

FEDERATED STATES OF MICRONESIA

Substance Abuse Epidemiological Profile March 2009 Update

FSM State Epidemiological Outcomes Workgroup

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This profile update resulted from the collaborative efforts of the various agencies and institutions that comprise the Federated States of Micronesia’s (FSM) State Epidemiological Outcomes Workgroup (SEOW). The data contained in this profile were contributed by the members of the SEOW at the State and National levels. The members of FSM’s SEOW include:

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INTRODUCTION

In 2006, CSAP made funding available for the 33 States and Territories that are not currently recipients of grant funding under the Strategic Prevention Framework State Incentive Grant (SPF SIG), to establish State Epidemiological Outcomes Workgroups (SEOWs). The Federated States of Micronesia applied for, and was subsequently awarded an SEOW grant.

The purpose of this grant is to facilitate the establishment of an SEOW that will oversee the collection, analysis and reporting of data on substance abuse consumption patterns and consequences. The data gathered by the SEOW will assist FSM to report on National Outcome Measures (NOMs), which are mandated by SAMHSA as part of the reporting requirements for its Block Grants. Additionally, the SEOW is envisioned to strengthen FSM's ability to implement the Strategic Prevention Framework (SPF) by making data an integral part of the decision-making process for the development of substance abuse prevention and treatment policies and programs.

The Strategic Prevention Framework 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. The Profile is intended to guide FSM as it begins a systematic attempt to prevent and control substance abuse and the deleterious consequences associated with it. As the key output of the SEOW, the Profile represents a concerted effort to integrate various data sources in delineating a comprehensive and accurate 'snapshot' of the local alcohol, tobacco and illicit drug situation, while identifying major data gaps for future work. This version of the profile is an update of the initial report in 2007 and the 2008 update.

The members of FSM's SEOW hope that this document will prove useful to the various agencies and institutions in Micronesia that are stakeholders in substance abuse prevention and treatment.

Figure 1. SAMHSA/CSAP's Strategic Prevention Framework



Source: <http://www.thelifelink.org/SPF/prevention-spf.html> last accessed 25 March 2007

NEW INFORMATION in this UPDATE

This version of the FSM Substance Abuse Epidemiological Profile contains updated information covering the period September 2008 – February 2009. This is because FSM was awarded the full SPF-SIG funding as part of Cohort IV for 2009, and consequently, the SEOW grant period was ended prematurely.

Recently released data from the FSM Statistical Office on demographic projections and socio-economic indicators are included in the background section of this update.

The SEOW anticipated that during this period, the World Health Organization (WHO) STEPwise Approach to Chronic Disease Risk factor Surveillance (WHO STEPS) surveys planned in Chuuk and Kosrae would have been completed, and the data would have been the major source for updated information on substance abuse consumption for this report. Unfortunately, the WHO STEPS surveys for the FSM States have been delayed, and sources within WHO have informed the SEOW that the survey data will not be ready until 2010. ***No other major surveys covering tobacco, alcohol and illicit drug use have been conducted in FSM during this period. Hence there are no major updates for tobacco, alcohol and kava (sakau) consumption prevalence and patterns.***

The FSM SEOW epidemiologist conducted a search for corollary data through both online and other sources, following up on suggestions made by colleagues working at the regional WHO and Secretariat of the Pacific Community (SPC) networks and also through CDC and SAMHSA. A few data sources were uncovered, and relevant data are reported in this update. However, most of the secondary data were outdated and were not utilized.

Data on arrests and mental health facility admissions were provided by the SEOW members of the various FSM States. However, these were not reported in a standardized format, and most excluded denominators. Hence, these data were not used. Alcohol-related arrests were reported from 2000-2007 in the 2008 FSM Statistical Yearbook; these are presented under the subsections delineating substance abuse consequences.

EXECUTIVE SUMMARY

The nature and magnitude of tobacco, alcohol and drug consumption and consequences in the Federated States of Micronesia are gradually unfolding. Despite the challenges from a lack of a consistent national surveillance system, available data provides an initial glimpse into some of the features of tobacco use and alcohol and drug abuse in Micronesia.

TOBACCO Consumption

Expenditures on alcohol, tobacco, sakau & betel nut (ATSB) were among the top 5 major expenditures in Yap. In Chuuk and Pohnpei, expenditures on alcohol, tobacco, sakau & betel nut surpassed money spent on medical care. In all 4 States, more money was spent on tobacco, alcohol, sakau and betel nut than for education.

There is no current national survey data on adult tobacco use, but information is available from the pilot survey of the WHO STEPs, conducted in Pohnpei in 2002. According to this survey, one in four adults in Pohnpei aged 25-64 smokes tobacco. Overall, adult males have double the smoking rate of adult females. They have longer overall exposures to tobacco smoke, having started smoking earlier, smoked for more years and smoke more cigarettes per day than adult female smokers. This gender difference disappears, however, among younger adults, since young female smokers are starting as young as and smoking as much as young adult males. About 3% of pregnant women report smoking in the last trimester of pregnancy.

Unlike the US mainland, other tobacco use, particularly chewing tobacco with betel nut, is prevalent in Micronesia. Over three-fourths of the survey participants reported this practice, with no gender or age-related differences.

On average, one in three physicians use tobacco, regardless of sex. Doctors in the state of Yap have the highest prevalence of tobacco. Female physicians in Pohnpei and Yap have higher tobacco use rates than their male counterparts; this likely represents chewing tobacco with betel nut.

Data on youth tobacco use comes from the 2000-2001 pilot Global Youth Tobacco Survey (GYTS) survey conducted in Pohnpei, the Health Behaviour and Lifestyle of Pacific Youth (HBLPY) survey conducted in Pohnpei in 2001, the Youth Risk Behavior Survey (YRBS) pilot conducted in Pohnpei in 2003 and the recently completed 2006-2007 GYTS (2nd round) conducted in all 4 states. Current smoking rates among youth are similar to adult smoking rates. Overall, a greater percentage of males have ever tried smoking, currently smoke or use other tobacco products, and have used tobacco with betel nut. One in four males and one in five females first tried smoking before the age of 10. Unlike their counterparts in the US mainland or in Guam, who prefer cigarettes, FSM youth are more likely to use other tobacco products than to smoke. Eight out of ten students who currently smoke cigarettes stated that they want to stop smoking (86.5%) or they tried to stop smoking during the past year (83.2%). Nine out of ten (91.7%) who currently smoke have received help or advice to stop smoking.

The first survey of tobacco vendors in 2005 revealed high compliance rates. The findings are not consistent with data from the 2007 GYTS, which indicated that one in four youth smokers buy their cigarettes from stores, and that one in three were not refused a cigarette purchase because of their age.

Consequences

Four out of the five top causes of mortality in the FSM are tobacco-related. Altogether, these tobacco-related diseases---diseases of the circulatory system, cancer, diseases of the respiratory system and endocrine diseases (chiefly diabetes) ---comprise 65.4% of all deaths in the FSM for

2003. In Pohnpei state, 6 of the 10 top causes of mortality from 1998-2002 were tobacco-related, accounting for 53.9% of all deaths.

Cancer accounted for 56% of all FSM off-island consults to a referral hospital in Hawaii in 2003. Tobacco-related cancers comprise the majority of cancer prevalence and cancer mortality in all four states.

ALCOHOL Consumption

The major source of recent data on adult alcohol consumption in FSM comes from the WHO STEPs survey conducted in Pohnpei. To our knowledge, there is no comparable recent survey data on adult alcohol consumption in the other three FSM States.

Adult men are almost three times more likely than adult women to have ever consumed alcohol. Younger adults are more likely to have tried alcohol than their older counterparts. Adult men (45.9%) are much more likely to be current drinkers than adult females (9.8%). For both sexes, the probability of current alcohol intake is highest among the youngest age group.

Over half of female recent drinkers reported consuming one drink per day, but close to one-third of male drinkers reported consuming 8 or more drinks per drinking day. Adult men report having consumed about 3 drinks in the past week, which is double the amount reported by adult women. The data appears to indicate that adult men in Pohnpei who consume alcohol tend to have a pattern of episodic binge drinking rather than regular heavy drinking.

Current drinkers in Pohnpei spend an average of 33.4 days (approximately 1 month) per year binge drinking. While older adult men have the highest likelihood of binge drinking, young women aged 25-34 are as likely to binge drink as men.

