

STRATEGIC PREVENTION FRAMEWORK - STATE INCENTIVE GRANT (SPF-SIG)

Guam Substance Abuse Epidemiological Profile, 2006

Guam State Epidemiological Workgroup



3rd Quarter, 2007

This Profile was undertaken as part of Guam's SPF-SIG/PEACE Project for substance abuse prevention and control, under a grant from the Center for Substance Abuse Prevention (CSAP), Substance Abuse and Mental Health Services Administration (SAMHSA), as administered by Guam's Department of Mental Health and Substance Abuse (DMHSA).

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SECTION 1

Introduction

Methodology

Executive Summary



INTRODUCTION

In 2003, Guam competed and was subsequently awarded a Strategic Prevention Framework-State Incentive Grant (SPF-SIG) for substance abuse prevention and control. This grant envisioned the use of SAMHSA/CSAP's Strategic Prevention Framework approach to:

- Prevent the onset and reduce the progression of substance abuse, including childhood and underage drinking;
- Reduce substance abuse-related problems in the communities; and,
- Build prevention capacity and infrastructure at the State and community levels.

Utilizing the principles of outcomes-based prevention, the grant specified the creation of a State Epidemiological Workgroup (SEW), which would oversee the strategic use of data to inform and guide substance abuse prevention policy and program development on Guam. Guam's SEW was subsequently established in 2004. Throughout 2005, they undertook a data inventory, and collated and reviewed data on substance abuse consumption patterns and consequences. The first Guam State Epidemiological Profile (Epi Profile) on substance abuse and consequences was published during the first quarter of 2006.

This current profile is the first major update from the first Epi Profile and represents the group's continuing efforts to collect, analyze and disseminate good data on tobacco, alcohol and other drug use on Guam, to guide prevention and early intervention planning, policy development, and program implementation.

Guam's SPF-SIG is premised on understanding the nature and extent of alcohol, tobacco and other drug consumption patterns and consequences at the outset to determine prevention priorities and to align strategies for addressing them. Guam's SEW serves as the first ever island-wide effort to integrate various data sources for delineating a comprehensive and accurate 'snapshot' of the local alcohol, tobacco and illicit drug situation, on an ongoing basis. The yearly updated Profile is intended to serve as a planning guide for the PEACE/SPF-SIG project. As such, this Profile is a landmark document that also raises the bar for island-wide strategic prevention efforts on Guam.

METHODOLOGY

Generating baseline information for the initial Epi Profile

In 2005, Guam's SEW members began by identifying a set of indicators specific to Guam that delineated alcohol, tobacco and other drug consumption patterns and the consequences related to the use of these substances. The criteria for selection of indicators included the following:

- Relevance
- Availability of data
- Validity of data
- Frequency/regularity of data collection
- Consistency in measurement
- If possible, existence of data disaggregated geographically, by age, sex and/or ethnicity/race

The selected indicators included:

ALCOHOL	Consumption	Consequences
Indicators	Current use of alcohol by Middle School students Current use of alcohol by High School students Current use of alcohol by 18 and older Current binge drinking by Middle School students Current binge drinking by High School students Current binge drinking by 18 and older Current heavy use of alcohol by Middle School students Current heavy use of alcohol by High School students Current heavy use of alcohol by 18 and older Early initiation of alcohol use Drinking and driving among 18 and older Drinking and driving among High School students Riding in a car with drinking driver among Middle School students Riding in a car with drinking driver among High School students Total sales of ethanol per year per capita Consumption patterns among court-involved youth	Chronic liver disease death rate Suicide death rate Homicide death rate % Fatal motor vehicle crashes that are alcohol-related Alcohol-related vehicle death rate % Alcohol-involved drivers among all drivers in fatal crashes Violent crime rate Alcohol abuse or dependence % Live births with fetal alcohol syndrome Alcohol-related confinement % Alcohol-related participation in treatment programs

TOBACCO	Consumption	Consequences
Indicators	Current smoking by Middle School students Current smoking by High School students Current smoking by 18 and older Current smoking by health professionals Current smokeless tobacco use by Middle School students Current smokeless tobacco use by High School students Current daily cigarette use by Middle School students Current daily cigarette use by High School students Current daily cigarette use, 18 and older Early initiation of tobacco use % vendors selling to minors Quit attempts in the past year	Deaths from lung cancer Deaths from chronic obstructive pulmonary disease (COPD) and emphysema Deaths from cardiovascular diseases

DRUGS		Consumption	Consequences
Indicators	Lifetime use of marijuana by Middle School students	Lifetime and current use of marijuana by High School students	Deaths from drug use Property crime rate
	Early initiation of marijuana use	Lifetime use of cocaine by Middle School students	Drug abuse or dependence Drug-related birth outcomes
	Lifetime use of cocaine by Middle School students	Lifetime and current use of cocaine by High School students	Drug-related arrests
	Lifetime use of inhalants by Middle School students	Lifetime and current use of inhalants by High School students	
	Lifetime use of "ice" by Middle School students	Lifetime use of "ice" by High School students	
	Lifetime use of "ice" by High School students	Other drug use patterns among court-involved youth	
	% US Probation Office drug testing positive for any drug	Drug seizures per year by type and amount of drug	

The SEW members also compiled a list of existing datasets from which to extract the data for the selected indicators. Data taken from well-established surveillance systems---such as the Behavior Risk Factor Surveillance System (BRFSS) and the Youth Risk Behavior Surveillance System (YRBS)---were given the greatest weight. There are serious data gaps for Guam, however, and when necessary, data derived from smaller surveys were utilized. The limitations of these data sets were acknowledged in the text accompanying data tables and charts. The data sources utilized for this profile included:

- Bureau of Statistics and Plans, 2004 Guam Statistical Yearbook
- Guam Department of Public Health and Social Services, Behavioral Risk Factor Surveillance System, 2001-2003 Surveys
- Guam Public School System, Youth Risk Behavior Surveillance System, 1995-2003 Surveys
- Guam Department of Public Health and Social Services, Vital Statistics, 1998-2004
- Guam Department of Mental Health and Substance Abuse, SYNAR Tobacco Vendors Compliance Surveillance, 1999-2005
- Guam Police Department, Uniform Crime Reports, 2003 and 2004
- Office of National Drug Control Policy-Drug Policy Information Clearinghouse, Guam Profile of Drug Indicators, May 2004
- US Department of Justice-National Drug Intelligence Center, Guam Drug Threat Assessment, August 2003
- Guam Department of Youth Affairs, Intake Assessment Data, 2000-2005
- Guam Police Department, Minors Taken Into Custody Data, 2002-2005
- Guam's U.S. Probation Office Client Statistics, 2000-2004
- Guam Department of Mental Health and Substance Abuse, Drug and Alcohol Branch Intake Data, 1999-2004
- Superior Court of Guam, Juvenile Drug Court Intake Assessment Data, 2003
- Guam Health Professionals' Survey on Tobacco, University of Guam Tobacco Control Research Advisory Group and Department of Mental Health and Substance Abuse, 2005

Data from the sources above were compared and cross-checked against data reported in the following publications/information systems:

- Secretariat of the Pacific Community, Pacific Youth Bureau, ***Pacific Youth Strategy Updates, 2005***
- Secretariat of the Pacific Community, ***Pacific Regional Information System (PRISM)***
- World Health Organization, Western Pacific Regional Office, ***Tobacco Control Country Profiles 2000***
- World Health Organization, Western Pacific Regional Office, ***Country Health Information Profiles***
- United Nations International Drug Control Programme, ***Pacific Islands Regional Profile***

Developing an updated version of the Epi Profile

During 2006, the SEW collected updated information from existing surveillance systems and agency data collection, using the same set of indicators chosen at the inception of this project. In addition, the Epi Lead and Data Analyst worked with various partners to seek out new data. For instance, with the assistance of PEACE Advisory Council member Judge Elizabeth Barrett-Anderson, the SEW obtained information from Ms. Samantha Brennan at the Adult Drug Court. Tobacco control counterparts (Ms. Roselie Zabala and Mr. Francis Epres) at the Department of Public Health and Social Services made available the results from Guam's Youth Tobacco Survey conducted in 2002 and the preliminary mortality statistics for 2004 (Mr. Gil Suguitan). SEW member Mr. Daniel Duenas provided summary data from Sanctuary, Inc., a major substance abuse early intervention service provider for Guam's youth.

The SEW also undertook systematic efforts to begin standardizing data collection on tobacco, alcohol and other drug use across the various agencies and organizations involved in substance abuse prevention and control. These efforts included providing selected questions from the YRBS to relevant partner agencies for incorporation into their screening/intake questionnaires, recommending a standard format for delineating race/ethnicity, and initiating a Memorandum of Understanding with the Department of Public Health and Social Services to incorporate key questions from the National Survey on Drug Use and Health (NSDUH) that pertain to specific National Outcomes Measures (NOMs), into the BRFSS, which remains Guam's best surveillance mechanism that samples members of the general population.

The data sources with new information utilized for this update of Guam's Epi Profile include:

- Bureau of Statistics and Plans, 2005 Guam Statistical Yearbook
- Guam Department of Mental Health and Substance Abuse, Drug and Alcohol Branch Intake Data, 2005-2006
- Guam Department of Mental Health and Substance Abuse, SYNAR Tobacco Vendors Compliance Surveillance, 2006
- Guam Department of Youth Affairs, Intake Assessment Data, 2006
- Guam Police Department, Uniform Crime Report, 2005
- Guam Public School System, Youth Risk Behavior Surveillance System, 2005 Survey
- Guam Youth Tobacco Survey, 2002
- Sanctuary, Inc. Client Assessment Data, 2005-2006
- Superior Court of Guam, Juvenile Drug Court Intake Assessment Data, 2005-2006
- Superior Court of Guam, Adult Drug Court Assessment Data, 2003-2006
- Guam's U.S. Probation Office Client Statistics, 2005-2006

Organization and structure of the 2006 Guam Epi Profile

The Profile is divided into an introductory section with background information on the island, and separate sections on consumption patterns, and on outcome indicators. The last two sections are further divided into chapters on alcohol, tobacco and illicit drugs. Each chapter addresses the issues within the general population, and among court-involved youth and adults, as these are the identified target populations for the SPF-SIG. Key highlights are summarized in problem statements that appear at the beginning of each chapter. A text description of the essential findings for every indicator is supplemented with tables and charts.

In general, summary statistics for Guam are compared with nationwide averages. Whenever possible, detailed information is provided, disaggregated by sex, age group and ethnicity/racial group. For several indicators, the numbers of observations are small (e.g. suicide deaths, numbers of babies born with fetal alcohol syndrome, etc.); in these cases, a footnote alerting the reader is provided.

One question that is frequently asked is: "How can Guam's statistics be compared to the mainland when Guam's population is so much smaller than that of the United States?" For this reason, the statistics describing tobacco, alcohol and illicit drug consumption are in percentages, to allow comparisons across populations. That is, the consumption of these substances is reported as a percentage of the total population. Thus, even if the absolute numbers of individuals reporting the use of these substances are much smaller than the US numbers, the magnitude of the problem in relation to the total population can be compared.

EXECUTIVE SUMMARY

Guam faces a triple burden from tobacco, alcohol and illicit drug use. The following is a summary of the key findings from the work of Guam's SEW.

CONSUMPTION

Tobacco

Tobacco use among the general population:

Based on 2003 data (the latest available), Guam has the highest adult smoking rate among all US States and Territories. Males smoke more than females, but female smoking on Guam is higher than national and regional averages. Education and income are inversely proportional to current smoking.

Smoking among Guam's youth parallels the high rates of smoking among adults. According to the 2005 Youth Risk Behavior Survey (YRBS), 75.0% of Guam's high school students have tried smoking compared to 54.3% of youth nationally. In 2005, 30.8% of high school students on Guam smoked in the past 30 days, in contrast to only 23.0% of all US youth. Unlike adults, male and female youth are smoking at approximately the same rate. Chamorro youth have the highest rates while Filipinos have the lowest. The use of other tobacco products, particularly chewing tobacco mixed with betel nut, is increasing among middle school and high school youth.

Reductions in current smoking among high school youth occurred in 1999, when the Synar law was first introduced, and in 2003, when tobacco taxes were increased by 1400%. Current smoking among middle school youth showed its first significant drop since 1999 in 2005, when the Natasha Act came into effect. These highlight the critical and important role of tobacco taxation policy and tobacco control legislation in decreasing youth tobacco use.

Tobacco use among the court involved population:

In 2005, 77.4% of youth assessed at the Department of Youth Affairs were ever smokers. 75.8% of these smokers started between the ages of 10-14. Almost 20% of the Superior Court of Guam's Juvenile Drug Court clients reported tobacco as their first substance abused, with over 46% reporting current tobacco use. This is a high-risk group, which would account for the higher prevalence of current smoking as compared to the YRBS results.

Data on tobacco use among court-involved adults is not currently available. This gap will be addressed in the future work of Guam's Epidemiological Workgroup.

Alcohol

Alcohol use among the general population

According to the 2003 BRFSS (the latest available data on adults), 45.7% of adults on Guam are current drinkers – 61.5% of adult males and 29.5% of adult females. Almost 6% of adults are heavy drinkers while 18.7% are binge drinkers. Current and heavy drinking among adult males on Guam is significantly higher than for adult females. The prevalence of alcohol consumption among Guam females is lower than for females in the U.S. mainland. Current alcohol use on Guam appears to be equally prevalent across the different age groups, and is more prevalent among those with the highest incomes and higher educational attainment, mirroring the national picture. Heavy and binge drinking appear to be more prevalent among younger adults aged 18-34, both on Guam and in the US.

Among youth, in 2005, close to 70% of high school students and one-third of middle school students have had at least one drink of alcohol, with 30.4% of all high school students having their first drink at 13 years old or younger. Of concern, over 18% of these students have

gone binge drinking, 10% have driven a car after drinking alcohol and 36% have ridden in a vehicle driven by someone who had consumed alcohol in the past month. While prevalence rates of alcohol consumption among youth on Guam are lower than national averages, since 1995, rates of current drinking and binge drinking among high school students have been decreasing nationwide. This trend has not been seen on Guam. Thus the gap between prevalence rates of binge drinking among Guam youth and US youth has been narrowing.

Guam's youth may be at greater risk for developing alcohol-related problems given that the legal age to purchase and consume alcohol beverages is 18 years. Male and female youth are consuming alcohol at similar rates, unlike adults. Filipino youth have the lowest rates for current and binge drinking, while Chamorro and Micronesian youth have the highest. Binge drinking rose markedly for Chamorro and Micronesian youth in 2005.

Alcohol use among the court involved population:

Over 60% of youth screened at the Juvenile Drug Court reported alcohol as their primary substance of current abuse. This makes alcohol the predominant substance of abuse for clients of the Juvenile Drug Court.

Data on alcohol consumption rates among court-involved adults was unavailable and will be addressed in the future.

Illicit Drugs

Illicit drug use among the general population:

Data on adult drug use within the general population is currently not available. Among youth, consumption rates for marijuana and inhalants are significant.

The prevalence of lifetime and current marijuana use among high school students on Guam are higher than national averages. Marijuana consumption is higher among young Guam males, but both male and female youth use rates are above nationwide rates. Moreover, while marijuana use is decreasing nationally, on Guam, marijuana consumption is rising. The percentage of Guam youth who have tried marijuana prior to the age of 13 is more than three times the US average. The percentage of Guam males who used marijuana before 13 is almost 50% higher than the percentage for Guam females. Nonetheless, both male and female rates for Guam youth surpass national averages.

Inhalant use appears to be decreasing among US youth, but not among Guam youth. In fact, rates of lifetime and current inhalant use among Guam youth surpassed the nationwide rates in 2001 and 2003. Easy access may partly explain the higher use rates, as 41.1% of Guam's high school students report that these substances have been offered/given/sold on school property as compared to only 28.7% of youth nationally.

Lifetime use of cocaine among Guam youth appears lower than national averages. Lifetime use of methamphetamine appears to be decreasing for females but not for males in Guam. In 2005, Guam High School males had over double the rate of lifetime methamphetamine use by females. Methamphetamine use by High School males was higher on Guam than in the mainland.

In general, among Guam's high school youth, more males are using drugs than females. A reversal is seen in middle school, with a higher percentage of females reporting having used inhalants and cocaine. Chamorro youth have the highest rates of drug use while Filipinos have the lowest. Overall, marijuana is the predominant type of illicit drug use reported by Guam youth, followed by inhalants.

Illicit drug use among the court involved population:

Among court-involved adults served by the US Probation Office, 1.6% tested positive for drugs in 2004. Over half of the positive tests were for methamphetamines, either singly or in combination with other drugs. In addition to methamphetamine use, amphetamine and opiate abuse are prevalent. Less than 5% of the tests were positive for cannabis. These very likely underestimate the real prevalence of illicit drug use among court-involved adults.

Clients of the Adult Drug Court predominantly report "ice" as their drug of choice.

Among court involved youth, marijuana and inhalants were reported as the illicit drugs most frequently used. Twenty-eight percent of youth screened at Guam's Juvenile Drug Court in 2005 reported marijuana as their primary substance of abuse while 2.4% reported inhalants as their primary substance of abuse. At the Department of Youth Affairs, close to 60% of youth assessed in 2006 experimented with marijuana, 18% with inhalants, and 3.5% with "ice".

CONSEQUENCES

Tobacco

Guam's 3 leading causes of mortality – heart disease, cancer, and stroke – are all tobacco-related. The crude death rate from cardiovascular diseases has increased from 145/100,000 in 1998 to 153/100,000 in 2003. The crude death rate from lung cancer has also increased from 16/100,000 in 1998 to 19/100,000 in 2003. In 2004, tobacco-related causes of mortality accounted for over 50% of all deaths on Guam.

Tobacco has a significant adverse environmental impact on Guam; tobacco-related debris comprised 20% of Guam's litter in 2005. As Guam's State Epidemiological Workgroup continues its work, analysis on off-island medical treatment for tobacco related diseases, smoking-related fires, and data on more acute health related consequences are anticipated.

Alcohol

Guam has witnessed an increase in the death rate from alcoholic liver disease from 2.63/100,000 in 1999 to 3.06/100,000 in 2003. Overall, however, homicide, suicide and chronic liver cirrhosis death rates have decreased since 1998. Data on the numbers and costs of off-island medical treatment for alcohol-related diseases are unavailable. Alcohol dependence is the predominant reason for referral to the Drug and Alcohol branch of the DMHSA, accounting for 53.3% of cases in 2005.

Although Guam's alcohol consumption rates are not significantly higher than national averages, and health-related consequences (other than alcoholic liver disease death rates) are diminishing, data from the Uniform Crime Report (UCR) indicate that the social costs are high. Alcohol use has been implicated in criminal arrests, motor vehicle crashes and violent crime. Alcohol-related arrests account for 32.7% of all adult arrests in 2005. The 2005 UCR cites brawls due to the influence of alcohol as the cause of 33.3%, or one-third, of murders in 2005. A preliminary report for 2006 indicated an increase in homicides, with the increase attributed by the police to increased alcohol consumption at home.

Alcohol was a factor in 44% of 2005 fatalities involving traffic accidents.

Illicit Drugs

The proportion of clients admitted to the Department of Mental Health and Substance Abuse with drug dependence as the primary diagnosis is increasing. Overall, close to half, or 48.4% of all clients seen at the DMHSA presented with dependency problems involving illicit drugs.

The association between illicit drug use and criminal behavior remains highly significant. Illicit drug use within a community is often associated with property crime. In 2005, 1468 burglaries were reported to the Guam Police Department, representing a 13.6% increase from the previous year and a 47.4% increase from 2001.

Methamphetamines play a major role in criminal behavior linked to illicit drug use on Guam. Methamphetamines ("ice") accounted for 24% of local arrests for drug violations, while marijuana accounted for 45%. With regards to federal arrests, in 2003, methamphetamine accounted for majority (>90%) of cases on Guam, unlike the US mainland, where methamphetamine was involved in less than 20% of drug-related federal sentences.

SECTION 2

Background Information



BACKGROUND INFORMATION



Guam is the largest and southernmost island in the Mariana Islands archipelago. Located in the western North Pacific Ocean, it houses one of the most strategically important US military installations in the Pacific. Guam also serves as a critical crossroads and distribution center within Micronesia and the rest of the Pacific, as well as Asia, because of its air links (Figure 1). This plays a significant part in the movement of tobacco, alcohol and illicit drugs into the island.

The island has a land area of 549 sq. km., roughly three times the size of Washington, DC. The terrain is of volcanic origin, surrounded by coral reefs. The climate is tropical marine, with little seasonal temperature variation. There are frequent squalls during the rainy season and, occasionally, potentially very destructive typhoons from June to December. The last major typhoon,

Pongsona, in December of 2002, had a major adverse impact on the island's economy and infrastructure.

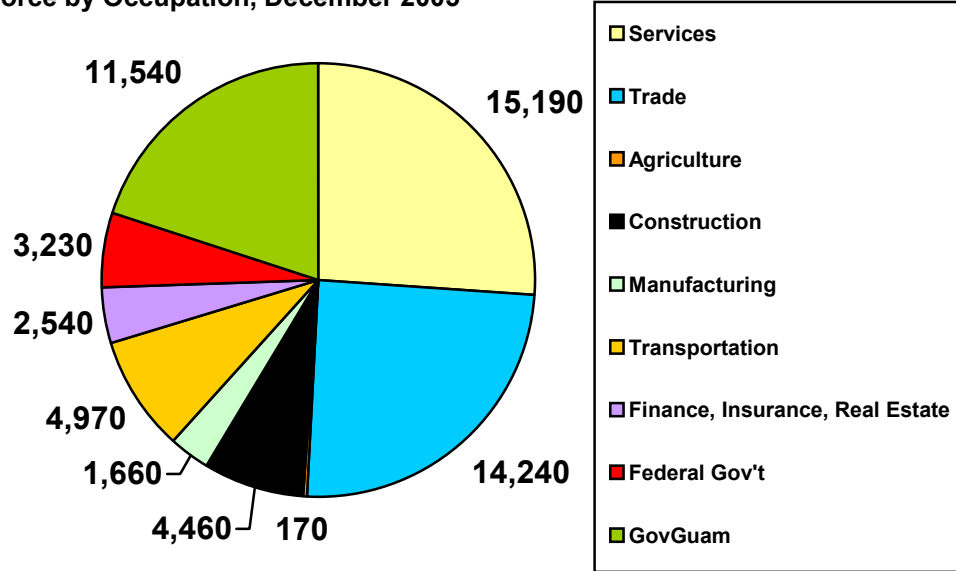
Guam is an organized, unincorporated territory of the US with policy relations under the jurisdiction of the Office of Insular Affairs, US Department of the Interior. The island's Governor and Lieutenant Governor are elected on the same ticket by popular vote, and serve a term of four years. The next gubernatorial elections are scheduled for 2010.

The current Governor, Felix P. Camacho, and the Lieutenant Governor, Michael W. Cruz, are from the Republican Party. Governor Camacho is serving his second term as the leader of this island. He and Lt. Gov. Cruz, a surgeon and former member of the PEACE Advisory Council, are strongly supportive of prevention efforts.

The legislative branch is served by a unicameral Legislature with 15 seats; the members are elected by popular vote to serve two-year terms. Currently, the Democratic Party holds 6 seats while the Republican Party holds 9. Guam also elects one nonvoting delegate to the US House of Representatives to serve a two-year term. The current representative, Congresswoman Madeleine Bordallo, belongs to the Democratic Party. The next elections for the legislative branch are scheduled for November 2008.

The judicial branch was recently revamped to create the Unified Judiciary of Guam, consistent with the Organic Act. Guam has the District Court of Guam (federal) and the Supreme Court of Guam and the Superior Court of Guam (local).

Figure 2. Labor Force by Occupation, December 2005



Source: Bureau of Labor Statistics, Guam Department of Labor, Guam Statistical Yearbook, 2005

Tourism is Guam's major industry. There were over 1.18 million tourist arrivals in 2005, a significant increase from the previous year. Japan remains Guam's major tourist market, accounting for over 80% of visitors. Korea accounts for 9.2% of the market (up from 8.0% in 2004), and the US mainland for about 3.8% (Table 2). Because much of the economy depends on tourism, the policy and program environment, especially in relation to tobacco and alcohol, is influenced by perceptions of acceptability by the tourist market.

Table 2. Air visitor arrivals by country of residence, Guam, 2000-2005

Country	2005	2004	2003	2002	2001	2000
Total	1,184,928	1,120,676	857,432	1,031,161	1,124,438	1,279,243
Japan	955,245	906,106	659,593	786,947	901,539	1,048,813
United States	45,859	46,159	41,225	41,521	41,877	41,664
CNMI/Micronesia	30,690	32,435	31,927	30,658	36,565	38,032
Taiwan	23,386	24,157	18,673	19,500	31,540	39,451
Philippines	7,051	7,066	6,470	6,530	5,697	6,000
Korea	109,335	89,924	87,341	128,307	89,882	87,070
Hong Kong	4,518	5,156	4,620	8,444	9,174	9,050
Other	8,844	9,673	7,583	9,254	8,164	9,163

Source: Guam Visitors Bureau, Government of Guam, Guam Statistical Yearbook, 2005

Note: This includes military and civilian air arrivals.

CNMI/Micronesia = Commonwealth of the Northern Mariana Islands/Micronesia

POPULATION DEMOGRAPHICS

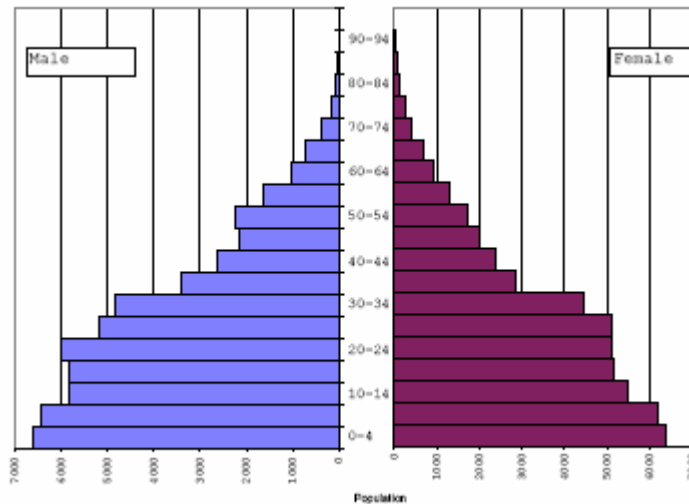
The total population, based on 2006 estimates, is 171,019. 28.9% of the total population is below the age of 15, while 6.7% is 65 years and older. The median age is 28.6 years, which is 1.2 years older than the median age in 2000. Males slightly outnumber females, with a sex ratio of 1.04 males/female. The population growth rate is estimated at 1.43% (Table 3), down from 1.46% in 2000.

Table 3. Population by age and sex, Guam, 1980-2006

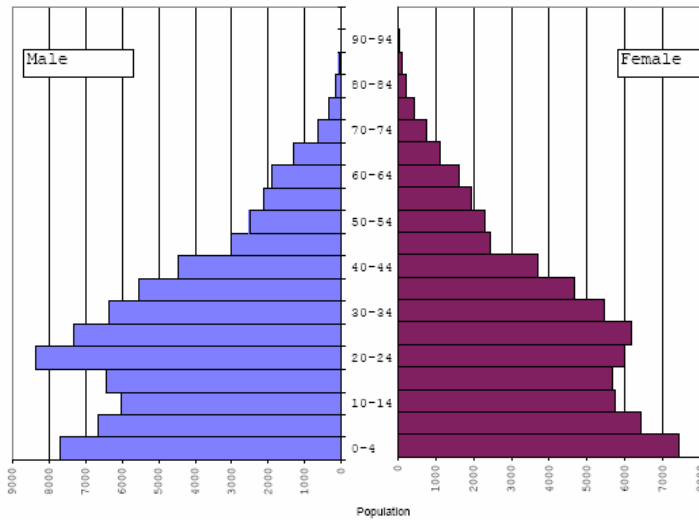
Characteristic	2006*		2000		1990		1980	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total population	171,019	100.0	154,805	100.0	133,152	100.0	105,979	100.0
Male	87,114	50.9	79,181	51.1	70,945	53.3	55,321	52.2
Female	83,905	49.1	75,624	48.9	62,207	46.7	50,658	47.8
Under 5 years	16,122	9.4	16,785	10.8	15,097	11.3	13,002	12.3
5 to 9 years	17,180	10.0	16,090	10.4	13,078	9.6	12,632	11.9
10 to 14 years	16,304	9.5	14,281	9.2	11,777	8.8	11,338	10.7
15 to 19 years	14,679	8.6	12,379	8.0	12,121	9.1	10,993	10.4
20 to 24 years	12,782	7.5	11,989	7.7	14,3790	10.8	11,108	10.5
25 to 34 years	24,205	14.2	25,850	16.7	25,276	19.0	19,613	18.5
35 to 44 years	25,637	15.0	23,141	14.9	18,329	13.8	11,295	10.7
45 to 54 years	19,826	11.6	16,548	10.7	10,279	7.7	8,172	7.7
55 to 59 years	7,718	4.5	4,993	3.2	4,059	3.0	2,914	2.7
60 to 64 years	5,067	3	4,534	2.9	3,527	2.6	1,927	1.8
65 to 74 years	7,528	4.4	5,860	3.8	3,801	2.9	2,227	2.1
75 to 84 years	3,971	2.3	2,000	1.3	1,170	0.9	636	0.6
85 years and over	-	...	355	0.2	259	0.2	122	0.1
Median age (years)	28.6	...	27.4	---	25.0	---	22.3	---
18 years and older	112,325	65.7	99,951	64.6	86,258	64.8	62,375	58.9
Male	56,820	33.2	50,932	32.9	47,016	35.3	33,002	31.1
Female	55,505	32.5	49,019	31.7	39,242	29.5	29,373	27.7
21 years and older	104,005	60.8	92,802	59.9	77,800	58.4	55,692	52.6
62 years and older	14,266	8.3	10,789	7.0	7,395	5.6	4,037	3.8
64 years and over	11,499	6.7	8,215	5.3	5,230	3.9	2,985	2.8
Male	5,391	3.2	3,953	2.6	2,530	1.9	1,405	1.3
Female	6,108	3.6	4,262	2.8	2,700	2.0	1,580	1.5

Sources: US Census Bureau, 2000 Guam Demographic Profile, 1980 and 1990 Censuses of Population and Housing
 *2006 Population Projection, Guam Statistical Yearbook, 2005 and Mid-Year Population by Age and Sex, Guam 2000-2010 – December 2003 by Bureau of Statistics and Plans
 Note: “---” indicates not applicable

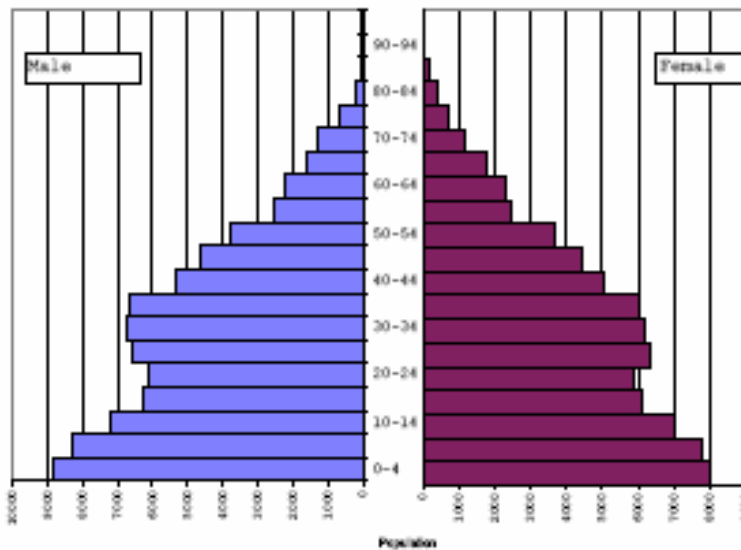
Figure 3. Guam population pyramids, by age and sex, 1980-2000



1980 Population Pyramid



1990 Population Pyramid



2000 Population Pyramid

Source: 2004 Guam Statistical Yearbook

The population pyramids (Figure 3) demonstrate a wide base and a “bulge” between the ages of 20 to 39. These two groups---infants and children, as well as young adults---form a significant proportion of the overall population.

Guam's population is multi-ethnic/multi-racial. The following table lists the ethnic/racial composition of the island's population across three decades. Currently, Chamorros comprise the largest ethnic group, accounting for 37% of the total population. Filipinos make up 26.3%, and Whites make up 6.8%. 13.9% of Guam's people identify themselves as belonging to two or more ethnic groups.

Table 4. Ethnic origin or race, Guam, 1980-2006

Characteristic	2006*		2000		1990		1980	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	171,019	100.0	154,805	100.0	133,152	100.0	105,979	100.0
One ethnicity or race	147,209	86.1	133,252	86.1	120,203	90.3	94,839	89.5
Native Hawaiian and other Pacific Islander	76,270	44.6	69,039	44.6	56,444	42.4	47,297	44.6
Carolinian	136	0.1	123	0.1	135	0.1	34	0.0
Chamorro	63,298	37.0	57,297	37.0	49,935	37.5	45,129	42.6
Chuukese	6,881	4.0	6,229	4.0	1,919	1.4	97	0.1
Kosraean	323	0.2	292	0.2	101	0.1	40	0.0
Marshallese	284	0.2	257	0.2	71	0.1	33	0.0
Palauan	2,365	1.4	2,141	1.4	1,858	1.4	1,335	1.3
Pohnpeian	1,509	0.9	1,366	0.9	589	0.4	69	0.1
Yapese	758	0.4	686	0.4	199	0.1	47	0.0
Other Pacific Islander	716	0.4	648	0.5	1,637	1.2	513	0.5
Asian	55,601	32.5	50,329	32.5	39,281	29.5	28,647	27.0
Chinese	2,991	1.7	2,707	1.7	1,959	1.5	---	---
Filipino	44,995	26.3	40,729	26.3	30,043	22.6	22,447	21.2
Japanese	2,304	1.3	2,086	1.3	2,244	1.7	1,855	1.8
Korean	4,216	2.5	3,816	2.7	3,931	3.0	1,873	1.8
Other Asian	1,095	0.6	991	0.4	1,104	0.8	---	---
White	11,610	6.8	10,509	6.8	19,160	14.4	1,514	1.4
Black or African American	1,732	1.0	1,568	1.0	3,158	2.4	---	---
Some other race or ethnic group	1,996	1.2	1,807	1.1	2,160	1.6	10,395	9.8
Two or more races or ethnic groups	23,810	13.9	21,553	13.9	12,877	9.7	3,990	3.8
Chamorro and other(s)	8,778	5.1	7,946	5.1	7,713	5.8	3,545	3.3
Asian and other(s)	11,990	7.0	10,853	7.0	7,449	5.6	914	0.9

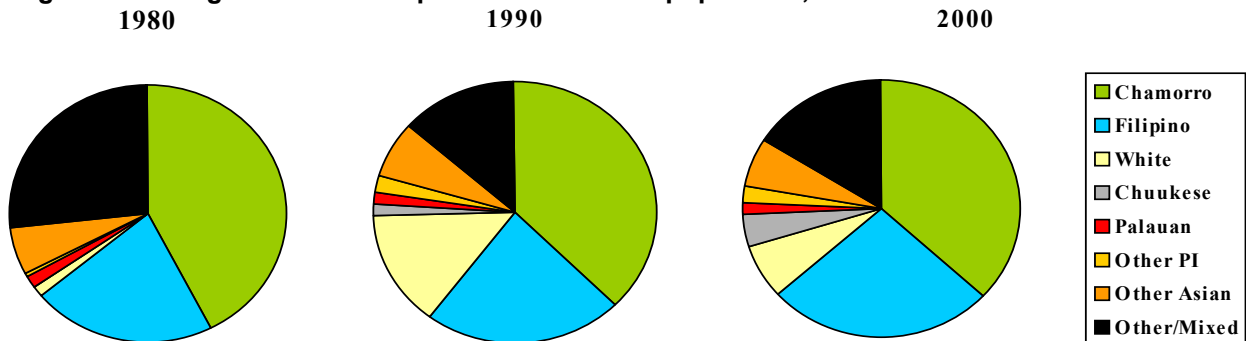
Source: US Census Bureau, 2000 Guam Demographic Profile, 1980 and 1990 Censuses of Population and Housing;

*Guam Statistical Yearbook 2005

NOTE: "—" indicates not applicable

The ethnic/racial composition of Guam's population has been shifting over time (Figure 4). The proportion of the population comprised of Chamorros has been declining, from 44.6% of the total population in 1980, to 37% in 2000. On the other hand, Filipinos comprised only 21.2% of the population in 1980 but currently make up 26.3% of the island's people. The ethnic group with the fastest rate of increase is the Chuukese population; from only 0.1% in 1980, Chuukese currently make up 4% of the population, a 40-fold increase.

