



The Prevalence of HIV and AIDS Among High-Risk Populations in Rhode Island, 2002

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PURPOSE

As part of an annual epidemiological profile on HIV and AIDS in Rhode Island, the Rhode Island Department of Health estimated the prevalence of HIV and AIDS in two sub-populations known to be at high risk for HIV infection, gay/bisexual men and injecting drug users (IDU). The prevalence of an infectious disease in a population is an important indicator of disease risk in that population, and an important consideration for the distribution of scarce public health resources among populations.

BACKGROUND

The incidence of AIDS in Rhode Island increased from 1982 to 1993, then declined, probably as a result of improved screening and treatment of HIV. Mortality from AIDS in Rhode Island followed a similar trajectory. Trends throughout the United States have been similar. As a result of declining mortality, the prevalence of AIDS has increased steadily. In Rhode Island, the number of persons living with AIDS reached an all-time high of 1019 in July, 2002.¹

METHODS

The age-specific period prevalence of HIV/AIDS in 2002 was estimated for two high-risk populations in Rhode Island, the population of gay or bisexual men ages 20 and over, and the population of injecting drug users ages 20 and over, as follows:

$$\text{Period Prevalence}_{(a,r)} = N_{(a,r)} / P_{(a,r)}$$

where:

N = Number of Rhode Island residents living with AIDS or HIV at any time from January 1, 2002 through June 30, 2002.

P = Number of Rhode Island residents, mid-2002.

a = Age group.

r = Risk group.

PERSONS WITH AIDS

The number of Rhode Island residents living with AIDS at any time during 2002, by age and risk group, was obtained from the Rhode Island AIDS registry, established and maintained by the Rhode Island Department of Health.

PERSONS WITH HIV

Until 2000, the Rhode Island HIV registry, established and maintained by the Rhode Island Department of Health, collected reports of anonymous HIV+ test results, only. Given the strict anonymity of these reports, it is impos-

sible to do two things which are necessary to determine the number of Rhode Island residents living with HIV: 1/ to identify duplicate test results (many individuals who test positive for HIV get retested, sometimes more than once), and 2/ to ascertain the disease and vital status of persons who have received an HIV+ test result over time. Beginning in 2000, HIV+ reports made to the Rhode Island HIV registry have included unique identifiers, making both procedures possible. However, with only two years' unique identifier data available in the registry, it is impossible to determine the number of Rhode Island residents living with HIV who have not converted to AIDS.

The ratio $(N_{(HIV+)} + N_{(AIDS)}) / N_{(AIDS)}$ may be estimated from the aggregate statistics of states that have run confidential ("name" or "unique identifier") HIV and AIDS registries simultaneously for many years. ($N_{(HIV+)}$ represents the number people living with HIV who have not converted to AIDS; $N_{(AIDS)}$ represents the number of people living with AIDS.) The Centers for Disease Control and Prevention (CDC) constructed estimates of $(N_{(HIV+)} + N_{(AIDS)})$ and $N_{(AIDS)}$ for the United States as a whole in 2000:²

$$(N_{(HIV+)} + N_{(AIDS)}) = 850,000-950,000$$

$$N_{(AIDS)} = 340,000$$

Thus:

$$(N_{(HIV+)} + N_{(AIDS)}) / N_{(AIDS)} = 2.5-2.8$$

This ratio range may be applied to $N_{(AIDS)}$ for Rhode Island as determined by the AIDS registry to produce a range of $(N_{(HIV+)} + N_{(AIDS)})$ estimates for the State. We selected the midpoint of the range, 2.65, for construction of the prevalence estimates presented in this report.

GAY/BISEXUAL MEN

Various estimates of the gay/bisexual male population in the United States have been constructed since publication of the Kinsey Report in 1948. Although useful estimates may be derived in various ways, most have been based on surveys of the general population, and vary according to the questions asked of respondents. For example, the following questions yield progressively smaller estimates of the proportion of adult males who are gay/bisexual:

- "Have you had at least one same-sex partner since age 18?"
- "Have you had more same-sex than opposite-sex partners since age 18?"
- "Have you had same-sex and opposite-sex partners in the last year?" or "Have you had exclusively same-sex partners over the past year?"

Survey estimates are also affected by the universe from which the sample of respondents is drawn. The Kinsey study,³ which drew respondents from various settings, including prisons and reform schools, yielded an estimate of 10%, while the General Social Survey,⁴ which drew respondents exclusively from the non-institutional population, yielded a maximum estimate of 5%.

Finally, the applicability of national estimates to smaller geographic settings varies widely. For example, the proportion of the male population that is gay/bisexual varies widely among large urban settings in the United States, based on historical settlement patterns, "gay-friendly" policies, and other factors.

On the basis of three national studies,^{4,6} we estimated the proportion of adult Rhode Island males who have had same-sex partners in the last year as 2.8%. This compares well with two independent, conservative estimates of the proportion of adult Rhode Island males who are gay/bisexual, one based on US Census data for Rhode Island in 2000 (2.3%)⁷ and the other on numbers of clients of businesses serving the gay community in Rhode Island (2.4%).⁸

IV DRUG USERS

In 2000, the proportion of the adult, non-institutionalized United States population that reported any (lifetime) use of illicit needles to inject drugs as respondents to the National Household Survey on Drug Abuse was 1.2%.⁹

RHODE ISLAND RESIDENTS, 2002

Counts of the Rhode Island population by age and sex were obtained from the US Censuses of Population, 1990 and 2000, and estimated for 2002 using sex-age-specific linear projection.¹⁰

RESULTS

The estimated prevalence of HIV/AIDS among all Rhode Islanders in mid-2002 was 0.35%. Among Rhode Island men in mid-2002, the estimated prevalence was slightly higher, 0.54%. In both groups, the prevalence rate varied by age group, peaking among people ages 30 to 39. [Table 1]

The estimated prevalence of HIV/AIDS was considerably higher among injecting drug users (12.24%) than among all Rhode Islanders (0.35%), and considerably higher among Rhode Island men of gay/bisexual orientation (9.27%) than among all Rhode Island men (0.54%). Almost a third of injecting drug users ages 30-39 and about

a fifth of gay/bisexual men ages 30-39 may suffer from HIV/AIDS, according to these estimates. [Table 1]

ASSESSMENT

Injecting drug users and gay/bisexual men have estimated prevalence rates of HIV/AIDS between one and two orders of magnitude higher than all Rhode Islanders, and clearly justify the attention of public health planning and intervention efforts.

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Table 1. Estimated prevalence of HIV/AIDS among high-risk populations, Rhode Island, 2002, by age group, ages 20 and over

Ages	Prevalence (%) and Risk Group			
	All People	All Men	IDU	Gay/Bi Men
20-29	0.28%	0.37%	7.49%	7.13%
30-39	0.81%	1.16%	29.97%	20.65%
40-49	0.46%	0.78%	18.14%	12.51%
50+	0.07%	0.13%	1.98%	1.92%
Total (20+)	0.35%	0.54%	12.24%	9.27%