Estimates of alcohol consumption among youth are derived from the 1997 Micronesian Seminar study. The age of the study and the methodology utilized to collect data necessitate caution in data interpretation. Current alcohol use was highest among youth in Pohnpei, and nonexistent among youth in Kosrae. As with adults, consumption rates are markedly higher among males. Alcohol use increases markedly after the age of 14 for both males and females. Being out of school markedly increased the likelihood of current alcohol consumption.

In 2001, according to the HBLPY survey of 1516 in-school students from the State of Pohnpei (mostly aged between 14 and 17 years), 76.3% of students had used alcohol at least once in the past. The survey also found that the experience of drunkenness was quite common, with almost half of students reporting that they had been drunk at least twice in the past, and one in five reporting that they had been drunk more than ten times.

The 2003 YRBS revealed that overall, half of high school students in Pohnpei have tried drinking alcohol, and about one in five first tried alcohol before the age of 13. About one-third have consumed alcohol in the past month. One in four has gone binge drinking within the past 30 days.

Boys are more likely to have tried alcohol, to be current users of alcohol, to have gone binge drinking and to have first used alcohol before the age of 13. Older students are more likely to have tried alcohol, gone binge drinking and to be current drinkers, but younger students are more likely to have tried alcohol at an earlier age.

Roughly half of all students surveyed have ridden in a motor vehicle driven by someone who had been drinking alcohol. Boys were slightly more likely than girls to have done this. However, boys were more than twice as likely as girls to drive after drinking. Both risky behaviors increased with age.

Compared to data from the US in 2003, youth in Pohnpei are less likely to have tried alcohol, to be current and/or binge drinkers, to have first tried alcohol before the age of 13.

Beer was among the top five imported food and beverage items, costing FSM US\$2.976 million in 2004.

Consequences

Five of the top ten causes of death in FSM in 2003 were alcohol-related.

In 2004, 14 (3.6%) of the 386 deaths in the entire FSM were due to chronic liver cirrhosis. This represents a crude death rate from liver cirrhosis of 13 per 100,000. Pohnpei State, which has the highest rate of alcohol consumption among both adults and youth, has liver cirrhosis as the 8th leading cause of death, comprising 1.3% of all deaths from 1998-2002. Liver cancer ranks 3rd among all cancer deaths in Pohnpei from 1998-2002, accounting for almost 9% of all deaths from cancer.

Suicide consistently ranks in the top causes of mortality in FSM. The national SAMH program reported 27 clinical encounters for attempted suicide in 2003, 7 encounters in 2004, and 6 encounters in 2005. Most of these were alcohol-related. Suicide ranks together with liver cirrhosis as the 8th most common cause of mortality in Pohnpei. In Kosrae, nineteen (86.4%) out of the twenty-two attempted and completed suicides were alcohol-related.

Alcohol contributed to over 40% of all reported criminal offenses nationally. This represents a decrease from previous years, where alcohol-related offenses comprised over half of all offenses. Chuuk contributed the most to the decline in proportion of alcohol-related offenses, with a significant decrease in its rate after 2005. A smaller decline was also noted in the State of Pohnpei. However, the proportion of alcohol-related offenses appears to be increasing in Kosrae and Yap. Alcohol was a factor in over 86% of all offenses in Yap.

The State of Chuuk passed a law (enacted in 2004) requiring a drinking permit for the consumption of alcoholic beverages. This may have been a significant factor in the notable decline in alcohol-related offenses in that State. If so, it demonstrates the effectiveness of environmental interventions in changing behavior.

SAKAU (KAVA)

Consumption

Two-thirds of the adult population in Pohnpei report having consumed sakau, with males reporting higher consumption rates than females, overall. The likelihood of ever having consumed sakau is least among the oldest age groups, which is surprising given the prominent role sakau plays in traditional Micronesian culture. Close to half of sakau drinkers are also likely to smoke tobacco and/or drink alcoholic beverages either during or after drinking sakau. Engaging in sakau consumption can, therefore, serve as a "trigger" for concomitant tobacco and/or alcohol use.

Among Pohnpei students aged 15 years, according to the HBLPY survey, over 18% of males and 13% of females reported drinking kava at least weekly.

Sakau is exported from FSM to the other Micronesian islands, the US mainland and Japan. The amount exported (in kilograms) increased steadily from 2000 to 2003.

Consequences

Sakau can cause liver damage with heavy, frequent use. It is possible that some of the deaths from liver cirrhosis in FSM are partly due to sakau consumption. From 2000-2003, the number of hepatitis cases recorded in the FSM ranged from 55-163 cases per year. However, it is difficult to determine what proportion of these cases, if any, can be attributed to sakau use.

Sakau is well-known in Micronesia as part of a mediating ceremony to resolve social disputes, likely due to its calming properties. Data examining the impact of sakau on crime and accident rates is not available at this time.

MARIJUANA

Consumption

According to the 1997 Micronesian Seminar study, about 8% of individuals 15 years and older had smoked marijuana in the past 12 months. Males were much more likely to smoke marijuana than females in all States. Yap State had the lowest prevalence of marijuana use. Adult marijuana users were more likely to be single or divorced. The highest use rates were among adults aged 20-44.

Smoking marijuana among youth aged 10-19 was predominantly seen among males. No youth were reported to have used marijuana in the past year in Kosrae State, and no young female users were reported in Yap State. In contrast, Chuukese boys aged 15-19 had the highest reported prevalence. Like alcohol, being out-of-school significantly increased the likelihood of using marijuana among youth.

More recent data from the YRBS indicated that a quarter of Pohnpei youth have tried marijuana, and about one in seven is a current marijuana user. Ten percent started marijuana use before the age of 13.

Consequences

Data on the consequences of marijuana use in FSM is scant. In April 2005, the Chuuk State Department of Public Safety reported 2 cases of marijuana cultivation, requiring uprooting of marijuana plants. Information on health and/or social consequences of marijuana use is currently not available.

INHALANTS

Consumption

There were 12 individuals identified as current inhalant abusers in the 1997 study. Ten of these were from Chuuk State; the remaining two were from Pohnpei State. Only one user was female, echoing the gender disparity seen with alcohol and marijuana use. Majority were aged 10-19 years.

The 2003 YRBS revealed that one in ten Pohnpeian high school students currently uses inhalants.

Consequences

Like marijuana, data on the consequences of marijuana use in FSM is scant. Information on health and/or social consequences of inhalant use is currently not available.

OTHER ILLICIT DRUGS

Consumption

At present, data on other illicit drug use in FSM is very limited. The 1997 Micronesian Seminar study uncovered only one case of other illicit drug use. In general, the area of illicit drug use represents a major data gap in FSM.

The 2003 YRBS indicated that over 5% of Pohnpeian high school students reported current cocaine use, over 10% reported current heroin use and over 13% reported current methamphetamine use. The sizable percentages reporting cocaine, heroin, methamphetamine and MDMA use are puzzling, given the difficulty in obtaining these drugs in a remote island and their high cost. Future iterations of this survey will need to ensure that the young respondents fully understand the survey questions and recognize the drugs of interest.

Over one-quarter report having been given, offered or sold drugs in school within the past 12 months, emphasizing the importance of school-based enforcement interventions.

Consequences

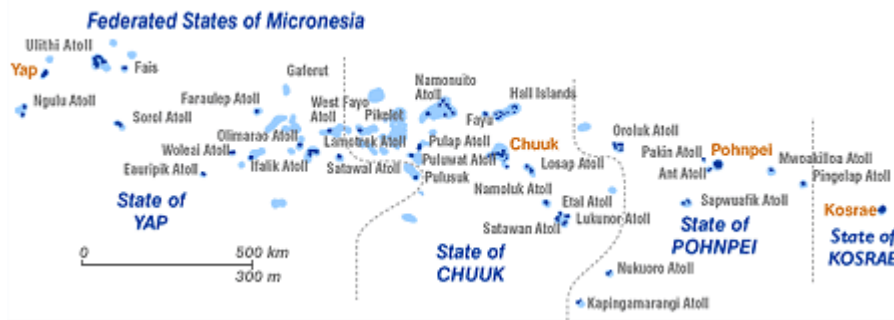
The FSM Department of Public Safety reported that for the years 2004-2005, there were 952 arrests related to drug use, and 123 drug-related traffic accidents. Two cases of domestic violence were drug-related, as were 5 suicides, of which 4 were completed. In addition there were 3 additional drug-related deaths, the nature of the deaths was not specified (Department of Public Safety, 2004-2005).

