{48,57} provide further suggestive evidence relating suicide attempts to stresses associated with "coming out." This evidence seems to run counter to expectations regarding the effect of an emergent gay culture and the prospect of earlier self-identification as gay or bisexual, including those expectations raised by Humphries⁷⁸ 2 decades ago.

The emergence of a visible, vital gay, lesbian, and bisexual community^{78,79} has apparently provided a broader array of possibilities for roles and life careers among those who self-define as "gay." This increase in choices makes it easier for people to self-identify as gay, lesbian, or bisexual at earlier ages with less concern that such an identity might limit their future. Identifying as gay, lesbian, or bisexual at an earlier age simultaneously places youths at risk of victimization while potentially cutting them off from social supports available to 'mainstream' adolescents and young adults (their communities or families).⁸⁰ D'Augelli and colleagues¹² recently concluded that risk of suicide was greatest at the developmental point when youths come to identify as gay or bisexual but have not yet told anyone. Similarly, Safran and Heimberg⁸¹ recently reported that if one controls for stress, social support, and coping resources, no differences are found between gay, lesbian, and bisexual youths and heterosexual youths in terms of current suicidality. The increased suicidal risk in this age range appears to be not simply a mental health concern but rather a broader issue of the effect of societal discrimination and harassment. If we cannot change some of the environment in which lesbian, gay, and bisexual youths come to maturity, the alienation, isolation, and victimization they frequently encounter will continue to take their toll.

This study had several potential limitations. Respondents were asked about sensitive events that occurred in the past, and responses may have been subject to recall error and presentation bias. Certain responses were taken at face value (particularly the items on repeated antigay harassment and childhood adverse experiences), and further research should validate and extend our measures of these variables. Respondents were not directly asked about reasons for suicide attempts (e.g., whether attempts were related to being gay or bisexual). Our analyses provide only a temporal linkage between factors related to "coming out" and early suicide attempts rather than an exact etiology of such attempts. Thus, we are at a comparatively early stage of identifying those who are "at risk," except in relatively broad terms.

The questions did not differentiate the level of severity of the attempts (e.g., between

more and less lethal outcomes). Future research in this area should include additional questions that enable us to better assess the level of injury or level of risk of these attempts.⁸² It is also imperative that we learn more about protective factors related to resilience in the face of stress, as well as continue to increase our understanding of factors associated with vulnerability to suicide.

This was a cross-sectional study. A longitudinal study would provide a stronger test of the observed relationships. Finally, this study did not examine other important factors related to current suicidal ideation (e.g., depression, substance abuse, HIV serostatus, the effect of HIV-related losses in one's intimate social network),^{72,73,83} because these could not be determined to be preexisting conditions at the time of the suicide attempt.

However, conclusions drawn from these data are consistent with and supported by findings of extensive prior research that used opportunistic samples. Moreover, the fact that this sample was quite varied in age may potentially be an advantage in estimating lifetime suicide risk, because studies that focus solely on adolescents and young adults have an implicit bias, self-selecting for those who "come out" at an earlier age. Because coming out at an earlier age appears to increase suicide risk before age 25, it may explain the higher prevalence of suicide attempts reported in previous studies of gay, lesbian, and bisexual adolescents and young adults. These findings therefore lend support and a sense of urgency to the need to focus on both interventions and potential policy changes that can lower these excessive rates of parasuicide. ■

About the Authors

Jay P. Paul, Joseph Catania, Lance Pollack, Judith Moskowitz, Jesse Canchola, and Diane Binson are with the University of California, San Francisco—Center for AIDS Prevention Studies. At the time of the study, Thomas Mills was with the University of California, San Francisco. Ron Stall is with the Centers for Disease Control and Prevention, Behavioral Interventions Research Branch, Atlanta, Ga.

Requests for reprints should be sent to Jay P. Paul, PhD, University of California, San Francisco, Center for AIDS Prevention Studies, 74 New Montgomery St, San Francisco, CA 94105 (e-mail: jpaul@psg.ucsf.edu).

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Contributors

J.P. Paul was a co-investigator of the original study that provided the data for this article (the Urban Men's

Health Study), was the principal author, ran some of the initial SPSS analyses, and was principally responsible for revisions. J. Catania was the principal investigator of the Urban Men's Health Study, reviewed and made revisions to the text, and suggested alterations in the statistical analyses. L. Pollack was the data manager of the Urban Men's Health Study, served as consultant on the statistical analyses, ran most of the statistical analyses, and wrote drafts of some methodological sections of the article. J. Moskowitz was the initial project director of the Urban Men's Health Study, provided suggestions, assisted in identifying additional resources and references, and edited the article. J. Canchola served as a data analyst on the Urban Men's Health Study, provided statistical consultation, and ran some statistical analyses. T. Mills provided direction in developing the article, suggested references, and reviewed the article. D. Binson was a co-investigator of the Urban Men's Health Study, assisted in writing some methodological elements of the article, and reviewed the article. R. Stall was a co-principal investigator of the Urban Men's Health Study and reviewed the article, making significant contributions to its earlier drafts.

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Human Participant Protection

All procedures were reviewed and approved by the University of California, San Francisco's Committee on Human Research.

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