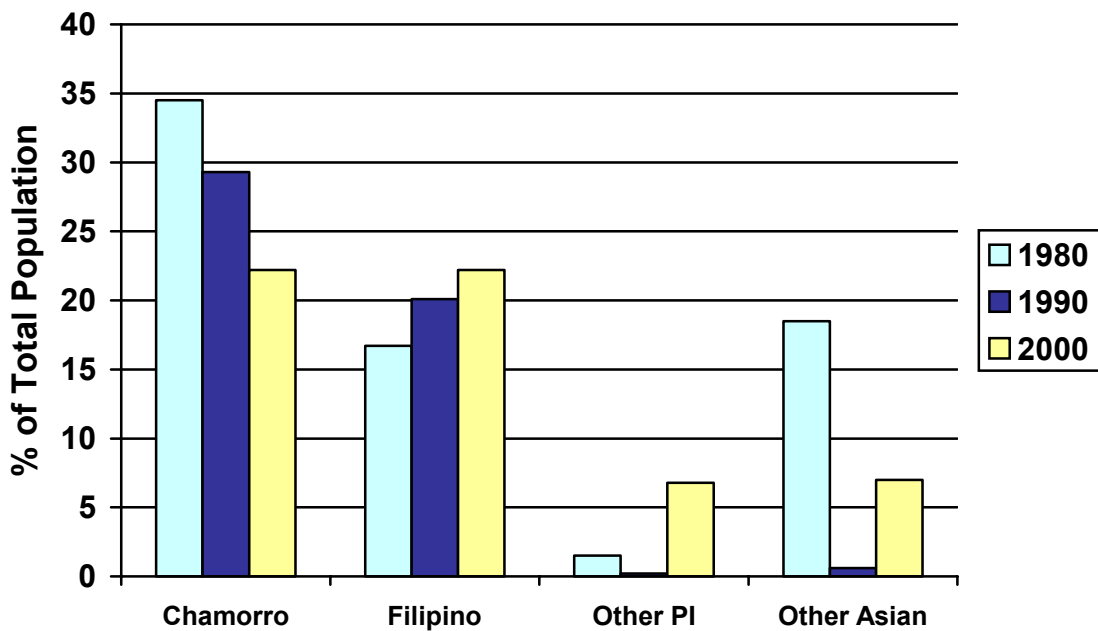
Figure 4. Change in ethnic composition of Guam's population, 1980-2000



The ethnic composition of the population in large part determines the languages spoken at home. At present, 38.3% of Guam's households speak English exclusively. Of the remainder, 45.7% speak another language either as frequently as or more frequently than English, and another 0.7% speak no English at all. This has a significant implication for effective service delivery, highlighting the need for culturally competent communications and services for close to half of the island's population.

The pattern of change in languages spoken at home (Figure 5) parallels that of ethnic composition, with households speaking Chamorro showing a relative decline over time, while Filipino and Micronesian languages are on the increase.

Figure 5. Changing pattern of languages spoken at home, Guam, 1980-2000



Source: 2004 Guam Statistical Yearbook

In 2000, there were 38,769 households on Guam. 83.5% were family households, while 16.5% were non-family households. Over three-fifths (60.2%) of all households have individuals under the age of 18. Less than one-fifth (16.1%) have individuals over 65 years of age. The average household size in 2000 is 3.89 persons, down from 4.07 persons in 1980 (Table 5). Of the households with families, 58.5 % were married couple families. A female householder (with no husband present) heads 16.2% of households on Guam with 9.7% having their own children under the age of 18 in the household. The percentage of households headed by a single female has nearly doubled from 1980.

Table 5. Households by type, Guam, 1980-2000

Characteristics	2000		1990		1980	
	Number	Percent	Number	Percent	Number	Percent
Total households	38,789	100.0	31,373	100.0	28,394	100.0
Family Households (families)	32,367	83.5	27,313	87.1	21,780	76.7
With own children under 18 years	19,678	50.8	17,911	57.1	15,913	56.0
Married-couple families	22,693	58.5	21,342	68.0	18,473	65.1
With own children under 18 years	13,964	36.0	14,325	45.7	13,770	48.5
Female householder, no husband present	6,284	16.2	3,824	12.2	2,415	8.5
With own children under 18 years	3,753	9.7	2,438	7.8	1,727	6.1
Non-family households	6,402	16.5	4,060	12.9	6,614	23.3
Householder living alone	5,082	13.1	464	1.5	...	...
Householder 65 years and over	659	1.7	...	...	...	...
Households with individuals under 18 years	23,346	60.2	...	...	...	...
Households with individuals 65 years and over	6,247	16.1	...	...	...	...
Average household size	3.89	...	3.97	...	4.07	...
Average family size	4.27	...	4.26	...	4.4	...

Source: US Census Bureau, 2000 Guam Demographic Profile, 1980 and 1990 Censuses of Population and Housing
Symbol"..." Indicates not applicable

Educational attainment appears to have improved slightly from 1990, with small increases in the percentage of the population who have attained a bachelor's, graduate or professional degree. Almost one-third (31.9%) of the population has a high school diploma or its equivalent (Table 6).

Table 6. School attendance and educational attainment, Guam, 1980-2000

Characteristics	2000		1990		1980	
	Number	Percent	Number	Percent	Number	Percent
SCHOOL ENROLLMENT						
Population 3+ years enrolled in school	48,826	100.0	37,131	100.0	36,002	100.0
Nursery school, preschool, kindergarten	4,916	10.5	2,180	5.9	3,575	9.9
Elementary school (grades 1-8)	23,969	51.2	19,573	52.7	19,728	54.8
High school (grades 9-12)	10,664	22.8	9,429	25.4	8,562	23.8
College or graduate school	7,279	15.5	5,949	16.0	4,137	11.5
EDUCATIONAL ATTAINMENT						
Population 25 years and over	83,281	100.0	66,700	100.0	...	...
Less than 9th grade	7,843	9.4	9,238	13.9	...	...
9th to 12th grade, no diploma	11,862	14.2	8,602	12.9	...	...
High school graduate (includes equivalency)	26,544	31.9	22,220	33.3	...	...
Some college, no degree	16,611	19.9	11,318	17.0	...	...
Associate degree	3,787	4.5	3,666	5.5	...	...
Bachelor's degree	12,774	15.30	8,792	13.2	...	...
Graduate or professional degree	3,860	4.60	2,864	4.3	...	...

Source: US Census Bureau, 2000 Guam Demographic Profile, 1980 and 1990 Censuses of Population and Housing
Symbol"..." Indicates not applicable

Median family income increased from 1980 to 2000 (Table 7). Income categories were changed for 2003; hence it is not possible to compare 2003 data directly with that from previous years. However, Table 8 shows that in 2003, close to 22% of Guam's households lived on \$14,999 or less per year. The poorest of the poor comprised 8.1% of all households on Guam, and lived on less than \$3000 per year. In contrast, 6.3%, or 1 in 12 households, made more than \$100,000 per year

Table 7. Family income in the year before the census by type, Guam, 1980-2000

Characteristic	2000		1990		1980	
	Number	Percent	Number	Percent	Number	Percent
Families	32,367	100.0	27,313	100.0	21,780	100.0
Less than \$2,500	1,982	6.1	...	...	827	3.8
\$2,500 to \$4,999	512	1.6	...	...	796	3.7
\$5,000 to \$9,999	1,461	4.5	1,297	4.7	3,570	16.4
\$10,000 - \$14,999	1,734	5.4	2,274	8.3	4,605	21.1
\$15,000 - \$24,999	3,923	12.1	5,754	21.2	6,186	28.4
\$25,000 - \$34,999	4,082	12.6	4,967	18.2	5,796	26.6
\$35,000 - \$49,999	5,400	16.7	4,949	18.1	...	...
\$50,000 - \$74,999	6,267	19.4	4,371	16.0	...	...
\$75,000 - \$99,999	3,536	10.9	1,512	5.5	...	...
\$100,000 or more	3,470	10.7	1,104	4.0	...	...
Median family income (dollars)	41,229	...	31,176	...	16,203	...
Mean family income (dollars)	51,674	...	39,378	...	19,485	...

Source: US Census Bureau, 2000 Guam Demographic Profile, 1980 and 1990 Censuses of Population and Housing; Guam Statistical Yearbook 2005
Symbol"..." Indicates not applicable

Table 8 Household Income, 2003

Characteristic	Total	Percent
Households	39,008	
No Income	2,319	5.9
Less than \$3,000	860	2.2
\$3,000 to \$4,999	748	1.9
\$5,000 to \$6,999	785	2.0
\$7,000 to \$8,999	748	1.9
\$9,000 to \$10,999	1,159	3.0
\$11,000 to \$12,999	1,309	3.4
\$13,000 to \$14,999	673	1.7
\$15,000 to \$19,999	3,029	7.8
\$20,000 to \$29,999	6,283	16.1
\$30,000 to \$39,999	4,600	11.8
\$40,000 to \$49,999	3,927	10.1
\$50,000 to \$59,999	3,590	9.2
\$60,000 to \$69,999	2,431	6.2
\$70,000 to \$79,999	2,319	5.9
\$80,000 to \$89,999	1,272	3.3
\$90,000 to \$99,999	486	1.2
\$100,000 or more	2,468	6.3
Median Household Income (Dollars)	33,457	...
Mean Household Income (Dollars)	41,196	...
Average Household size	3.66	...
Average Earners per Household	1.58	...
Per Capita Income (Dollars)	11,254	...
Median Individual Income (Dollars)	12,338	...
Mean Earner's Income (Dollars)	21,778	...

Source: Bureau of Statistics and Plans, Guam Statistical Yearbook 2005

Twenty percent of Guam's families fall under the poverty line. Households headed by a single female appear to be closely associated with impoverishment; close to 40% of impoverished families are households headed by females, with no husband present. Of these impoverished families, 23% have children under the age of 18 (Table 9).

Table 9. Poverty status in the year before the census, Guam, 1980-2000

Characteristics	2000		1990		1980	
	Number	Percent	Number	Percent	Number	Percent
POVERTY STATUS						
Families	6,466	20.0	3,429	...	3,010	...
With related children under 18 years	5,420	23.4	2,948	...	2,643	...
With related children under 5 years	3,180	27.7	...	...	...	...
Families with female householder, no husband present						
With related children under 18 years	2,434	38.7	1,304	...	1,063	...
With related children under 5 years	2,189	44.2	1,200	...	968	...
	1,287	52.4	...	...	...	...
Individuals						
18 years and over	34,792	23.0	...	...	...	...
65 years and over	19,143	19.7	...	...	...	...
Related children under 18 years	1,302	16.0	...	...	...	...
Related children 5 to 17 years	15,509	28.6	...	...	...	...
Unrelated individuals 15 years and over	10,247	27.3	...	...	...	...
	3,202	46.6	...	...	...	...

Source: US Census Bureau, 2000 Guam Demographic Profile, 1980 and 1990 Censuses of Population and Housing
Symbol"..." Indicates not applicable

The average number of recipients of public assistance has been increasing, from 3,659 in 2001 to 15,764 in 2005 (Table 10).

Table 10. Average number of recipients on public assistance, Guam, 2001-2005

Type of Assistance	2005	2004R	2003R	2002R	2001R
Average	15,764	7,339	8,507	13,588	3,659
Temporary Aid to Needy Families (TANF)	2,617	3,492	5,150	9,708	...
Aid to Families with Dependent Children (AFDC)*	...	...	...	...	1,108
Old Age Assistance	334	349	362	424	52
Aid to the Permanently and Totally Disabled	136	106	95	87	9
Aid to the Blind	1	0	1	1	0
General Assistance	417	433	451	979	336
Medicaid (Title XIX)	7,908	2,143	1,110	1,011	762
Medical Indigent Program (MIP)	4,352	816	553	630	681
Medicare	np	np	786	748	711

Source: Department of Public Health and Social Services, Government of Guam, and Centers for Medicare and Medicaid Services (CMS), Guam Statistical Yearbook 2005

R = Revised from previous years

*AFDC changed to TANF in calendar year 2002

"..." indicates not applicable

np = not provided

Ethnicity also appears to be associated with income and the risk of impoverishment. Whites, Chamorros, Filipinos and other Asians have higher median incomes than other Pacific islanders. Of the Pacific Island groups, Chuukese have the lowest incomes (Tables 11 and 12).

Table 11. Household and family income by ethnicity/race, Guam, 2000

Characteristic	Total	Single Ethnic Origin or Race									Multiple	
		Total	Cham	Chuuk	Palau	Other Islander	Filipino	Other Asian	White	Other	Total	Cham
Households	38,770	34,210	13,200	960	485	540	10,105	3,160	4,410	1,350	4,560	1,010
Less than \$2,500	3,110	2,195	965	95	50	50	440	330	200	80	915	55
\$2,500 to \$4,999	700	615	310	40	10	10	155	55	30	4	85	25
\$5,000 to \$9,999	1,770	1,580	735	120	50	45	385	125	70	30	205	60
\$10,000 to \$14,999	2,180	1,880	715	150	35	85	555	190	95	55	245	50
\$15,000 to \$24,999	4,760	4,250	1,435	215	70	105	1,340	430	445	210	505	115
\$25,000 to \$34,999	4,840	4,285	1,360	125	65	95	1,375	410	625	240	555	115
\$35,000 to \$49,999	6,355	5,725	1,945	90	85	70	1,935	535	810	255	630	165
\$50,000 to \$74,999	7,175	6,480	2,540	80	70	55	2,060	515	900	255	695	205
\$75,000 or more	7,935	7,215	3,215	40	50	20	1,865	575	1,245	215	715	215
Median (Dollars)	39,317	40,487	43,019	18,099	28,618	21,850	40,666	35,694	47,933	37,453	30,763	41,174
Mean (Dollars)	49,615	50,841	52,816	24,524	39,024	26,582	48,774	48,984	62,113	47,200	40,418	49,600
Families	32,365	29,060	11,660	915	425	490	9,170	2,215	3,180	1,005	3,305	865
Less than \$2,500	1,980	1,600	790	95	45	50	340	160	70	40	385	40
\$2,500 to \$4,999	510	480	240	45	4	15	105	30	15	4	55	20
\$5,000 to \$9,999	1,480	1,290	660	125	50	45	295	70	40	20	170	50
\$10,000 to \$14,999	1,735	1,560	640	145	30	75	470	110	55	35	175	45
\$15,000 to \$24,999	3,925	3,555	1,275	200	70	95	1,195	270	300	145	370	100
\$25,000 to \$34,999	4,080	3,655	1,190	115	60	85	1,292	295	445	175	430	100
\$35,000 to \$49,999	5,400	4,895	1,695	85	70	60	1,785	400	595	205	505	145
\$50,000 to \$74,999	6,285	5,675	2,285	65	55	45	1,955	400	665	200	595	175
\$75,000 or more	7,500	6,375	2,900	35	45	15	1,740	475	990	180	630	190
Median (Dollars)	41,229	41,687	44,151	17,123	27,425	20,132	41,761	40,536	51,544	40,000	36,801	41,830
Mean (Dollars)	51,677	52,193	53,607	23,335	39,433	25,112	49,999	54,893	66,433	49,664	47,146	50,185
Median earnings (Dollars)												
Male, full-time year-round workers	28,934	29,816	28,669	12,331	20,990	15,188	23,318	30,710	33,563	27,304	28,083	28,750
Female, full-time year-round workers	23,249	23,044	28,028	11,288	19,583	12,263	20,392	24,598	27,212	22,500	25,350	27,017
Per capita income (Dollars)	12,722	13,310	12,193	3,901	9,605	5,281	12,378	17,635	25,886	18,150	9,081	7,486

Source: Guam Statistical Yearbook, 2004

Table 12. Poverty levels and ethnicity/race, Guam, 2000

Characteristic	Total	Single Ethnic Origin or Race									Multiple	
		Total	Cham	Chuuk	Palau	Other Islander	Filipino	Other Asian	White	Other	Total	Cham
Below 50 percent of poverty level	19,615	15,915	8,000	1,940	415	835	2,895	1,110	480	245	3,700	865
Below 125 percent of poverty level	42,915	36,250	16,710	4,335	900	1,795	8,760	2,155	1,040	550	6,665	2,085
Below 185 percent of poverty level	64,275	54,690	23,930	5,225	1,240	2,355	15,330	3,370	2,150	1,100	9,585	3,120
Related children under 18-years	27,700	22,775	11,710	2,440	495	1,010	5,330	730	675	385	4,925	2,040
Related children 5 to 17 years	18,570	15,355	7,940	1,485	340	830	3,805	520	400	235	3,210	1,330
Below 50 percent of poverty level	19,615	15,915	8,000	1,940	415	835	2,895	1,110	480	245	3,700	865

Source: Guam Statistical Yearbook, 2004

The composite picture from the previous data fails to accurately portray the distinct and diverse characteristics of each of Guam's 19 "villages," which are the basic units of analysis for the Strategic Prevention Framework-State Incentive Grant (SPF-SIG) substance abuse prevention program. Population demographics, ethnic/racial composition and socio-economic characteristics vary widely across each of the villages.

Table 13 depicts the variation in population size and gender composition. The largest village, Dededo, has a population of 47,482, while the smallest village, Umatac, has only 980 people. The village of Agana Heights has 97.6 males per 100 females, while Hagatna has 156.9 males per 100 females.

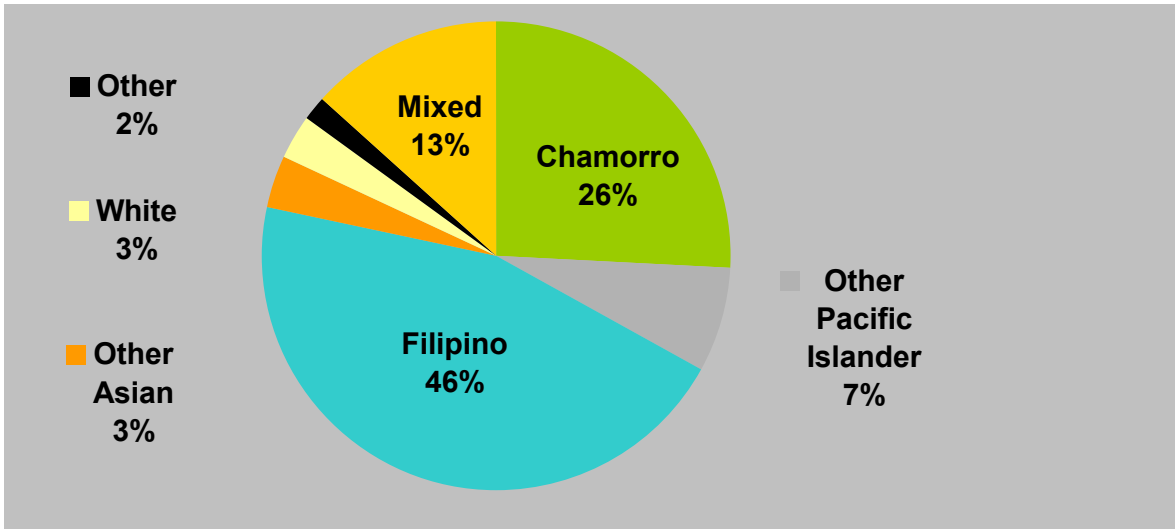
Table 13. Election district by sex, Guam, 2006

Election District	Number			Percent			Males per 100 Females
	Total	Males	Females	Total	Males	Females	
Guam	171,019	87,474	83,546	100.0	100.0	100.0	104.7
Agana Heights	4,353	2,150	2,203	2.5	2.5	2.6	97.6
Agat	6,248	3,215	3,033	3.7	3.7	3.6	106.0
Asan - Maina	2,309	1,191	1,118	1.4	1.4	1.3	106.5
Barrigada	9,558	4,772	4,786	5.6	5.5	5.7	99.7
Chalan Pago/Ordot	6,543	3,326	3,217	3.8	3.8	3.9	103.4
Dededo	47,482	23,912	23,570	27.8	27.3	28.2	101.5
Hagatna	1,215	742	473	0.7	0.8	0.6	156.9
Inarajan	3,372	1,708	1,664	2.0	2.0	2.0	102.6
Mangilao	14,707	7,687	7,020	8.6	8.8	8.4	109.5
Merizo	2,390	1,204	1,186	1.4	1.4	1.4	101.6
Mongmong/Toto/Maite	6,457	3,198	3,259	3.8	3.7	3.9	98.1
Piti	1,840	974	866	1.1	1.1	1.0	112.5
Santa Rita	8,285	4,450	3,835	4.8	5.1	4.6	116.0
Sinajana	3,152	1,583	1,569	1.9	1.8	1.9	100.9
Talofofo	3,552	1,813	1,739	2.1	2.1	2.1	104.3
Tamuning	19,899	10,407	9,492	11.6	11.9	11.4	109.6
Umatac	980	514	466	0.6	0.6	0.6	110.3
Yigo	21,514	11,046	10,468	12.6	12.6	12.5	105.5
Yona	7,163	3,582	3,582	4.2	4.1	4.3	100.0

Source: U.S. Census Bureau, 2000 Guam Census Profile, Population Projection, Guam Statistical Yearbook 2005

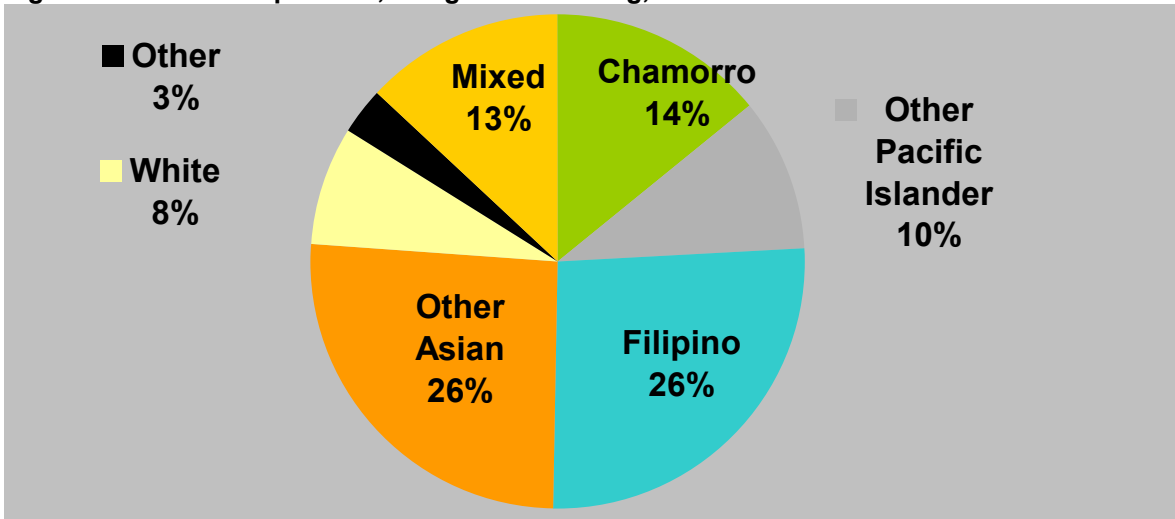
The villages' ethnic/racial composition also varies widely (Figures 6-8, Table 14). For example, Chamorros form the bulk of the entire island's population, but they comprise only one-quarter of the population of the village of Dededo. In contrast, Filipinos, who comprise 26% of the island's population, make up 46% of Dededo. Asian groups other than Filipinos comprise less than 5% of the total island population, but they make up 26% of the population of Tamuning. The village of Inarajan is almost entirely made up of Chamorros. Each village is described in detail in the "Village Profiles," which are available online at www.peaceguam.org

Figure 6. Ethnic composition, village of Dededo, 2000



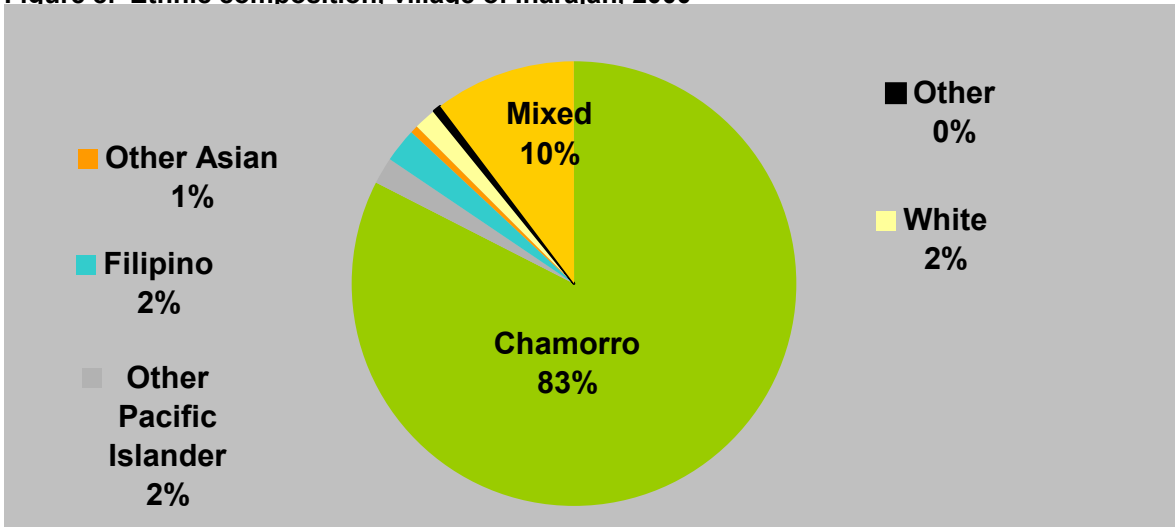
Source: 2004 Guam Statistical Yearbook

Figure 7. Ethnic composition, village of Tamuning, 2000



Source: 2004 Guam Statistical Yearbook

Figure 8. Ethnic composition, village of Inaraian, 2000



Source: 2004 Guam Statistical Yearbook

Table 14. Election district by ethnic/racial composition, Guam, 2000

Ethnic Origin or Race	Total	Single Ethnic Origin or Race									Multiple		
		Total	Cham	FAS	Asian			White	Black	Other	Total	Cham	Asian
					Total	Filipino	Other						
Total	154,805	133,252	57,297	10,971	50,329	40,729	9,600	10,509	1,568	2,578	21,553	7,946	10,853
Agana Heights	3,940	3,443	2,374	244	494	411	83	228	24	58	497	321	230
Agat	5,656	5,001	3,269	128	1,362	1,324	38	168	10	50	655	500	381
Asan - Maina	2,090	1,852	1,328	64	208	164	44	175	5	48	238	163	117
Barrigada	8,652	7,739	4,383	523	2,249	1,622	627	392	21	126	913	483	499
Chalan Pago/Ordot	5,923	4,281	2,803	322	825	637	188	285	14	40	1,642	308	730
Dededo	42,960	37,274	11,068	3,058	20,778	19,322	1,456	1,356	255	438	5,706	1,977	3,081
Hagatna	1,100	969	455	178	275	171	104	41	5	13	131	88	48
Inarajan	3,052	2,736	2,515	64	91	71	20	50	1	14	316	112	144
Mangilao	13,313	11,637	5,565	974	3,971	2,948	1,023	526	46	178	1,676	736	891
Merizo	2,163	1,972	1,804	41	49	31	18	72	2	17	191	115	93
Mongmong/Toto/Maite	5,845	5,136	2,769	674	1,330	934	396	214	25	124	709	336	347
Piti	1,666	1,401	841	50	202	113	89	272	12	24	265	160	130
Santa Rita	7,500	6,118	2,051	60	1,595	1,497	98	1,783	362	267	1,382	263	615
Sinajana	2,853	2,521	1,854	168	321	194	127	112	9	57	332	242	167
Talofofo	3,215	2,977	2,408	142	143	101	42	218	7	59	238	122	89
Tamuning	18,012	15,670	2,556	1,783	9,382	4,723	4,659	1,396	114	439	2,342	710	1,232
Umatac	887	835	801	6	11	7	4	10	2	5	52	44	22
Yigo	19,474	16,358	4,278	1,500	8,579	6,124	455	2,835	629	537	3,116	900	1,515
Yona	6,484	5,332	4,175	208	464	335	129	376	25	84	1,152	366	522

Source: U.S. Census Bureau, Census 2000 Demographic Profile for Guam
 FAS = Freely Associated States

The variation in ethnic composition accounts for the differences in frequency of English use at home across the villages (Table 15). Variations in employment status and ethnicity/race are associated with differences in income and poverty status (Tables 16-19). The interrelationship of education, employment, income and ethnicity/race is critical when examining tobacco, alcohol and other drug consumption patterns.

Table 15. Frequency of English use at home, Guam, 2000

Election District	Total 5 years and older	English only	Other language	Speak other language			Does not speak English
				Less freq than English	Equally often as English	More freq than English	
Guam	138,020	52,931	85,189	21,114	31,503	31,654	918
Agana Heights	3,546	1,572	1,974	761	693	519	1
Agat	4,986	2,050	2,936	911	1,207	816	2
Asan - Maina	1,884	929	955	327	371	253	4
Barrigada	7,782	2,976	4,806	1,416	1,759	1,592	39
Chalan Pago/Ordot	5,310	2,221	3,089	964	1,242	869	14
Dededo	38,152	12,505	25,647	5,191	9,389	10,926	141
Hagatna	1,023	318	705	167	234	282	22
Inarajan	2,709	874	1,835	651	739	437	8
Mangilao	11,958	4,340	7,618	1,874	2,596	2,860	288
Merizo	1,890	690	1,200	482	465	251	2
Mongmong/Toto/Maite	5,185	2,021	3,164	815	1,263	1,074	12
Piti	1,536	804	732	299	253	167	13
Santa Rita	6,724	3,848	2,876	954	1,091	828	3
Sinajana	2,572	1,107	1,465	497	528	436	4
Talofofo	2,838	1,362	1,476	549	580	344	3
Tamuning	16,301	4,491	11,810	1,872	3,545	6,102	291
Umatac	767	291	476	196	207	73	0
Yigo	17,093	7,817	9,276	2,083	3,982	3,162	49
Yona	5,764	2,615	3,149	1,105	1,359	663	22

Source: U.S. Census Bureau, 2000 Guam Census Profile

Table 16. Employment status by election district, Guam, 2000

Election District	Total 16+ years	In labor force							Not in labor force	
		Total	Civilian labor force					Armed Forces	Total	Subsistence only
			Total	Employed		Unemployed				
				Total	W/ subsist.	Number	Percent			
Guam	105,014	68,894	64,452	57,053	4,480	7,399	11.5	4,442	36,120	2,382
Agana Heights	2,762	1,848	1,747	1,575	101	172	9.8	101	914	68
Agat	3,638	2,108	2,062	1,728	109	324	17.0	26	1,530	87
Asan - Maina	1,400	890	864	761	96	83	9.6	26	510	30
Barrigada	5,904	3,719	3,692	3,293	279	399	10.8	27	2,185	170
Chalan Pago/Ordot	4,026	2,603	2,551	2,273	168	278	10.9	52	1,423	92
Dededo	28,787	19,168	18,494	16,278	1,165	2,216	12.0	674	9,619	616
Hagatna	884	451	449	378	27	71	15.8	2	433	17
Inarajan	1,918	1,091	1,060	902	100	178	16.5	11	827	68
Mangilao	9,239	5,550	5,466	4,847	335	619	11.3	84	3,689	257
Merizo	1,332	729	720	607	77	113	15.7	9	603	49
Mongmong/Toto/Maite	3,853	2,474	2,438	2,135	184	303	12.4	36	1,379	86
Piti	1,214	852	803	746	53	57	7.1	49	362	35
Santa Rita	5,339	3,838	2,527	2,293	183	234	9.3	1,311	1,501	99
Sinajana	1,965	1,235	1,206	1,073	86	133	11.0	29	730	42
Talofofo	2,053	1,270	1,256	1,072	108	184	14.6	14	793	82
Tamuning	13,368	9,513	9,233	8,495	641	738	8.0	280	3,855	219
Umatac	552	360	358	259	27	99	27.7	2	192	13
Yigo	12,633	8,671	6,995	6,181	532	815	11.6	1,675	3,952	255
Yona	4,137	2,524	2,490	2,137	209	353	14.2	34	1,613	97

Source: U.S. Census Bureau, 2000 Guam Census Profile

Table 17. Election district by household income in 1999, Guam, 2000

Election District	House holds	Less than \$2,500	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 to \$99,999	\$100,000 and more	Median Hhold income (\$)	Mean Hhold income (\$)
Guam	38,769	3,110	698	1,768	2,128	4,758	4,842	6,357	7,175	3,982	3,951	29,317	49,617
Agana Heights	1,058	31	13	45	49	122	126	171	204	139	158	47,396	57,723
Agat	1,298	65	35	78	110	174	140	223	252	117	104	37,398	45,306
Asan - Maina	552	37	8	31	18	51	63	73	102	74	95	48,611	62,476
Barrigada	2,097	121	24	77	93	186	209	339	412	275	361	49,974	62,234
Chalan Pago/Ordot	1,573	267	38	80	77	155	145	205	259	174	172	36,505	46,943
Dededo	10,016	679	185	472	608	1,350	1,330	1,737	1,904	1,005	746	37,654	45,872
Hagatna	268	31	9	11	19	48	27	43	39	17	24	31,136	42,129
Inarajan	644	53	15	26	38	77	64	108	126	69	68	42,361	51,861
Mangilao	3,190	311	70	167	158	360	360	495	597	358	314	39,754	48,207
Merizo	471	35	8	20	34	49	48	81	106	51	39	39,940	48,347
Mongmong/Toto/Maite	1,633	241	34	105	118	210	161	221	248	137	158	31,134	46,866
Piti	474	17	9	18	17	50	51	57	89	60	106	54,167	71,191
Santa Rita	1,780	56	1	33	56	219	320	371	370	177	167	41,928	51,521
Sinajana	742	48	21	32	31	67	67	114	146	93	123	48,750	59,090
Talofofo	738	50	18	34	31	74	81	92	149	98	111	47,885	56,255
Tamuning	5,953	650	110	291	358	761	754	949	948	486	626	35,347	48,423
Umatac	162	9	6	10	12	23	23	16	24	17	22	34,286	51,748
Yigo	4,634	316	66	172	229	634	729	883	892	422	291	37,415	44,848
Yona	1,486	93	18	66	72	128	143	179	308	213	266	52,955	62,161

Source: U.S. Census Bureau, 2000 Guam Census Profile
Hhold = Household

Table 18. Election district by family income in 1999, Guam, 2000

Election District	Families	Less than \$2,500	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 to \$99,999	\$100,000 and more	Median family income (\$)	Mean family income (\$)
Guam	32,367	1,982	512	1,461	1,734	3,923	4,082	5,400	6,267	3,536	3,470	41,229	51,674
Agana Heights	858	22	12	35	40	92	92	139	169	118	139	49,625	60,034
Agat	1,119	50	21	68	94	152	114	192	227	107	94	39,107	46,716
Asan - Maina	454	23	5	27	17	35	55	70	87	62	83	50,000	64,164
Barrigada	1,820	79	22	62	71	159	179	295	370	254	329	51,991	64,065
Chalan Pago/Ordot	1,248	151	29	73	55	125	119	172	225	150	149	40,583	51,000
Dededo	8,874	440	139	421	530	1,185	1,217	1,561	1,758	930	693	39,336	47,443
Hagatna	184	15	6	7	10	28	22	32	31	13	20	36,111	47,701
Inarajan	587	46	15	22	29	70	62	95	124	63	61	43,355	52,605
Mangilao	2,653	220	57	149	134	296	299	405	502	316	275	40,839	49,667
Merizo	417	26	8	14	27	47	44	75	100	39	37	41,477	49,187
Mongmong/Toto/Maite	1,248	129	26	83	86	167	126	165	204	126	136	35,473	51,959
Piti	366	14	6	15	17	30	32	40	66	51	95	61,500	76,588
Santa Rita	1,557	39	9	22	44	178	277	331	339	161	157	43,794	53,450
Sinajana	612	33	12	24	26	58	50	94	128	84	103	51,500	61,608
Talofofo	653	50	11	31	35	63	67	79	124	93	100	48,304	56,247
Tamuning	4,031	314	63	185	233	537	510	667	679	365	478	38,011	52,937
Umatac	150	8	6	11	13	19	17	16	25	18	17	36,250	50,722
Yigo	4,202	248	50	149	203	567	683	812	829	392	269	38,190	45,542
Yona	1,324	75	15	63	70	115	117	160	280	194	235	53,704	62,605

Source: U.S. Census Bureau, 2000 Guam Census Profile

Table 19. Election district by poverty status, Guam, 2000

Election District	Families	With related children under 18	With related children under 5	Families with female householder, no husband present	With related children under 18	With related children under 5	Individuals	18 years and over	65 years and over	Related children 0-17 years	Related Children 5-17 years	Unrelated individuals 15+ years
Guam	6,466	5,420	3,180	2,434	2,189	1,287	34,792	19,143	1,302	15,509	10,247	3,203
Agana Heights	113	97	61	59	48	29	599	332	29	266	177	76
Agat	254	224	140	133	123	81	1,400	682	51	711	463	135
Asan - Maina	79	67	36	27	25	12	423	216	23	203	151	38
Barrigada	260	213	124	96	87	53	1,525	884	65	633	427	220
Chalan Pago/Ordot	320	265	144	134	115	61	1,644	957	52	676	456	158
Dededo	1,802	1,528	894	640	584	349	9,745	5,158	392	4,545	3,002	705
Hagatna	44	32	17	15	12	4	294	207	16	87	54	76
Inarajan	134	110	65	48	42	26	715	392	29	320	224	81
Mangilao	637	540	322	260	238	148	3,301	1,831	89	1,459	945	300
Merizo	90	81	51	37	35	20	477	221	18	253	162	36
Mongmong/Toto/Maite	357	312	178	162	145	76	1,915	983	63	930	633	110
Piti	48	37	17	16	14	6	255	179	10	85	58	74
Santa Rita	124	104	62	48	43	26	618	348	29	264	174	66
Sinajana	116	96	58	57	50	32	620	332	25	283	198	60
Talofofo	144	127	81	64	61	38	790	396	36	384	249	84
Tamuning	872	664	388	285	240	134	4,666	3,078	191	1,575	968	621
Umatac	49	45	33	20	19	13	280	144	8	135	83	19
Yigo	762	644	379	221	201	122	4,092	2,151	141	1,933	1,295	255
Yona	261	234	130	112	107	57	1,423	662	35	767	528	89

Source: U.S. Census Bureau, 2000 Guam Census Profile

SECTION 3

Consumption



SECTION 3

Chapter 1 Tobacco

PROBLEM STATEMENT:

Guam faces a major public health challenge with tobacco. Adult smoking rates are the highest among all US States and Territories. Data on tobacco use among adults has not been collected since 2003.