Overall, the number of encounters for drug abuse, either singly or in combination with alcohol, comprised 4.95% of all encounters in 2003, 3.5% of all encounters in 2004 and 2.31% of all encounters in 2005. The table lists encounters, and not individuals; hence it is possible that the number of individuals with these problems is smaller (assuming multiple encounters per individual). It should also be noted that the number of encounters is highly dependent on the staffing and logistic capacity of each State program. Thus, these numbers may not accurately depict the mental health burden of drug abuse in Micronesian society.

BACKGROUND INFORMATION

(Note: This section is provided for the non-Micronesian reader who may not be familiar with the FSM).

Figure 2. Map of the Federated States of Micronesia



Source: http://p.vtourist.com/518425-Map_of_Micronesia-Federated_States_of_Micronesia.gif last accessed 25 March 2007

The Federated States of Micronesia (FSM) is a young independent nation comprised of a loose federation of four states---Chuuk, Kosrae, Pohnpei and Yap. FSM was a United Nations Trust Territory of the Pacific islands (TTPI) administered by the United States of America, until the two nations signed a Compact of Free Association in 1986, leading to the termination of the trusteeship by the United Nations in 1991.

Although it has a declared Exclusive Economic Zone of over 1 million square miles (1.6 million sq. km.), the total land mass is only 438 square miles (702 sq. km.) divided among 607 islands. This is an extremely important fact, because the distance and population dispersion across so many islands present a formidable challenge to data collection and to the provision of prevention and treatment services. Travel to many of the outer islands is infrequent and erratic, and the telecommunications network is not yet extensively developed to ensure total coverage of the population.

The four states are geographically, politically, culturally and linguistically distinct. The State of Chuuk consists of approximately 290 islands in three distinct groupings---the administrative center of the State located on the island of Weno, a group of islands within the Chuuk lagoon, and a third set of islands in a series of 14 outlying atolls. Because of the vast expanse of water between islands, travel within Chuuk is difficult. Access to the outer islands by boat can take up to 2 days.

The State of Kosrae is the only state consisting of a single island. All the local villages are coastal communities at the island's periphery, connected by paved roads.

The State of Pohnpei is made up of the island of Pohnpei-the largest island in the FSM- and eight smaller outer islands with a total land mass of about 262 square miles.

The State of Yap is the westernmost part of FSM. Yap proper is a cluster of four islands connected by roads, waterways and channels. In addition, Yap has 78 outer islands, 22 of which are inhabited, stretching nearly 600 miles east of Yap proper.

On the main islands of both the States of Pohnpei and Yap, paved roads are making transport easier. However, the outer islands can only be reached by cargo ship, with monthly visits to each of the inhabited outer islands for the delivery of supplies and visits by health personnel.

The total of number of telephone subscribers was 11,687 in 2005, increasing from 9,981 in 2001. About 65% (7,551) of the telephone subscribers were residential lines, 12% government subscribers and the remaining 23% business subscribers. The number of subscribers to fax and the Internet also increased from 499 to 590 in the above period. The number of Internet subscribers increased significantly from 1,115 in 2001 to 1,709 in 2005 (2005 FSM Statistical Bulletin).

The islands are interconnected by shortwave radiotelephone (used mostly for government purposes), satellite (Intelsat) ground stations, and some coaxial and fiber-optic cable; cellular service is available on Kosrae, Pohnpei, and Yap. Unfortunately, frequent power outages have made communications through the internet or by facsimile difficult. Also, no electricity exists in many of the outer islands. Communication to the outer islands by solar powered radios is a recent phenomenon to Yap and is in the process of being established in Chuuk (Dept. of Health, Education and Social Affairs).

FSM has a constitutional government in free association with the United States. The president is both the chief of state and head of government. The Cabinet includes the vice president and the heads of the eight executive departments. The president and vice president are elected by Congress from among four senators at large for a four-year term (eligible for a second term). The latest election was held on May 2007; the next election is slated for May 2011. A proposed constitutional amendment to establish popular elections for president and vice president failed.

The legislative branch is comprised of a unicameral Congress with 14 seats; 4 senators serve four-year terms, with one elected from each state. The remaining 10 senators are elected from single-member districts delineated by population to serve two-year terms. Members of Congress are elected by popular vote. Elections for four-year term seats were last held March 2007 (next to be held March 2011); elections for two-year term seats were last held March 2007 (next to be held March 2009).

The judicial system is made up of a Supreme Court. The National Constitution is the basis for all legal authority and decision-making. The legislative and institutional framework of FSM includes both National and individual State constitutions, with each of the four States functioning as semi-autonomous governments (Mace, 1999).

FSM participates in various organizations of the United Nations, and is a member of the G-77 and the Secretariat of the Pacific Community (SPC). It is party to a number of international treaties relevant to the areas of interest of the SEOW, including the Single Convention on Narcotic Drugs (accession: 29 April, 1992), the WHO Framework Convention on Tobacco Control (ratification: 28 June 2004), and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (accession: 04 October 2004).

POPULATION DEMOGRAPHICS

The latest population census in FSM was conducted in 2000. The FSM Office on Statistics also recently released its 2008 population estimates. Table 1 depicts the population distribution by state from 1973 to 2000, and the 2008 estimates. Chuuk is the most populated state, with about half of the country's total population, while Pohnpei has about one-third. Kosrae is the least populated, accounting for only 7.6% of the total.

Table 1. Population distribution by state, 1973-2000

Census Year	Total Number	Yap Number (%)	Chuuk Number (%)	Pohnpei Number (%)	Kosrae Number (%)
1973	62,357	7,870 (12.7)	31,609 (51.0)	18,926 (31.1)	3,952 (5.3)
1980	73,159	8,100 (11.1)	37,488 (51.2)	22,080 (30.2)	5,491 (7.5)
1989	95,740	10,635 (10.8)	47,871 (50.0)	30,669 (32.0)	6,835 (7.1)
1994	105,506	11,178 (10.6)	53,319 (50.5)	33,692 (31.9)	7,317 (6.9)
2000	107,008	11,241 (10.5)	53,595 (50.1)	34,486 (32.2)	7,686 (7.2)
2008 (estimates)	108,100	11,700 (10.8)	53,300 (49.3)	34,900 (32.2)	8,200 (7.6)

Sources: 2000 population and Housing Census Report, Division of Statistics, Federated States of Micronesia, May 2002, 2008 Population Estimates, FSM Office of Statistics, at <http://www.spc.int/prism/country/fm/stats/>

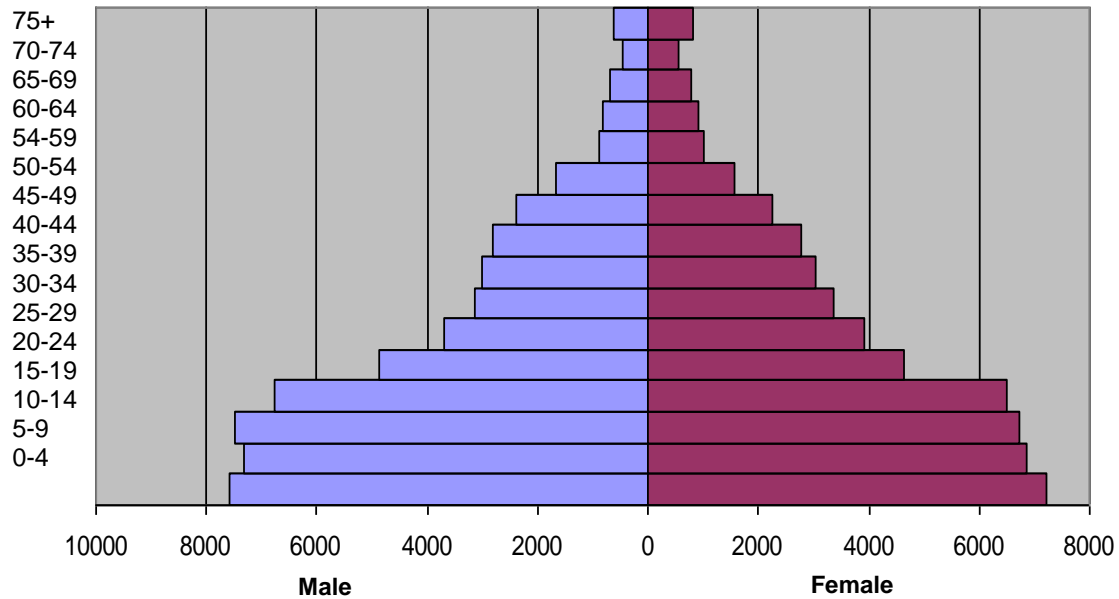
Table 2. Population estimates by sex per state, 2008

