

Highlights of findings from the 1999 Guam study of youth risk behaviors

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Introduction

Over three-fourths of deaths among Guam's youth and young adults age 15 to 24 years fall under only four causes (see Table 1): motor vehicle crashes, suicide, unintended injuries or adverse effects, and homicide. Household break-ins, thefts, family violence, teenage pregnancies and various other social ills also cause hardship and suffering in Guam's island community. Drinking alcohol, drug abuse, and fighting are often interrelated with the lifestyles that lead to

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these problems. These interrelated risk behaviors that complicate the health of communities frequently begin during adolescence and for too many island youth these behaviors become lifestyle habits.

Guam's 1999 Safe & Drug Free Schools and Communities (SDFSC) Youth Risk Behavior Study (YRBS) collected data on a range of health-risk behaviors and attributes using the questionnaire data instruments of the U.S. national YRBS designed by the Centers for Disease Control¹. Self report questionnaire data were collected from two island-wide proportionate samples of 590 high school youth, and 643 middle school youth in both private and public education institutions (for more detail, see article by Leon Guerrero & Workman in this issue of Pacific Health Dialog). The purpose of this report is to highlight research findings from the 1999 SDFSC Study conducted on Guam. In particular, patterns of substance use such as tobacco, alcohol, marijuana, inhalants, and methamphetamine, fighting and health-risk behaviors associated with the leading causes of social problems, morbidity, and death among Guam's youth will be reported.

Summary of findings

Island teenagers are engaging in behaviors that place them at risk of serious health problems. For example, findings among Guam's youth in 1999 revealed (*detailed data tables can be accessed at <http://www.uog.edu/cals/site/pubs/99drugstudy.pdf>*):

- Half (50%) of middle school students (grades 6-8) had tried smoking cigarettes in their lifetime, and one-out-of-ten were smoking one or more cigarettes every day.
- Over three-fourths (79%) of high school students (grades 9-12) had ever-tried smoking cigarettes, which appears higher than national data reported for Hawaii (67% in 1999) and all U.S. high school youth (70% in 1997, 1999)^{2,1}.
- More than one-third (41%) of middle school youth had tried alcoholic drinks, and of those who had tried alcohol

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Table 1. Leading Causes of Death Among Guam Youth 15 to 24 Years of Age: 1993-1997.*

Cause	Number (Total=173)	Percent (100%)
Motor Vehicle Accidents	49	28.3%
Suicide	44	25.4%
Unintentional Injuries, and adverse effects	28	16.2%
Homicide	14	8.1%
Diseases of the Heart	6	3.5%
Neoplasm	4	2.4%
Pneumonia	3	1.7%
Cerebrovascular Diseases	3	1.7%
All other singular cases, residuals, or unknown	(22)	(12.7)%

*Sources: Annual Statistical Reports Office of Vital Statistics, Department of Public Health and Social Services, Government of Guam. 1993-1997.

one-fourth (24%) had their first full drink by the age of 8 years or younger.

- Three-fourths (76%) of high school students had tried alcoholic beverages; but of more interest is that just under half (44%) are current drinkers (i.e., within 30 days prior to the survey).
- Among high school students who were current drinkers, half (51%) were heavy episodic drinkers (5 or more drinks in a row, that is within hours). Although we should be concerned, this level of teenage drinking appears common across the United States. Among all high school students in 1999 (not just those who drink), Hawaii reported 27% to be episodic heavy drinkers¹ compared to Guam's 22% in 1999.
- Marijuana had been tried by 13 percent of Guam middle school students (ages 11 to 15 years).
- Among high school students, half (51%) have tried marijuana, which appears near to comparable levels found for students in Hawaii (45% in 1999) and nationwide (47% in 1999)¹.
- The same proportions of middle and high school students, one-out-of-every-6 (15%), have sniffed glue, or breathed the contents of spray cans, or inhaled chemical products to get high. This was comparable to 1997-99 levels for the total U.S. high school population (16% and 15%)^{2,1}.
- Methamphetamine (a.k.a., ICE) is the one drug of choice on Guam that can be said to be at an epidemic level. Combining the middle and high school youth data sets, this study found lifetime use to be 8.0% among youth ages 12 to 17 years, which is 7-8 times higher than found for comparable age levels in the mainland U.S. (reported as 1.2% or less)³. Among Guam's high school students, 13 percent reported having used methamphetamine, which was higher than levels found in Hawaii (8% in 1999) and the U.S. total youth population (9%). Only nine U.S. states reported comparably similar levels of methamphetamine use¹.
- Certain ethnic-groups may be at greater risk than others are for abusing alcohol, marijuana, inhalants, and ICE.