Youth smoking rates parallel the high adult rates. Smoking is higher among youth on Guam, and declines in lifetime, current and current frequent cigarette use are less rapid than what the mainland is experiencing.

Chewing tobacco with betel nut is most prevalent among Micronesian youth. The rate of other tobacco use, particularly chewing tobacco mixed with betel nut, is increasing among both high school and middle school youth.

Tobacco consumption among court-involved youth is even higher than that of youth within the general population. One in five court-involved youth report tobacco as the gateway substance of abuse.

Imports of tobacco and tobacco products increased 232% from 2005 to 2006.

TOBACCO USE: ADULTS IN THE GENERAL POPULATION

Tobacco consumption is highly prevalent on Guam. Data on adult smoking is largely provided through the Behavioral Risk Factor Surveillance System (BRFSS), for which information is available for the years 2001-2003. The next iteration of the BRFSS is scheduled for 2007. Thus there is no new information on adult tobacco consumption in this version of the updated profile. Additional sources of information include smaller scale surveys and regional databases maintained by the World Health Organization (WHO) and the Secretariat for the Pacific Community (SPC).

The BRFSS uses the federal system for ethnic group/racial categories. Unfortunately, this system does not capture the diversity within the Asian-Pacific Islander community, which predominates on Guam. The 2002-2003 Guam BRFSS did not provide data on other tobacco use, despite the widespread use of chewing tobacco particularly among some of the Micronesian sub-groups. Despite these limitations, the data paints a sufficiently detailed picture of cigarette consumption on Guam.

Table 20 compares prevalence of current smoking between Guam and the US national average for the years 2001 to 2003. Current smokers were defined as persons who had smoked at least 100 cigarettes and who reported being a smoker at the time of the interview.

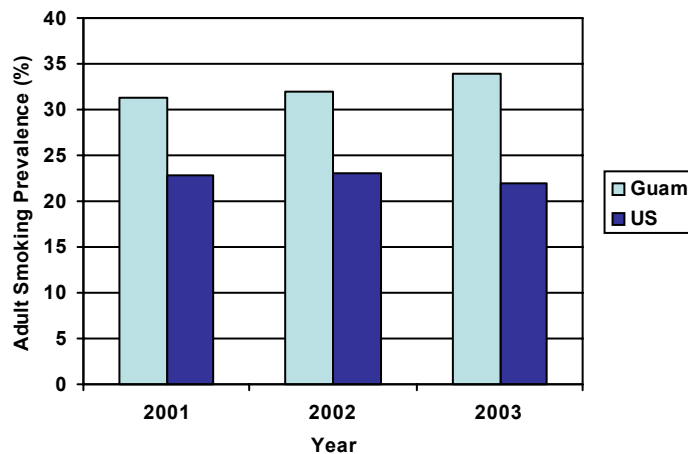
Table 20. Trends in prevalence of current smoking, Guam vs. US, 2001-2003

Year	Guam % (CI) n	US Median % # of States
2001	31.2 (27.4-34.9) 252	22.8 54
2002	31.9 (27.9-35.8) 249	23.0 54
2003	34.0 (30.1-37.8) 254	22.0 54

Source: Behavior Risk Factor Surveillance System at <http://www.cdc.gov/brfss/index.htm> Last accessed 19 January 2006

The data reveals that one in three adults on Guam is a smoker. Current smoking among adults on Guam is significantly higher than the nation. In fact, in 2003, Guam ranked 1st among all US States and Territories for smoking prevalence (Figure 9).

Figure 9. Adult smoking prevalence, Guam vs. US, 2001-2003



Source: BRFSS, 2001-2003

Table 21. Current smoking by gender, Guam, US and Western Pacific Region

Area	Year/Source	Male (%)	Female (%)
Guam	2003/BRFSS	42.0 (CI: 36.1-47.8)	25.9 (CI: 21.1-30.5)
United States	2003/BRFSS	24.7	20.2
Western Pacific Region	2002/WHO-WPRO	60.0	6.0

Smoking is higher among males. Male smoking rates on Guam are significantly higher than the US national average, but lower than the Western Pacific regional average. Smoking among females, however, is higher on Guam than on the US mainland and within the Western Pacific region. Female smoking on Guam is more than four times the regional average (Table 21).

Table 22. Smoking status and age, Guam, 2003

Age	Smoke everyday (%)	Smoke some days (%)	Former Smoker (%)	Never smoked (%)
18-24	20.8	12.8	7.6	N/A
25-34	26.9	7.7	11.5	54.0
35-44	35.4	10.5	10.4	43.7
45-54	29.4	3.6	20.5	46.5
55-64	16.6	5.6	N/A	N/A
65+	16.5	2.1	N/A	N/A

Source: Behavior Risk Factor Surveillance System at <http://www.cdc.gov/brfss/index.htm> Last accessed 19 Jan 2006

Smoking is highest among adults aged 25-54, and is reported less frequently by those over 55. This probably represents the survival advantage of non-smokers, which becomes manifest after the 4th and 5th decades of life (Table 22).

Smoking is more prevalent among those with lower incomes and less education. Conversely, the percentage of adults who have never smoked in their lives increases with higher incomes and higher educational attainment (Tables 23-24). This is consistent with findings from similar surveys across the world, highlighting the social inequity associated with smoking.

Table 23. Smoking status and income level, Guam, 2003

Income per year	Smoke everyday (%)	Smoke some days (%)	Former smoker (%)	Never smoked (%)
<\$15,000	N/A*	8.2 (CI: 1.8-14.5)	7.6 (CI:2.5-12.6)	N/A*
\$15,000-24,999	30.8 (CI: 22.3-39.2)	9.9 (CI: 4.4-15.3)	17.2 (CI: 10.0-24.3)	42.2 (CI: 33.3-51.0)
\$25,000-34,999	31.6 (CI: 22.1-41.0)	5.0 (CI: 1.5-8.4)	11.9 (CI: 5.1-18.6)	51.5 (CI: 41.5-66.8)
\$35,000-49,999	18.0 (CI: 10.3-25.6)	8.7 (CI: 3.3-14.0)	15.9 (9.3-22.4)	57.4 (CI: 47.9-66.8)
\$50,000+	22.1 (15.6-28.5)	6.1 (CI: 2.1-10.0)	20.6 (CI: 14.5-26.6)	51.2 (CI: 43.5-58.8)

Source: Behavior Risk Factor Surveillance System at <http://www.cdc.gov/brfss/index.htm> Last accessed 19 Jan 2006

Note: * N/A=Not available if the unweighted sample size for the denominator was less than 50 or the CI half width was >10 for any cell

Table 24. Smoking status and educational attainment, Guam, 2003

Education	Smoke everyday (%)	Smoke some days (%)	Former smoker (%)	Never smoked (%)
Less than H.S.	N/A	13.8	7.8	N/A
H.S. or G.E.D.	33.2	9.1	13.8	43.9
Some post-H.S.	23.9	5.9	14.4	55.8
College graduate	12.4	4.2	18.4	65.0

Source: Behavior Risk Factor Surveillance System at <http://www.cdc.gov/brfss/index.htm> Last accessed 19 Jan 2006
 Note: * N/A=Not available if the unweighted sample size for the denominator was less than 50 or the CI half width was >10 for any cell

About one in five current smokers tried to quit for at least one day in the past year. This highlights the need for cessation services to support those who desire to quit using tobacco (Table 25).

Table 25. Percent current smokers with a quit attempt in the past year, Guam, 2003

Year	Percent who attempted to quit for at least one day in the past year
2001	17.0
2002	19.4
2003	19.6

Source: Behavior Risk factor Surveillance System, Department of Public Health and Social Services

Among health professionals, preliminary results of an ongoing survey indicate that smoking is less prevalent than the general population. However, despite the overwhelming medical evidence of the adverse health impact of smoking, 8% of all health professionals on Guam still smoke (Table 26).

Table 26. Smoking status, general population vs. health professionals, Guam

	Smoke everyday (%)	Smoke some days (%)	Former smoker (%)	Never smoked (%)
Guam overall	26.3%	7.8%	14.3%	51.7%
Guam Health professionals	6%	2%	27%	61%

Source: Guam Health Professionals Survey, University of Guam Tobacco Control Research Advisory Group and Department of Mental Health and Substance Abuse, 2005

An indirect measure of tobacco consumption is the volume of imports of cigarettes and other tobacco products. Data from the Economics Research Center of the Bureau of Statistics and Planning indicates that tobacco imports into Guam have increased significantly between 2005 and 2006. In 2006, tobacco ranked second of the top 15 commodities brought into Guam, accounting for 3.72% of total import dollars in the amount of \$1,612,784. This represents a 232.61% increase from 2005 (Economics Research Center, Bureau of Statistics and Planning, *Guam Import Data*, October 2006).

TOBACCO USE: YOUTH IN THE GENERAL POPULATION

Tobacco use is also prevalent among Guam's youth. Data on youth smoking is largely provided through the Youth Risk Behavior Study (YRBS), for which biennial information is available for the years 1995-2005. Additional sources of information include smaller scale surveys conducted by the Department of Mental Health and Substance Abuse (DMHSA) and the Guam Youth for Youth Organization (Y4Y), as well as the 2002 Global Youth Tobacco Survey (GYTS). The Tobacco Free Initiative (TFI) of the World Health Organization Western Pacific Regional Office (WHO-WPRO) and the Department of Public Health and Social Services (DPHSS) provided data from the GYTS.

Data from the YRBS for the years 1999, 2001, 2003 and 2005 have not been reported in national databases because the data were not weighted. The withdrawal of several private schools from the survey, after sampling was already carried out, resulted in low overall response rates for 1999-2003. In 2005, a number of sites failed to comply with the sampling methodology. This profile uses the unweighted data from those years. Therefore, care must be taken when comparing the results from 1999 – 2005 with US national averages.

An additional challenge is the variable system of coding for ethnicity/race over the different survey years. Table 27 shows how data for ethnicity/race was coded for the years of the survey. For this profile, categories were collapsed to: Filipino, Other Asian, Chamorro, Micronesian Islanders, White and Others for the 1999-2005 databases.

Table 27. Codes for ethnicity/race across time, Guam YRBS, 1995-2005

	1995	1997	1999	2001	2003, 2005
Middle School	NA	NA	<ol style="list-style-type: none"> 1. Chinese 2. Korean 3. Other Asian 4. Filipino 5. Chamorro 6. Micronesian Islanders 7. Other PI Group 8. Other Ethnicity 9. Multiple 	<ol style="list-style-type: none"> 1. Asian 2. Filipino 3. Chamorro 4. Micronesian Islander 5. Black or African American 6. Hispanic or Latino 7. Native Hawaiian, Am Indian, PI 8. White 	<ol style="list-style-type: none"> 1. Asian 2. Filipino 3. Chamorro 4. Micronesian Islander 5. Black or African American 6. Hispanic or Latino 7. Native Hawaiian, Am Indian, PI 8. White 9. Multiple-Hispanic 10. Multiple-Nonhispanic
High School	<ol style="list-style-type: none"> 1. White 2. Black 3. Hispanic 4. Other 	<ol style="list-style-type: none"> 1. White 2. Black 3. Hispanic 4. Other 	<ol style="list-style-type: none"> 1. Asian 2. Filipino 3. Chamorro 4. All Other Races 5. Multiple Races 	<ol style="list-style-type: none"> 1. Filipino 2. Asian 3. Chamorro 4. Micronesian Islander 5. Black or African American 6. Hispanic or Latino 7. Native Hawaiian, Am Indian, PI 8. White 	<ol style="list-style-type: none"> 1. Filipino 2. Asian 3. Chamorro 4. Micronesian Islander 5. Black or African American 6. Hispanic or Latino 7. Native Hawaiian, Am Indian or PI 8. White 9. Multiple-Hispanic 10. Multiple-Nonhispanic

Prevalence of cigarette use among youth has been declining in the US mainland. Nationwide, lifetime cigarette use, current cigarette use and current frequent cigarette use have been decreasing steadily since 1995.

Current smoking among youth on Guam parallels adult smoking rates. Guam surpasses the US mainland in youth cigarette use prevalence. Smoking is higher among youth on Guam, and declines in lifetime, current and current frequent cigarette use are less rapid than what the mainland is experiencing (Table 28). Significant declines in current cigarette use among Guam high school youth were noted were 1999 and 2003. Of interest, SYNAR inspections started on Guam in 1999, tobacco taxes were increased on Guam in 2003 (Figure 10), and a sustained tobacco control program was launched by the DMHSA since 2003. Frequent cigarette use and heavy cigarette use appear to have declined slightly among Guam high school youth (Table 28) in 2005.

Table 28. Trends in smoking prevalence, high school youth, US vs. Guam, 1995-2005

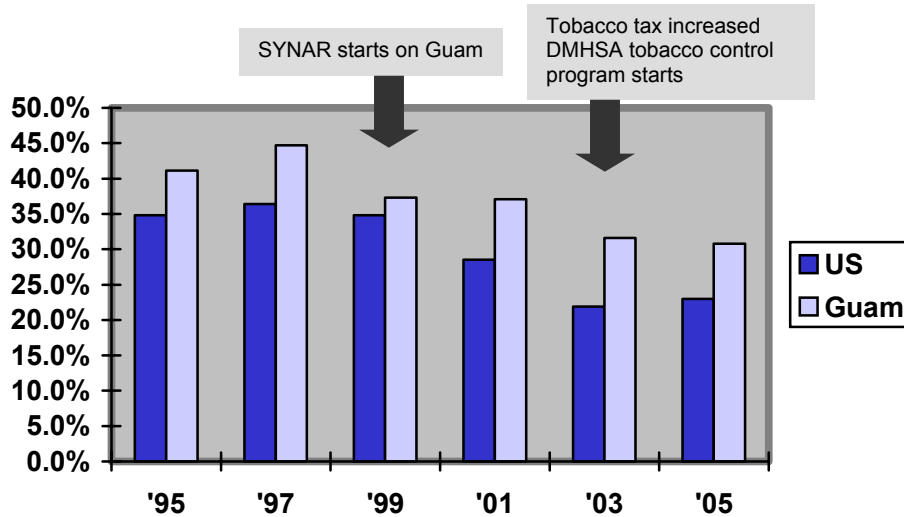
	1995	1997	1999	2001	2003	2005
Lifetime cigarette use						
(Ever tried cigarette smoking, even one or two puffs)						
US National average	71.3	70.2	70.4	63.9	58.4	54.3
Guam	84.9	79.1	83.7	70.1	75.6	75.0
Current cigarette use						
(Smoked cigarettes on one or more of the 30 days preceding the survey)						
US national average	34.8	36.4	34.8	28.5	21.9	23.0
Guam	41.1	44.7	37.3	37.1	31.6	30.8
Current frequent cigarette use						
(Smoked cigarettes on 20 or more of the 30 days preceding the survey)						
US national average	16.1	16.7	16.8	13.8	9.7	9.4
Guam	17.5	23.5	17.7	18.5	17.4	15.6
Current heavy cigarette use						
(Of current smokers, those who smoked more than 10 cigarettes per day on the days that they smoked, 30 days preceding the survey)						
US national average	16.2	13.8	14.9	14.4	13.7	10.7
Guam	9.3	11.0	11.9	11.4	12.2	9.6
Percentage who smoked a whole cigarette for the first time before the age of 13						
US national average	24.9	24.8	24.7	22.1	18.3	16.0
Guam	31.5	37.9	39.1	34.3	30.7	25.8

Source: YRBS 1995-2005

In 2005, three-quarters of Guam's high school youth reported having tried smoking, and one in three was a current cigarette user (Table 28). These figures are unchanged from 2003. More high school students reported ever trying cigarette smoking than alcohol or other drugs. About one in seven high school students was a frequent smoker, smoking on 20 of the past 30 days preceding the survey.

A greater percentage of Guam youth start smoking before the age of 13 as compared to the US average; while this has decreased significantly from 2003, the proportion of Guam high school students starting to smoke before the age of 13 is still over 60% that of US mainland youth (Table 28).

Figure 10. Current cigarette use among youth, Guam vs. US, 1995-2005 in relation to policy initiatives to reduce tobacco use on Guam



Sources: YRBS 1995-2005; SYNAR data from DMHSA 1999-2006; Guam Public Law 27-005

Unlike adults, current smoking rates are similar for young males and females (Table 29). Among middle school youth, current smoking is higher among girls. This lack of gender difference is worrisome, and raises the potential for tobacco-induced poorer reproductive outcomes if smoking rates among young females are not decreased in the near future. Over the longer term, this trend foreshadows rising tobacco-related morbidity and mortality among women in Guam.

Table 29. Current cigarette use among youth by sex, Guam 1995-2005

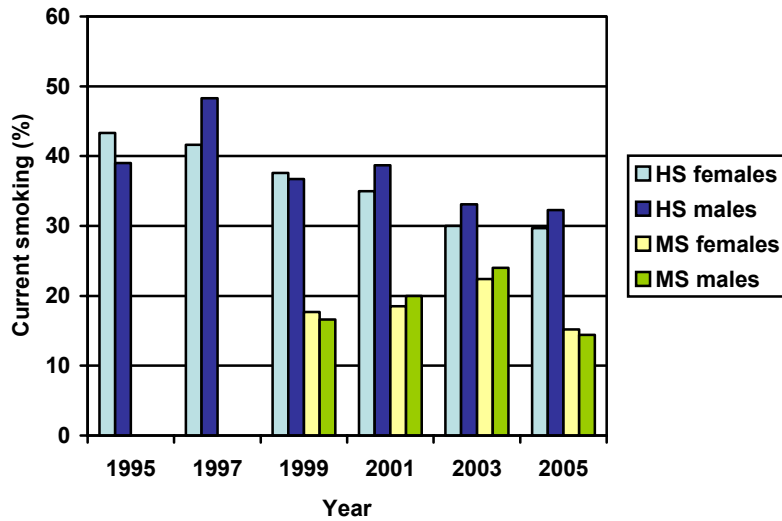
Year	Total (%)	Female (%)	Male (%)
High School			
1995	41.1	43.3	39.0
1997	44.7	41.6	48.3
1999	37.3	37.6	36.7
2001	37.1	35.0	38.7
2003	31.6	30.0	33.1
2005	30.8	29.7	32.3
Middle School			
1995	NA	NA	NA
1997	NA	NA	NA
1999	17.3	17.7	16.6
2001	19.2	18.5	20.0
2003	23.1	22.4	23.2
2005	14.8	15.2	14.4

Source: YRBS 1995-2005

Current smoking appears to be decreasing for Guam high school students, although Guam’s rate is still 30% higher than US mainland youth. The largest decline occurred in 2003, when tobacco taxes were raised from \$0.07 per pack to \$1.00 per pack, a 1400% tax increase that resulted in higher retail prices for cigarettes.

Among middle school youth, current cigarette use declined significantly in 2005, after documented increases from 1999 - 2003. This trend applies for both males and females in middle school (Table 29 and Figure 11).

Figure 11. Current cigarette use among youth by sex, Guam, 1995-2005



Source: YRBS, 1995-2005

Current smoking among youth disaggregated by ethnicity/race is summarized in Table 30. Cells with counts under 50 are denoted by (*). Among high school students, Chamorros have the highest rates for current smoking; rates increased from 1999-2003, but dropped in 2005 (Figure 12). Filipinos have the lowest rates, with appreciable decreases since 1999. Current smoking increased among Other Asian and Micronesia Islander high school youth in 2005.

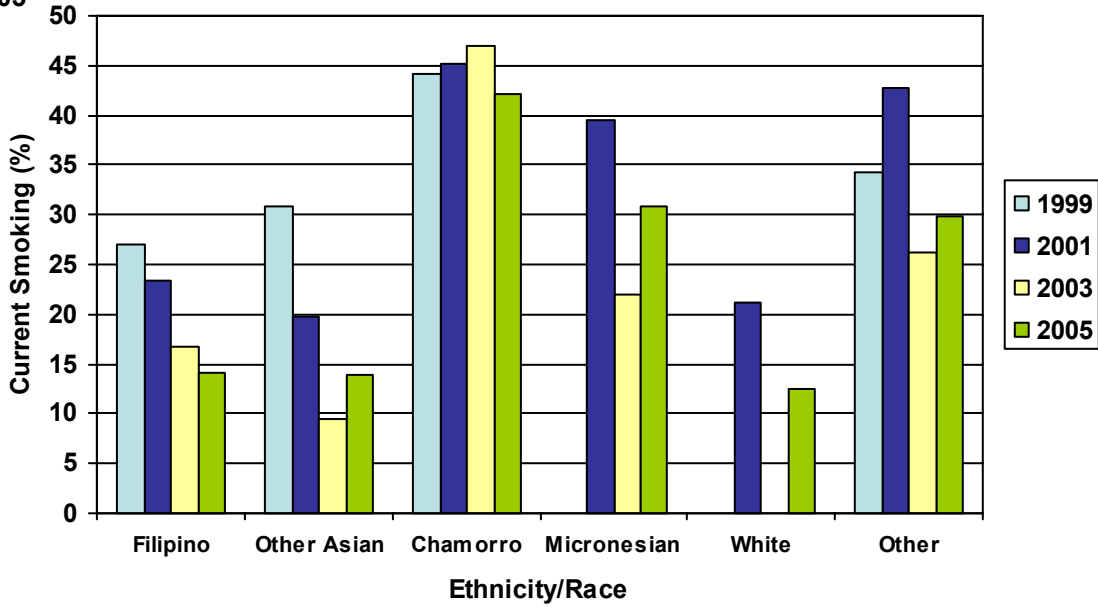
Among middle school youth, Chamorros and Micronesia Islanders have the highest rates for current tobacco use, with significant increases from 1999-2003. Filipino youth have the lowest rates. Current smoking decreased among middle school youth across all ethnicity/race categories in 2005 (Figure 13).

Table 30. Current cigarette use among youth by ethnicity/race, Guam, 1999-2005

Year	Filipino	Other Asian	Chamorro	Micronesia Islander	White	Others
	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)
High School						
1999	27.1 (170)	30.8* (26)	44.2 (292)	NA	NA	34.3 (67)
2001	23.3 (343)	19.7 (76)	45.2 (693)	39.6 (91)	21.1* (38)	42.8 (63)
2003	16.7 (209)	9.5* (21)	47.0 (313)	22.0* (41)	0* (5)	26.3 (118)
2005	14.2 (281)	14.0 (50)	42.2 (507)	30.9 (94)	12.5* (8)	29.9 (157)
Middle School						
1999	7.7 (196)	10.3* (29)	25.6 (309)	6.7* (15)	NA	14.5* (55)
2001	9.8 (490)	3.9* (51)	24.9 (858)	24.8 (121)	14.8* (27)	21.8* (55)
2003	11.5 (243)	9.5* (21)	31.5 (391)	32.7 (52)	42.9* (7)	19.9 (161)
2005	4.1 (245)	0* (23)	23.3 (390)	15.7 (102)	0* (12)	12.6 (159)

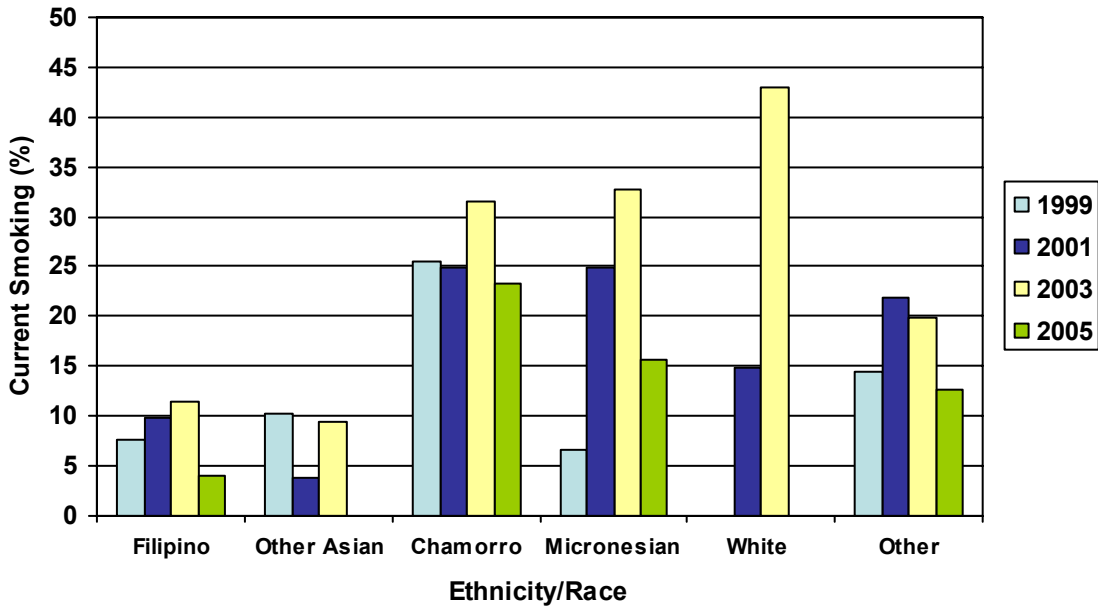
*Denotes cells where n < 50.
Source: YRBS, 1999-2005

Figure 12. Current cigarette use among High School youth, by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

Figure 13. Current cigarette use among Middle School youth, by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

Tables 31 and 32 show the lifetime and current prevalence of daily cigarette use among Guam's youth. Table 33 demonstrates the high percentage of youth smokers who want to quit. Taken together, these figures are indicative of the addictiveness of nicotine among adolescents.

Current daily cigarette use decreased among high school and middle school youth on Guam from 2003 to 2005. While the decline is encouraging, over 12% of high school students are habitual, or regular, smokers. This implies early addiction to nicotine, and increased risks for tobacco-related adverse health outcomes in the future.

Table 31. Lifetime daily cigarette use among youth, Guam, 1999-2005

Year	Total (%) n	Female (%) n	Male (%) n
High School			
1999	21.6 (125)	20.1 (62)	23.4 (63)
2001	22.2 (303)	19.0 (132)	25.5 (170)
2003	20.2 (154)	17.5 (66)	22.9 (88)
2005	20.6 (243)	18.6 (122)	23.1 (120)
Middle School			
1999	9.4 (60)	9.3* (34)	9.1* (24)
2001	7.2 (120)	7.3 (63)	7.1 (57)
2003	13.0 (124)	12.6 (64)	14.4 (59)
2005	5.7 (56)	5.3* (26)	6.0* (30)

Source: YRBS, 1999-2005

* Denotes cells where n<50

Table 32. Current daily cigarette use among youth, Guam, 1999-2005

Year	Total (%) n	Female (%) n	Male (%) n
High School			
1999	13.9 (78)	11.2* (33)	17.0* (45)
2001	14.5 (190)	11.5 (77)	17.8 (113)
2003	20.2 (154)	17.5 (66)	22.9 (88)
2005	12.4 (138)	9.3 (58)	16.5 (79)
Middle School			
1999	3.3* (20)	2.5* (9)	4.5* (11)
2001	3.4 (54)	3.2* (27)	3.5* (27)
2003	13.5 (124)	12.6 (64)	14.4 (59)
2005	2.9* (27)	2.6* (12)	3.2* (15)

Source: YRBS, 1999-2005

* Denotes cells where n<50

The percentage of youth smokers wanting to quit in the past year is increasing, signaling the need to provide cessation services for this population (Table 33). This is consistent with the observation of early nicotine addiction among a larger proportion of youth who smoke.

Table 33. Percentage of youth smokers who tried to quit in the past year, Guam, 1999-2005

Year	Total (%) N	Female (%) N	Male (%) N
High School			
1999	58.7 (277)	61.2 (150)	55.9 (127)
2001	77.1 (442)	76.9 (206)	77.2 (234)
2003	81.5 (216)	80.4 (102)	82.5 (114)
2005	82.3 (349)	84.9 (191)	79.3 (157)

Source: YRBS, 1999-2005

The use of other tobacco products such as chewing tobacco is less prevalent than cigarette smoking among Guam's youth. However, while the actual numbers of users are small, the rate of other tobacco use, particularly chewing tobacco mixed with betel nut, is increasing among both high school and middle school youth. The rates for high school youth doubled between 2003 and 2005. Overall, males have a higher prevalence of using other tobacco products than females (Table 34). The use of other tobacco products, particularly chewing tobacco with betel nut, deserves close monitoring, and prevention and early intervention efforts are needed to offset any further increases.

Table 34. Current use of other tobacco products among youth, by sex, Guam, 1999-2005

Year	Total (%) N	Female (%) n	Male (%) n
High School			
1999	4.0 (580)	3.2 (310)	4.8 (270)
2001	6.3 (1363)	2.9 (700)	8.9 (663)
2003	5.6 (791)	3.6 (384)	7.4 (407)
2005	10.6 (1214)	6.6 (680)	15.4 (534)
Middle School			
1999	3.2 (630)	1.6 (365)	5.0 (260)
2001	5.0 (1692)	4.4 (869)	5.5 (821)
2003	6.3 (939)	5.0 (522)	7.7 (414)
2005	7.9 (1021)	4.9 (508)	10.9 (513)

Source: YRBS, 1999-2005

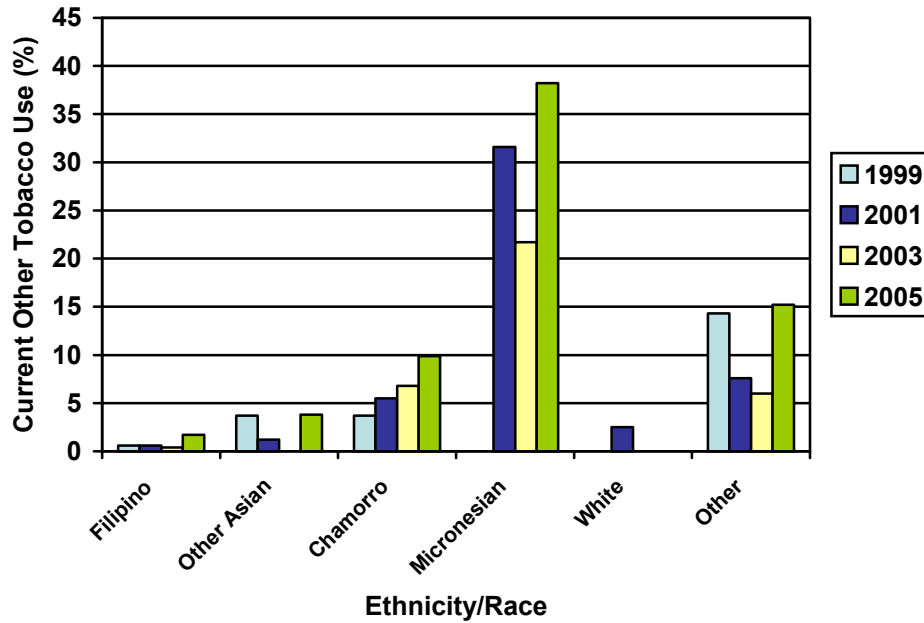
The use of other tobacco products, such as chewing tobacco with betel nut, is highest among Micronesian Islanders. Filipinos and Other Asians have the lowest rates; however, rates are increasing. Prevalence of using other tobacco products appears to be increasing among high school youth, regardless of ethnicity, and among Filipino and other middle school youth (Table 35, Figures 14 and 15). In future iterations of the YRBS on Guam, it will be important to ask specific questions about the use of chewing tobacco, with and without betel nut.