	FSM	Yap	Chuuk	Pohnpei	Kosrae
Total	108,100	11,700	53,300	34,900	8,200
Male	54,400	5,600	26,800	17,900	4,000
Female	53,700	6,100	26,500	17,000	4,200

Source: 2008 Population Estimates, FSM Office of Statistics, at <http://www.spc.int/prism/country/fm/stats/>

The population pyramid shows a predominantly young population, with a wide base tapering off to a narrow top. Males slightly outnumber females at the youngest age groups, but the male: female ratio is reversed at 20-29 and at 55 years and older. Emigration of younger males in search of better job opportunities may explain the sex ratio reversal at 20-29 years of age, while excess male mortality likely leads to the greater numbers of females surviving into old age. The higher prevalence of tobacco and alcohol use among men contributes to their higher mortality rates; successful interventions to prevent and reduce tobacco and alcohol use among adults may eventually be reflected in greater numbers of men surviving into old age.

Figure 3. Population pyramid, FSM, 2000



Source: 2000 Population and Housing Census Report, Division of Statistics, Federated States of Micronesia, May 2002

Certain socio-economic characteristics may affect the likelihood of tobacco, alcohol and other drug use or may have implications for the design of interventions. In the absence of representative national data, it is critical to review socio-economic indicators to discern differences among the four states.

Marital status, for example, differs across FSM. The proportion of single ('never married' and 'separated and divorced') persons is lowest in Pohnpei, and highest in Chuuk (Table 2).

Table 2. Marital status of persons 15 years and over, by state, FSM, 2000

	Total Population	Percent Never Married	Percent Now Married	Percent Separated or Divorced	Percent Widowed
FSM	63,836	39.5	52.3	3.4	4.8
Yap	7,153	38.5	50.0	5.0	6.5
Chuuk	31,587	41.9	49.7	3.7	4.7
Pohnpei	20,468	36.1	56.4	2.9	4.6
Kosrae	4,628	40.1	53.8	1.6	4.5

Source: 2000 Population and Housing Census Report, Division of Statistics, Federated States of Micronesia, May 2002

Religion varies markedly across the states. Yap is predominantly Catholic, while in Kosrae, the Protestant religions predominate (Table 3). This information may be valuable when tapping into the faith-based organizations and communities for assistance with tobacco, alcohol and drug abuse prevention and control.

Table 3. Religion by state, FSM, 2000

Religion	Total	Yap	Chuuk	Pohnpei	Kosrae
	Percent population				
Catholic	52.7	83.3	53.0	53.5	1.8
Congregational	40.1	3.4	43.1	36.5	89.1
Baptist	0.9	0.3	0.4	1.8	1.6
Seventh-day Adventist	0.7	0.7	0.3	1.2	1.5
Latter Day Saints	1.0	1.1	0.7	1.4	2.2
Other Religion	3.8	5.5	2.5	5.3	3.6
Refused/None	0.8	5.7	---	0.3	0.2

Source: 2000 Population and Housing Census Report, Division of Statistics, Federated States of Micronesia, May 2002

The percent of the population who speak English at home also differs significantly among the four states. The 2000 census showed that while 65% of people residing in Pohnpei speak English at home, only 5.6% of those living in Chuuk and only 7.1% of those living in Kosrae do so. Thus, the choice of language for data collection instruments and for service delivery will need to be tailored to the specific situation in each state.

Table 4 shows the educational attainment of persons 25 years old and above across the four states. The proportion of the population with a college degree in Chuuk is less than half that in Kosrae. Table 5 depicts the distribution of the working age population by state in 2000. Chuuk has the lowest percentage of working age persons who are employed.

Table 4. Educational attainment of those 25 years and older by state, FSM, 2000

Educational level	Total Population (Percent)	Yap	Chuuk	Pohnpei	Kosrae
Some elementary	100.0	100.0	10.0	100.0	100.0
Elementary	77.2	79.8	77.5	75.4	79.0
Some high school	58.6	72.0	58.7	51.0	69.2
High school graduates	36.6	58.8	30.4	34.2	47.9
Some college	21.3	28.5	16.8	21.7	33.8
College graduates	11.7	15.5	7.9	13.4	19.8

Source: 2000 Population and Housing Census Report, Division of Statistics, Federated States of Micronesia, May 2002

Table 5. Distribution of working age population by state, FSM, 2000

Status	Total Population (Percent)	Yap	Chuuk	Pohnpei	Kosrae
In labor force	58.6	72.3	57.6	57.7	48.2
Employed	45.7	69.4	37.9	50.7	40.3
Unemployed	12.9	2.9	19.7	7.1	8.0
Not in labor force	41.4	27.7	42.4	42.3	51.8
Could have taken a job	3.6	2.0	2.5	4.0	11.2
Not available for work	37.8	25.6	39.9	38.3	40.5

Source: 2000 Population and Housing Census Report, Division of Statistics, Federated States of Micronesia, May 2002

FSM EPIDEMIOLOGIC PROFILE: METHODOLOGY

After completing the recruitment and hiring of members of FSM's SEOW Working Groups, a training workshop was conducted in August, 2006. During this workshop, the SEOW members reviewed the SEOW's purpose and its relationship to the Strategic Prevention Framework and the National Outcome Measures. They also established a set of work procedures and developed a preliminary list of data sources and indicators.

The participants agreed to a work process whereby State level SEOW subgroups meet monthly, at a minimum, to collate and review data sets and relevant data indicators. Data from each State is submitted as available to the FSM national SEOW Coordinator. Members of the SEOW communicate with each other, with their national counterparts and with the SEOW Epidemiologist through an electronic mail group and Yahoo group site.

For the first year of the grant, work was limited to available data sets and reports. The SEOW Working Groups identified existing data sources, and attempted to obtain the actual data sets. Relevant data indicators were delineated, and, if information was available, the data was forwarded to the SEOW Epidemiologist for analysis. In those instances when raw data was not available for review, summary reports were used.

In year 2 of the grant, a number of data sources were uncovered, including a pilot Youth Risk Behaviour Survey (YRBS) in 2003 and a WHO-UNICEF Health Behaviour and Lifestyle of Pacific Youth (HBLPY) survey in 2001-2002, both conducted in Pohnpei. In addition, a 2nd iteration of the Global Youth Tobacco Survey (GYTS), first conducted as a pilot in Pohnpei in 2000-2001, was completed using a national sample. This provided updated information on youth tobacco use.

For year 3, the anticipated WHO STEPs survey, which would have augmented prevalence data on adult tobacco, alcohol, betel nut and sakau use, was unfortunately delayed. No other significant prevalence surveys were conducted during the time period. However, the Epidemiologist discovered previous data from other surveys through an online search of relevant material, retrieving these to augment the information provided by the SEOW Working Groups.

In general, summary statistics for FSM are presented. Whenever possible, detailed information is provided for each State, and disaggregated by sex, age group and ethnicity/racial group. For several indicators, the numbers of observations are small (e.g. suicide deaths, etc.); in these cases, the reader is alerted to interpret the data carefully.

Data Limitations

Strengthening FSM's capacity and infrastructure to consistently and systematically monitor substance abuse consumption and consequences is a priority need. A major challenge is the general paucity of data. Another is the lack of standardized surveillance systems that allow for comparisons across States, and between the FSM and the US mainland or other US-affiliated territories like Guam. The reader is cautioned about making comparisons across the four Micronesian States for selected indicators that have sub-national data, as the methodologies and data collection instruments for these indicators may differ in each State. The third challenge, in the absence of a sustained surveillance system, is the lack of trend data over time. Please refer to the FSM Data Gap analysis for a more detailed discussion of these data challenges.

TOBACCO

Consumption

For this version of the Profile, no new tobacco use survey was conducted. The only new information comes from the 2005 FSM Household Income and Expenditures Survey, and the 2008 FSM Statistical Yearbook.