Chamorro students appeared more at risk for using marijuana, inhalants, and ice than were Filipinos, Asians, Micronesians and other ethnicities.

There are various factors and program actions that may be able to reduce these risk behaviors:

- Belonging to an intact family was found to be associated with less substance use, particularly the use of alcohol and ICE. Earning high grades was also found to be statistically associated with reduced substance use (i.e., alcohol, marijuana, and ICE).
- Higher grades may indicate a stronger connection to the school environment and to positive adult role models, thus reducing substance use. Indeed, we found the greater use of alcohol by male students became statistically insignificant (i.e., no gender difference) when they earn higher grades.

Guam teenagers were also engaging in risk behaviors that lead to serious injuries, and this study found:

- More than one-third of middle school students (37%) reported riding in cars with someone who had been drinking alcohol.
- The same proportion of high school students (37%) also reported riding in cars with someone who is drinking, but more alarming was that 12% or one-out-of-ten students reported that in the month prior to the survey they drove after they had been drinking alcohol. Again, although unacceptable, this was a level comparable to those found for reported drinking and driving in Hawaii (14.5%) and nationwide for the U.S. (13% in 1999)¹.
- Guam students who were current users of drug substances were most likely to report drinking and driving, and were also more likely to report engaging in fights, and being injured.
- Exactly half (50%) of Guam middle school students reported they had been in a physical fight, and nearly one-out-of-ten (8%) indicated they had been hurt in a physical fight where they needed to be treated by a doctor or nurse.

- One-third (34%) of Guam high school students reported having been in a physical fight during the year prior to this survey, and four percent needed to be treated for injury. This is comparable to levels found among students in Hawaii (31% in 1999) and nationwide (36% in 1999)¹.
- Just under one-third (30%) of Guam middle school students declared they have carried a weapon in their lifetime.
- Within the month prior to the survey 14% of Guam high school students responded that they carried a gun, knife or other weapon.

These injury related behaviors can affect students' education, and looking at what happens on school property we found:

- Almost half (47%) of Guam high school students report being offered or sold illegal drugs on school property, which is alarmingly greater than the level reported by students in Hawaii (36% in 1999) or across the U.S. mainland (32% and 30%)^{2,1}.
- Students who were current users of drug substances were found to be more likely to have bought or sold drugs on Guam school property, carried a weapon on school property, and said they chose not to attend school because they felt too unsafe to go; suggesting a "lifestyle" complex of inter-related behaviors.
- A sizable proportion of Guam high school students (8%) reported they missed one or more days of school in the month prior to the survey because they felt unsafe at school or when traveling to or from school; this was similar to, perhaps lower than, levels in Hawaii (11% in 1999), but higher compared to 4-5 percent levels for high school youth across the U.S. in 1997-99^{2,1}.
- During the year prior to the survey 13% of Guam students had been in a fight on school property one or more times.
- In the month prior to the survey, 8.5% of high school students carried a weapon on school property one or more times.
- Being threatened or injured with a weapon on school property one or more times in the month prior to the survey was reported by 7% of Guam students, also comparable to U.S. national findings.

Drug use and violence complicate other risk behaviors that disrupt student lives, and we found:

- About 14% of Guam high school students reported that their boyfriend or girlfriend hit, slapped or hurt them on purpose during the year prior to the survey; compared to 8-9 percent for Hawaii and across the U.S. mainland¹.
- One-in-six Guam high school students (16%) reported

being forced to have sexual intercourse when they did not want to (i.e., rape), about twice the level reported in Hawaii and across the U.S. mainland¹. Guam's female students who were current users of drug substances were the most likely to have experienced rape.