Table 35. Current use of other tobacco products among youth by ethnicity/race, Guam, 1999-2005

Year	Filipino % (n)	Other Asian % (n)	Chamorro % (n)	Micronesian Islander % (n)	White % (n)	Others % (n)
High School						
1999	0.6 (178)	3.7* (27)	3.7 (301)	NA	NA	14.3 (70)
2001	0.6 (353)	1.2 (81)	5.5 (723)	31.6 (98)	2.5* (40)	7.6 (66)
2003	0.4 (225)	0* (22)	6.8 (365)	21.7* (46)	0* (5)	6.0 (126)
2005	1.7 (297)	3.8 (52)	9.9 (568)	38.2 (102)	0* (9)	15.2 (178)
Middle School						
1999	0.5 (199)	0* (30)	3.7 (321)	20.0* (15)	NA	5.4 (56)
2001	0.8 (517)	0 (53)	4.5 (896)	27.6 (127)	3.3* (30)	6.6 (61)
2003	1.2 (250)	0* (21)	6.4 (420)	31.7 (63)	12.5* (8)	4.7 (171)
2005	1.9 (263)	8.7* (23)	6.1 (413)	25.0 (124)	0* (15)	8.8 (181)

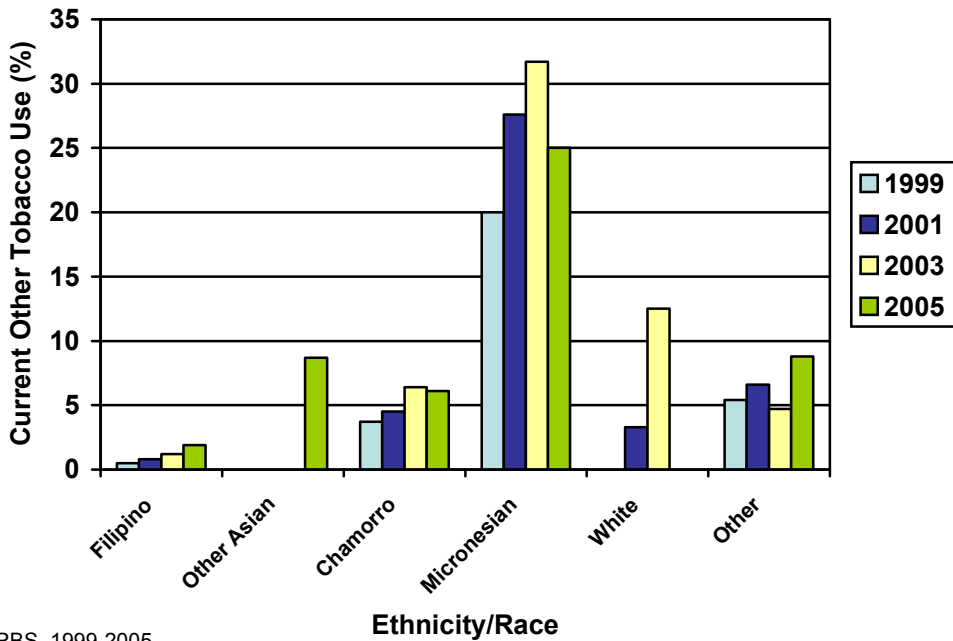
*Denotes cells where n < 50.
Source: YRBS, 1999-2005

Figure 14. Current use of other tobacco products among High School youth by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

Figure 15. Current use of other tobacco products among Middle School youth by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

Guam initiated its annual unannounced tobacco vendors' inspections in 1999, in compliance with the Synar law. Compliance rates reached federal targets in 2003, and have remained above target since.

A comparison of compliance rates with youth cigarette use indicate that a significant decrease in cigarette smoking among high school students occurred in 1999, and then in 2003. The drop in 1999 could be attributed to the heightened publicity about the law prohibiting sales of tobacco products to minors. However, smoking rates stabilized over the succeeding biennium.

The next drop in high school smoking occurred in 2003, when taxes on cigarettes increased by 1400% and the Department of Mental Health and Substance Abuse launched its tobacco control media campaign.

Guam's "Natasha Protection Act," which prohibits smoking in enclosed public places, came into effect in the first part of 2005. The 2005 YRBS, conducted in the latter half of the year, documented a persistent reduction in high school smoking rates, and a significant drop in middle school smoking rates, which had been increasing since 1999. (Table 36 and Figure 16).

The YRBS provides information on youth smokers who purchase their cigarettes from stores (Tables 37 and 38). The data indicates that about one in four (24.4%) young smokers purchased cigarettes from a store in 2005, down from about one in three (30.0%) in 2001. Males are more than twice as likely as females to purchase cigarettes from a store. Increasing age is also associated with a greater likelihood of buying cigarettes from a store.

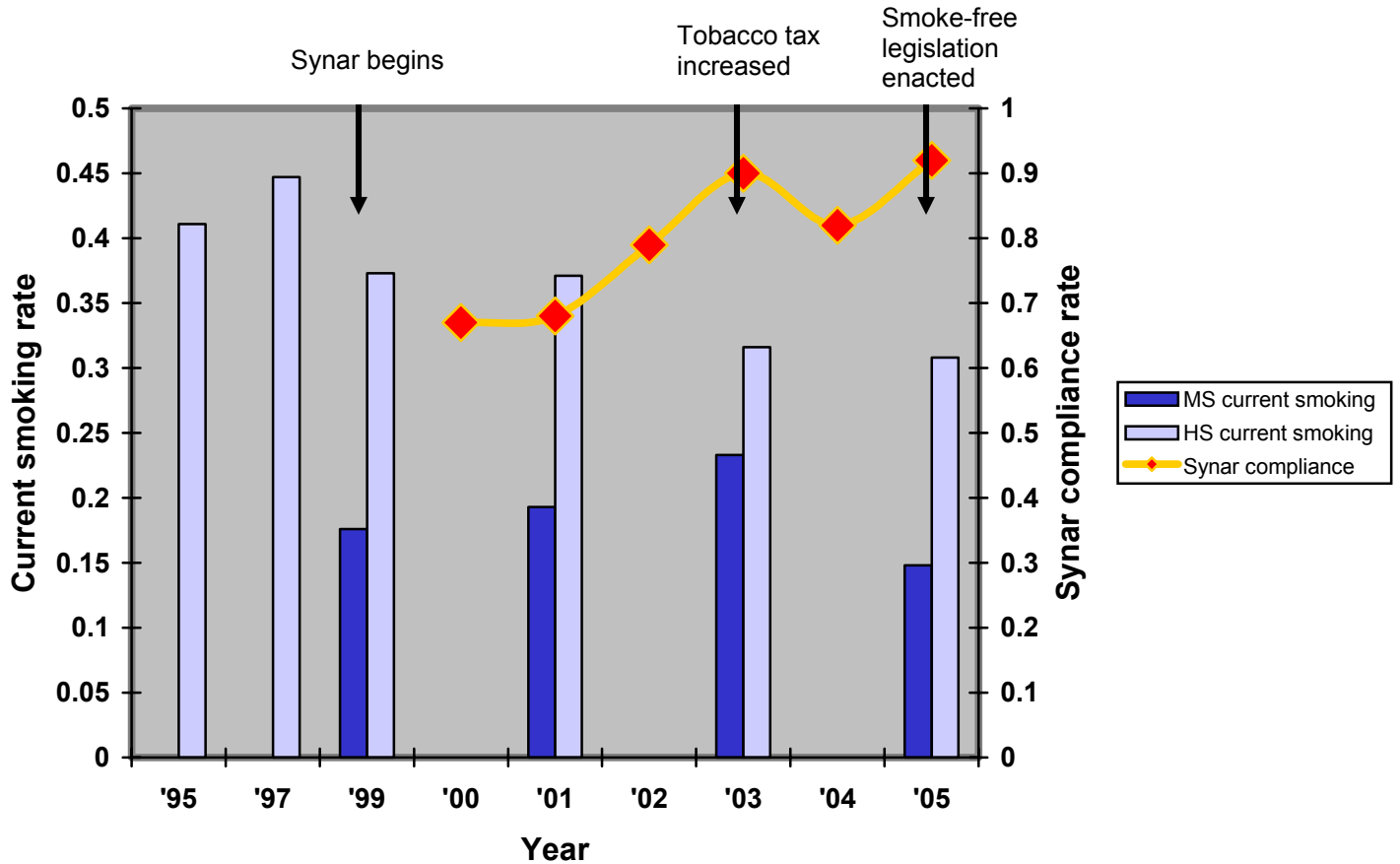
These figures highlight the importance of consistent enforcement of the Synar law and the need and effectiveness of a comprehensive approach to tobacco use prevention among youth, utilizing both price and non-price measures to reduce demand for tobacco products, to complement the restriction in youth access to tobacco.

Table 36. Synar compliance rates and current cigarette use among youth, Guam, 1999-2006

Year	Synar Compliance Rate	MS Cigarette Use*	HS Cigarette Use*
1995	---	---	41.1%
1997	---	---	44.7%
1999	---	17.3%	37.3%
2000	67%	---	---
2001	58%	19.2%	37.1%
2002	79.8%	---	---
2003	89.6%	23.1%	31.6%
2004	81.7%	---	---
2005	85.1%	14.8%	30.8%
2006	95%	---	---

Sources: Synar data, Department of Mental Health and Substance Abuse, 1999-2006 YRBS, 1995-2005

Figure 16. Synar compliance rates and youth current cigarette use, Guam, 1995-2005



Sources: Synar data, Department of Mental Health and Substance Abuse, 1999-2005; YRBS, 1995-2005

Table 37. Percent of youth smokers purchasing cigarettes from a store, by gender, 2001-2005

Year	Youth Smokers Purchasing Cigarettes from Stores			Total Youth Smokers N
	Male % (n)	Female % (n)	Total purchasing from store % (n)	
2001	36.8 (89)	22.9 (53)	30.0 (142)	474
2003	37.0 (44)	17.5 (18)	27.9 (62)	222
2005	35.1 (54)	15.7 (29)	24.4 (83)	340

Source: YRBS, 2001-2005

Table 38. Percent of youth smokers purchasing cigarettes from stores, by age, 2001-2005

Year	Age	Number who purchased cigarettes from a store	Total current smokers	% who bought from store
2001	15 years old and younger	21	183	11.5%
	16 years old	34	111	30.6%
	17 years old	44	108	40.7%
	18 years old and older	43	70	61.4%
2003	15 years old and younger	7	87	8.0%
	16 years old	10	52	19.2%
	17 years old	21	49	42.9%
	18 years old and older	23	33	69.7%
2005	15 years old and younger	14	148	9.5%
	16 years old	14	68	20.6%
	17 years old	20	77	26.0%
	18 years old and older	35	47	74.5%

Source: YRBS, 2001-2005

TOBACCO USE: COURT-INVOLVED ADULTS AND YOUTH

Presently, there is no systematic surveillance system using standardized instruments to determine tobacco use prevalence among court-involved adults and youth on Guam. The Department of Youth Affairs (DYA), the Juvenile Drug Court and the Guam Police Department use their own data collection instruments to survey the youth who are screened within their respective systems. Of these, the DYA routinely collects data on tobacco use patterns. The data presented in this section comes from these limited datasets. Caution is needed when interpreting these data given the limitations of the survey instruments. There is no source of information for tobacco use rates among court-involved adults on Guam.

Guam Public Law 24-278, the Tobacco Control Act of 1998, prohibits minors from possessing and/or using tobacco products. Of the 77 minors apprehended by the Guam Police Department from January to August 2005, only 1 was for possession and use of cigarettes. This was a 12-year old female. Given the high prevalence of self-reported tobacco use among Guam youth (YRBS), the low apprehension rate indicates that enforcement of P.L. 24-278 is minimal.

The Juvenile Drug Court recently began collecting data from their clients, using a form consisting of 29 data fields: 2 categorical and 27 open-ended questions. Data collection was done upon entry, as part of the screening intake. In 2005, a total of 162 records were available for review; in 2006, 167 records were reviewed. Table 39 summarizes the key findings in relation to tobacco use:

Table 39. Tobacco use among Juvenile Drug Court clients, 2005-2006

	2005	2006
Total clients (Number)	162	167
Male	134	143
(%)	(82.7%)	(85.6%)
Female	28	24
(%)	(17.3%)	(14.4%)
Average age (years)	15.5	14.9
Tobacco as 1st substance of abuse (%)	21%	18.0%
Current tobacco use (%)	21.6%	46.1%

Source: Juvenile Drug Court records, 2005-2006

Not all the data fields were completed in some of the records. The clients ranged in age from 13 to 18; the mean age was 15.5 years in 2005 and 14.9 years in 2006. Almost 20% reported tobacco as the first substance of abuse, with over 45% reporting current use of tobacco in 2006. This is a high-risk group of youth, which would account for the higher prevalence of current cigarette smoking reported for youth in school in the 2005 YRBS.

The DYA began collecting data on smoking in 2003 as part of their screening/intake interview. Table 40 summarizes their findings:

Table 40. DYA data on smoking behavior, 2003-2005

Year	Total Admissions (N)	Ever Smoked % (n)	Preferred Brand % (n)	Age When Started Smoking % (n)
2003	378	21.9 (83)	Marlboro - 28.9 (24) Doral - 16.9 (14) Kool - 9.6 (8) Any - 10.8 (9)	<10: 7.2 (6) 10-14: 77.1 (64) >14: 16.9% (14)
2004	463	76.0 (352)	Marlboro - 37.2 (131) Doral - 15.3 (54) Kool - 10.8 (38) Any - 9.1 (32)	<10: 7.9 (28) 10-14: 73.5 (259) >14: 12.1 (56)
2005	341	77.4 (264)	Marlboro - 40.5 (107) Doral - 20.5 (54) Kool - 8.3 (22) Any - 15.9 (42)	<10: 7.6 (21) 10-14: 75.8 (200) >14: 15.5 (41)

Source: DYA Statistics, 2003-2005

The data are striking for the consistency across the years in:

- The high prevalence of ever smoking among DYA-involved youth
- The preference for Marlboro (highly advertised) and Doral (lowest priced) brands
- The age distribution for starting tobacco use, with approximately three-quarters of youth clients starting between the ages of 10 and 14.

SECTION 3

Chapter 2 Alcohol Consumption

PROBLEM STATEMENT:

According to the 2003 BRFSS (the latest available data on adults), 45.7% of adults on Guam are current drinkers – 61.5% of adult males and 29.5% of adult females. Almost 6% of adults are heavy drinkers while 18.7% are binge drinkers. Heavy and binge drinking are most prevalent among young adults aged 18-34. Data on adults was not collected after 2003.

While alcohol use rates among youth on Guam are lower than national averages, since 1995, rates of current drinking and binge drinking among high school students have been declining nationwide. This trend had not been seen on Guam. In fact, binge drinking among high school students increased in 2005. Thus the gaps between prevalence rates of current and binge drinking among Guam and US youth have been narrowing.

Alcohol use rates among court-involved youth mirror that of youth in the general population. Two-thirds of youth screened at the Juvenile Drug Court reported alcohol as their primary substance of abuse. Alcohol use was associated with other criminal behavior in majority of the cases. Data on alcohol consumption among court-involved adults is not available.

ALCOHOL CONSUMPTION: ADULTS IN THE GENERAL POPULATION

Data on adult alcohol consumption is largely provided through the Behavioral Risk Factor Surveillance System (BRFSS), for which information is available for the years 2001-2003. Guam did not participate in the BRFSS for the years 2004-2006. Thus, there is no new data on adult alcohol consumption for this updated profile.

The BRFSS uses the federal system for ethnic group/racial categories. Unfortunately, this system does not capture the diversity within the Asian-Pacific Islander community, which predominates on Guam. Hence, information on racial differences in alcohol consumption is not captured in this particular database.

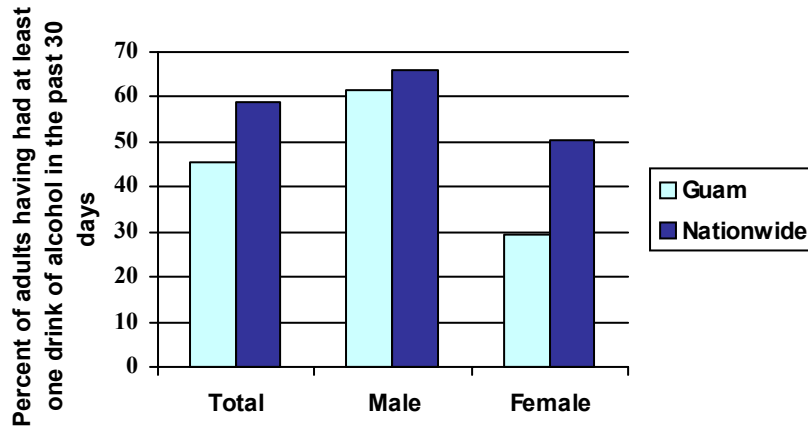
In 2003, 45.7% of adults on Guam reported having had at least one drink of alcohol within the past 30 days. This is lower than the nationwide average. Males were almost twice as likely to report recent consumption of alcohol as females on Guam. The percentage of adult females reporting recent alcoholic consumption was lower than the national average, while the male prevalence rate was similar to the nation (Table 41 and Figure 17).

Table 41. Recent alcohol consumption (within the past 30 days), Guam vs. US Average, 2003

State	Total	Male	Female
Guam			
%	45.7	61.5	29.5
CI	(41.7-49.6)	(55.7-67.2)	(24.8-34.1)
N	376	226	150
Nationwide			
Median %	58.8	66.2	50.4
# States	54	54	54

Source: BRFSS, 2003

Figure 17. Comparison of Guam and nationwide prevalence of current alcohol use,* adults, by sex, 2003



*Defined as having had at least one drink of alcohol within the past 30 days
Source: BRFSS, 2003

Recent alcohol consumption appeared to be equally prevalent across the different age groups surveyed. Current alcohol consumption appears most prevalent among those with the highest incomes, and those with higher educational attainment. This pattern holds true for both Guam and the nation as a whole (Tables 42-44).

Table 42. Recent alcohol consumption by age, Guam vs. US, 2003

State	18-24	25-34	35-44	45-54	55-64	65+
Guam %	N/A	49.6	46.8	47.1	N/A	N/A
CI		(41.4-57.7)	(39.4-54.1)	(38.1-56.0)		
n		97	105	73		
Nationwide						
Median %	60.1	64.0	63.2	60.3	54.7	41.5
n	54	54	54	54	54	54

Source: BRFSS, 2003

Table 43. Recent alcohol consumption by income category, Guam vs. US, 2003

State	<\$15,000	\$15,000-24,999	\$25,000-34,999	\$35,000-49,999	\$50,000+
Guam %	N/A	40.5	49.9	48.3	61.4
CI		(31.5-49.4)	(39.9-59.8)	(38.8-57.7)	(54.0-68.7)
n		58	62	66	123
Nationwide					
Median %	41.5	48.1	54.4	59.3	70.7
n	54	54	54	54	54

Source: BRFSS, 2003

Table 44. Recent alcohol consumption by education, Guam vs. US, 2003

State	Less than H.S.	H.S. or G.E.D.	Some post-H.S.	College graduate
Guam %	N/A	43.7	53.8	46.3
CI		(37.2-50.1)	(45.4-62.1)	(38.9-53.6)
n		126	97	113
Nationwide				
Median %	38.2	52.5	60.5	68.8
n	54	54	54	54

Source: BRFSS, 2003

Heavy drinking is defined in the BRFSS as adult men having more than two drinks per day and adult women having more than one drink per day. In 2003, the prevalence of heavy drinking on Guam was similar to the US average. Like the national average, males were more likely to report heavy drinking than females. Heavy drinking among females on Guam was significantly lower than the US average (Table 45).

Table 45. Heavy drinking, Guam vs. US, 2003*

State	Total	Male	Female
Guam			
%	5.7	9.8	1.5
CI	(3.8-7.5)	(6.3-13.2)	(0.4-2.5)
n	44	35	9
Nationwide			
Median %	5.7	6.9	4.5
# States	54	54	54

*Because cell sizes for Guam are less than 50, care must be used when interpreting these data.

Source: BRFSS, 2003

Heavy drinking appeared to be more prevalent among the younger adults, both on Guam and the US. Rates of heavy drinking were not significantly different across income categories. Nationally, educational attainment did not make a difference in heavy drinking. However, on Guam, those with lower educational attainment appeared more likely to report heavy drinking (Tables 46-48).

Table 46. Heavy alcohol consumption by age, Guam vs. US, 2003

State	18-24	25-34	35-44	45-54	55-64	65+
Guam* %	11.6	6.7	4.7	1.7	2.8	6.2
CI	(4.2-18.9)	(2.6-10.7)	(1.8-7.5)	(0.0-3.8)	(0.0-6.1)	(0.2-12.2)
n	10	13	11	3	3	4
Nationwide						
Median %	10.5	5.9	5.4	5.2	4.6	2.9
n	54	54	54	54	54	54

*Because cell sizes for Guam are less than 50, care must be used when interpreting these data.
Source: BRFSS, 2003

Table 47. Heavy alcohol consumption by income category, Guam vs. US, 2003

State	<\$15,000	\$15,000-24,999	\$25,000-34,999	\$35,000-49,999	\$50,000+
Guam* %	7.6	7.2	4.9	3.9	5.1
CI	(1.5-13.6)	(2.8-11.5)	(1.0-8.7)	(0.0-7.7)	(1.2-8.9)
n	9	11	7	4	8
Nationwide					
Median %	5.6	6.0	5.8	5.9	5.9
n	54	54	54	54	54

*Because cell sizes for Guam are less than 50, care must be used when interpreting these data.
Source: BRFSS, 2003

Table 48. Heavy alcohol consumption by education, Guam vs. US, 2003

State	Less than H.S.	H.S. or G.E.D.	Some post-H.S.	College graduate
Guam %	9.2	5.3	7.8	2.9
CI	(1.8-16.5)	(2.5-8.0)	(3.8-11.7)	(0.0-5.7)
n	7	15	16	6
Nationwide				
Median %	5.1	6.3	6.5	4.8
n	54	54	54	54

*Because cell sizes for Guam are less than 50, care must be used when interpreting these data.
Source: BRFSS, 2003

Binge drinking, defined as having five or more drinks on one occasion, was reported by 18.7% of adults on Guam in 2003. This is not significantly different from the US national average. Males were more likely to report binge drinking than females. Adults aged 25-44 had the highest rates of binge drinking. Educational attainment and income did not appear to affect the likelihood for indulging in this behavior (Tables 49-52).

Table 49. Binge drinking, Guam vs. US, 2003

State	Total	Male	Female
Guam*			
%	18.7	29.6	7.7*
CI	(15.4-21.9)	(24.1-35.0)	(4.9-10.4)
n	137	100	37
Nationwide			
Median %	16.4	24.9	8.4
# States	54	54	54

*Because some cell sizes for Guam are less than 50, care must be used when interpreting these data.
Source: BRFSS, 2003

Table 50. Binge drinking by age, Guam vs. US, 2003

State	18-24	25-34	35-44	45-54	55-64	65+
Guam* %	N/A	25.2	20.0	13.8	4.9	5.6
CI		(18.0-32.3)	(13.9-26.0)	(7.2-20.3)	(0.0-10.8)	(0.0-11.8)
N		48	42	18	3	3
Nationwide						
Median %	31.8	24.1	18.2	12.6	8.3	3.0
N	54	54	54	54	54	54

*Because cell sizes for Guam are less than 50, care must be used when interpreting these data.
Source: BRFSS, 2003

Table 51. Binge drinking by income category, Guam vs. US, 2003

State	<\$15,000	\$15,000- 24,999	\$25,000- 34,999	\$35,000- 49,999	\$50,000+
Guam* %	17.4	19.7	23.9	22.0	16.8
CI	(8.2-26.5)	(12.4-26.9)	(14.7-33.0)	(13.8-30.1)	(10.5-23.0)
n	16	27	28	27	28
Nationwide					
Median %	14.9	16.3	15.7	17.6	17.0
n	54	54	54	54	54

*Because cell sizes for Guam are less than 50, care must be used when interpreting these data.
Source: BRFSS, 2003

Table 52. Binge drinking by education, Guam vs. US, 2003

State	Less than H.S.	H.S. or G.E.D.	Some post-H.S.	College graduate
Guam %	15.9	21.7	22.4	12.5
CI	(7.7-24.0)	(16.1-27.2)	(14.8-29.9)	(7.5-17.4)
n	18	57	33	28
Nationwide				
Median %	14.4	17.3	17.3	14.0
n	54	54	54	54

*Because cell sizes for Guam are less than 50, care must be used when interpreting these data.
Source: BRFSS, 2003

Table 53 compares trends for Guam and the US with regards to heavy drinking and binge drinking. There does not appear to be any significant change over time in either heavy drinking or binge drinking amongst adults on Guam.

Table 53. Trends, heavy and binge drinking, Guam vs. US, 2001-2003

Year	Guam		Nationwide	
	Heavy Drinking	Binge Drinking	Heavy Drinking	Binge Drinking
2001	5.3	18.1	5.1	14.7
	(3.5-7.0)	(14.9-21.2)	54	54
	47	143		
2002	8.3	17.7	5.9	16.1
	(5.9-10.6)	(14.5-20.8)	54	54
	61	140		
2003	5.7	18.7	5.7	16.4
	(3.8-7.5)	(15.4-21.9)	54	54
	44	137		

Source: BRFSS, 2001-2003

ALCOHOL CONSUMPTION: YOUTH IN THE GENERAL POPULATION

Data on alcohol consumption among youth is available through the Youth Risk Behavior Survey. New data is available from the 2005 YRBS, released in 2006. The limitations associated with this surveillance system were discussed previously.

Close to 70% of high school youth and one-third of middle school youth on Guam have had at least 1 alcoholic drink in their lifetime. Over one-third of high school students are current drinkers. Current drinking among males remained unchanged from 2003; however, current drinking decreased among females (Tables 54-55). This has widened the gap between male and female drinking.

Table 54. Lifetime alcohol use, youth, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam H.S. %	71.3	68.2	71.1	68.6	71.6	67.8
N	701	1073	353	474	348	594
Guam M.S. %	42.0	33.5	43.8	37.2	40.6	29.9
N	891	949	395	476	493	472
Nationwide H.S.						
Median % (95% CI)	74.9 (+/- 2.7)	74.3 (+/- 3.1)	73.7 (+/- 3.0)	73.8 (+/- 2.7)	76.1 (+/- 2.8)	74.8 (+/- 3.9)

Source: YRBS, 2003-2005

Table 55. Current alcohol use, High School, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam %	37.9	36.2	39.2	40.0	36.6	33.2
N	721	1130	360	482	361	642
Nationwide						
Median % (CI)	44.9 (+/-2.4)	43.3 (+/-2.7)	43.8 (+/-2.5)	43.8 (+/-2.7)	45.8 (+/-2.6)	42.8 (+/-3.1)

Source: YRBS, 2003-2005

While binge drinking among youth is lower on Guam than on the US, US rates are decreasing while Guam rates are either unchanged or increasing. Thus, the gap between Guam and US rates is shrinking. Males on Guam have a higher prevalence of binge drinking than females. Binge drinking increased among Guam youth between 2003 and 2005, largely due to a significant increase among males (Table 56).

Table 56. Current binge drinking, High School, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam %	17.3	18.5	20.7	24.2	13.8	14.0
N	759	1209	382	525	377	678
Nationwide						
Median % (CI)	28.3 (+/- 2.0)	25.5 (+/- 2.2)	29.0 (+/- 2.1)	27.5 (+/- 2.6)	27.5 (+/- 2.1)	23.5 (+/- 2.3)

Source: YRBS, 2003-2005

One in five Guam high school students had their first alcoholic drink before the age of 13, similar to the national average (Table 57). Among middle school youth on the island, 17% reported having had their first alcoholic drink before the age of 11.

Table 57. High School youth who had their first alcoholic drink before the age of 13, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam %	27.0	20.9	28.4	22.1	25.5	19.8
N	715	1100	366	488	349	607
Nationwide						
Median %	27.8	25.6	32.0	29.2	23.3	22.0
(CI)	(+/- 2.1)	(+/- 1.7)	(+/- 2.5)	(+/- 2.5)	(+/- 2.4)	(+/- 1.9)

Source: YRBS, 2003-2005

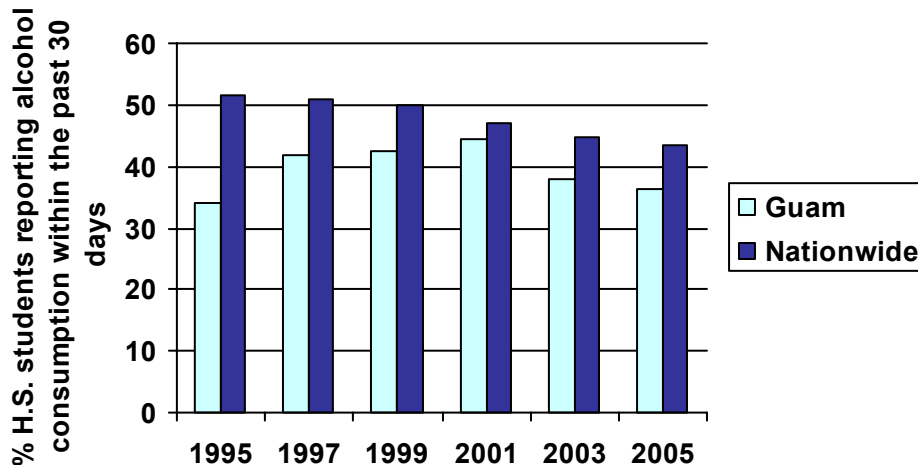
Since 1995, rates of current drinking and binge drinking among high school students have been decreasing steadily nationwide. This trend has not been seen on Guam. As a result, the gap in prevalence of current and binge drinking between Guam vs. US youth has been narrowing (Table 58 and Figures 18-19). This is particularly evident for binge drinking.

Table 58. Trends, current and binge drinking, youth, Guam vs. US, 1995-2005

Year	Guam		Nationwide	
	Current Drinking % n	Binge Drinking % n	Current Drinking Median % (CI)	Binge Drinking Median % (CI)
1995	34.1	14.7	51.6 (+/- 2.3)	32.6 (+/- 3.0)
1997	42.0	22.9	50.8 (+/- 2.8)	33.4 (+/- 2.1)
1999	42.5 234	21.1 121	50.0 (+/- 2.5)	31.5 (+/- 1.9)
2001	44.5 601	24.9 346	47.1 (+/- 2.2)	29.9 (+/- 2.0)
2003	37.9 721	17.3 759	44.9 (+/- 2.4)	28.3 (+/- 2.0)
2005	36.2 1130	18.5 1209	43.3 (+/- 2.7)	25.5 (+/- 2.2)

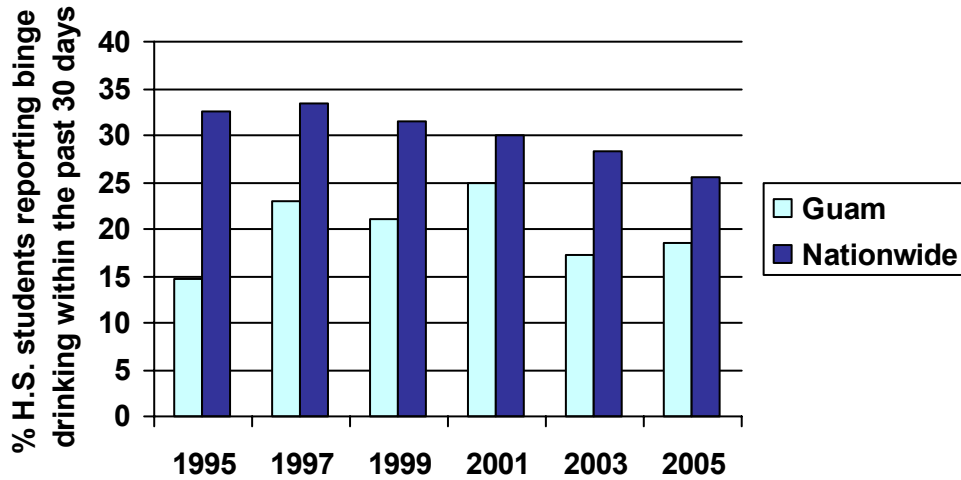
Source: YRBS, 1995-2005

Figure 18. Trends in current drinking, High School, Guam vs. US, 1995-2005



Source: YRBS, 1995-2005

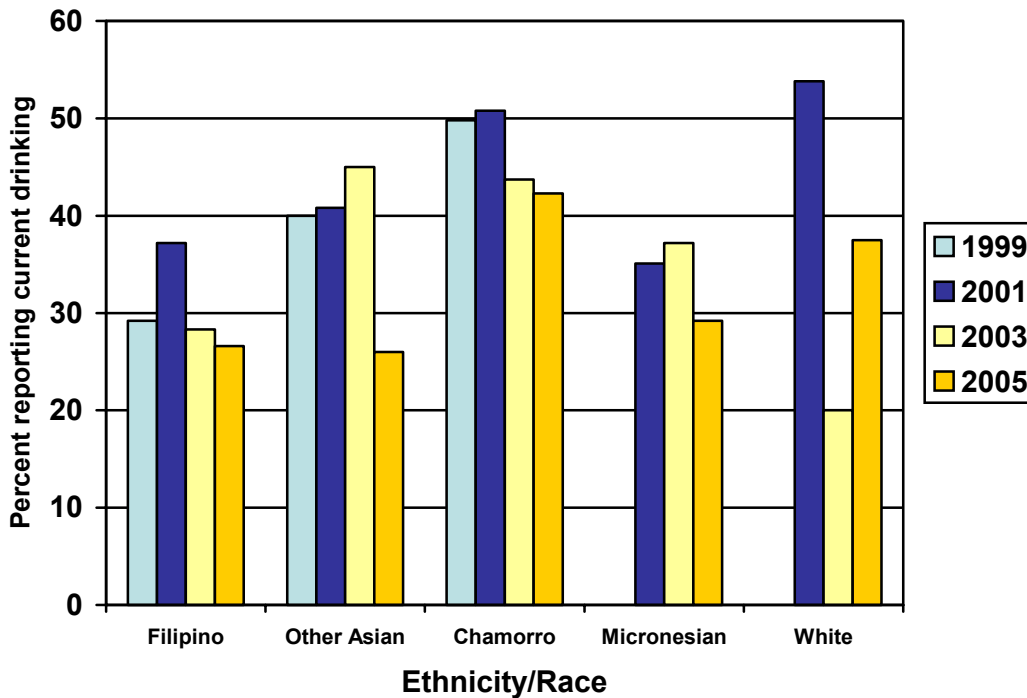
Figure 19. Trends in binge drinking, High School, Guam vs. US, 1995-2005



Source: YRBS, 1995-2005

When disaggregated by ethnicity/race, Filipino and Other Asian youth have the lowest rates for current and binge drinking, while Chamorro youth have the highest. Current drinking decreased markedly for Micronesians and Other Asian youth, but remained unchanged for Chamorro and Filipino youth (Figures 20-21).