The 2005 *Household Income and Expenditure Analysis Report*, officially released in November 2007 and published online in 2008, provides information on expenditures for tobacco, alcohol, sakau and betel nut as compared to other expenditures per State (table 16) in 2005.

Expenditures on food, housing & related expenses, and transportation & communications were the highest, totaling to about \$83 million, \$37 million, and \$20 million, respectively. The combined contributions from these three groups made up 66% of the total national expenditures. Education group had the lowest expenditure value of less than a million dollars or 0.2%, showing that households spend the least on goods or services relating to education.

Expenditures on alcohol, tobacco, sakau & betel nut (ATSB) were among the top 5 major expenditures in Yap. In Chuuk and Pohnpei, expenditures on alcohol, tobacco, sakau & betel nut surpassed money spent on medical care. In all 4 States, more money was spent on tobacco, alcohol, sakau and betel nut than for education. Furthermore, the Office of Statistics stated: "It is expected... (that) this expenditure group (alcohol, tobacco, sakau & betel nut) ... (is) significantly understated due to cultural factors."

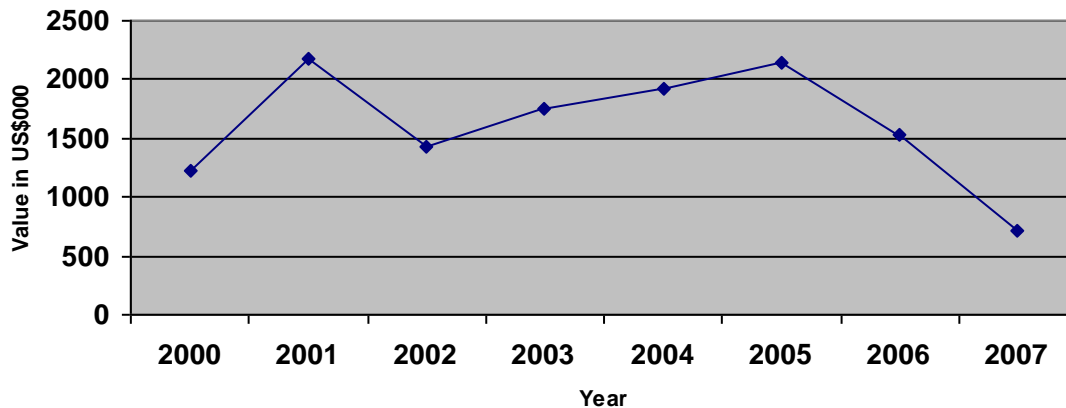
Table 6. Total expenditure by expenditure groups and state, 2005

Expenditure group	AMOUNT (US\$ 000)				
	Total	Yap	Chuuk	Pohnpei	Kosrae
Total	210,734	38,934	79,716	77,988	14,096
Food	83,132	15,303	37,836	24,579	5,413
Housing, household maintenance, repairs & operations	36,608	7,213	13,328	13,525	2,542
Transportation & communication	19,536	4,210	6,373	7,155	1,798
Gifts	13,057	1,186	4,724	6,699	448
Fuel, light & water	10,737	1,880	3,789	4,322	746
Furniture, equipment & accessories	8,598	1,675	2,773	3,565	585
Income tax	7,717	1,193	1,877	3,941	705
Clothing & footwear	7,716	841	2,717	3,739	418
Alcohol, tobacco, sakau, & betel nut (ATSB)	7,478	2,456	1,934	2,870	219
Medical care	4,145	827	877	2,115	326
Recreation	3,476	849	805	1,491	331
Education	489	213	164	104	8
Other expenses	8,046	1,088	2,518	3,883	556

Source: *Household Income and Expenditure Analysis Report, Federated States of Micronesia 2005*, Division of Statistics, Federated States of Micronesia, November 2007, as published online in 2008 at http://www.spc.int/prism/country/fm/stats/Publications/Census_Survey/Surveys/HIES05%20Report_FINAL.pdf

The 2008 FSM Statistical Yearbook reports the total value of cigarettes and tobacco imported into FSM for the years 2000 to 2007 (Table 7). The cost of total tobacco imports declined from US\$1,529,000.00 in 2006 to US\$711,000.00 in 2007.

Figure 4. Changes in value of total tobacco imports into FSM, 2000 to 2007



Source: 2008 FSM Statistical Yearbook

The subsequent portion of this subsection is unchanged from the previous Epi Profile Update released in 2008.

There is no current national survey data on adult tobacco use. Data on tobacco use in FSM comes from a number of sub-national and national surveys:

- The WHO STEPs pilot survey in Pohnpei (2002) conducted by the Pohnpei State Primary Health Care in partnership with the FSM HESA, the Fiji School of Medicine and WHO;
- The Adult Tobacco Use (ATS) Survey conducted in Pohnpei (2004) and Kosrae (2005) by the FSM Tobacco Control Program, SAMH;
- The Tobacco Use among Health Professionals by State and Gender (2003) conducted by the FSM Tobacco Control Program, SAMH;
- The Global Youth Tobacco Survey (GYTS) pilot (2000-2001) conducted by SAMH in Pohnpei, and its most recent iteration, the 2007 GYTS, conducted nationally in 2006; and,
- The Youth Risk Behavior Survey, conducted in Pohnpei in 2003.

Additional data comes from the FSM Maternal and Child Health Services title V Block Grant 2005 Annual Report.

The WHO STEPwise approach to non-communicable disease (NCD) surveillance (STEPS) is a cross-sectional survey of the point prevalence of NCD risk factors in a population. The survey is a standardized one developed by the World Health Organization in conjunction with its Member States. It utilizes a simple methodology that can be adapted for use in low-resource settings, and surveillance instruments that use three levels, or “steps”, to assess NCD risk burden: questionnaires, physical measurements and biochemical measurements. The common methodology and instruments allow for within-country and cross-country comparisons.

A pilot STEPs survey was conducted in Pohnpei in 2002, with results reported at the Health Policy Symposium in January 2006. The pilot survey aimed for a randomized sample of 2100 people aged 26-64.

The summary of the pilot study results in relation to smoking is shown in Table 7.

Table 7. Summary of adult tobacco use, Pohnpei, 2002

Findings	Total (95% CI)	Male (95% CI)	Female (95% CI)
Percentage who currently smoke tobacco daily	25.0 (+/-2.6)	33.6 (+/-4.6)	16.3 (+/-3.0)
For those who smoke daily			
Average age started smoking (years)	17.9 (+/-0.6)	16.8 (+/-0.7)	20.2 (+/-0.8)
Average years smoking	22.0 (+/-0.9)	22.9 (+/-1.4)	20.1 (+/-1.7)
Percentage smoking manufactured cigarettes	90.5 (+/-5.8)	92.9 (+/-5.5)	85.4 (+/-7.9)
Mean number of manufactured cigarettes smoked per day (by smokers of manufactured cigarettes)	17.4 (+/-1.7)	18.1 (+/-1.9)	15.8 (+/-1.9)

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

About one in four adults in Pohnpei aged 25-64 currently smokes tobacco. Overall, adult males have double the smoking rate of adult females. They have longer overall exposures to tobacco smoke, having started smoking earlier, smoked for more years and smoke more cigarettes per day than adult female smokers. Female smokers are more likely to smoke hand-rolled cigarettes versus manufactured cigarettes.

Table 8 shows data on adult smoking status disaggregated by age.