- About one-in-five (21%) of sexually active students used alcohol or drugs at last intercourse. Just under half (46%) of Guam high school students are sexually experienced and a smaller number (29%) were currently sexually active—defined as having intercourse within the 3 months prior to the survey. These measures were at the same comparable levels as found in the U.S.^{2,1}.
- Guam students who were current users of drug substances were more likely to have become sexually active at younger ages (age 13 years or earlier), and were more likely to report having had 2 or more sexual partners in the 3 months prior to the survey.

Finally, the stress of life, especially the pressures of risk behaviors associated with drug use, fighting, or sexuality can impact upon the mental health and complicate other health risks behaviors among of Guam's youth. In this study we found:

- One-third (31%) of middle school youth and 28% of high school youth reported they had seriously considered suicide in the year prior to the survey. These appear higher than levels reported by high school students in Hawaii (23% in 1999) and nationally (21% in 1997 and 19% in 1999)^{2,1}, and are noteworthy because, as Heather Booth revealed, Pacific island regional suicide rates are among the highest in the world⁴.
- About 14% of middle school and 19% of high school youth reported they had made one or more attempts on their own life, which were alarmingly higher than national levels (only 8% of U.S. total high school youth and 10% among those in Hawaii)¹.
- Fighting and drug use were both found to be significantly associated with the likelihood of being depressed, having considered, and having planned suicide. We also found that youth who reported using ICE were more likely to indicate they had made suicide attempts.

Conclusion

The YRBS is one of Guam's locally conducted, U.S. national surveillance system data-base studies. Reported findings have been used to increase community support for prevention programs, to promote multi-agency collaboration in school-based projects, and to secure grant funding, such as the recent start-up of a U.S. nationally modeled "Juvenile Drug Court Program" awarded to the Superior Court of Guam.

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The importance of this capacity on Guam and the "surveillance system" type of study for Asian and Pacific Islander (API) research derives from the ethnic-cultural setting where these studies are conducted. Pacific Islander and ethnic Asian communities dominate Guam's "population universe" within which sampling methodologies are applied. Srinivasan and Guillermo argue for disaggregating API respondents in national studies for the United States to improve applied health research⁵, and recommend that "in addition to over-sampling procedures, there should be greater regional/local funding for studies in regions where Asian American and Native Hawaiian/Pacific Islander populations are substantial." In the research selected for this report, non-Pacific Islander/non-Asian ethnic respondents constituted less than ten percent of the school age populations.

Guam, and the surrounding island nation entities of Micronesia have several advantages as locations for this strategy. The literature on the need for disaggregating clearly discusses the heterogeneity of ethnic subgroups of American mainland APIs, including differences in lifestyles, cultural beliefs and practices, and environmental exposures, but also in their migratory experiences and histories within the continental United States⁶. There is a need for studies that can shed light on more specific factors that encourage or discourage risk behaviors among APIs, which also unravel the compounding interplay between factors. The island communities allow for studies of ethnic-cultural influences that are not masked by factors such as acculturation, socioeconomic status, the intensity of media advertising, or urban life and its attendant conditions of minority status that affect API studies in the US mainland, and even in Hawaii. These compounding forces do not encapsulate social life, *ipso facto*, yet they may be studied since islanders vary in their social life exposures. Specific cultural factors can be studied in the islands such as beliefs about health, the meanings of risk behavior, or the interplay of peer pressures and family influences that may induce protective buffers or intensify risk.

For example, we have completed Guam's 2001 Youth Risk Behavior Study and conducted preliminary analyses of changes over the past 2 years (1999 - 2001). Statistically significant differences suggest:

- A. Methamphetamine use, and drug-use at-school decreased only among youth in low risk life style categories. Drug use remained relatively high and unchanged among youth in high risk life style categories.
- B. Alcohol use and episodic heavy drinking increased among younger (lower grade level) males, especially those in high risk life style categories.
- C. Inhalant use increased: more females and suicidal youth are experimenting, and current use has increased among males, fighters, and those reporting high mental stress.

We speculate: economic recession has led API youth on the fringe of drug subculture to

- reduce use of more expensive/hard drugs (i.e., methamphetamine, ICE),
- while use of more easily obtainable/lower cost drugs have not changed;
- and it has led those youth who engage in risk-behaviors to increase use of more easily obtainable drugs (i.e., inhalants, binge drinking).

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