Figure 20. Current drinking, High School, by ethnicity/race, Guam, 1999-2005

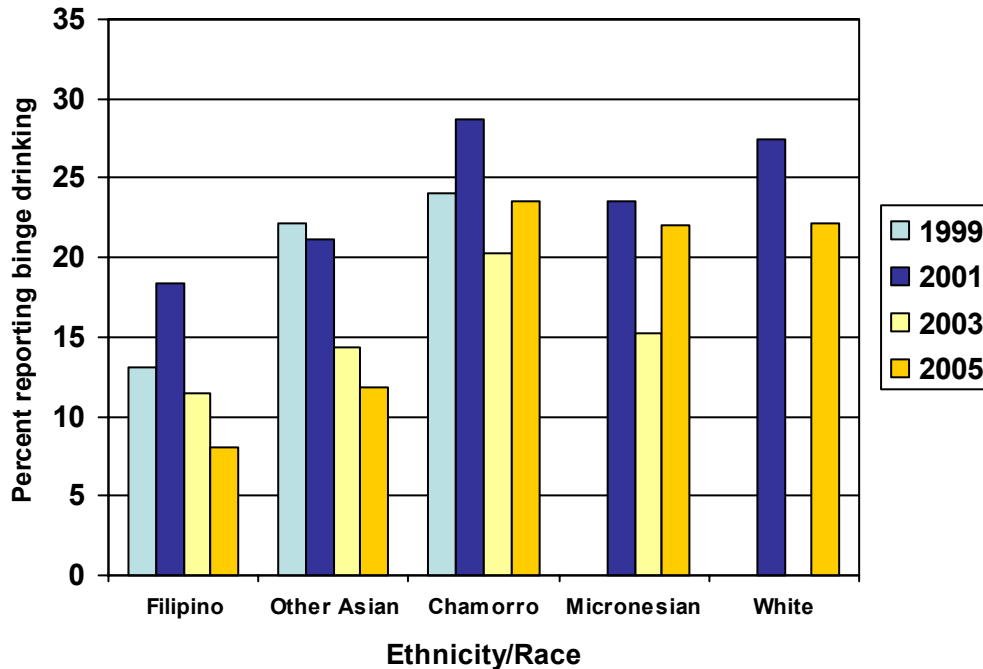


Source: YRBS, 1995-2005

*Reported percentages for White youth need to be interpreted with caution, as n < 50 for this category.

Binge drinking appears to be decreasing over time for Filipino and Other Asian youth. However, binge drinking rose markedly for Chamorro and Micronesian youth in 2005. Chamorro and Micronesian Islander youth also have the highest rates of binge drinking (Figure 21).

Figure 21. Binge drinking, High School, by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1995-2005

*Reported percentages for White youth need to be interpreted with caution, as n < 50 for this category.

In relation to drinking and driving, the following tables compare Guam and US statistics regarding (1) the percentage of students who during the past 30 days, rode one or more times in a car or other vehicle driven by someone who had been drinking alcohol and (2) the percentage of students who during the past 30 days drove a car or other vehicle one or more times when they had been drinking alcohol.

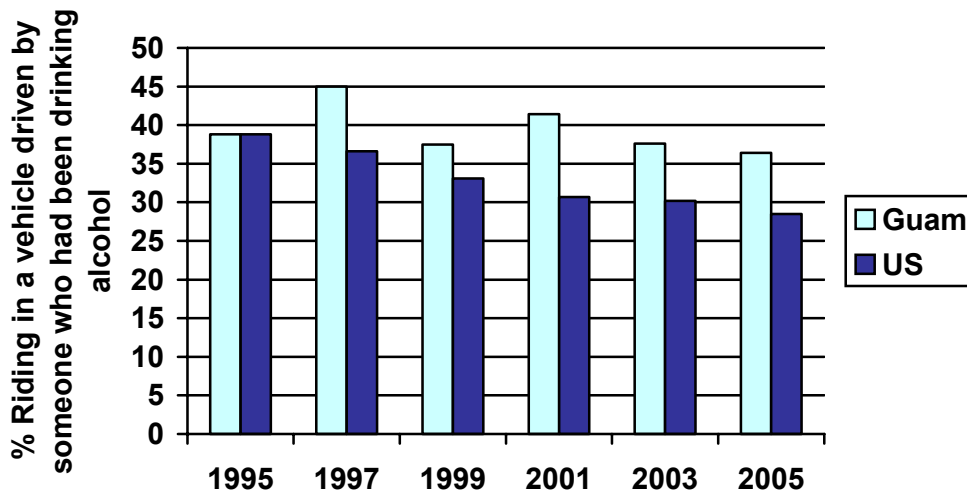
The data indicate that while these risky behaviors appear to be on the decline for US youth, they remain unchanged for Guam youth. Thus, while the likelihood of riding in a vehicle driven by someone who had been drinking alcohol among Guam youth was equal to the US rate in 1995, Guam has overtaken the national averages since 1997. The likelihood of riding in a vehicle driven by someone who had been drinking does not appear to be significantly different between males and females, on Guam and in the US (Table 59 and Figure 22). The charts also show that the gap between US and Guam rates is widening, with Guam youth persisting to demonstrate risky behaviors in relation to alcohol and motor vehicle use.

Table 59. Riding in a vehicle during the past 30 days driven by someone who had been drinking alcohol, High School, Guam vs. US, 1995-2005

Year	Site	Total % (+/- CI)	Female % (+/- CI)	Male % (+/- CI)
2005	Guam	36.4 (+/- 2.66)	33.5 (+/- 3.52)	39.9 (+/- 4.07)
	US	28.5 (+/- 1.9)	29.6 (+/- 2.4)	27.2 (+/- 2.0)
2003	Guam	37.6 (+/- 3.1)	36.3 (+/- 2.0)	38.7 (+/- 2.6)
	US	30.2 (+/- 2.1)	31.1 (+/- 2.0)	29.2 (+/- 2.6)
2001	Guam	41.4 (+/- 2.4)	---	---
	US	30.7 (+/- 2.0)	29.6 (+/-2.1)	31.8 (+/- 2.3)
1999	Guam	37.5 (+/- 2.1)	34.3 (+/-2.8)	41.3 (+/-2.5)
	US	33.1 (+/- 2.2)	31.7 (+/-2.8)	34.4 (+/-2.5)
1997	Guam	45.0 (+/- 5.7)	41.7 (+/-6.9)	48.6 (+/- 6.4)
	US	36.6 (+/-2.1)	34.5 (+/-2.2)	38.3 (+/- 2.5)
1995	Guam	38.8 (+/- 5.2)	38.1 (+/- 7.1)	39.3 (+/- 7.0)
	US	38.8 (+/- 3.7)	37.8 (+/- 4.3)	39.5 (+/-4.4)

Source: YRBS, 1995-2005

Figure 22. Riding in a vehicle during the past 30 days driven by someone who had been drinking alcohol, High School, Guam vs. US, 1995-2005



Source: YRBS, 1995-2005

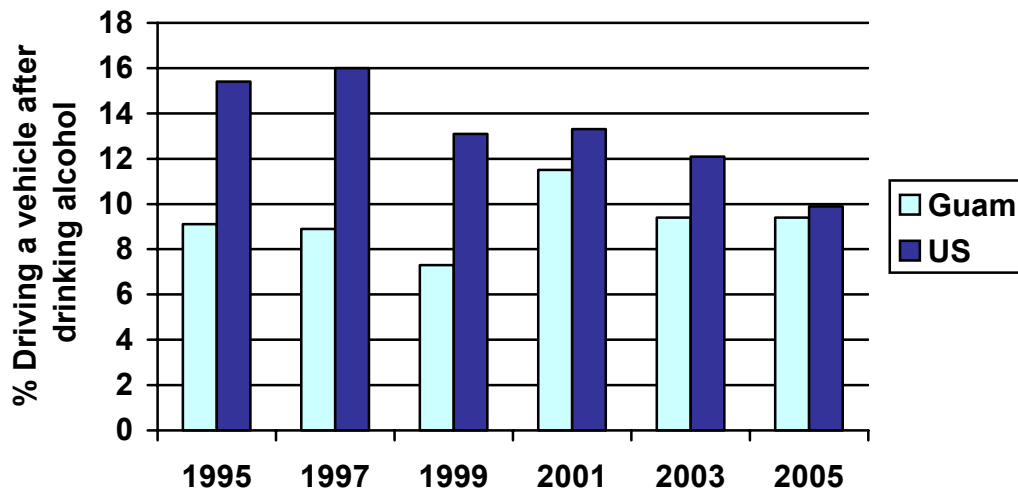
With regards to driving a vehicle after having been drinking alcoholic beverages, the data indicates that the likelihood of engaging in this risky behavior is higher among males, for Guam and nationwide. The nationwide prevalence for this behavior appears to be declining; this trend is not evident for Guam (Table 60 and Figure 23). Thus, in 1995 youth in the mainland were 50% more likely to drive a vehicle after consuming alcohol than Guam youth; today, the rate is the same for both groups.

Table 60. Driving a vehicle during the past 30 days when they had been drinking alcohol, High School, Guam vs. US, 1995-2005

Year	Site	Total % (+/- CI)	Female %	Male %
2005	Guam	9.4 (+/- 1.63)	5.4 (+/- 1.69)	14.6 (+/- 2.99)
	US	9.9 (+/- 1.0)	8.1 (+/- 1.0)	11.7 (+/- 1.4)
2003	Guam	9.4 (+/- 1.9)	6.4	12.2
	US	12.1 (+/- 1.2)	8.9 (+/- 1.1)	15.0 (+/- 1.6)
2001	Guam	11.5 (+/- 1.6)	---	---
	US	13.3 (+/- 1.5)	9.5 (+/-1.4)	17.2 (+/- 2.1)
1999	Guam	7.3 (+/- 2.0)	9.1	12.7
	US	13.1 (+/- 1.2)	8.7 (+/-1.8)	17.4 (+/-1.6)
1997	Guam	8.9 (+/- 1.9)	2.6 (+/-1.9)	16.1 (+/- 3.3)
	US	16.9 (+/-2.8)	12.0 (+/-2.5)	21.0 (+/- 3.2)
1995	Guam	9.1 (+/- 4.9)	4.4 (+/- 4.0)	13.2 (+/- 7.7)
	US	15.4 (+/- 3.3)	11.9 (+/- 3.7)	18.5 (+/-3.2)

Source: YRBS, 1995-2005

Figure 23. Driving a vehicle within the past 30 days after drinking alcohol, High School, Guam vs. US, 1995-2005



Source: YRBS, 1995-2005

If US rates for this behavior continue to decline while Guam's rates remain stagnant, as they have over the past 2 years, it is likely that in the next iteration of the YRBS, the percentage of Guam youth demonstrating this risky behavior will be higher than that of the US mainland.

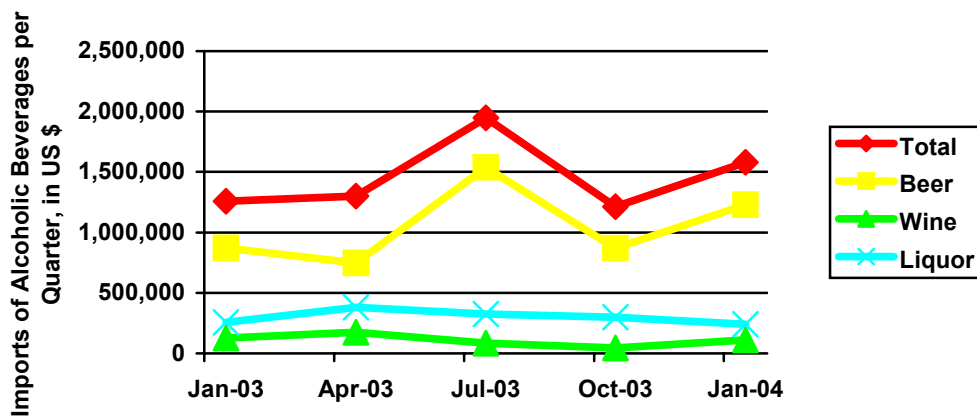
Guam imported a total of \$ 7,302,589.00 worth of alcoholic beverages from January 2003 to January 2004. The breakdown by type of alcoholic beverage imported is shown in Table 61. Beer is the most heavily imported type of alcoholic beverage, and accounts for almost all increases in alcoholic imports (Figure 24). It is also the most heavily advertised alcoholic product on island.

Table 61. Alcoholic beverages imported into Guam, US Dollars, January 2003 to January 2004

Alcoholic Beverage	Jan 2004 (US \$)	Oct 2003 (US \$)	July 2003 (US \$)	April 2003 (US \$)	Jan 2003 (US \$)
Total	1,580,379	1,214,323	1,948,176	1,301,503	1,258,208
Beer	1,228,596	869,882	1,536,988	748,055	873,398
Wine	111,994	45,884	85,656	173,490	127,929
Liquor	239,789	298,557	325,532	379,958	256,881

Source: Guam Statistical Yearbook, 2004

Figure 24. Alcoholic imports in US \$ into Guam, by type of beverage, January 2003-January 2004



Source: Guam Statistical Yearbook 2004

More recent data from the Economic Research Center indicates that imports of beer declined by over 13% between 2005 and 2006 (Economic Research Center, Bureau of Statistics and Plans, *Guam Import Data*, October 2006).

ALCOHOL CONSUMPTION: COURT-INVOLVED ADULTS AND YOUTH

At present, data on the general prevalence of alcohol consumption among court-involved adults is not available. Alcohol was reported as the drug of choice, either singly, or in combination with "ice", by 3.7% of clients of the Adult Drug Court.

Data on court-involved youth is limited to the information collected by the DYA, Sanctuary, Inc. and the Juvenile Drug Court.

The DYA statistics on lifetime alcohol consumption are intermediate between high school and middle school statistics from the YRBS. The prevalence of ever consuming alcoholic beverages is over 50% among the DYA population (Table 62).

Table 62. DYA data on alcohol consumption, 2000-2006

Year	Total Admissions (N)	Experimented with Alcohol % (n)	Ever Tried Alcohol, H.S. YRBS %	Ever Tried Alcohol, M.S. YRBS %
2000	430	51.8 (223)		
2001	427	45 (194)	75.6 (1022)	43.6 (732)
2002	333	33.6 (112)		
2003	378	43.9 (166)	71.3 (500)	42.0 (891)
2004	463	63.7 (295)		
2005	597	63.1 (377)	68.2 (1073)	33.5 (949)
2006	947	53.7 (509)		

Source: DYA Statistics, 2003-2006

In 2006, 25.7% of Juvenile Drug Court clients reported alcohol as the 1st substance abused. An additional 1.2% reported alcohol and marijuana as the 1st substances abused. Over sixty percent of youth screened at the Juvenile Drug Court in 2006 reported alcohol as the primary substance currently abused. This makes alcohol as the predominant substance of abuse for clients of the Juvenile Drug Court.

Among the 88 clients served by Sanctuary, Inc. in 2006, 26.1% were admitted primarily for alcohol use. An additional 8% were admitted for concomitant use of alcohol and marijuana and 22.7% for concurrent use of alcohol with other drugs.

SECTION 3

Chapter 3 Illicit Drug Use

PROBLEM STATEMENT:

Data on adult drug use on Guam is currently not available.

Among Guam youth, the prevalence rates of lifetime and current marijuana use are higher than national averages. In 2005, the percentage of Guam youth who have tried marijuana prior to the age of 13 was more than three times the US average. Inhalant use appears to be decreasing among US youth, but not among Guam youth. Rates of lifetime and current inhalant use among Guam youth surpassed the national rates in 2001 and 2003. Methamphetamine (“ice”) and cocaine lifetime use are lower on Guam than across the US.

Among court-involved adults undergoing mandatory drug testing by the US Probation Office, 1.6% tested positive for drugs in 2004. Over half of the positive tests were for methamphetamines, either singly or in combination with other drugs. Amphetamine and opiate abuse are also prevalent. Less than 5% of the tests were positive for cannabis. These likely underestimate the prevalence of illicit drug use within this population.

Among court-involved youth, marijuana and inhalants were reported as the illicit drugs most frequently used.

ILLICIT DRUGS: ADULTS IN THE GENERAL POPULATION

Guam does not participate in SAMHSA's National Survey on Drug Use and Health (NSDUH), formerly called the National Household Survey on Drug Abuse. Neither does it have any State-level surveillance system in place to monitor illicit drug use among adults in the general population. This is an area where surveillance capacity needs to be established in the near future. Towards this objective, the PEACE project is in the process of negotiating for a research firm to undertake a survey of selected NSDUH questions among the adult population on Guam.

ILLICIT DRUGS: YOUTH IN THE GENERAL POPULATION

Data on illicit drug use among youth in the general population on Guam is available from the YRBS. Guam does not currently participate in the National Institute of Drug Abuse's (NIDA) Monitoring the Future, an ongoing study of the drug-related behaviors, attitudes, and values of American secondary school students, college students, and young adults.

Marijuana

Marijuana is the third most commonly tried substance of abuse on Guam among youth, after tobacco and alcohol. Table 63 presents data comparing lifetime experimentation with marijuana among Guam youth vs. the US national average in 2003 and 2005. Lifetime and current marijuana use among Guam youth are higher than national averages. The prevalence rates are higher among males, but both male and female rates on Guam are above nationwide rates; the differences are statistically significant (Tables 63-64). In addition, marijuana use is trending downwards among US youth, but not among Guam youth, where rates remain unchanged or have increased slightly since 2003.

Table 63. Lifetime marijuana use, youth, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam H.S.						
%	46.9	47.3	52.0	53.2	41.8	42.2
n	761	1201	381	523	380	671
Guam M.S.						
%	20.6	14.9	24.9	20.0	17.1	9.8
n	891	994	389	495	502	498
Nationwide H.S.						
Median % (95% CI)	40.2 (+/- 2.7)	38.4 (+/- 2.5)	42.7 (+/- 2.9)	40.9 (+/- 2.6)	37.6 (+/- 3.1)	35.9 (+/- 2.9)

Source: YRBS, 2003-2005

Table 64. Current marijuana use, High School, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam						
%	27.1	27.3	31.4	32.6	22.8	23.0
n	754	1205	373	524	381	675
Nationwide						
Median % (CI)	22.4 (+/- 2.1)	20.2 (+/- 1.6)	25.1 (+/- 2.5)	22.1 (+/- 1.9)	19.3 (+/- 1.9)	18.2 (+/- 1.9)

Source: YRBS, 2003-2005

In 2005, the percentage of Guam youth who have tried marijuana prior to the age of 13 was more than 50% above the US average. The percentage of Guam males who used marijuana before 13 was almost 50% higher than the percentage for Guam females. Nonetheless, both male and female rates for Guam youth surpass national averages (Table 65). Moreover, US rates of marijuana use before 13 have declined since 2003, but Guam rates have increased dramatically. This highlights a key area of concern among youth on Guam.

Table 65. High School students who tried marijuana for the first time before the age of 13, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam						
%	14.9	31.1	19.7	36.8	9.9	24.8
n	779	579	395	285	384	286
Nationwide						
Median % (CI)	9.9 (+/- 1.3)	8.7 (+/- 0.9)	12.6 (+/- 1.6)	11.0 (+/- 1.4)	6.9 (+/- 1.3)	6.3 (+/- 0.8)

Source: YRBS, 2003-2005

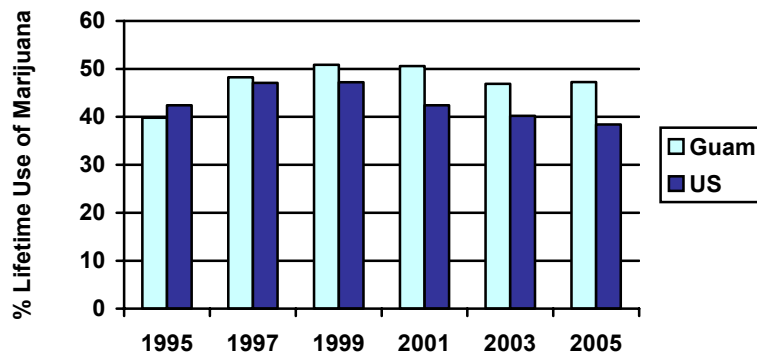
Table 66 and Figures 25 and 27 highlight the trends in lifetime and current marijuana use among high school youth on Guam as compared to the US.

Table 66. Trends, lifetime and current marijuana use, High School, Guam vs. US, 1995-2005

Year	Guam		Nationwide	
	Lifetime Marijuana Use % (CI)/ n	Current Marijuana Use % n	Lifetime Marijuana Use Median % (CI)	Current Marijuana Use Median % (CI)
1995	39.8 (+/- 4.2)	14.7	42.4 (+/- 3.0)	25.3 (+/- 1.8)
1997	48.3 (+/- 2.6)	22.9	47.1 (+/- 2.9)	26.2 (+/- 2.2)
1999	50.9 318	25.1 142	47.2 (+/- 2.5)	26.7 (+/- 2.5)
2001	50.6 695	26.6 369	42.4 (+/- 1.9)	23.9 (+/- 1.5)
2003	46.9 761	27.1 754	40.2 (+/-2.8)	22.4 (+/- 2.1)
2005	47.3 1201	27.3 1205	38.4 (+/- 2.5)	20.2 (+/- 1.6)

Source: YRBS, 1995-2005

Figure 25. Percent High School youth reporting lifetime marijuana use, Guam vs. US, 1995-2005



Source: YRBS, 1995-2005

Lifetime use of marijuana among high school youth on Guam has surpassed nationwide rates since 1997. The difference between Guam and US rates has been widening. This is due to the progressive decline in reported lifetime use of marijuana among US youth since 1999 (Table 66 and Figure 25) and the lack of a similar decrease among Guam youth.

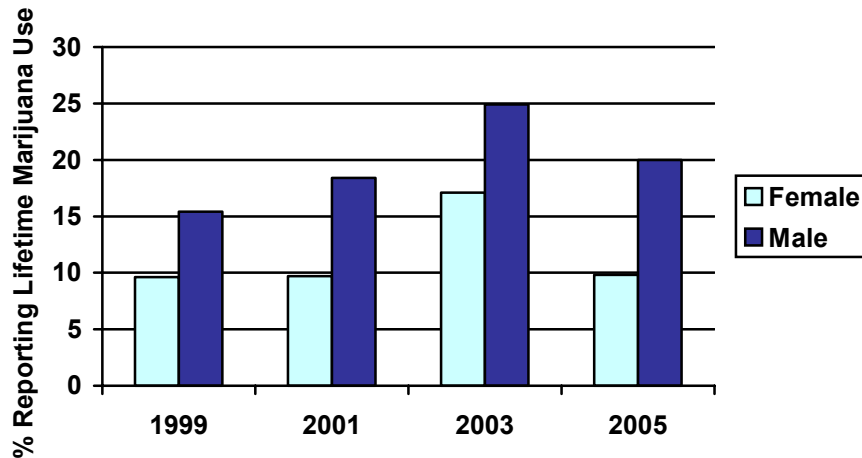
Among middle school students on Guam, the reported lifetime use of marijuana decreased between 2003 and 2005 (Table 67 and Figure 27).

Table 67. Lifetime marijuana use, Middle School, Guam, 1999-2005

Year	Females		Males	
	%	(N)	%	(N)
1999	9.6	(365)	15.4	(260)
2001	9.7	(863)	18.4	(816)
2003	17.1	(502)	24.9	(389)
2005	9.8	(498)	20.0	(495)

Source: YRBS, 1999-2005

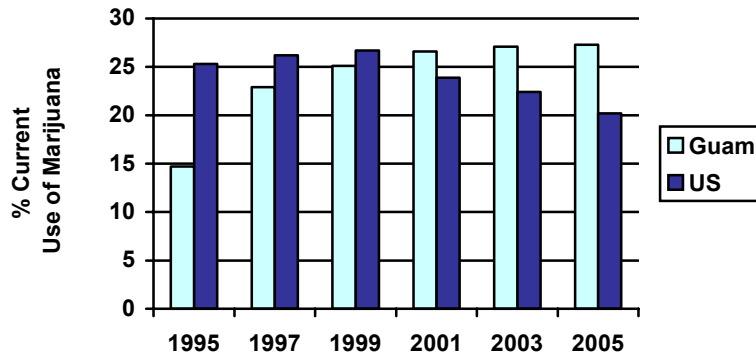
Figure 26. Lifetime marijuana use, Middle School, by sex, Guam, 1999-2005



Source: YRBS, 1999-2005

Current use of marijuana has been declining among US youth since 1999. However, current marijuana use is increasing among Guam high school students (Figure 27). This trend is largely due to increases in current marijuana use among female students. Thus, while current use rates are higher among males, the difference between male and female rates is diminishing (Table 68 and Figure 28).

Figure 27. Percent High School youth reporting current marijuana use, Guam vs. US, 1995-2005



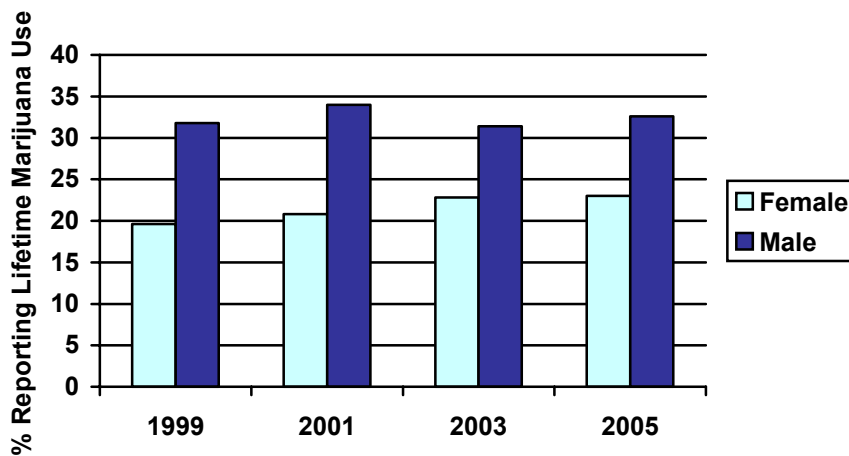
Source: YRBS, 1995-2005

Table 68. Current marijuana use, High School, by sex, Guam, 1999-2005

Year	Females		Males	
	%	(N)	%	(N)
1999	19.6	(306)	31.8	(258)
2001	20.8	(696)	34.0	(653)
2003	22.8	(381)	31.4	(373)
2005	23.0	(675)	32.6	(524)

Source: YRBS, 1999-2005

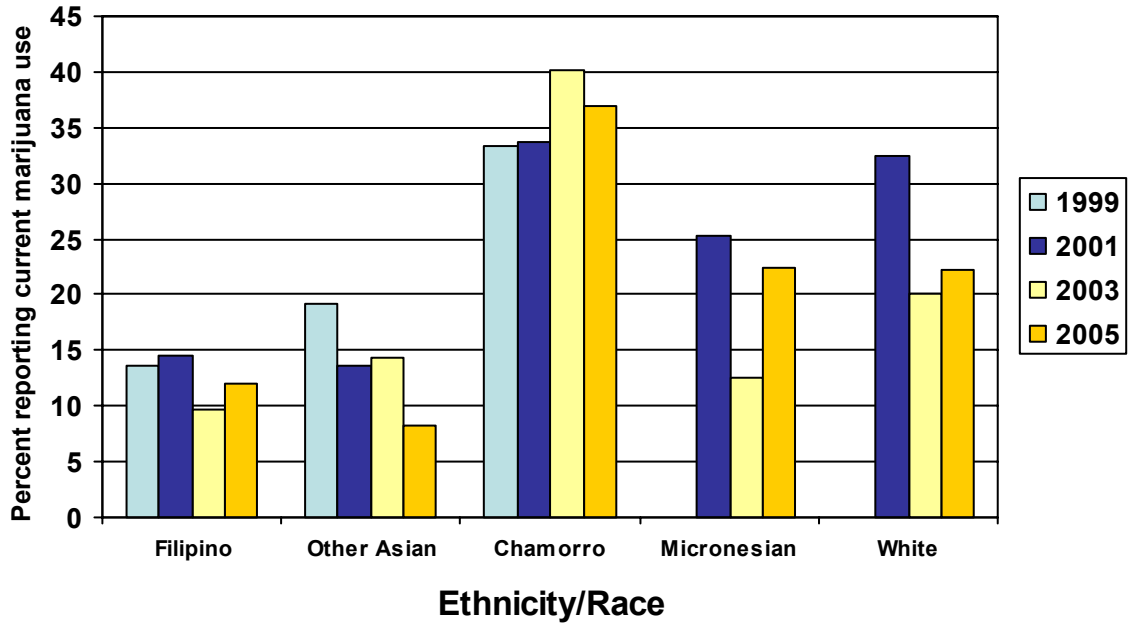
Figure 28. Current marijuana use, High School, by sex, Guam, 1999-2005



Source: YRBS, 1999-2005

The differential rates of current marijuana use among high school students of varying ethnicities are worth noting. Filipinos and Other Asians have the lowest rates of reported current use, while Chamorros have the highest. Between 2003 and 2005, rates appeared to decline for Other Asians and Chamorros, but appeared to increase for Filipinos and Micronesians. The data for Other Asians and Whites needs to be considered with caution, given the small numbers represented in the survey (Figure 29).

Figure 29. Current marijuana use, High School, by ethnicity/race, Guam, 1999-2005

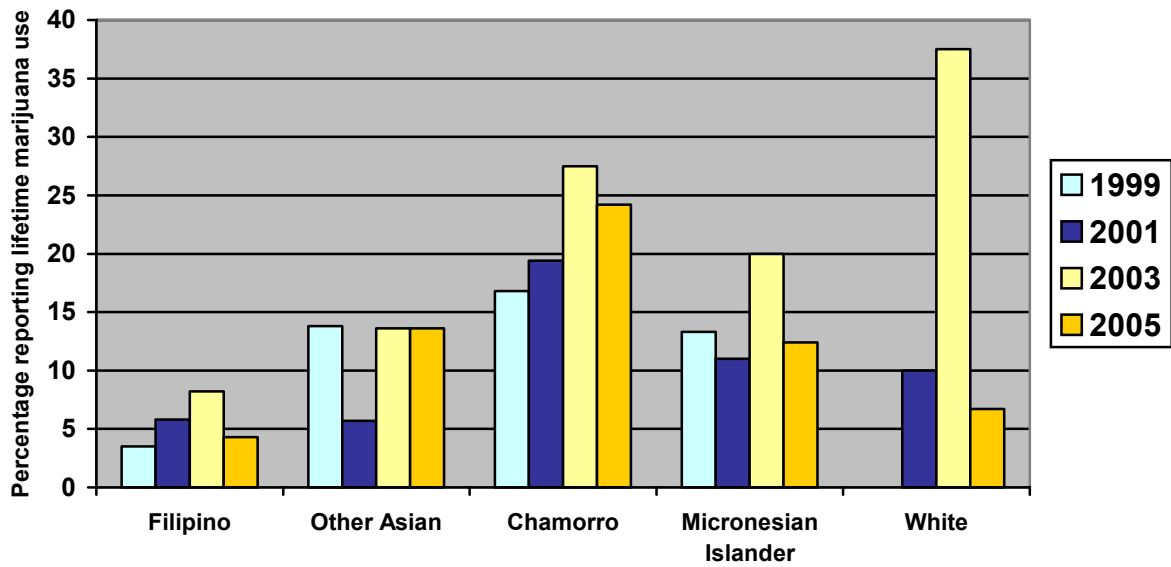


Source: YRBS, 1999-2005

*Caution in interpretation of data for Other Asians and Whites is called for, as the numbers of observations were less than 50 (N < 50) for both ethnic categories.

For middle school students, lifetime marijuana use disaggregated for ethnicity reflects the pattern noted for older youth, with Chamorros and Micronesians having higher rates of reported lifetime use.

Figure 30. Lifetime marijuana use, Middle School, by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

*Caution in interpretation of data for Other Asians and Whites is called for, as the numbers of observations were less than 50 (N < 50) for both ethnic categories.

Cocaine

Table 69 compares rates of reported lifetime and current use of cocaine among Guam high school students and the US national averages. Guam trails the nation with regards to this drug, with rates for lifetime and current cocaine use that are lower than the nation. Reported lifetime and current use of cocaine continued to decrease on Guam between 2003 and 2005.

Table 69. Trends, lifetime and current cocaine use, High School, Guam vs. US, 1995-2005

Year	Guam		Nationwide	
	Lifetime Cocaine Use % (CI) N	Current Cocaine Use % N	Lifetime Cocaine Use Median % (CI)	Current Cocaine Use Median % (CI)
1995	4.5 (+/- 2.2)	2.4 (+/-2.1)	7.0 (+/- 1.2)	3.1 (+/- 0.8)
1997	6.5 (+/- 2.4)	4.9 (+/-1.3)	8.2 (+/- 1.1)	3.3 (+/- 0.5)
1999	4.4 572	1.4 580	9.5 (+/- 1.4)	4.0 (+/- 0.7)
2001	5.0 1367	2.7 1368	9.4 (+/- 1.2)	4.2 (+/- 0.7)
2003	5.8 782	2.8 779	8.7 (+/-1.1)	4.1 (+/- 0.9)
2005	4.9 1225	2.5 1217	7.6 (+/- 1.0)	3.4 (+/- 0.6)

Source: YRBS, 1995-2005

Guam males report cocaine use more frequently than females. Trends over time for both male and female youth are indeterminate for Guam; nationwide, current cocaine use is decreasing for both males and females (Table 70).

Table 70. Trends, current cocaine use, High School, by sex, Guam vs. US, 1995-2005

Year	Guam		Nationwide	
	Females % (CI)	Males % (CI)	Females % (CI)	Males % (CI)
1995	2.8 (+/- 3.0)	1.9 (+/-2.1)	1.8 (+/- 0.8)	4.3 (+/- 1.0)
1997	4.5 (+/- 3.7)	5.3 (+/-4.8)	2.4 (+/- 0.7)	4.0 (+/- 0.8)
1999	1.3	1.5	2.9 (+/- 0.8)	5.2 (+/- 1.1)
2001	1.4	3.8	3.7 (+/- 1.0)	4.7 (+/- 0.7)
2003	2.4	3.3	3.5 (+/-0.9)	4.6 (+/- 0.9)
2005	1.5 (+/- 0.92)	3.8 (+/- 1.62)	2.8 (+/- 0.7)	4.0 (+/- 0.9)

Source: YRBS, 1995-2005

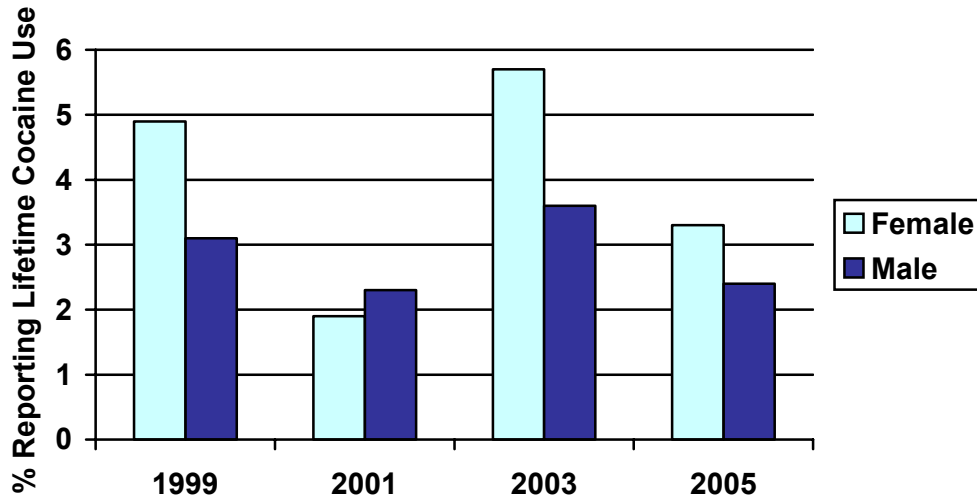
Guam's YRBS also tracks lifetime cocaine use among middle school students. In 3 out of the 4 years surveyed, including 2005, middle school girls had higher rates of lifetime cocaine use than boys (Table 71 and Figure 30).