Table 8. Smoking status disaggregated by age and sex, Pohnpei, 2002

Total Population													
Age	N	Current Daily			Current Non-daily			Ex-daily			Never		
		%	CI	n	%	CI	n	%	CI	n	%	CI	n
25-34	495	20.2	±3.3	92	7.1	±3.4	29	12.4	±3.8	53	60.2	±5.3	321
35-44	494	31.5	±4.3	141	5.4	±1.9	27	10.9	±3.6	48	52.3	±4.5	278
45-54	430	28.2	±5.0	113	5.9	±3.1	24	15.1	±4.0	60	50.8	±6.4	233
55-64	210	16.0	±5.3	35	4.7	±4.0	12	20.0	±13.2	32	59.4	±13.7	131
Total	1629	25.0	±2.6	381	6.1	±1.4	92	13.2	±2.3	193	55.7	±2.5	963
Men													
25-34	176	26.8	±7.8	49	11.4	±6.0	19	17.6	±6.3	30	44.2	±10.9	78
35-44	183	44.5	±7.1	85	5.9	±3.1	11	14.1	±7.1	22	35.5	±7.2	65
45-54	181	38.0	±6.8	69	4.0	±2.9	7	18.5	±6.7	33	39.5	±8.7	72
55-64	96	13.7	±8.6	15	3.5	±3.5	4	29.7	±16.6	25	53.1	±16.5	52
Total	636	33.6	±4.6	218	7.3	±2.7	41	17.8	±3.7	110	41.3	±4.4	267
Women													
25-34	319	13.8	±4.6	43	3.0	±2.7	10	7.4	±3.1	23	75.8	±5.3	243
35-44	311	17.9	±3.7	56	4.8	±2.4	16	7.6	±3.6	26	69.7	±5.9	213
45-54	249	17.5	±4.7	44	7.9	±5.7	17	11.4	±4.1	27	63.2	±8.1	161
55-64	114	18.3	±6.3	20	5.8	±5.4	8	10.5	±11.0	7	65.5	±13.9	79
Total	993	16.3	±3.0	163	4.8	±1.5	51	8.6	±2.6	83	70.3	±4.2	696

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

Among males, the percentage of adult daily smokers is highest among those aged 35-44, and lowest among those aged 55-64. This reduction in prevalence in the older age group probably reflects the increased mortality from tobacco-related diseases in this group. Among women,

however, smoking rates continue to increase with age, with the highest rate reported among those aged 55-64.

For both sexes, the percentage of ex-smokers increases with age, probably indicative of the impact of tobacco-related illnesses on smoking cessation. Interestingly, the percentage of never smokers appears highest among young adults. If this trend holds in subsequent iterations of this survey, it may reflect the positive effect of current tobacco control interventions in the FSM in preventing smoking uptake among the young.

Table 9 provides data on the number of years ex-smokers have been tobacco-free. As expected, older ex-smokers have been tobacco-free the longest.

Table 9. Years since quitting smoking, ex-smokers, Pohnpei, 2002

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	5.9	±1.3	24	6.8	±2.0	11	4.5	±2.2	13
35-44	9.3	±3.2	37	9.5	±4.8	15	8.9	±2.7	22
45-54	13.3	±3.8	51	14.5	±4.3	31	10.5	±6.9	20
55-64	12.0	±3.5	31	13.1	±2.9	24	9.2	±8.3	7
Total	10.3	±1.7	143	11.3	±2.6	81	8.2	±2.3	62

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

Table 10 reflects data on the age of onset of smoking disaggregated by age and sex. On average, male smokers started smoking about 3 years earlier than female smokers. Among the younger adults, the difference in age of onset between the sexes is reduced, while the opposite is true for the oldest age group. This is because among men, age at onset of smoking is about the same regardless of age, while younger women started smoking at an earlier age than older women.

Table 10. Age of onset of smoking, current smokers, Pohnpei, 2002

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	17.3	±1.0	90	16.9	±1.3	48	18.1	±1.4	42
35-44	17.9	±0.7	138	17.0	±0.7	83	20.0	±1.3	55
45-54	17.9	±1.3	107	16.4	±1.4	66	21.7	±1.9	41
55-64	21.1	±3.0	35	16.5	±1.8	15	24.5	±3.7	20
Total	17.9	±0.6	370	16.8	±0.7	212	20.2	±0.8	158

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

Table 11 shows the percentage of adult smokers who consume manufactured cigarettes (versus hand-rolled varieties) by age and sex. In general, the percentage of smokers using commercially produced cigarettes decreases with age. This is primarily due to older women who are less likely to smoke manufactured cigarettes, and more likely to consume hand rolled cigarettes, reflecting an age and sex-specific traditional preference for home-grown cigarettes.

Table 11. Percentage of current smokers consuming manufactured cigarettes by age and sex, Pohnpei, 2002

Age	Total Population			Male			Female		
	%	CI	n	%	CI	n	%	CI	n
25-34	90.5	±10.3	83	89.9	±11.0	44	91.6	±10.5	39
35-44	94.1	±3.5	130	96.5	±3.3	81	88.0	±8.1	49
45-54	86.2	±10.8	98	89.9	±11.1	63	77.4	±13.7	35
55-64	83.0	±18.3	31	95.5	±9.6	14	74.0	±27.7	17
25-64	90.5	±5.8	342	92.9	±5.5	202	85.4	±7.9	140

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

Table 12 presents data on the daily cigarette consumption by current smokers of manufactured cigarettes, disaggregated by age and gender. Among men, daily cigarette smoking increases with age. In contrast, younger women are smoking more cigarettes per day than older women.

Table 12. Daily cigarette consumption by current smokers of manufactured cigarettes, by age and sex, Pohnpei, 2002

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	15.6	±2.3	83	15.7	±3.2	44	15.5	±2.8	39
35-44	16.8	±2.4	130	17.4	±2.8	81	15.1	±2.7	49
45-54	21.2	±2.7	98	22.0	±2.6	63	19.2	±4.8	35
55-64	16.9	±5.0	31	21.1	±5.9	14	13.0	±6.0	17
Total	17.4	±1.7	342	18.1	±1.9	202	15.8	±1.9	140

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002.

Young adult women start smoking at a younger age, prefer manufactured cigarettes and smoke more cigarettes per day than older women. The difference in consumption patterns between males and females, and between younger women versus older women, may indicate the need for age and gender-specific interventions to reduce smoking among adults.

Table 13 contains information on the addition to tobacco to betel nut chew. This practice is common throughout the Micronesian region, and, in some areas, it is the most prevalent form of tobacco consumption. Over three-quarters of the survey participants chew tobacco with betel nut, and the percentages are similar across age groups and sexes. Thus, tobacco control interventions in FSM need to address this alternate form of tobacco consumption, in addition to smoking.

Table 13. Frequency of adding tobacco to betel nut chew, daily chewers, Pohnpei, 2004

Total Population										
Age	N	All the time			Not all the time			Never		
		%	CI	n	%	CI	n	%	CI	n
25-34	187	79.4	±7.2	146	13.8	±6.0	26	6.8	±3.5	15
35-44	85	73.8	±12.2	63	11.7	±9.0	9	14.5	±11.2	13
45-54	52	71.4	±16.7	37	11.7	±11.3	6	16.9	±8.6	9
55-64	6	100.0	±0.0	6	-	-	0	-	-	0
Total	330	77.3	±6.9	252	12.9	5.2	41	9.7	±4.6	37
Men										
25-34	106	80.9	±9.4	85	14.1	±7.3	15	5.0	±4.5	6
35-44	59	72.7	±13.4	43	12.9	±11.0	7	14.4	±11.4	9
45-54	38	69.8	±19.4	26	11.2	±12.7	4	18.9	±10.1	8
55-64	6	100.0	±0.0	6	-	-	0	-	-	0
Total	209	77.6	±9.0	160	13.2	±6.4	26	9.2	±5.5	23
Women										
25-34	81	75.9	±9.6	61	13.1	±7.7	11	10.9	±6.9	9
35-44	26	78.5	±18.6	20	6.5	±8.6	2	15.0	±16.9	4
45-54	14	78.5	±22.0	11	13.7	±17.3	2	7.8	±16.0	1
55-64	-	-	-	-	-	-	-	-	-	-
Total	121	76.6	±8.3	92	11.9	±6.4	15	11.5	±6.5	14

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

In 2005, the FSM Maternal and Child Health (MCH) program began monitoring the percentage of women who smoke in the last three months of pregnancy. Of 2441 pregnant women screened, 71 (2.9%) reported smoking during the last trimester of pregnancy (MCH Annual Report 2005).

The State MCH programs in collaboration with the Tobacco Control Program have started incorporating advice on the harmful effects of tobacco use, including second hand smoke exposure, during antenatal visits. Cessation advice and counseling are now part of the prenatal package of care for pregnant women who smoke. It is anticipated that this indicator will continue to be tracked annually.

The FSM Tobacco Control Program conducted Adult Tobacco Use surveys in Pohnpei (2004) and Kosrae (2005), using a common questionnaire directed to adults aged 19 to over 65 years (Table 14). There were 600 participants from Pohnpei and 1000 participants from Kosrae. Most of the respondents were aged 19-25 years. In Kosrae, more males participated in the survey than females. Thus, care is needed in interpreting these results as they may not be representative of the adult population in general, but rather, they may be more reflective of the young adult male population. The actual data tables were not available for review, and results disaggregated by age and sex were not reported.

Table 14. Summary findings from adult tobacco use survey, Pohnpei and Kosrae, 2004-2005

Findings	Pohnpei	Kosrae
Ever-smokers (%)	43.4%	46.9%
Chew tobacco with betel nut (%)	42.1%	61.8%
Want to quit smoking (%)	na	77.0%
Support a tobacco tax increase (%)	33.2%	70.0%
Desire a quit line service (%)	49.6%	77.0%
Support a ban on chewing tobacco with betel nut in public transport	70.1%	na

Source: Adult tobacco use surveys, Pohnpei and Kosrae, 2004-2005, as provided by Mr. Midion Iohp and Ms. Brenda Hadley, FSM Tobacco Control Program

A small survey conducted among physicians in the four States revealed that overall, 31.8% of physicians in the FSM use tobacco (Table 15). Doctors in the state of Yap have the highest prevalence of tobacco use regardless of sex. Female physicians in Pohnpei and Yap have higher tobacco use rates than their male counterparts; this likely represents chewing tobacco with betel nut. These figures, while based on a small number of respondents, indicates an urgent need to target health professionals and to provide them with cessation support.

Table 15. Tobacco use among physicians in FSM, 2003

State	Total % (n)	Male % (n)	Female % (n)
Chuuk	24.0 (25)	27.8 (18)	14.3 (7)
Pohnpei	31.6 (19)	28.6 (14)	40.0 (5)
Yap	46.2 (13)	44.4 (9)	50.0 (4)
Kosrae	33.3 (9)	42.9 (7)	0 (2)
Total	31.8 (66)	33.3 (48)	27.8 (18)

Source: Tobacco use survey among FSM physicians by State and gender, 2003, as provided by Mr. Midion Iohp Tobacco Control Program

Data on tobacco use among youth in the FSM is derived from a pilot of the Global Youth Tobacco Survey (GYTS), conducted in Pohnpei among youth aged 13-15 from 2000-2001. Table 16

compares results from the Pohnpei sample to other Micronesian countries and territories. The actual data tables were not available for review, and results disaggregated by age and sex were not reported to the SEOW.

Table 16. Youth tobacco consumption, Micronesian region, 2000-2002

Country	Year	Current Use of Any Tobacco (%)	Current Smoking	Smoking before age 10 (%)	Other tobacco products used (%)	Want to Quit (%)
CNMI	2000	62.4	39.2	31.0	52.7	80.7
Guam	2002	27.8	22.6	13.4	-	75.7
Pohnpei	2001	36.8	19.3	-	30.8	88.5
Palau	2000	58.5	21.6	31.9	53.5	76.8

Source: GYTS, 2000-2002, as provided by Ms. Brenda Hadley, FSM SAMH

Pohnpei youth have a tobacco consumption rate midway between the other Micronesian areas surveyed, and the lowest reported rate of smoking. The use of other tobacco products is lower among Pohnpei youth than among youth from CNMI or Palau. However, in all areas surveyed, the percentage reporting the desire to quit is consistently high. This highlights the need for cessation services tailored towards youth.

A WHO-supported Health Behavior and Lifestyle of Pacific Youth survey, conducted in Pohnpei in 2001, reported the following prevalence of smoking (Table 17). This survey did not ask questions about other tobacco use.

Table 17. Smoking among students aged 15 years, Pohnpei, 2001

Smoking	Boys (%) (95% CI) n=136	Girls (%) (95% CI) n=174
Never	63 (60-66)	62 (57-66)
Ever	20 (16-23)	22 (20-24)
Weekly	14 (10-18)	15 (11-19)
Daily	3 (2-4)	2 (1-3)

Source: Health Behavior and Lifestyle of Pacific Youth survey, Pohnpei, 2001

Another source of data on youth tobacco use is the Youth Risk Behavior Survey (YRBS) conducted on Pohnpei in 2003. Because of a number of methodological issues, the YRBS data was not weighted. Therefore, care is needed when comparing it with YRBS data from the US mainland. Also, the YRBS uses the federal system for classifying race, with Pacific Islanders falling under the category "All other races." (In Pohnpei, the various subcategories of Pacific Islanders make up the overwhelming majority of the population, with Asians and Whites comprising 1.2% and 0.4% of the total population, respectively.) Thus, for this community, the YRBS essentially presents data that cannot be disaggregated into the racial categories relevant for the community (Table 18).

Table 18. Smoking, HS students, Pohnpei, 2003

	Total (%)	Male (%)	Female (%)	15 or under (%)	16-17 (%)	18 or older (%)
Lifetime smoking	37.7	24.7	50.4	41.6	40.1	32.7
Lifetime daily smoking	15.0	21.1	8.3	9.7	14.0	19.0
Current smoking*	30.6	44.1	18.6	26.1	29.9	34.5
Current daily smoking	22.3	35.3	11.2	18.3	21.3	25.8
Current smokeless tobacco use	50.1	65.9	34.7	40.9	48.1	58.4
Age at first use < 13 years	18.5	26.6	9.9	22.9	17.6	15.8
Quit attempt, past 12 months	60.6	70.8	48.6	54.5	60.6	63.9

Source: Youth Risk Behavior Survey, Pohnpei, 2003

Just recently, FSM completed the initial analysis of data from the second iteration of the GYTS, conducted in 2006-2007. In this round, all four states participated. The 2007 GYTS represents the first national survey on youth tobacco use in FSM.

Table 19 shows rates of ever smoking, age at initiation, and current tobacco use among youth aged 13-15 in FSM, by sex. Overall, a greater percentage of males have ever tried smoking, currently smoke or use other tobacco products, and have used tobacco with betel nut. One in four males and one in five females first tried smoking before the age of 10. Unlike their counterparts in the US mainland or in Guam, who prefer cigarettes, FSM youth are more likely to use other tobacco products than to smoke. Current smoking rates among youth are similar to adult smoking rates.

Table 19. Youth tobacco consumption, FSM, 2007

	Ever smoked cigarettes, even one or two puffs, percent (CI)	Ever smokers who initiated smoking < age 10, percent (CI)	Current cigarette smoker, percent (CI)	Currently use other tobacco products, percent (CI)	Percent who have ever chewed betel nut, percent (CI)	Percent who have used tobacco with betel nut, percent (CI)
FSM	45.6 (41.4 - 49.8)	24.3 (21.0 - 28.0)	28.3 (23.9 - 33.2)	37.0 (32.2 - 42.1)	61.4 (56.4 - 66.4)	47.6 (44.0 - 51.2)
Male	56.2 (49.7 - 62.6)	26.3 (21.8 - 31.3)	36.9 (29.9 - 44.5)	41.8 (34.6 - 49.3)	67.0 (60.4 - 73.7)	52.6 (46.0 - 59.1)
Female	34.7 (29.9 - 39.7)	20.5 (14.9 - 27.5)	19.8 (15.9 - 24.5)	32.1 (27.3 - 37.4)	55.6 (49.9 - 61.3)	43.5 (40.1 - 47.0)

Source: 2007 GYTS, as provided by Ms. Maryann Eperiam, FSM SAMH

Eight out of ten students who currently smoke cigarettes stated that they want to stop smoking (86.5%) or they tried to stop smoking during the past year (83.2%). Nine out of ten (91.7%) who currently smoke have received help or advice to stop smoking (Table 20). The data underscores the need for youth cessation services, which address smoking as well as other tobacco use, particularly chewing tobacco with betel nut.

Table 20. Youth smokers who desire and have attempted to quit, by sex, FSM, 2007

State	Percent of current cigarette smokers who desire to stop smoking	Percent of current cigarette smokers who tried to stop smoking during the past year	Percent of current smokers who received help to stop smoking
FSM	86.5 (82.8 - 89.4)	83.2 (75.0 - 89.1)	91.7 (88.4 - 94.1)
Male	86.4 (78.8 - 91.6)	79.3 (67.2 - 87.7)	90.4 (84.4 - 94.3)
Female	91.7 (85.1 - 95.5)	91.9 (83.3 - 96.3)	93.2 (88.1 - 96.1)

Source: 2007 GYTS, as provided by Ms. Maryann Eperiam, FSM SAMH

In 2005, FSM conducted a survey of tobacco vendors' compliance with the law prohibiting sales of tobacco and tobacco products to minors. The results of the survey, disaggregated by State, are shown below (Table 21). Compliance rates were uniformly high for the outlets inspected. However, coverage of outlets was low except in the State of Chuuk.