Table 71. Lifetime cocaine use, Middle School, Guam, 1999-2005

Year	Females		Males	
	%	(N)	%	(N)
1999	4.9	(366)	3.1	(262)
2001	1.9	(872)	2.3	(822)
2003	5.7	(524)	3.6	(413)
2005	3.3	(509)	2.4	(509)

Source: YRBS, 1999-2005

Figure 31. Lifetime cocaine use, Middle School, by sex, Guam, 1999-2005

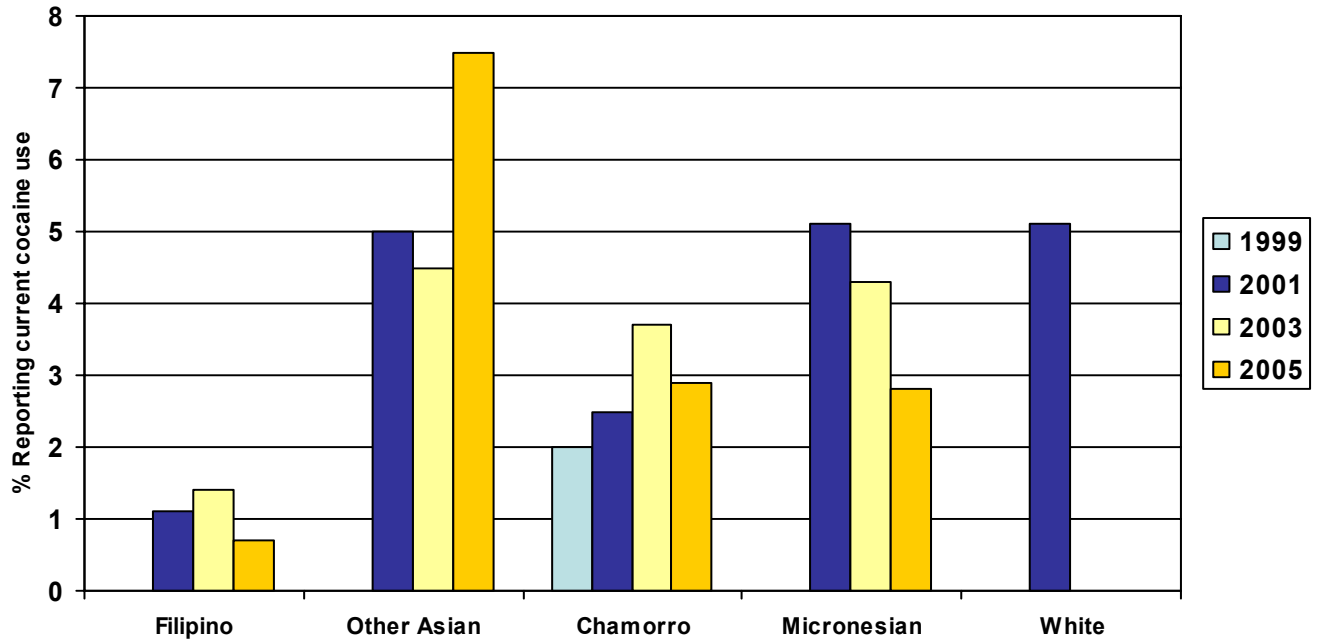


Source: YRBS, 1999-2005

Note: Because of the small percentages reporting current use, the scale for this graph is based on single percentage points, unlike other graphs in this document, which use a 5-percentage point scale.

In relation to ethnicity/race, the numbers reporting current cocaine use are small; hence caution is needed in interpreting the data. Other Asians appear to have the highest rates of reported current use, while Filipinos have the lowest. Chamorros and Micronesians have an intermediate rate. Prevalence appears to be increasing within the Other Asian subgroup, but is decreasing across the other ethnic sub-groups (Figure 31).

Figure 32. Current cocaine use, High School, by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

Note: Because of the small percentages reporting current use, the scale for this graph is based on single percentage points, unlike other graphs in this document, which use a 5-percentage point scale.

Inhalants

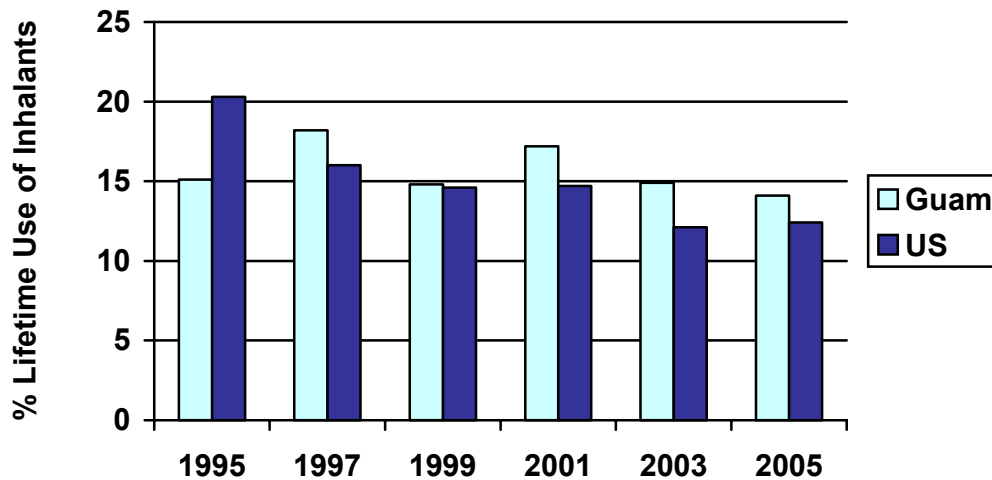
Table 72 displays rates of reported lifetime use of inhalants among high school students on Guam and in the US. Inhalant use appears to be decreasing among US youth in general, but not among Guam youth. In fact, rates of lifetime and current inhalant use among Guam youth surpassed the nationwide rates since 2001 (Figures 33-34). Current inhalant use among high school youth was not asked in the 2005 YRBS. Lifetime inhalant use remained unchanged both on Guam and the US in 2005.

Table 72. Trends, lifetime and current inhalant use, High School, Guam vs. US, 1995-2005

Year	Guam		Nationwide	
	Lifetime Inhalant Use % (CI)	Current Inhalant Use % (CI)	Lifetime Inhalant Use % (CI)	Current Inhalant Use % (CI)
1995	15.1 (+/- 3.6)	---	20.3 (+/- 2.0)	---
1997	18.2 (+/- 2.2)	---	16.0 (+/- 1.3)	---
1999	14.8 (+/- 2.8)	3.8 (+/-1.6)	14.6 (+/- 1.7)	4.2 (+/- 0.8)
2001	17.2 (+/-1.8)	6.3 (+/-1.0)	14.7 (+/- 1.7)	4.7 (+/- 0.8)
2003	14.9 (+/-2.4)	6.3 (+/- 1.6)	12.1 (+/-1.2)	3.9 (+/- 0.6)
2005	14.1 (+/- 1.94)	---	12.4 (+/- 1.3)	---

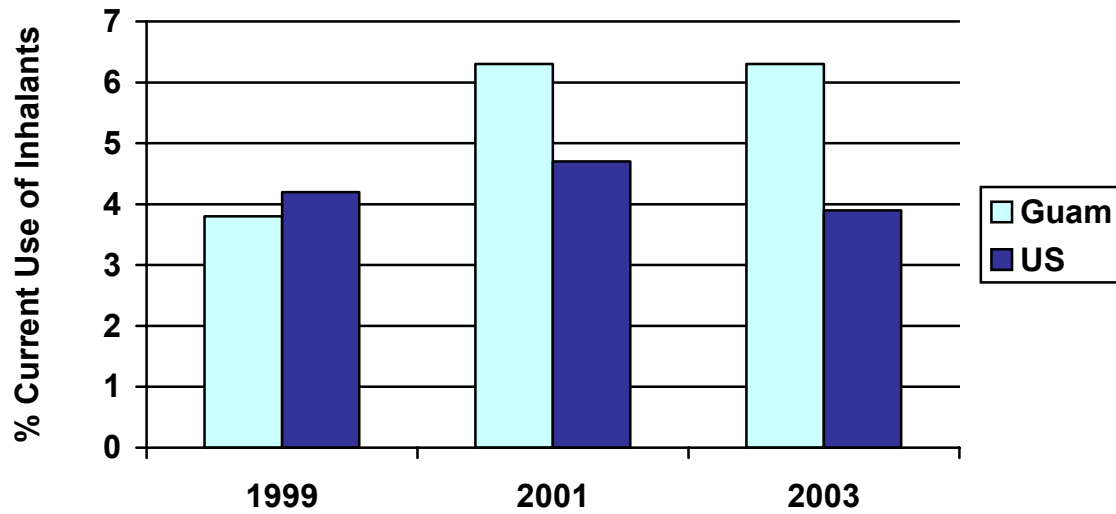
Source: YRBS, 1995-2005

Figure 33. Trends, lifetime inhalant use, High School, Guam vs. US, 1995-2005



Source: YRBS, 1995-2005

Figure 34. Trends, current inhalant use, High School, Guam Vs. US, 1999-2003



Source: YRBS 1999-2003

Note: Because of the small percentages reporting current use, the scale for this graph is based on single percentage points, unlike other graphs in this document, which use a 5-percentage point scale. The 2005 YRBS did not include a question for current inhalant use.

The reported rates of lifetime inhalant use among middle school students are higher than the rates among high school students (Table 73). For both middle and high school, females reported higher rates of lifetime inhalant use than males. Lifetime inhalant use was increasing for middle school females from 1999-2003, but the rate dropped in 2005. However, overall, the rate of lifetime inhalant use for middle school females is higher than middle school males, and high school youth of either gender.

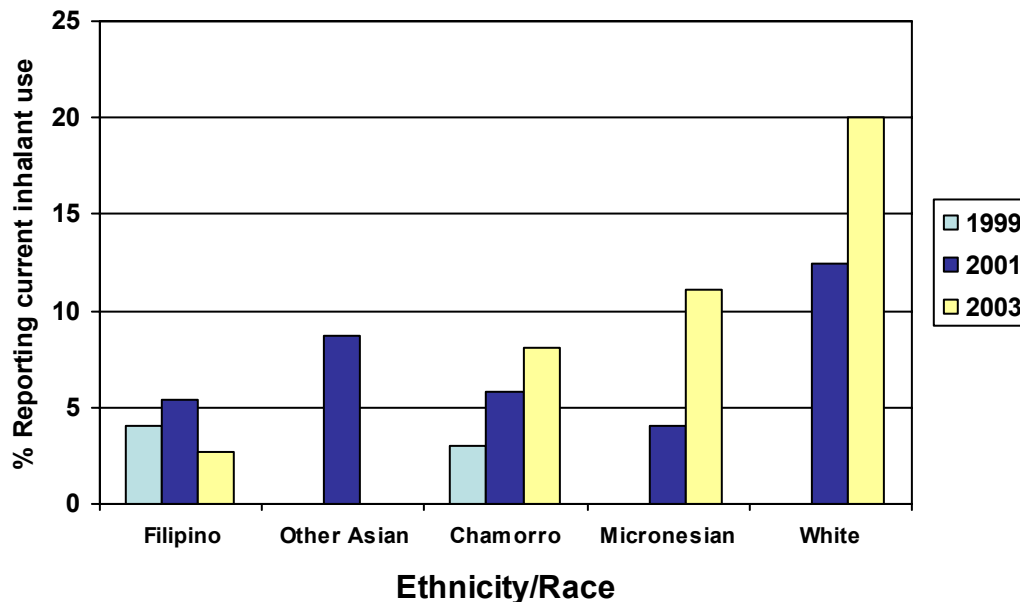
Table 73. Lifetime inhalant use, High School vs. Middle School, by sex, Guam, 1999-2005

Year	Middle School		High School	
	Female %	Male %	Female %	Male %
1999	15.1 (372)	15.9 (264)	14.3	15.4
2001	17.2 (871)	16.5 (825)	18.1 (697)	17.7 (662)
2003	20.1 (522)	14.1 (411)	12.3 (381)	17.4 (397)
2005	17.4 (511)	14.0 (520)	15.2 (686)	12.2 (548)

Source: YRBS, 1999-2005

Data on current and lifetime inhalant use among youth broken down by ethnicity/race is presented in Figures 35 and 36. The numbers of students under some of these categories is small, so caution is needed in interpreting the data. Current inhalant use among high school students appears to be increasing among Chamorros, Micronesians and Whites. In 2005, no question was asked on current inhalant use in the YRBS.

Figure 35. Current inhalant use, High School, by ethnicity/race, Guam, 1999-2003

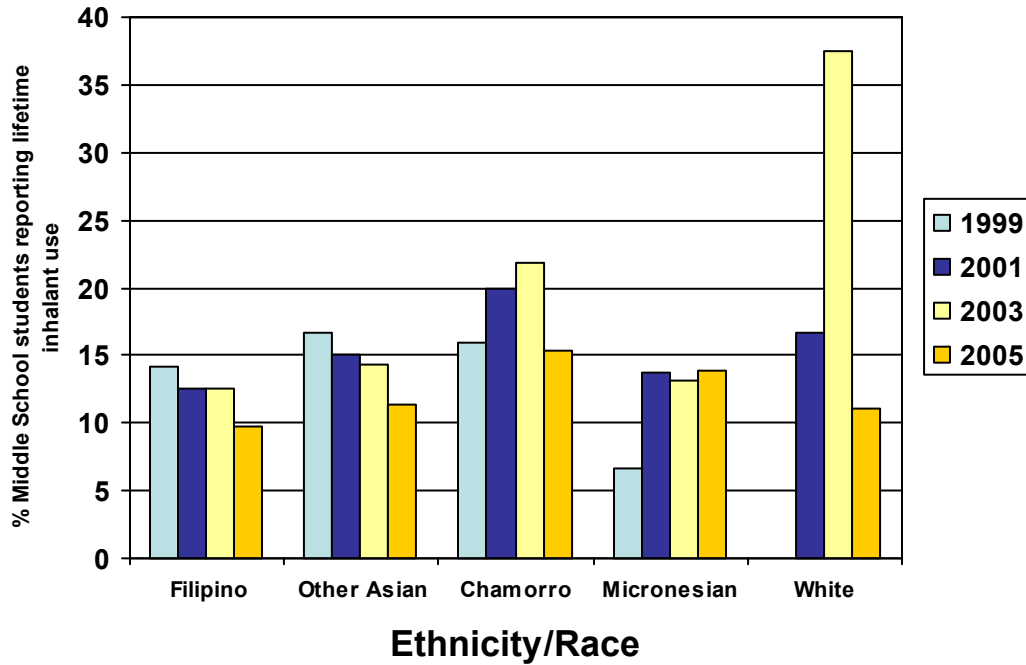


Source: YRBS, 1999-2003

* n<50 for Other Asian, Micronesian Islander and White sub-groups

Lifetime inhalant use among middle school students decreased between 2003 and 2005 for Filipino, Other Asian and Chamorro but remained unchanged for Micronesia Islander youth. There does not appear to be a marked difference between youth of varying ethnicities/races for inhalant use (Figures 35-36).

Figure 36. Lifetime inhalant use, Middle School, by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

Because data from previous years indicate that inhalant use may be significant among Guam youth, re-introducing questions on current inhalant use among both high school and middle school students in the YRBS will be critical.

Methamphetamines (“Ice”)

The YRBS started tracking methamphetamine (“ice”) use among students beginning in 1999. Total and female reported lifetime use are lower for Guam than for the US; lifetime use rates among male high school students are higher than the US. Guam middle school students had a lower rate of lifetime methamphetamine use than high school students (Table 74) in 2003. In 2005, lifetime methamphetamine use was not asked for middle school respondents.

Table 74. Lifetime methamphetamine use, youth, Guam vs. US, 2003-2005

State	Total		Male		Female	
	2003	2005	2003	2005	2003	2005
Guam H.S. % n	6.4 (786)	5.6 (1239)	7.2 (401)	8.0 (548)	5.5 (385)	3.4 (683)
Guam M.S. % n	3.9 (937)	---	4.0 (522)	---	3.9 (415)	---
Nationwide H.S. % (95% CI)	7.6 (+/- 0.9)	6.2 (+/- 0.9)	8.3 (+/- 1.3)	6.3 (+/- 1.0)	6.8 (+/- 0.9)	6.0 (+/- 1.2)

Source: YRBS, 2003-2005

Lifetime use of methamphetamine among high school students appears to be decreasing for females but not for males in Guam; the reverse pattern is seen for the US. The rate of decline appears faster among Guam females (Table 75 and Figure 37). High school males on Guam have over double the rate of lifetime methamphetamine use of Guam high school females.

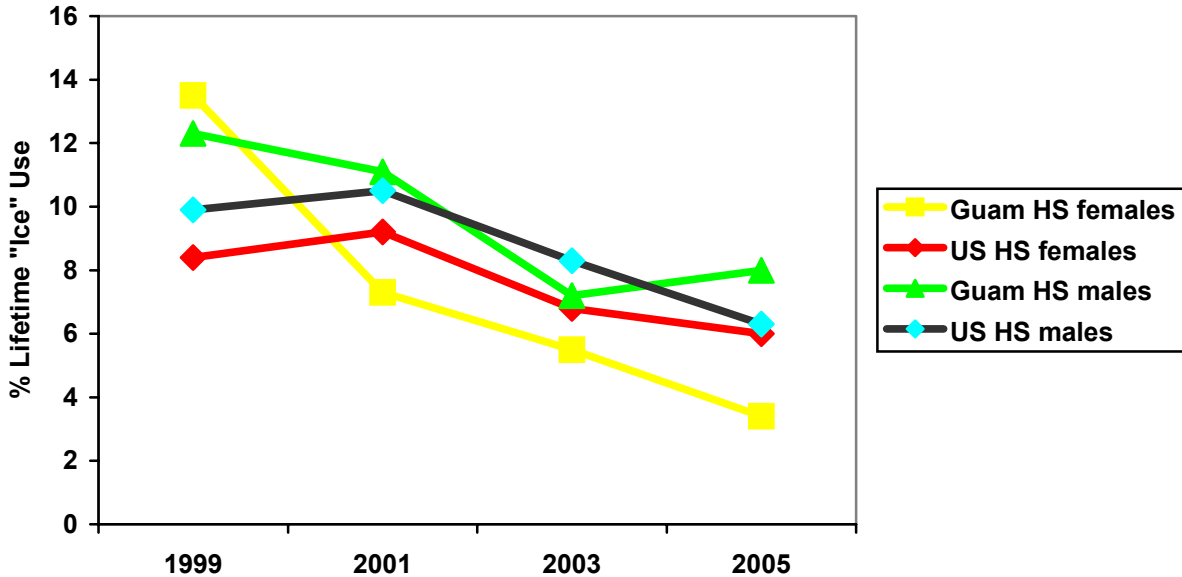
Table 75. Trends, lifetime methamphetamine use, High School, Guam vs. US, 1999-2005

Year	Guam		Nationwide	
	Female % (CI)	Male % (CI)	Female % (CI)	Male % (CI)
1999	13.5 (+/- 3.7)	12.3 (+/-3.8)	8.4 (+/- 1.4)	9.9 (+/- 1.7)
2001	7.3 (+/-1.8)	11.1 (+/-2.2)	9.2 (+/- 1.8)	10.5 (+/- 1.5)
2003	5.5 (+/-2.2)	7.2 (+/- 2.4)	6.8 (+/-0.9)	8.3 (+/- 1.3)
2005	3.4 (+/- 1.36)	8.0 (+/- 2.27)	6.0 (+/- 1.2)	6.3 (/- 1.0)

Source: YRBS, 1999-2005

Data on middle school students has been collected only since 2001, with an increase noted in 2003. This indicator will need to be carefully tracked in the near future; unfortunately, the 2005 YRBS did not include a question on lifetime methamphetamine use for middle school students. Re-introducing this question in succeeding youth surveys will be important for Guam.

Figure 37. Trends, lifetime methamphetamine use, High School, by Sex, Guam vs. US, 1999-2005



Source: YRBS, 1999-2005

Data disaggregated by ethnicity/race is depicted in Table 72 and Figure 38. Chamorro youth have the highest rate of lifetime methamphetamine use, while Filipino youth have the lowest. Methamphetamine use appears to be decreasing across all ethnic/race categories except for Micronesians, where a significant increase occurred between 2003 and 2005.

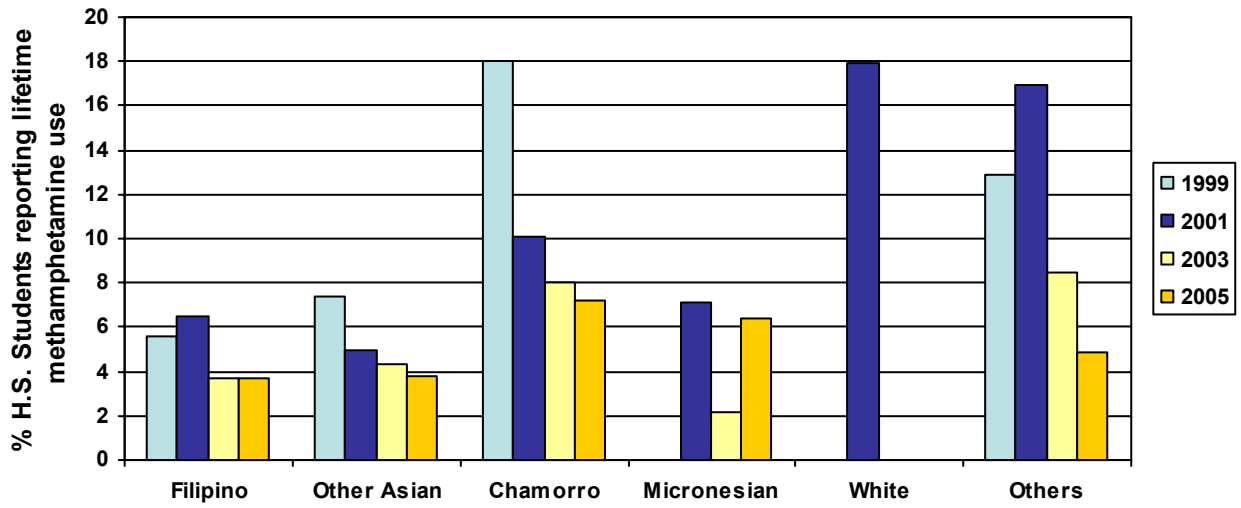
Table 76. Lifetime methamphetamine use, Youth, by ethnicity/race, Guam, 1999-2005

Year	Filipino	Other Asian	Chamorro	Micronesians Islander	White	Others
	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)
High School						
1999	5.6 (179)	7.4* (27)	18.0 (303)	NA	NA	12.9 (62)
2001	6.5 (355)	5.0 (80)	10.1 (729)	7.1 (99)	17.9* (39)	16.9 (65)
2003	3.7 (219)	4.3* (23)	8.0 (361)	2.2* (46)	0* (5)	8.5 (130)
2005	3.7 (298)	3.8 (53)	7.2 (572)	6.4 (109)	0* (8)	4.9 (185)
Middle School						
1999	NA	NA	NA	NA	NA	NA
2001	1.0 (519)	0 (53)	2.5 (897)	0.8 (128)	0* (30)	3.3 (61)
2003	2.4 (248)	4.5* (22)	4.7 (426)	1.6 (62)	12.5* (8)	4.2 (168)
2005			Not asked this year			

*Denotes cells where n < 50.

Source: YRBS, 1999-2005

Figure 38. Lifetime methamphetamine use, High School, by ethnicity/race, Guam, 1999-2005



Source: YRBS, 1999-2005

ILLICIT DRUGS: COURT-INVOLVED ADULTS AND YOUTH

At present, there is no systematic surveillance of illicit drug use for all court-involved adults and youth on Guam. Different agencies maintain their own databases; the information presented in this section is taken from these limited data sources.

The US Probation Office keeps track of drug test results of court-involved adults under their supervision. The following table provides data on the characteristics of the population they serve. Males predominate over females. Over 60% of the clients are between the ages of 30-49 (Table 77).

Table 77. Population characteristics, US Probation Office clients, 2000-2006

Characteristic	2000	2001	2002	2003	2004	2005	2006
	% n	% n	% n	% n	% n	% n	% n
Gender							
Male	79.2 (126)	78.5 (146)	77.3 (157)	73.1 (136)	75.8 (135)	69.2 (157)	70.4 (119)
Female	20.8 (20.8)	21.5 (40)	22.7 (46)	26.9 (50)	24.2 (43)	30.8 (70)	29.6 (50)
Age Group							
18-19	0 (0)	0.5 (1)	0.5 (1)	0 (0)	1.1 (2)	0.4 (1)	0.6 (1)
20-29	25.8 (41)	21.0 (39)	21.2 (43)	16.1 (30)	18.5 (33)	18.5 (42)	17.8 (30)
30-39	34.0 (54)	39.8 (74)	40.4 (82)	36.6 (68)	35.4 (63)	37.0 (84)	37.9 (64)
40-49	31.4 (50)	30.6 (57)	29.1 (59)	34.9 (65)	33.7 (60)	30.0 (68)	29.0 (49)
50-59	8.2 (13)	7.0 (13)	6.9 (14)	10.2 (19)	9.6 (17)	13.2 (30)	13.0 (22)
60+	0.6 (1)	1.1 (2)	2.0 (4)	2.2 (4)	1.7 (3)	0.9 (2)	1.8 (3)
TOTAL	159	186	203	186	178	227	169

Source: US Probation Office Drug Test Results, 2000-2006

The US Probation Office performs periodic drug tests on their clients. Because the tests are scheduled in advance, and the consequences for testing positive are serious, this group is unlikely to be representative of the larger population of court-involved adults.

Table 78 details the numbers and results of drug testing for the years 2000-2006. Among court-involved adults served by this office, 2.9% tested positive for drugs in 2006. Over half of the positive tests were for methamphetamines, either singly or in combination with other drugs. In addition to methamphetamine use, cannabis, amphetamine and opiate abuse are prevalent. Close to 40% of the tests were positive for cannabis. These very likely underestimate the real prevalence of illicit drug use among court-involved adults.

Table 78. Summary of drug test findings, US Probation Office, 2000-2006

	2000	2001	2002	2003	2004	2005	2006
Total # of scheduled tests	3128	3321	3424	3849	3883	3735	3734
Results % (n)							
Negative	85.2 (2666)	84.3 (2799)	87.4 (2993)	86.4 (3326)	88.9 (3453)	82.7 (3087)	86.7 (3237)
Positive	2.1 (65)	2.5 (83)	1.6 (56)	2.4 (91)	1.6 (61)	5.2 (196)	2.9 (107)
No show	12.6 (393)	13.2 (437)	10.7 (368)	11.1 (428)	9.4 (366)	11.9 (445)	10.3 (385)
Stall	0.1 (4)	0.1 (2)	0.2 (7)	0.1 (4)	0.1 (3)	0.2 (7)	0.1 (5)
Types of Tests							
Sweat Patch	2.2 (61)	2.7 (79)	4.7 (142)	2.8 (96)	0.1 (5)	---	---
Laboratory	9.8 (267)	10.2 (295)	7.9 (242)	7.3 (248)	3.2 (111)	---	---
Hand held device	88 (2403)	87.0 (2508)	87.4 (2665)	89.9 (3073)	96.7 (3398)	---	---
Test Results % of positives (n)							
Methamphetamine	44.6 (29)	33.7 (28)	33.9 (19)	19.8 (18)	39.3 (24)	22.4 (44)	25.2 (27)
Methamphetamine + Amphetamine	33.8 (22)	34.9 (29)	37.5 (21)	39.6 (36)	21.3 (13)	34.7 (68)	24.3 (26)
Amphetamine	7.7 (5)	12.0 (10)	16.1 (9)	24.2 (22)	14.8 (9)	2.0 (4)	0.9 (1)
Opiates	7.7 (5)	18.1 (15)	1.8 (1)	6.6 (6)	19.7 (12)	20.9 (41)	7.5 (8)
Amphetamines + Opiate	1.5 (1)	---	3.6 (2)	2.2 (2)	---	---	---
Cannabis	1.5 (1)	---	1.8 (1)	5.5 (5)	3.3 (2)	14.3 (28)	39.3 (42)
Methamphetamine + Amphetamine + Opiate	1.5 (1)	---	---	---	---	0.5 (1)	---
Methamphetamine + Opiate	1.5 (1)	---	---	---	---	---	---
Methamphetamine + Cannabis	---	1.2 (1)	---	---	1.6 (1)	1.5 (3)	1.9 (2)
Methamphetamine + Amphetamine + Cannabis	---	---	1.8 (1)	2.2 (2)	---	3.6 (7)	0.9 (1)
Amphetamine + Cannabis	---	---	1.8 (1)	---	---	---	---
Opiate + Cannabis	---	---	1.8 (1)	---	---	---	---

Source: US Probation Office, 2000-2006

Data from the Adult Drug Court reveals that “ice” predominates as the drug of choice. (Table 79).

Table 79. Reported drug of choice by gender among clients of the Adult Drug Court, August 2003-December 2006

Drug	Gender			Total
	Gender Unspecified % of Total (n)	Female % (n)	Male % (n)	
Drug Unspecified	0	2.1 (1)	0	
Alcohol	0	0	4.2 (8)	3.3 (8)
Heroin	0	2.1 (1)	0	0.4 (1)
“Ice”	1.3 (3)	95.8 (46)	94.8 (182)	95.1 (231)
“Ice” + Alcohol	0	0	0.5 (1)	0.4 (1)
Tetrahydrocannabinol	0	0	0.5 (1)	0.4 (1)
TOTAL	3	48	192	243

Source: Adult Drug Court data as reported by Ms. Samantha Brennan

Limited data on court-involved youth is available from several sources: the Guam Police Department (GPD), the Department of Youth Affairs (DYA) and the Juvenile Drug Court.

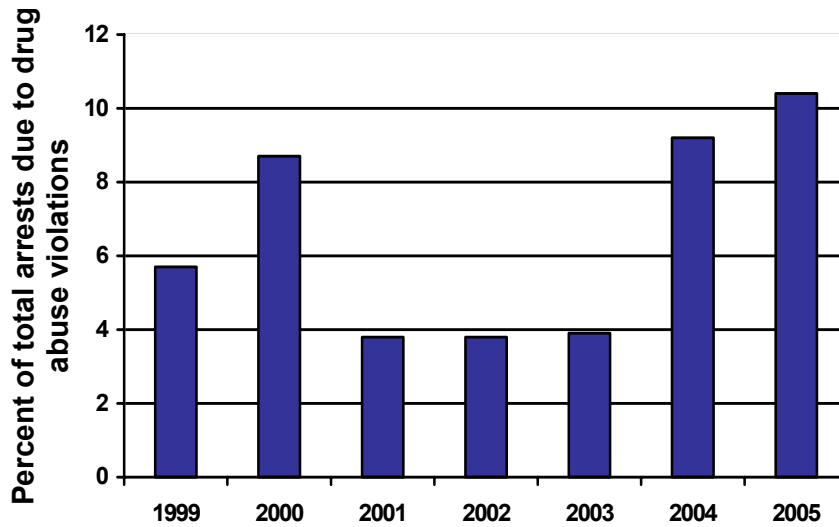
According to the latest GPD Uniform Crime Report, in 2005, 10.4% of all juvenile offenders were charged for drug violations. This represents an increase from previous years (Table 80).

Table 80. Percent of juvenile offenders charged for drug violations, Guam, 1999-2005

	1999	2000	2001	2002	2003	2004	2005
Total charged	768	437	398	188	591	369	462
Drug abuse violations % of total (n)	5.7 (45)	8.7 (38)	3.8 (15)	3.8 (7)	3.9 (23)	9.2 (34)	10.4 (48)

Source: Guam Police Department, 1999-2005

Figure 39. Percent of juvenile offenders arrested for drug violations, Guam, 1999-2005



Source: Guam Police Department, 1999-2005

For January-August, 2005, according to GPD, of minors taken into custody for drug and alcohol violations, 45% were for possession/use of marijuana and 5.5% were for possession/use of other illicit drugs.

In 2006, 37.7% of Juvenile Drug Court clients reported marijuana as the 1st substance ever abused. An additional 1.8% reported that they began experimenting with tobacco/marijuana, while 1.2% report alcohol/marijuana as the 1st substances ever abused. 28.1% of youth screened at the Juvenile Drug Court report marijuana as their current primary substance of abuse. 2.4% report inhalants as their current primary substance of abuse.

For Sanctuary, Inc. clients in 2006, 34.1% were admitted primarily for cannabis/marijuana use, 3.4% for inhalant use, 1.1% for amphetamine use (including "ice"), 8.0% for concurrent use of alcohol and marijuana, and 22.7% for concurrent use of alcohol and other drugs. Among this high risk group, alcohol accompanied illicit drug use in 30.7% of cases.

The Department of Youth Affairs records the following patterns of substance abuse among their clients (Table 81). The data indicates that among court-involved youth under DYA's care, marijuana and inhalants are the prevalent illicit drugs of abuse.

Table 81. Patterns of drug abuse among DYA clients, Guam, 2000-2006

	2000	2001	2002	2003	2004	2005	2006
Total	430	427	333	378	463	560	947
Admissions							
Experimented with marijuana % (n)	51.6 (222)	44.3 (189)	30.0 (100)	48.7 (184)	62.8 (291)	70.5 (395)	57.8 (549)
Experimented with "ice" % (n)	6.0 (26)	8.0 (34)	4.2 (14)	3.7 (14)	6.5 (30)	5.4 (30)	3.5 (33)
Experimented with inhalants % (n)	18.1 (78)	19.4 (83)	14.4 (48)	17.7 (67)	25.3 (117)	27.1 (152)	17.9 (170)
Experimented with "acid" % (n)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Experimented with "speed" % (n)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Experimented with alcohol % (n)	51.8 (223)	45.0 (194)	33.6 (112)	43.9 (166)	63.7 (295)	67.3 (377)	53.7 (509)

Source: Department of Youth Affairs, 2000-2006

SECTION 4

Consequences



SECTION 4

Chapter 4 Causes of Death

PROBLEM STATEMENT:

The three leading causes of death on Guam---diseases of the heart, malignant neoplasm, and cerebrovascular disease---are all tobacco-related. In 2004, these 3 causes of mortality accounted for 56% of all deaths.

Three additional causes of death on the list are either precipitated or exacerbated by tobacco use, namely diabetes mellitus, pneumonia and chronic obstructive pulmonary disease.

Alcohol and other drug use contribute to suicide, motor vehicle accidents, bacterial diseases (septicemia), pneumonia, chronic liver disease and cirrhosis.

ALL CAUSES OF DEATH

Table 82 lists the leading causes of death for Guam for the years 1998-2004. Because of the island's small population size, the corresponding number of deaths under each cause of death is small. Hence the table reports actual numbers of deaths per diagnostic category. Table 83 shows the crude death rates from the leading causes of death.

Table 82. Leading causes of death, Guam, 1998-2004

Leading Causes of Death	2004*	2003	2002	2001	2000	1999	1998
Total Deaths	691	700	658	691	667	724	651
Diseases of the Heart	235	199	210	211	181	205	156
Malignant Neoplasm	112	114	124	104	125	107	89
Cerebrovascular Disease	41	52	52	64	58	68	54
Suicide	17	23	22	23	29	36	34
Motor Vehicle Accidents	18	23	13	21	23	31	32
Diabetes Mellitus	27	19	18	19	21	25	35
Bacterial diseases (Septicemia)	13	27	18	21	20	0	0
Renal Failure	22	---	---	---	---	---	---
Nephritis	---	0	0	0	19	21	0
Pneumonia	---	18	22	18	0	21	24
Chronic liver disease and cirrhosis	---	0	0	0	0	19	18
Chronic obstructive pulmonary disease	19	0	20	16	16	0	23
All other accidents	38	29	23	38	24	25	26
All other causes	149	195	136	156	151	166	160

Source: Office of Vital Statistics, Department of Public Health and Social Services, Government of Guam as reported in the 2005 Guam Statistical Yearbook; *Preliminary data from DPHSS

Table 83. Crude death rates*, leading causes of death, Guam, 1998-2003

Leading Causes of Death	2003	2002	2001	2000	1999	1998
Total deaths**	4.3	4.2	4.5	4.3	4.7	4.2
Diseases of the Heart	121.6	130.4	133.3	116.9	134.9	104.6
Malignant Neoplasm	69.7	77.5	65.7	80.7	70.4	59.7
Cerebrovascular Disease	31.8	32.5	40.4	37.5	44.7	36.2
Suicide	14.0	13.7	14.5	18.7	23.7	22.8
Motor Vehicle Accidents	14.0	8.1	13.3	14.9	20.4	21.4
Diabetes mellitus	11.6	11.2	12.0	13.6	16.4	23.5
Bacterial diseases (septicemia)	16.5	11.2	13.3	12.9	0	0
Nephritis	0	0	0	12.3	13.8	0
Pneumonia	11.0	13.7	11.4	0	13.8	16.1
Chronic liver disease and cirrhosis	0	0	0	0	12.5	12.1
Chronic obstructive pulmonary disease	0	12.4	10.1	10.3	0	15.4
All other accidents	17.7	14.3	24.0	15.5	16.4	16.8
All others	119.2	84.4	98.5	97.5	109.2	107.2
Mid-year Population	163,593	161,057	158,330	154,805	151,965	149,178

*per 100,000 population **per 1000 population

Note: Because of the small numbers of deaths per category, care should be taken when interpreting trends using CDRs.

Source: Calculated from data provided by the Office of Vital Statistics, Dept. of Public Health and Social Services

Three leading causes of death---diseases of the heart, malignant neoplasm, and cerebrovascular disease---have remained consistently at the top of the list across time. In 2004, these 3 causes of mortality accounted for 56% of all deaths.

The 3 leading causes of death on Guam mirror that of the United States in 2004. Of note, all 3 are tobacco-related. Two additional causes of death on the list are either precipitated or exacerbated by tobacco use, namely diabetes mellitus and chronic obstructive pulmonary disease. Alcohol and other drug use contribute to suicide, motor vehicle accidents, bacterial diseases (septicemia), pneumonia, chronic liver disease and cirrhosis (Table 84).

Table 84. Leading causes of death, Guam and U.S, 2004*

Ten Leading Causes of Death, Guam 2004	Ten Leading Causes of Death, USA, 2004
Diseases of the heart	Diseases of the heart
Malignant neoplasm	Malignant neoplasm
Cerebrovascular diseases	Cerebrovascular diseases
All other accidents	Chronic lower respiratory diseases
Diabetes mellitus	Unintentional injuries
Renal Failure	Diabetes mellitus
Chronic Obstructive Pulmonary Disease	Alzheimer's disease
Motor vehicle accidents	Influenza and pneumonia
Suicide	Nephritis, nephritic syndrome, nephrosis
Bacterial diseases (septicemia)	Septicemia

Source: Office of Vital Statistics, Department of Public Health and Social Services, Government of Guam as reported in the 2005 *Guam Statistical Yearbook*; US National Center for Health Statistics, *Health, United States, 2005*

*Preliminary

Table 85 shows the distribution of deaths by sex, age and race on Guam. In general, the death burden increases with age, across sex and ethnic/racial groups, with the exception of Chuukese, where half of deaths occurred between the ages of 15-59. Males have more deaths across all age groups. Among Chuukese males, two-thirds of the deaths occurred between the ages of 15-59. For those causes of death related to tobacco, alcohol and other drug use, these differences reflect increased use of these substances among males, and among specific ethnic/racial groups.

Table 85. Deaths by age, sex and race, Guam, 2004

Sex and Age	Total	Chamorro Guam	Chamorro CNMI	White	Filipino	Other Asian	Chuukese	Yapese	Pohnpeian	Palauan	Other	Not Reported
Total	691	388	10	40	148	22	46	4	4	13	13	3
Less than 1 year	42	21	0	1	8	0	8	1	1	2	0	0
1 to 14 years	12	9	0	0	1	0	2	0	0	0	0	0
15 to 29 years	41	16	0	2	6	2	11	1	0	1	2	0
30 to 44 years	78	44	2	7	8	5	6	0	1	2	3	0
45 to 59 years	149	97	1	13	19	5	6	1	2	3	2	0
60 to 74 years	180	101	3	7	47	4	9	0	0	3	3	3
75 years and over	189	100	4	10	59	6	4	1	0	2	3	0
Males	426	219	7	33	98	16	27	3	3	11	8	1
Less than 1 year	25	14	0	0	3	0	4	1	1	2	0	0
1 to 14 years	7	5	0	0	0	0	2	0	0	0	0	0
15 to 29 years	28	11	0	1	5	0	8	1	0	1	1	0
30 to 44 years	63	32	2	7	6	5	5	0	1	2	3	0
45 to 59 years	100	62	0	11	15	3	5	0	1	2	1	0
60 to 74 years	101	57	2	6	26	3	2	0	0	3	1	1
75 years and over	102	38	3	8	43	5	1	1	0	1	2	0
Females	265	169	3	7	50	6	19	1	1	2	5	2
Less than 1 year	17	7	0	1	5	0	4	0	0	0	0	0
1 to 14 years	5	4	0	0	1	0	0	0	0	0	0	0
15 to 29 years	13	5	0	1	1	2	3	0	0	0	1	0
30 to 44 years	15	12	0	0	2	0	1	0	0	0	0	0
45 to 59 years	49	35	1	2	4	2	1	1	1	1	1	0
60 to 74 years	79	44	1	1	21	1	7	0	0	0	2	2

Source: Office of Vital Statistics, Department of Public Health and Social Services, Government of Guam

SECTION 4

Chapter 5 Tobacco-related Consequences

PROBLEM STATEMENT:

The top three causes of mortality on Guam---heart disease, cancer and stroke---are all caused by tobacco. The crude death rate from cardiovascular diseases has increased from 145 per 100,000 persons in 1998 to 153 per 100,000 persons in 2003. This is not surprising, given the high prevalence of tobacco consumption on the island.

Information on the prevalence and incidence of these chronic tobacco-related diseases are not consistently available. Also, data on the more acute effects of tobacco use, and exposure to second hand smoke---such as ear and respiratory infections in children, and wheezing among adults---is unavailable.

Data on the costs of medical care for these tobacco-related diseases is not currently available, but it is generally believed to be considerable. Data on years of productive life lost, disability adjusted life years, and costs related to diminished productivity are likewise not available.

Twenty percent of litter collected on Guam's beaches and public land in 2005 consisted of tobacco-related debris.

TOBACCO RELATED CONSEQUENCES

Health Consequences

Every report from the US Surgeon General that has examined the health consequences of tobacco use, from the first landmark 1964 publication to the latest published in 2004, has concluded that tobacco use is "...the single greatest cause of avoidable morbidity and mortality in the United States." (US DHHS, 2004) Smoking has been established to cause at least 29 diseases and conditions, and over 40 diseases and conditions are related to tobacco use (Table 86).

Table 86. Diseases and conditions caused by tobacco use

Disease Category	Specific Disease/Condition
Cancer*	Bladder cancer
	Cervical cancer
	Esophageal cancer
	Kidney cancer
	Laryngeal cancer
	Leukemia
	Lung cancer
	Oral cancer
	Pancreatic cancer
	Stomach cancer
Cardiovascular Diseases	Abdominal aortic aneurysm
	Atherosclerosis
	Cerebrovascular disease*
	Coronary heart disease*
	Chronic obstructive pulmonary disease*
Respiratory Diseases	Pneumonia
	Respiratory effects in utero
	Respiratory effects in infancy, childhood and adolescence
	Respiratory effects in adulthood
	Other respiratory effects: cough, sputum production, wheezing, respiratory infections (bronchitis and pneumonia)
Reproductive Effects	Fetal deaths and stillbirth
	Low birth weight
	Infertility
	Pregnancy complications
Other Effects	Cataracts
	Diminished health status/increased morbidity
	Hip fractures
	Low bone density
	Peptic ulcer disease

Source: Department of Health and Human Services, *The Health Consequences of Smoking: A Report of the Surgeon General*, 2004

*These conditions are among Guam's top 10 causes of mortality.

Table 87 provides information on selected tobacco-related causes of death on Guam. Notably, the top three causes of mortality---heart disease, cancer and stroke---are all caused by tobacco. The crude death rate from cardiovascular diseases has increased from 145 per 100,000 persons in 1998 to 153 per 100,000 persons in 2003. This is not surprising, given the high prevalence of tobacco consumption on the island. As expected, the mortality rate for cardiovascular diseases on Guam exceeds that for cancer and stroke, mirroring the predominance of mortality from cardiovascular diseases among tobacco users worldwide. The crude death rate from lung cancer has increased from 16 per 100,000 persons in 1998 to 19 per 100,000 persons in 2003.

Table 87. Crude death rates (CDR) from selected tobacco-caused diseases, Guam, 1998-2003

	1998	1999	2000	2001	2002	2003
Total						
Deaths	651	724	667	691	658	700
Population	149,178	151,965	154,805	158,330	161,057	163,593
CDR per 1000	4.4	4.8	4.3	4.4	4.1	
Diseases of the Heart	217	285	244	277	267	251
Heart Disease CDR	145.5	187.5	157.6	174.95	165.8	153.43
Lung Cancer	24	27	36	25	31	31
Lung Cancer CDR	16.1	17.8	23.3	15.8	19.2	19.0
COPD	23	23	16	16	20	16
COPD CDR	15.4	15.1	10.3	10.1	12.4	9.8

Source: Department of Public Health and Social Services, Vital Statistics, 1998-2003

*Note: The data on deaths from heart disease and COPD supplied by DPHSS in this table does not correspond to the published data in the 2005 Statistical Yearbook.

Guam at present does not have facilities for diagnostic and therapeutic cardiac procedures such as angiography, angioplasty and coronary artery bypass grafting. It also lacks the full implement of oncologic and neurologic/neurosurgical services. Therefore, the crude death rates on Guam may underestimate the true mortality rate attributable to tobacco, because a significant number of cardiac, cancer and stroke cases are brought to medical centers in the Philippines, Hawaii or the US mainland for diagnosis and treatment. In addition, it is reported that numerous cases of chronic cardiac and pulmonary disease are taken to off-island treatment and rehabilitation centers, which may partially explain the decreasing crude death rate from chronic pulmonary disease.

Information on the prevalence and incidence of these chronic tobacco-related diseases are not consistently available. Also, data on the more acute effects of tobacco use, and exposure to second hand smoke---such as ear and respiratory infections in children, and wheezing among adults---is unavailable.

Socio-economic Consequences

Data on the costs of medical care for these tobacco-related diseases is not currently available, but it is generally believed to be considerable. Data on years of productive life lost, disability adjusted life years, and costs related to diminished productivity are likewise not available.

Other Consequences

The Guam Environmental Protection Agency regularly sponsors “clean-up days” at various sites on the island. Data collected from these events in 2005 reveals that close to 20% of litter collected on Guam’s beaches and public land consists of tobacco-related debris.

Information on tobacco-related fires is not available.

SECTION 4

Chapter 6 Alcohol-related Consequences

PROBLEM STATEMENT:

The death rate from alcoholic liver disease has increased slightly, from 2.6 per 100,000 persons in 1999 to 3.1 per 100,000 persons in 2003.

Alcohol dependence is the predominant reason for referral to the Drug and Alcohol Branch of the DMHSA.

The social costs of alcohol use on Guam are significant. Alcohol use has been implicated in criminal arrests, motor vehicle crashes and violent crime. Alcohol-related arrests account for 32.7% of all adult arrests in 2005. The 2005 UCR cites brawls due to the influence of alcohol as the cause of 33.3%, or one-third, of murders in 2005. A preliminary report for 2006 indicated an increase in homicides, with the increase attributed by the police to increased alcohol consumption at home.

Alcohol was a factor in 44% of 2005 traffic fatalities.

ALCOHOL-RELATED CONSEQUENCES

Health Consequences

Chronic heavy alcohol consumption is the major factor for the development of chronic liver disease and liver cirrhosis. Alcohol is also recognized as a factor in suicide, homicide and other violent crimes. Table 88 lists the crude death rates from chronic liver disease, alcoholic liver diseases, suicide and homicide on Guam.

Table 88. Crude death rates from alcohol-related conditions, Guam, 1999-2003

	1998	1999	2000	2001	2002	2003
Total Deaths	651	724	667	691	658	
Mid-year Population	149,178	151,965	154,805	158,330	161,057	163,593
Chronic Liver Cirrhosis	18	19	11	8	11	14
Cirrhosis CDR	12.1	12.5	7.11	5.1	6.8	8.6
Alcoholic Liver Disease	---	4	2	2	1	5
Alcoholic Liver Disease CDR	---	2.6	1.3	1.3	0.6	3.1
Suicide	34	36	29	23	22	25
Suicide CDR	22.8	23.7	18.7	14.5	13.7	15.3
Homicide	12	10	4	9	1	7
Homicide CDR	8.0	6.6	2.6	5.7	0.6	4.3

Source: Department of Public Health and Social Services, Office of Vital Statistics

*Note: The data on deaths from chronic liver cirrhosis and alcoholic liver disease supplied by DPHSS in this table does not correspond to the published data in the *2005 Statistical Yearbook*.

The small numbers of cases imply the need for caution in interpreting these statistics. Homicide, suicide and chronic liver cirrhosis death rates have decreased since 1998. The death rate from alcoholic liver disease has increased slightly, from 2.6 per 100,000 persons in 1999 to 3.1 per 100,000 persons in 2003.

Guam has collected information on alcohol use during pregnancy, and Fetal Alcohol Syndrome (FAS), since 1994. Alcohol use was present in 0.25% of total births on Guam in 2004. There was 1 case of Fetal Alcohol Syndrome in that year, accounting for 0.03% of all total births. No cases of Fetal Alcohol Syndrome were reported in 1999-2003. Because the number of cases is small, it is difficult to draw conclusions about the trends over time in alcohol use during pregnancy and Fetal Alcohol Syndrome rates on Guam (Table 89).

Table 89. Fetal Alcohol Syndrome and alcohol use during pregnancy, Guam, 1994-2004

Year	FAS	Alcohol Use during Pregnancy	Total Births	FAS as % of Total Births	Alcohol Use as % of Total Births
1994	0	5	4,427	0.00	0.11
1995	0	16	4,189	0.00	0.38
1996	0	6	4,265	0.00	0.14
1997	3	15	4,318	0.07	0.35
1998	1	24	4,322	0.02	0.56
1999	0	8	4,037	0.00	0.20
2000	0	3	3,787	0.00	0.08
2001	0	12	3,583	0.00	0.33
2002	0	3	3,222	0.00	0.09
2003	0	6	3,298	0.00	0.18
2004	1	9	3,427	0.03	0.26

Source: Department of Public Health and Social Services, Office of Vital Statistics, Birth Certificate data

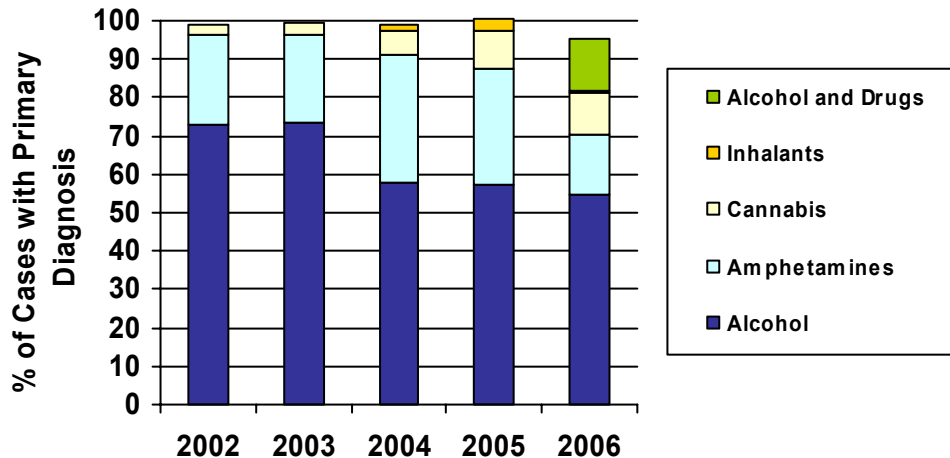
The Drug and Alcohol Branch of the Department of Mental Health and Substance Abuse reports the following statistics for their treatment programs (Table 90).

Table 90. Primary diagnosis, drug and alcohol treatment programs, DMHSA, Guam, 2002-2006

Year	Total Cases	Alcohol % (n)	Cannabis % (n)	Amphetamines (including "ice") % (n)	Opiates % (n)	Inhalants % (n)	Others % (n)	Alcohol and Drugs % (n)
2002	2652	72.7 (1,928)	2.6 (70)	23.9 (633)	0.1 (2)	.0 (1)	0.7 (18)	---
2003	908	73.6 (668)	3.5 (32)	22.6 (205)	---	---	0.3 (3)	---
2004	339	57.7 (195)	6.2 (21)	33.4 (114)	---	1.5 (5)	0.9 (3)	---
2005	1542	57.3 (883)	9.9 (153)	30.3 (462)	---	2.8 (43)	0.06 (1)	---
2006	1849	54.5 (1,008)	11.0 (203)	15.8 (293)	0.2 (4)	0.6 (12)	4.5 (83)	13.3 (246)

Source: Department of Mental Health and Substance Abuse, Clinical Services Division, Drug and Alcohol Branch

Figure 40. Primary diagnosis, drug and alcohol treatment programs, DMHSA, Guam, 2002-2006



Source: Department of Mental Health and Substance Abuse, Clinical Services Division, Drug and Alcohol Branch

Alcohol dependence is the predominant reason for referral to the Drug and Alcohol Branch of the DMHSA. The proportion of cases presenting with alcohol dependence as a single diagnosis has decreased from 72.7% of cases in 2002 to 54.5% of cases in 2006. However, in 2006, an additional 13.3% of cases presented for combined dependence to alcohol and drugs. Thus, the proportion of cases with alcohol as a primary diagnosis is actually 67.8% (Figure 39).

Socio-economic Consequences

Alcohol use has been implicated in criminal arrests, motor vehicle crashes and violent crime. The following statistics were provided by the Guam Police Department through the Uniform Crime Report (UCR) and the Minors Taken into Custody Report.

Table 91 shows the percentage of arrests of minors for alcohol-related offenses. Alcohol-related offenses accounted for 6.5% of all juvenile arrests in 2005. This represents an increase from the previous years.

Table 91. Alcohol-related arrests, juvenile offenders, Guam, 1998-2005

Year	Total Arrests	DUI (n)	Liquor Laws (n)	Drunkenness (n)	Alcohol-related arrests, % of arrests (n)
1998	927	3	13	17	3.5 (33)
1999	768	3	7	0	1.3 (10)
2000	437	5	0	0	1.1 (5)
2001	398	3	14	0	4.3 (17)
2002	188	2	7	2	5.8 (11)
2003	591	1	4	9	2.3 (14)
2004	369	4	1	12	4.6 (17)
2005	462	5	4	21	6.5 (30)

Source: Guam Police Department, Minors Taken into Custody Report 1998-2003, Uniform Crime Report 2005

The 2005 Uniform Crime Report (UCR) provides the following information on the percent change of violent crime and property crime on Guam for the years 1999-2005 (Tables 92-93). Violent and property crimes increased from 2002 to 2003 and from 2003 to 2004, but decreased slightly from 2004 and 2005. The 2005 UCR cites brawls due to the influence of alcohol as the cause of 33.3%, or one-third, of murders in 2005.

Table 92. Percent change in violent and property crime, Guam, 1999-2005

Year	Violent Crime	Property Crime	Total Number	Percent Change from Previous Year
1999	---	---	6,274	-9.70
2000	---	---	5,451	-13.12
2001	378	4,600	4,978	-8.68
2002	405	3,533	3,938	-20.89
2003	449	3,827	4,273	+8.51
2004	432	4,672	5,104	+19.4
2005	388	4,651	5,039	-1.3

Source: Guam Police Department, Uniform Crime Report, 2004 and 2005

The violent crime rate decreased from 2.74 per 1,000 population in 2003 and 2.60 per 1,000 population in 2004 to 2.30 per 1,000 population in 2005, primarily due to a reduction in the rate of aggravated assault. The property crime rate increased substantially between 2003 and 2004, with little change in 2005, mainly from an increase in the rate of larceny/theft.

A preliminary report for 2006 indicated an increase in homicides, with the increase attributed to increased alcohol consumption at home. GPD Spokesperson Officer Allan Guzman was quoted in the Pacific Daily News (December 11, 2006) as stating: "A lot of these homicides dealt with alcohol consumption in the home."

Table 93. Violent and property crime rate, Guam, 1999-2005

	1999	2000	2001	2002	2003	2004	2005
	Rate per 1000 (n)	Rate per 1000 (n)	Rate per 1000 (n)	Rate per 1000 (n)	Rate per 1000 (n)	Rate per 1000 (n)	Rate per 1000 (n)
Violent Crime							
Murder/Manslaughter	0.06 (9)	0.02 (3)	0.05 (8)	0.01 (2)	0.05 (8)	0.05 (9)	0.04 (7)
Rape	1.20 (197)	1.14 (190)	1.05 (166)	1.07 (172)	1.4 (219)	1.04 (161)	0.97 (151)
Robbery	0.53 (86)	0.44 (74)	0.45 (71)	0.47 (75)	0.38 (60)	0.67 (104)	0.68 (105)
Aggravated Assault	1.22 (199)	0.66 (110)	0.84 (133)	0.97 (156)	1.05 (162)	1.22 (190)	0.66 (102)
Sub-total	3.01	2.26	2.39	2.52	2.88	2.99	2.35
Property Crime							
Burglary	8.88 (1453)	6.92 (1157)	6.32 (996)	5.68 (913)	7.3 (1126)	8.33 (1292)	9.47 (1468)
Larceny-theft	23.7 (3875)	21.30 (3563)	21.13 (3329)	14.87 (2391)	15.9 (2459)	19.7 (3053)	18.4 (2851)
Motor Vehicle Theft	2.70 (441)	2.05 (343)	2.05 (343)	1.37 (221)	1.5 (231)	2.0 (311)	2.03 (315)
Sub-total	35.20	30.27	29.50	21.92	24.7	30.03	29.9

Source: Guam Police Department, Uniform Crime Report, 2003 and 2005

There were 817 arrests for "Driving Under the Influence" (DUI) in 2005. This represents a 51.8% increase from the previous year (Table 94). Alcohol was a factor in 44% of 2005 fatalities involving traffic accidents (Table 95).

Table 94. Arrests for driving under the influence (DUI), Guam, 1999-2005

Year	Number of Arrests	Percent Change from Previous Year
1999	581	-27.0
2000	620	6.7
2001	900	45.2
2002	972	8.0
2003	694*	-28.6
2004	538*	-22.5
2005	817*	51.8

Source: Guam Police Department, Uniform Crime Report, 2003, 2004, 2005 (p.71, DUI Trend, 2001-2005)

Note: Total DUI arrests for the years 2003-2005 have reporting discrepancies within the 2005 UCR

Table 95. Traffic accidents, fatalities, DUI arrests, and relation to alcohol, 2000-2005

Detail	2001	2002	2003	2004	2005
Traffic accidents	6,729	6,615	6,762	6,561	6,587
DUI Arrests	900	972	694	538	817
Fatalities	19	13	24	14	18
Alcohol-related fatalities	12	6	6	6	8
% Fatalities alcohol- related	63%	46%	25%	43%	44%

Source: Guam Police Department, as reported in the 2005 Guam Statistical Yearbook
DUI – Driving under the influence

Tables 96-97 provide the breakdown by age and ethnicity/race for DUI arrests.

Table 96. DUI arrests by age, Guam, 2000-2005

Age Group	Number of Arrests					
	2000	2001	2002	2003	2004	2005
<18	2	3	9	0	3	2
18-19	20	36	52	43	28	37
20-24	125	191	134	129	109	152
25-29	101	138	174	107	86	152
30-34	95	140	146	121	94	128
35-39	86	150	148	92	63	100
40-44	72	99	138	86	76	96
45-49	59	63	83	53	23	57
50-54	26	46	42	29	36	
55-59	18	14	20	21	10	86
60-64	16	20	22	4	7	(50+)
65-69	0	0	4	9	0	
Unknown	0	0	0	0	3	7
Total	620	900	972	694	538	817

Source: Guam Police Department, Uniform Crime Report, 2003, 2004, 2005 (p. 70, DUI by Age, 2005)

Table 97. DUI arrests by ethnicity/race, Guam, 2000-2005

Race	Number of Arrests					
	2000	2001	2002	2003	2004	2005
Chamorro	163	288	364	195	139	227
White	61	89	89	59	52	92
Filipino	106	125	116	86	51	80
Other Asian	67	81	69	66	48	79
FAS*	169	230	255	235	222	302
Other	54	87	79	63	26	37
Total	620	900	972	694	538	817

Source: Guam Police Department, Uniform Crime Report, 2003, 2005 (p.70, DUI by Age, 2005)

*FAS: Palauan, Chuukese, Yapese, Kosraen, Pohnpeian, Marshallese

One hundred and ninety-one DUI arrests in 2005 involved individuals under the age of 25. Under Guam's current law, alcohol consumption is legally permitted for those 18 and above. Based on this age cut-off, only 2 individuals with a DUI arrest were underage in 2005. If the predominant legal age for alcoholic consumption were raised to 21, consistent with most US States and Territories, theoretically, an additional 67 underage DUI arrests would have resulted (Table 96), comprising 8.5% of all DUI arrests.

The large numbers of arrests among young and middle-aged adults highlight the need for complementary interventions that target these adult groups, while addressing the need to prevent underage drinking.

Micronesians are significantly over-represented in DUI arrests, given the very small proportion of the total population that is comprised of Micronesians (Table 97). Almost 40% of DUI arrests were among Micronesians. Of the 302 DUI arrests among those of Micronesian descent, 207 were Chuukese.

Tables 98-100 and Figure 40 profile all alcohol-related arrests among adults by age, gender and ethnicity/race. There were 1313 alcohol-related arrests out of 4014 total arrests for all offenses combined in 2005, which makes alcohol-related arrests account for 32.7% of all adult arrests. Adult arrests for alcohol-related offenses predominate among males, those aged 20-34, and among Micronesians and Chamorros. Interventions to reduce the deleterious effects of alcohol consumption will need to target these high-risk groups.

The Guam Police Department also reported an increase in arrests for drunkenness by over 304% between the years 1996 and 2005. This was accompanied by a 211% increase in arrests for offenses against the family and children over the same ten-year period. The data highlights the impact of alcohol abuse on family violence.

Table 98. Alcohol-related arrests by sex, adults, Guam, 2003*

Offense	Female n (%)	Male n (%)	Total Alcohol-related Arrests N
Driving Under the Influence	52 (7.5%)	642 (92.5%)	820
Liquor Laws	1 (1.7%)	57 (98.3%)	133
Drunkenness	23 (15.2%)	128 (84.8%)	360
Total	76 (8.4%)	827 (91.6%)	1,313

Source: Guam Police Department, Uniform Crime Report 2003

*Alcohol-related arrests among adults by gender was not reported in the Uniform Crime Report 2004 and 2005

Table 99. Alcohol-related arrests by age, adults, Guam, 2005

Age Group	DUI n (%)	Liquor Laws n (%)	Drunkenness n (%)
18-19	37 (4.5%)	9 (6.8%)	42 (11.7%)
20-24	152 (18.5%)	31 (23.3%)	108 (30.0%)
25-29	152 (18.5%)	28 (21.0%)	54 (15.0%)
30-34	128 (15.6%)	27 (20.3%)	55 (15.3%)
35-39	100 (12.2%)	12 (9.0%)	20 (5.6%)
40-44	96 (11.7%)	11 (8.3%)	24 (6.7%)
45-49	57 (6.9%)	6 (4.5%)	18 (5.0%)
50-54	86 (10.5%)	5 (3.8%)	9 (2.5%)
55-59	0	1 (0.75)	7 (1.9%)
60+	0	0	0
Unknown	7 (0.9%)	1 (0.75)	13 (3.6)
Total	815	131	350

Source: Guam Police Department, Uniform Crime Report 2005 (p. 82, Arrests by Offense, by Age Group, 2005)

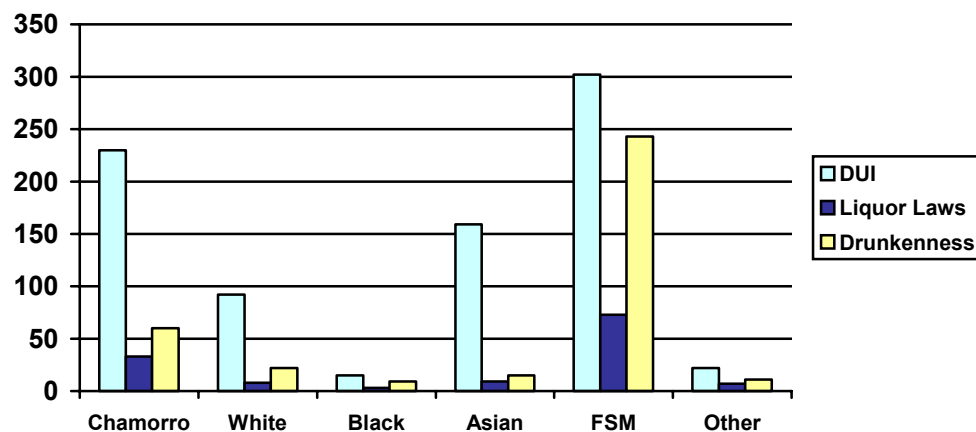
Note: Excludes arrest of those under 18 years

Table 100. Alcohol-related arrests by ethnicity/race, Guam, 2005

Race	Driving Under the Influence*	Liquor Laws**	Drunkness**
	n (%)	n (%)	n (%)
Chamorro	227 (27.7%)	33 (24.8%)	60 (16.7%)
White	92 (11.3%)	8 (6.0%)	22 (6.1%)
Black	15 (1.8%)	3 (2.2%)	9 (2.5%)
Filipino	80 (10.0%)		
Other Asian	79 (9.7%)	9 (6.8%)	15 (4.2%)
Chuukese	207 (25.3%)		
Other FSM	95 (11.6%)	73 (54.9%)	243 (67.5%)
Other	22 (2.7%)	7 (5.3%)	11 (3.0%)
Total	817	133	360

Source: Guam Police Department, Uniform Crime Report, 2005 (*p.70, DUI by Race, 2005, **p.83, Arrests by Offense, by Race Group, 2005)

Figure 41. Alcohol-related arrests by ethnicity/race, Guam, 2003



Source: Guam Police Department, Uniform Crime Report, 2003

There were 462 juvenile offenders arrested for all offense categories in 2005. Thirty (6.5%) of these arrests were alcohol-related (Table 101). The percentage of alcohol-related youth arrests has been increasing since 2003.

Table 101. Alcohol-related arrests, juvenile offenders, Guam, 1999-2005

Offense	1999	2000	2001	2002	2003	2004	2005
DUI	3	5	3	9R	1	4	5
Liquor Laws	7	0	14	0R	4	1	4
Drunkness	0	0	0	2	9	12	21
Subtotal	10 (1.3%)	5 (1.1%)	17 (4.3%)	11 (5.8%)	14 (2.4%)	17 (4.6%)	30 (6.5%)
Total Arrests, All offenses	768	437	398	188	591	369	462

Source: Guam Police Department, Uniform Crime Report, 2003, 2005
R = Revised

SECTION 4

Chapter 7 Illicit Drug Use Consequences

PROBLEM STATEMENT:

The proportion of clients admitted to the Department of Mental Health and Substance Abuse with drug dependence as the primary diagnosis is increasing. Overall, close to half, or 48.4% of all clients seen at the DMHSA presented with dependency problems involving illicit drugs.

The association between illicit drug use and criminal behavior remains highly significant. Illicit drug use within a community is often associated with property crime. In 2005, 1,468 burglaries were reported to the Guam Police Department, representing a 13.6% increase from the previous year and a 47.4% increase from 2001.

Methamphetamines play a major role in criminal behavior linked to illicit drug use on Guam. Methamphetamines (“ice”) accounted for 24% of local arrests for drug violations, while marijuana accounted for 45%. With regards to federal arrests, in 2003, methamphetamine accounted for majority (>90%) of cases on Guam, unlike the US mainland, where methamphetamine was involved in less than 20% of drug-related federal sentences.

ILLICIT DRUG USE: CONSEQUENCES

Health Consequences

The crude death rate from drug use on Guam appears to have decreased from 1.29 per 100,000 persons in 2000 to 1.22 per 100,000 persons in 2003. However, the small numbers of cases per year make it difficult to make conclusions about trends (Table 102).

Table 102. Deaths and crude death rates from illicit drug use, Guam, 1998-2003

	1998	1999	2000	2001	2002	2003
Total Deaths	651	724	667	691	658	
Mid-year Population	149,178	151,965	154,805	158,330	161,057	163,593
Deaths due to Drug Use	0	0	2	0	2	2
Crude Death Rate from Drug Use (per 100,000)	0.00	0.00	1.29	0.00	1.24	1.22

Source: Department of Public Health and Social Services, Office of Vital Statistics

Drug use by the mother was reported for 8 births on Guam in 2004, comprising 0.23% of all births. This is unchanged from the previous year (Table 103).

Table 103. Illicit drug use during pregnancy, Guam, 1994-2004

Year	Illicit Drug Use during Pregnancy	Total Births	Illicit Drug Use as % of Total Births
2000	37	3,787	0.98
2001	8	3,583	0.22
2002	4	3,222	0.12
2003	7	3,298	0.21
2004	8	3,427	0.23

Source: Department of Public Health and Social Services, Office of Vital Statistics, Birth Certificate data

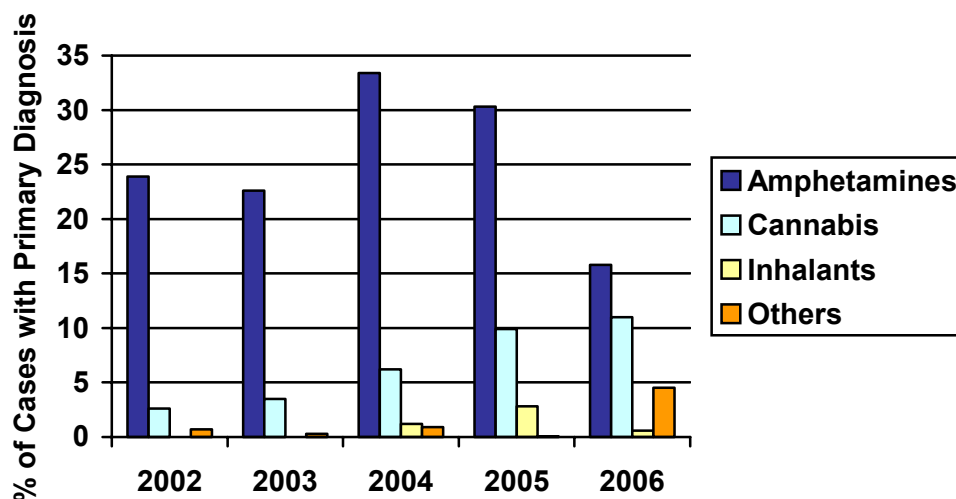
Among clients seen at the Department of Mental Health and Substance Abuse, the proportion with drug dependence as the primary diagnosis is increasing. From 2003-2005, this was primarily due to the rising percentage of clients presenting for "ice" or methamphetamine dependence. However, the percentage with a primary diagnosis of cannabis is also increasing. In 2006, the proportion of cases of dependence on "other" drugs, including club drugs like 'ecstasy' demonstrated a large rise. Overall, close to half, or 48.4% of all clients seen at the DMHSA presented with dependency problems involving illicit drugs (Table 104 and Figure 41).

Table 104. Primary diagnosis, drug and alcohol treatment programs, DMHSA, Guam, 2002-2006

Year	Total Cases	Alcohol % (n)	Cannabis % (n)	Amphetamines (including "ice") % (n)	Opiates % (n)	Inhalants % (n)	Others % (n)	Alcohol and Drugs % (n)	Subtotal Drug Cases % (n)
2002	2,652	72.7 (1,928)	2.6 (70)	23.9 (633)	0.1 (2)	.0 (1)	0.7 (18)	---	27.3 (724)
2003	908	73.6 (668)	3.5 (32)	22.6 (205)	---	---	0.3 (3)	---	26.4 (240)
2004	339	57.7 (195)	6.2 (21)	33.4 (114)	---	1.5 (5)	0.9 (3)	---	42.2 (143)
2005	1,542	57.3 (883)	9.9 (153)	30.3 (462)	---	2.8 (43)	0.06 (1)	---	42.7 (659)
2006	1,849	54.5 (1,008)	11.0 (203)	15.8 (293)	0.2 (4)	0.6 (12)	4.5 (83)	13.3 (246)	95.5 (1,766)
Totals	7,290	54.9 (4,003)	9.9 (725)	23.4 (1707)	0.08 (6)	0.8 (61)	1.5 (108)		48.4 (3,532)

Source: Department of Mental Health and Substance Abuse, Clinical Services Division, Drug and Alcohol Branch

Figure 42. Percentage of DMHSA clients by primary drug of abuse, Guam, 2003-2006



Source: Department of Mental Health and Substance Abuse, Clinical Services Division, Drug and Alcohol Branch

Illicit drug use within a community is often associated with property crime. In 2005, 1468 burglaries were reported to the Guam Police Department, representing a 13.6% increase from the previous year and a 47.4% increase from 2001. Over seventy percent of all burglaries were carried out in residential properties. The villages with the most reported number of residential burglaries were Dededo, Tamuning and Yigo (Tables 105-106).

Table 105. Burglaries, Guam, 1999-2005

Year	Number Reported	Percent Change from Previous Year
1999	1,453	9.7
2000	1,157	-20.4
2001	996	-13.9
2002	913	-8.3
2003	1,126	23.3
2004	1,292	14.7
2005	1,468	13.6

Source: Guam Police Department, Uniform Crime Report, 2003, 2005

Table 106. Burglaries by village and property type, Guam, 2001-2005

Village	Percent Distribution by Year				
	2001	2002	2003	2004	2005
Agana Heights	1.7	1.6	2.5	1.5	1.7
Agat	3.8	3.3	3.8	3.2	4.3
Asan/Maina	0.5	0.2	1.2	0.6	0.5
Barrigada	5.1	8.6	4.3	4.7	5.0
Chalan Pago/Ordot	2.3	3.1	2.5	3.2	3.1
Dededo	22.0	19.2	18.0	21.0	22.5
Hagatna	2.7	2.0	3.9	2.5	3.4
Harmon	7.8	10.2	5.2	7.9	6.1
Inarajan	0.9	1.8	1.8	0.6	0.7
Mangilao	8.3	8.0	9.0	6.8	6.8
Merizo	0.5	0.3	1.6	0.3	1.3
Mongmong/Toto/Maite	6.7	6.9	4.7	5.7	5.1
Piti/Nimitz Hill	1.2	2.0	1.5	1.5	1.3
Santa Rita	2.1	2.2	2.9	2.6	4.0
Sinajana	3.0	2.4	4.1	1.6	2.7
Talofoto	1.1	1.4	1.5	2.1	1.2
Tamuning	12.5	12.3	11.3	11.0	11.6
Tumon	5.7	4.2	5.4	8.4	5.6
Umatac	0.3	0.7	1.2	0.5	0.5
Yigo	6.3	7.4	9.2	9.6	7.6
Yona	5.5	2.2	4.4	4.7	5.0

Source: Guam Police Department, Uniform Crime Report, 2005

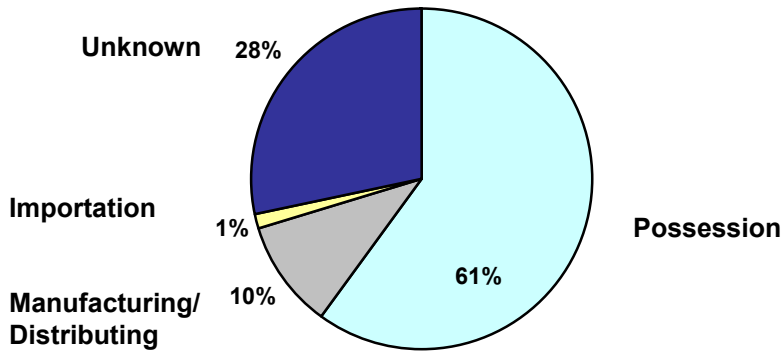
In 2005, 203 drug abuse violations were reported to the Guam Police Department, representing a 2% decrease from the previous year. In that year, 283 arrests were made for drug violations, for a 139.4% arrest rate. Most of the arrests (60%) were for possession of a controlled substance; 10.2% were for manufacturing/distributing and 1.4% for importation. Schedule I drugs (marijuana/LSD/methaqualone) accounted for 44.9% of arrests for drug violations, while Schedule II drugs (methamphetamines, including "ice"/Cocaine/PCP) accounted for another 24%. The remaining 2.8% were for other drugs (Table 107-108 and Figures 42-43). In 28.3% of the cases, the nature of the drug/s was/were unknown.

Table 107. Drug abuse violations by type, Guam, 1999-2005

	1999	2000	2001	2002	2003	2004	2005
Reported	482	287	187	211	300	497	203
Arrests Made	447	497	376	253	206	207	283
Possession	342	401	300	206	163	179	170
Manufacturing	90	82	69	41	39	23	29
Importation	15	14	7	6	4	5	4
Unknown	---	---	0	0	94	290	80

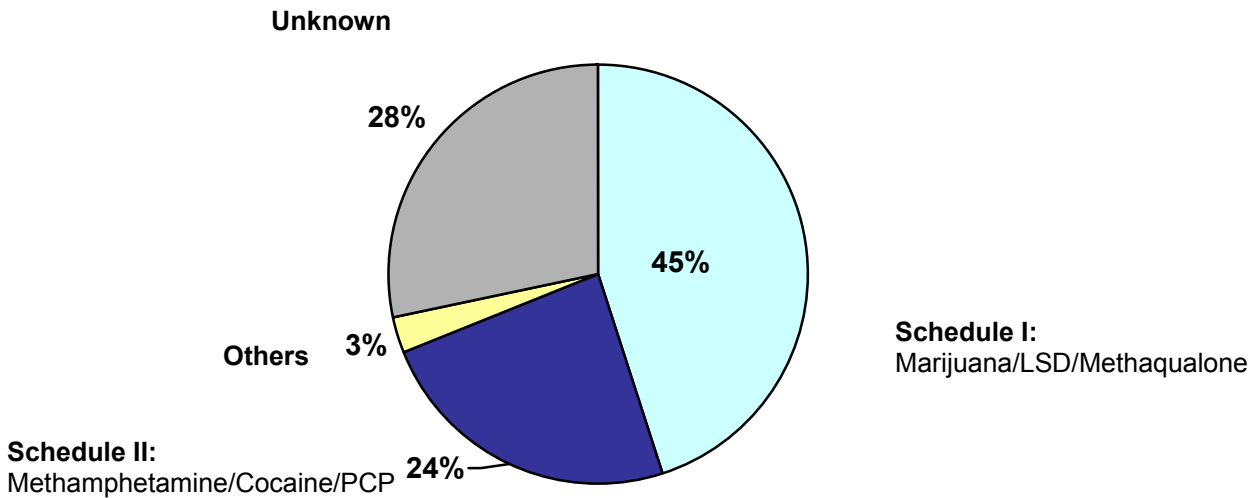
Source: Guam Police Department, Uniform Crime Report, 2005 as reported in the 2005 Guam Statistical Yearbook

Figure 43. Drug abuse arrests by type of offense, 2005



Source: Guam Police Department, Uniform Crime Report, 2003

Figure 44. Drug abuse arrests, by type of drug involved, Guam, 2005



Source: Guam Police Department, Uniform Crime Report, 2003

Table 108. Offender Arrests by Drug Type, Guam: 2001 to 2005

Year	Total	Type of Drug							
		Schedule I		Schedule II		Other		Unknown	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
2005	283	127	44.9	68	24.0	8	2.8	80	28.3
2004	497	120	24.1	75	15.1	12	2.4	290	58.4
2003	300	206	68.7	73	24.3	21	7.0	0	0.0
2002	253	112	44.3	83	32.8	16	6.3	42	16.6
2001	376	244	64.9	111	29.5	21	5.6	0	0.0

Source: Guam Police Department, Government of Guam as reported in the 2005 Guam Statistical Yearbook.

Schedule I: Marijuana/LSD/Methaqualone

Schedule II: Methamphetamine/Cocaine/PCP

Other = Schedule III: Codeine/Anabolic/Steroids/Barbiturates

Schedule IV: Darvon/Valium/Talwin/Equanol

Schedule V: Over-the-counter cough medicine with codeine.

Out of 4014 adult arrests for all types of offenses in 2005, 283 (7.05%) were for drug abuse violations. Those arrested were more likely to be male, Chamorro, aged 20-44. Of the 462 juvenile offenders arrested for all types of offenses in 2005, 48 (10.4%) were for drug abuse violations (Tables 109-111).

Table 109. Drug-related arrests by sex, adults, Guam, 2003*

Female	Male	Total Drug-related Arrests
n (%)	n (%)	N
49 (23.8)	157 (76.2)	206

Source: Guam Police Department, Uniform Crime Report 2003

*Note: The 2005 UCR does not report drug-related arrests by gender

Table 110. Drug-related arrests by age, adults, Guam, 2003-2005

Age Group	Number of Arrests		
	2003	2004	2005
18-19	4	10	13
20-24	30	16	22
25-29	31	12	47
30-34	36	24	43
35-39	34	12	52
40-44	36	8	31
45-49	22	4	15
50-54	6	1	9
55-59	4	0	4
60+	3	0	0
Unknown	71	372	1
Total	300	497	283

Source: Guam Police Department, Uniform Crime Report 2005, as reported in the 2005 Guam Statistical Yearbook

Table 111. Drug-related arrests by ethnicity/race, Guam, 2003-2005

Race	2003		2004		2005	
	Number of Arrests	Percent of Total	Number of Arrests	Percent of Total	Number of Arrests	Percent of Total
Chamorro	150	50.0	69	13.9	191	67.5
White	8	2.7	6	1.2	14	4.9
Filipino	25	8.3	7	1.4	0	0
Other Asian	4	1.3	3	0.6	52	18.4
FSM	14	4.7	3	0.6	24	8.5
Other	99	33.0	409	82.3	2	0.7
Total	300	100.0	497	100.0	283	100

Source: Guam Police Department, Uniform Crime Report, 2005, as reported in the 2005 Guam Statistical Yearbook

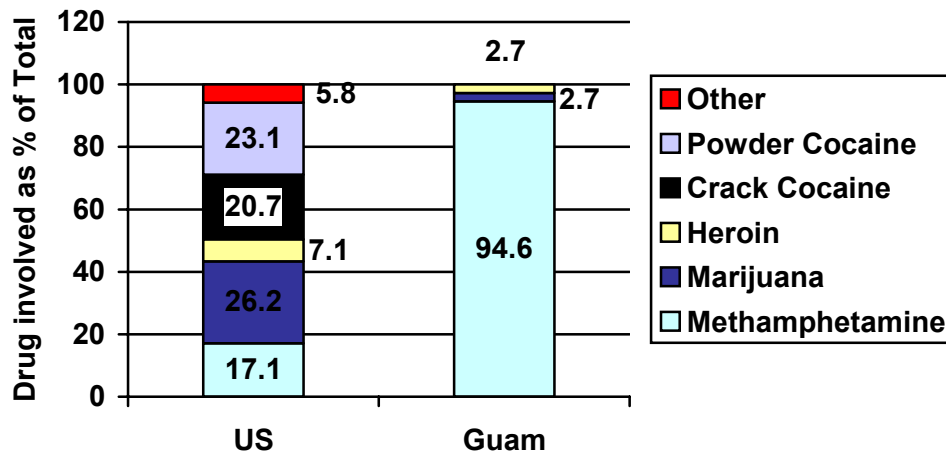
A comparison of federal sentences for drug-related offenses of Guam and the US reveals that drug-related offenses make up ~ 39% of all federal sentences on the US mainland compared to ~ 31% on Guam. Methamphetamine accounts for majority of cases on Guam, unlike the US mainland, where methamphetamine is involved in less than 20% of drug-related federal sentences. Crack and powder cocaine make up almost 45% of all federal sentences in the US, but were not reported on Guam (Table 112 and Figure 44).

Table 112. Federal drug-related sentences by primary offense category, Guam vs. US, 1998-2003

Primary Offense	1998	1999	2000	2001	2002	2003
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
US						
TOTAL, All Offenses	50,605 (100.0)	55,408 (100.0)	59,589 (100.0)	59,691 (100.0)	63,973 (100.0)	69,680 (100.0)
Trafficking	19,615 (38.8)	21,995 (39.7)	23,229 (39.0)	24,031 (40.3)	25,376 (39.7)	24,882 (35.7)
Communication Facility	402 (0.8)	397 (0.7)	411 (0.7)	473 (0.8)	459 (0.7)	393 (0.6)
Simple Possession	601 (1.2)	690 (1.2)	539 (0.9)	584 (1.0)	592 (0.9)	1,222 (1.8)
Subtotal, US	20,618 (40.7)	23,082 (41.6)	24,179 (40.6)	25,088 (42.0)	26,427 (41.3)	26,497 (38.0)
Guam						
TOTAL, All Offenses	241 (100.0)	91 (100.0)	133 (100.0)	82 (100.0)	138 (100.0)	95 (100.0)
Trafficking	71 (29.5)	24 (26.4)	42 (31.6)	21 (25.6)	47 (34.1)	36 (37.9)
Communication Facility	0 (0.0)	0 (0.0)	1 (0.8)	0 (0.0)	0 (0.0)	1 (1.1)
Simple Possession	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Subtotal, Guam	71 (29.5)	24 (26.4)	42 (32.3)	21 (25.6)	47 (34.1)	36 (37.9)

Source: United States Sentencing Commission, Office of Policy Analysis, 2003

Figure 45. Federal drug-related sentences by drug type, Guam vs. US, 2003



Source: United States Sentencing Commission, Office of Policy Analysis, 2003

Table 113 provides details on drug seizures on Guam from July 1, 1999 to June 30, 2002. Methamphetamine and marijuana comprise the entire amount of drugs seized on the island. Heroin and cocaine were not involved in any drug seizures during this period. Interestingly, the Maritime Task Force seized no drugs in 1999-2001, but the amounts seized in 2001-2002 were considerable, indicating an increase in the entry of drugs via sea routes.

Table 113. Drug seizures on Guam, 1999-2002

1 July 1999 – 30 June 2000				
Drug Type	DEA Task Force	US Customs Task Force	Maritime Task Force	Total Drug Seizures
Methamphetamine	19,858.0 gms.	9,811.8 gms.	0 gms.	29,669.80 gms.
Marijuana	727 plants	462.7 plants	0 plants	1,189.7 plants
Heroin	0 gms.	0 gms.	0 gms.	0 gms.
Cocaine	0 gms.	0 gms.	0 gms.	0 gms.
1 July 2000 – 30 June 2001				
Drug Type	DEA Task Force	US Customs Task Force	Maritime Task Force	Total Drug Seizures
Methamphetamine	24,000.0 gms.	16,845.8 gms.	0 gms.	40,845.8 gms.
Marijuana	10,000 plants	32 plants	0 plants	10,032 plants
Heroin	0 gms.	0 gms.	0 gms.	0 gms.
Cocaine	0 gms.	0 gms.	0 gms.	0 gms.
1 July 2001 – 30 June 2002				
Drug Type	DEA Task Force	US Customs Task Force	Maritime Task Force	Total Drug Seizures
Methamphetamine	16,852.0 gms.	644.1 gms.	8,383.0 gms.	25,879.1 gms.
Marijuana	6,100 plants	0 plants	887.9 plants	6,987.9 plants
Heroin	0 gms.	0 gms.	0 gms.	0 gms.
Cocaine	0 gms.	0 gms.	0 gms.	0 gms.

Source: Office of National Drug Control Policy, Drug Policy Information Clearinghouse, Guam Profile of Drug Indicators, May 2004

SECTION 5
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Annexes



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ANNEX 3: ILLUSTRATIVE EXAMPLE

In a hypothetical Guam village with 100 adults and 100 youth:

- Sixty-one people will be under the age of 15, and 129 will be between the ages of 15-64 (working age).
- Seventy-four will be Chamorros, 53 will be Filipinos, 14 will be white and 8 will be Chuukese.
- Ninety-one individuals will speak another language as frequently or more frequently than English, and 1 will speak no English at all.
- One in three (64 people) will have a high school diploma. Thirty-one will have a bachelor's degree. Nineteen will not have finished 9th grade.
- Thirty-four adults (21 men and 13 women) and 32 youth (17 boys and 15 girls) will be current smokers. The adult smokers will likely belong to the poorest families and have the least amount of education. One in five adult smokers would have tried to quit smoking in the past year. Four out of 5 young smokers would have tried to quit in the past year.
- Of the 32 youth smokers, about 10 would have smoked a whole cigarette before the age of 13. Half of the youth smokers will be Chamorro youth.
- Six youth will be users of chewing tobacco; these youth will be predominantly Micronesian.
- Six adults-5 males, 1 female-will be heavy drinkers. These 6 heavy drinkers will span the entire spectrum of income and educational attainment. 19 will be binge drinkers-15 male, 4 female. Among adults, males are 6 times more likely to be heavy drinkers and 4 times more likely to binge drink, than females.
- 38 youth will be current drinkers-20 males, 18 females. 17 will be binge drinkers-10 males, 7 females. Females will be just as likely as males to use alcohol among youth. 27 would have had their first alcoholic drink before the age of 13. The drinkers are more likely to be Chamorro, Asian other than Filipino or Micronesian. Filipino youth are least likely to drink.
- 10 youth will drive after having had an alcoholic drink. 38 youth are likely to ride in a vehicle driven by someone who has been drinking alcohol.
- We do not know how many adults in this hypothetical village are using illicit drugs. But among the youth:
 - 27 will be current users of marijuana; 15 would have used marijuana for the first time before the age of 13. These youth are more likely to be Chamorro and least likely to be Filipino or Other Asian. Marijuana use is declining among US youth since 1999 but it is increasing among Guam students.
 - 1 female and 2 males will be current users of cocaine.
 - 5 MS girls and 3 HS girls will have tried inhalants. 4 MS boys and 4 HS boys will have tried inhalants. Using inhalants will be highest among middle school girls. There is no ethnic disparity among youth in relation to inhalant use. Inhalant use is decreasing among US youth but not among Guam youth.
 - 1 HS girl and 2 HS boys will have tried ice.

ANNEX 4: DATA SUMMARY SHEETS

TOBACCO	Consumption	Consequences	Considerations Comments
Indicators	<p>Current smoking by MS students Current smoking by HS students Current smoking by 18 and older Current smoking by health professionals Current smokeless tobacco use by MS students Current smokeless tobacco use by HS students Current daily cigarette use by MS students Current daily cigarette use by HS students Current daily cigarette use, 18 and older Early initiation of tobacco use % vendors selling to minors Quit attempts in the past year</p>	<p>Deaths from lung cancer Deaths from COPD and emphysema Deaths from cardiovascular diseases</p>	
General population	<ul style="list-style-type: none"> Guam has the highest adult smoking prevalence of all US States and Territories. 1 in 3 adults (34%) smokes. 42% of adult males and 26% of adult females are current smokers, In 2005, 75% of all HS students have tried smoking. 30.8% of high school youth are current smokers. This is much higher than the US average of 23%. Among adults, education and income are inversely proportional to current smoking. Smoking rates decreased among middle school youth for the 1st time since 1999, to 14.8% in 2005. Among youth, males and females are smoking at approximately the same rate. Chamorros have the highest rates, while Filipinos have the lowest. The use of other tobacco products, including chewing tobacco with or without betel nut, is increasing among both high school and middle school students. 	<ul style="list-style-type: none"> One death per day on Guam is attributed to tobacco use. The top 3 causes of mortality---heart disease, cancer and stroke---are all tobacco related. The crude death rate from cardiovascular diseases has increased from 145/100,000 in 1998 to 153/100,000 in 2003. The crude death rate from lung cancer has increased from 16/100,000 in 1998 to 19/100,000 in 2003. 20% of litter on Guam consists of tobacco-related debris. 	<p>Data on the costs of off-island medical treatment for tobacco-related diseases is not available.</p> <p>Health consequences for tobacco have long lead times. Data on more acute health consequences, such as asthma and chronic ear infections from SHS exposure, are not currently available.</p> <p>Data on smoking-related fires not currently available.</p> <p>Further exploration of ethnic disparity is needed.</p>
Court-involved population	<ul style="list-style-type: none"> In 2005, 77.4% of youth assessed at DYA had tried smoking. 75.8% started between the ages of 10 – 14. 18% of Juvenile Drug court clients in 2006 reported tobacco as the 1st substance abused. 46.1% are current tobacco users. 		<p>Data on tobacco use among court-involved adults is not currently available.</p> <p>Data on tobacco use of minors taken into custody by GPD is incomplete.</p>
Conclusions	<ul style="list-style-type: none"> Tobacco use is widespread among both adults and youth in the general population, and prevalence on Guam is higher than in the US. Tobacco use is common among court-involved youth. Among juvenile drug court clients, about 20% report tobacco as the entry point for substance abuse. 	<ul style="list-style-type: none"> The health and environmental costs of tobacco use are significant. 	<p>Tobacco control is clearly a priority for the PEACE project.</p> <p>Environmental interventions and population-based programs must form a cornerstone of Guam's plan.</p>

ALCOHOL	Consumption	Consequences	Considerations Comments
Indicators	Current Use of alcohol by MS students Current use of alcohol by HS students Current use of alcohol by 18 and older Current binge drinking by MS students Current binge drinking by HS students Current binge drinking by 18 and older Current heavy use of alcohol by 18 and older Early initiation of alcohol use Drinking and driving among 18 and older Drinking and driving among HS students Riding in a car with drinking driver among MS students Riding in a car with drinking driver among HS students Total sales of ethanol per year per capita Consumption patterns among court-involved youth	Chronic liver disease death rate Suicide death rate Homicide death rate % Fatal MV crashes that are alcohol-related Alcohol-related Vehicle Death rate % Alcohol-involved drivers among all drivers in fatal crashes Violent Crime Rate Alcohol abuse or dependence % Live births with fetal alcohol syndrome Alcohol-related confinement Hospitalization for alcohol detoxification % Alcohol-related mandatory participation in treatment programs	
General population	<p>YOUTH (2005)</p> <ul style="list-style-type: none"> 68.2% of all HS students have had at least 1 alcoholic drink; 36.2% are current drinkers. 20.9% had their 1st drink at age 13 or younger. 18.5% have gone binge drinking, up from 17.3% in 2003. Close to 10% have driven a car after drinking alcohol. <p>ADULTS (2003)</p> <ul style="list-style-type: none"> 45.7% of adults on Guam are current drinkers: 61.5% of adult males and 29.5% of adult females. 5.7% are heavy drinkers. 18.7% are binge drinkers. Heavy and binge drinking are most prevalent among young adults aged 18-34. 	<ul style="list-style-type: none"> Homicide, suicide and chronic liver cirrhosis death rates have decreased since 1998. Death rate from alcoholic liver disease increased from 2.63/200,000 in 1999 to 3.06/100,000 in 2003. Alcohol use was present in 0.25% of live births on Guam in 2004. There was 1 case of FAS in that year, accounting for 0.03% of all live births. No cases of FAS were reported in 1999-2003. Alcohol dependence was the primary reason for referral of 54.5% of clients of the Drug and Alcohol Branch of DMHSA in 2006. An additional 13.3% of cases presented for combined dependence to alcohol and drugs. 	<p>Data on the numbers and costs of off-island medical treatment for alcohol-related diseases is not available.</p> <p>The gender disparity for current and heavy drinking that is evident among adults (higher alcohol consumption among males) is not seen among youth.</p> <p>Alcohol consumption among Chamorros and Chuukese youth appear to be higher than for other ethnic groups. Filipino youth appear to have a lower than expected rate of alcohol consumption.</p>
Court-involved population	<ul style="list-style-type: none"> In 2006, 53.7% of youth assessed at DYA experimented with alcohol. Alcohol use was associated with other criminal behavior in majority of the cases. In 2006, 25.7% of Juvenile Drug court clients reported alcohol as the 1st substance abused. An additional 1.2% reported alcohol and marijuana as the 1st substances abused. In 2006, over 60% of youth screened at the Juvenile Drug Court reported alcohol as the primary substance of current abuse. In 2006, 56.8% of clients of Sanctuary, Inc. were 	<ul style="list-style-type: none"> In 2005, 32.7% of all arrests were alcohol-related. Majority of the arrests were among young adults aged 20-34. Alcohol-related arrests made up 6.5% of all juvenile offenses in 2005, up from previous years. Alcohol was a factor in one-third of murder cases in 2005. There were 817 arrests for DUI in 2003, representing a 51.8% increase from the previous year. Over 50% of the arrests were among people aged 20 – 34. In 2005, 44% of fatal crashes involved alcohol. 	<p>Data on alcohol consumption among court-involved adults is not currently available.</p> <p>The ethnic disparity for alcohol consumption noted among youth in the general population appears to hold for court-involved youth.</p>

	<p>admitted for alcohol use, either singly or in combination with marijuana or other drugs.</p> <ul style="list-style-type: none"> • For high risk youth admitted to Sanctuary, Inc., alcohol accompanied other drug use in 30.7% of cases in 2006. 		
<p>Conclusions</p>	<ul style="list-style-type: none"> • Alcohol consumption among adults is significantly higher for males. Heavy and binge drinking are highest among younger adults. • Among youth, rates of current and binge drinking have been decreasing nationwide, but not on Guam. As a result, the gap between prevalence rates for current and binge drinking among Guam vs. US youth have been narrowing. • Alcohol consumption is high among court-involved youth. About a quarter of DYA youth report alcohol as the 1st substance of abuse. • Alcohol use is often accompanied by other criminal behavior among court-involved youth. 	<ul style="list-style-type: none"> • Alcohol use figures prominently in traffic accidents with fatalities, and in murders. • The great majority of those arrested fro DUI are young adults. 	<p>The social costs of alcohol use on Guam are high. Alcohol use impacts on violent crime, traffic fatalities and other criminal behavior. Young adults are most commonly involved.</p> <p>Environmental interventions (such as raising the drinking age to 21 and promoting alcohol-free adult role models) are needed on a population basis.</p> <p>Programs and messages on preventing alcohol-related traffic accidents need to focus on young adults aged 20-34.</p> <p>Causes for the ethnic disparities in alcohol consumption need to be further explored to delineate specific risk and protective factors.</p>

DRUGS	Consumption	Consequences	Considerations Comments
Indicators	Current use of marijuana by MS students Current use of marijuana by HS students Early initiation of marijuana use Lifetime use of cocaine by MS students Current use of cocaine by HS students Current use of inhalants by MS students Current use of inhalants by HS students Lifetime use of ice by HS students Other drug use patterns among court-involved youth % drug testing positive for any drug for US Probation clients Drug seizures per year by type and amount of drug	Deaths from drug use Property crime rate Drug abuse or dependence Drug-related birth outcomes Drug-related arrests	
General population	<ul style="list-style-type: none"> There is no data on illicit drug use among adults in the general population on Guam. In 2005, 47.3% of HS students and 27.3% of MS students reported having tried marijuana. The proportion of HS students trying marijuana is significantly higher on Guam than in the US. Close to one-third (31.1%) of Guam HS students tried marijuana before the age of 13. Current marijuana use is decreasing among US youth but it is increasing among Guam youth. In 2005, 4.9% of high school youth and 3.3% of MS students reportedly have tried cocaine, down from 2003. This is lower than the 2005 US average of 7.6%. In 2005, 2.5% of HS youth reportedly are current cocaine users. (US average: 3.4%) In 2005, 14.1% of HS youth reported having used inhalants. This is higher than the US average of 12.4%. Overall, MS females have the highest rate of lifetime reported inhalant use In 2005, 5.6% of HS students report using "ice", as compared to 6.2% of US youth. More HS males are using drugs than HS females. In MS, this trend is reversed for lifetime inhalant and cocaine use. In general, Chamorro youth have the highest rates of drug use, while Filipinos have the lowest. 	<ul style="list-style-type: none"> The crude death rate from drug use on Guam has decreased from 1.29/100,000 in 2000 to 1.22/100,000 in 2003. Drug use by the mother was reported for 8 live births on Guam in 2004, comprising 0.23% of live births. This is unchanged from the previous year. The proportion of clients seen at DMHSA's Drug and Alcohol Branch with drug dependence as the primary diagnosis is increasing. In 2006, 15.8% of case visits at the DMHSA were for amphetamine use; 11% were for cannabis/marijuana use, and 13.3% were for a combination of alcohol and drug use. In 2006, close to half of clients of the Drug and Alcohol Branch of DMHSA in 2005 presented with dependency problems involving illicit drugs. 	<p>Data on adult drug use within the general population is currently not available.</p> <p>Further exploration of ethnic disparity is needed.</p> <p>The reversal of male-predominant drug use among MS students, particularly in relation to inhalants, is cause for concern.</p> <p>Marijuana is the predominant type of illicit drug use reported by youth in the general population. Inhalants are the 2nd most common type of drug use reported in this population.</p>
Court-involved population	YOUTH <ul style="list-style-type: none"> In 2006, 57.8% of youth assessed at DYA experimented with marijuana, 17.9% with inhalants, and 3.5% with "ice". In 2005, 10.4% of all juvenile offenders were arrested for drug violations, up from previous years. According to GPD, of minors taken into custody for alcohol and drug violations in 2005, 45% were for marijuana. 	<ul style="list-style-type: none"> In 2005, 1468 burglaries were reported to GPD, representing a 13.6% increase from the previous year. In 2005, 203 drug abuse violations were reported to GPD. 283 arrests were made for drug 	<p>Data on drug use among court-involved adults is not currently available.</p> <p>Marijuana, alcohol and tobacco are the drugs of 1st use most frequently reported by clients in</p>

	<ul style="list-style-type: none"> • “Ice”, other amphetamines, cocaine, heroin and other “hard” drugs form an insignificant proportion of youth drug-related arrests. • In 2006, 37.7% of Juvenile Drug court clients reported marijuana as the 1st substance abused. An additional 1.8% reported tobacco and marijuana as the 1st substances abused, while 1.2% reported alcohol and marijuana as the 1st substances abused. • In 2006, 28.1% of youth screened at the Juvenile Drug Court reported marijuana as their current primary substance of abuse. 2.4% reported inhalants as their current primary substance of abuse. • In 2006, 34.1% of Sanctuary, Inc. clients were admitted primarily for marijuana use, 3.4% for inhalant use, 1.1% for amphetamine (including “ice”) use, 8.0% for concurrent use of alcohol and marijuana and 22.7% for concurrent use of alcohol and other drugs. <p>ADULTS:</p> <ul style="list-style-type: none"> • Among court-involved adults undergoing drug testing by the US Probation Office, 2.9% had positive test in 2006. Over half of those who tested positive were using methamphetamines, either singly or in combination with other drugs, and close to 40% of those who tested positive were using cannabis. • “Ice” was the predominant (>95%) drug of choice of clients of the Adult Drug Court from August 2003 to December 2006. 	<p>abuse violations in 2006, representing 7.0% of all arrests. 60% were for possession of a controlled substance; 10.2% were for manufacturing/distributing and 1.4% were for importation. In 24% of the cases, methamphetamines were involved. 45% involved marijuana, while 2.8% involved other substances. In 28.3% of the cases, the reason for the arrest and the drug/s involved were unknown.</p> <ul style="list-style-type: none"> • Methamphetamine accounts for majority of drug-related federal sentences on Guam, constituting over 90% of all drug-related federal sentences on island from 1997-2001. This is markedly higher than US averages. • From July 2000 – June 2001, 40,845.80 gms. of methamphetamines and 10, 032 marijuana plants were seized on Guam. 	<p>the Juvenile Drug Court.</p> <p>Among court-involved youth, illicit drugs most frequently used involve marijuana and inhalants.</p> <p>Among court-involved adults using illicit drugs, methamphetamine is the drug most frequently reported, followed by marijuana.</p> <p>Alcohol use commonly accompanies illicit drug use.</p>
<p>Conclusions</p>	<ul style="list-style-type: none"> • Marijuana is the predominant type of illicit drug use reported by youth in the general population. Inhalants are the 2nd most common type of illicit drug use reported in this population. • Marijuana, alcohol and tobacco are the drugs of 1st use most frequently reported by clients in the Juvenile Drug Court. • Among court-involved youth, illicit drugs most frequently used involve marijuana and inhalants. • Among court-involved adults using illicit drugs, methamphetamine is the drug most frequently reported, followed by marijuana. • Most drug-related crime is associated with methamphetamine use. 	<ul style="list-style-type: none"> • The social costs of drug-related crime are considerable. 	<p>Among both youth and adults, population-based strategies to reduce marijuana use are needed.</p> <p>Among youth, additional strategies to reduce inhalant use are needed.</p> <p>Among adults, additional interventions to control methamphetamine use are needed.</p> <p>Guam’s plan must also address the need for treatment of those addicted to these substances.</p>