Table 21. Compliance rates, tobacco vendors, by State, 2005

State	Total number of Outlets	Number Inspected	% Inspected	Number in compliance	% Compliance
Chuuk	333	333	100%	297	89%
Pohnpei	234	96	41%	92	96%
Yap	119	41	35%	35	85%
Kosrae	56	22	39%	20	91%
Total	742	492	66%	444	90%

Source: FSM Tobacco Control Program, SAMH

The findings above are not consistent with data from the 2007 GYTS, which indicated that one in four youth smokers buy their cigarettes from stores, and that one in three were not refused a cigarette purchase because of their age (Table 22). In addition, one in five youth reported having been offered "free" cigarettes by tobacco company representatives. Consistent enforcement of youth tobacco access prohibitions and elimination of tobacco promotion through the supply of tobacco free products are clearly needed.

Table 22. Source of cigarettes, by sex, FSM, 2007

State	Percent current smokers who usually buy their tobacco in a store	Percent current smokers who buy their tobacco in a store and were not refused cigarette purchase because of their age	Percent who have been offered "free" cigarettes by a tobacco company representative
FSM	25.2 (20.7 - 30.3)	31.3 (20.8 - 44.3)	21.7 (18.8 - 24.8)
Male	26.3 (20.0 - 33.8)	38.2 (26.7 - 51.1)	23.4 (19.6 - 27.8)
Female	19.9 (14.9 - 26.2)	24.7 (9.3 - 51.2)*	18.5 (15.3 - 22.3)

Source: 2007 GYTS, as provided by Ms. Maryann Eperiam, FSM SAMH

TOBACCO

Consequences

A review of the causes of mortality in the FSM from 1993 to 2003, and more recent data from 2006, reveals that four out of the top 5 causes of death are tobacco-related---diseases of the circulatory system, cancer, diseases of the respiratory system and endocrine diseases (chiefly diabetes). Altogether, these four tobacco-related diseases comprise 65.4% of all deaths in the FSM for the year 2003. Mortality data in the 2008 FSM Statistical Yearbook were not available beyond 2003.

In the State of Pohnpei, 6 out of the top 10 causes of mortality from 1998-2002 were tobacco related, accounting for 53.9% of all deaths (Table 23).

Table 23. Leading causes of death, Pohnpei State, 1998-2002

	Number	Percent of all deaths
Total deaths	741	100.0
Heart disease*	151	20.4
Stroke*	73	9.9
Cancer*	68	9.2
Chronic obstructive pulmonary disease (COPD)*	62	8.4
Sepsis	59	8.0
Pneumonia*	31	4.2
Accidents	31	4.2
Diabetes mellitus*	13	1.8
Cirrhosis	10	1.3
Suicide	10	1.3
All other deaths	233	31.4

*tobacco-related Source: Office of Health Statistics, Department of health, Pohnpei State

Cancer causes the longest length of stay in FSM hospitals. In 2003, it accounted for 56% of all FSM off-island consults to Tripler Army Medical Center (TAMC) in Hawai'i (Source: Dr. Neil Palafox, PPT presentation, FSM Health Policy Symposium, January 2006). Table 24 compares the cancer prevalence by site across the four FSM States in 1999. Table 25 presents cancer mortality by site across the four States from 2000-2002. Majority of these site-specific cancers are tobacco-related. Overall, lung cancer is the most common form of cancer in the FSM, with a prevalence rate of 46/100,000 (Source: Dept. of Health, Education and Social Affairs).

Table 24. Cancer prevalence by site, FSM States, 1999

Chuuk	Kosrae	Pohnpei	Yap
Lung*	Cervical*	Cervical*	Lung*
Unknown	Stomach*	Lung*	Liver
Breast	Breast	Liver	Oral*
Cervical*	Lung*	Breast	Breast

Note: * - tobacco-related

Source: Dr. Neil Palafox, "The Death Toll of Cancer in the Pacific," FSM Health Policy Symposium, January 2006

Table 25. Cancer prevalence by site, FSM States, 2000-2002

Chuuk	Kosrae	Pohnpei	Yap
Lung*	Cervical*	Cervical*	Liver
Cervical*	Colon*	Lung*	Lung*
Stomach*	Lung*	Liver	Oral*
Uterus*	Breast	Stomach*	Breast

*Note: * - tobacco-related*

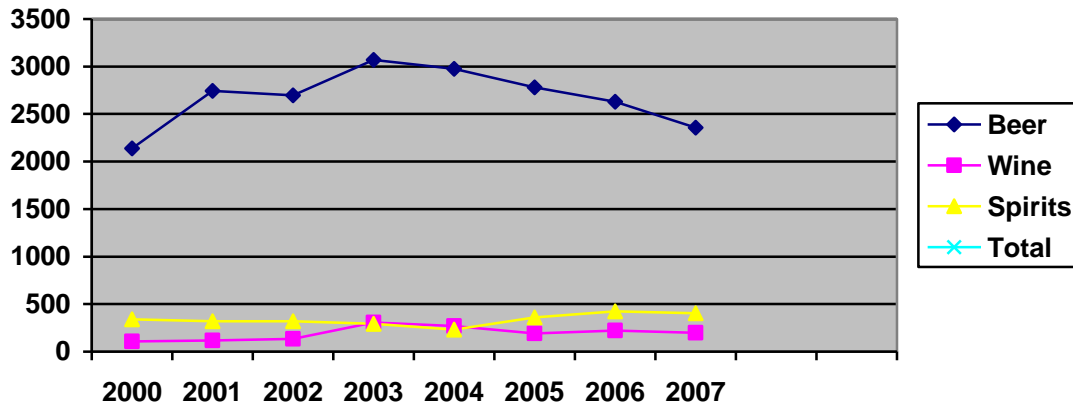
Source: Dr. Neil Palafox, "The Death Toll of Cancer in the Pacific," FSM Health Policy Symposium, January 2006

ALCOHOL

Consumption

New information on the extent of alcohol consumption within FSM comes from the 2008 FSM Statistical Yearbook (Figure 5). Overall, the value of total alcohol imports has stayed relatively unchanged. However, the value of beer and wine imports appear to be decreasing while the value of imported spirits is rising.

Figure 5. Total value of alcoholic beverages imported into FSM, 2000 to 2007



Source: 2008 FSM Statistical Yearbook

The SEOW anticipated that during this period, the WHO STEPS surveys planned in Chuuk and Kosrae would have been completed, and the data would have been the major source for updated information on alcohol consumption for this report. Unfortunately, the WHO STEPS surveys for the FSM States have been delayed, and sources within WHO have informed the SEOW that the survey data will not be ready until 2010. **Thus, there is no new prevalence data for alcohol consumption in this version of the profile.**

The major source of recent data on adult alcohol consumption in FSM comes from the WHO STEPs survey conducted in Pohnpei. To our knowledge, there is no comparable recent survey data on adult alcohol consumption in the other three FSM States.

Table 26 presents data from the Pohnpei STEPs survey on lifetime alcohol consumption among adults, disaggregated by sex and age. Adult men are almost three times more likely than adult women to have ever consumed alcohol. In general, the likelihood of having tried alcohol decreases with increasing age. Younger adults are more likely to have tried alcohol than their older counterparts, perhaps because of a combination of increased access and affordability of alcoholic beverages and greater exposure to alcohol advertising in modern media.

Table 26. Lifetime alcohol consumption status by sex and age, Pohnpei, 2002

Age	Total population				Male				Female			
	N	Ever Consumed			N	Ever Consumed			N	Ever Consumed		
		%	95%CI	n		%	95%CI	n		%	95%CI	n
25-34	502	45.8	±5.8	201	177	70.5	±8.4	127	325	22.1	±6.0	74
35-44	499	36.9	±4.8	156	187	57.9	±7.3	112	312	14.8	±5.3	44
45-54	433	32.2	±5.7	124	182	49.8	±8.3	89	251	13.0	±4.6	35
55-64	212	22.2	±5.1	44	97	30.9	±11.0	28	115	13.8	±5.5	16
Total	1646	37.9	±3.2	525	643	58.3	±4.4	356	1003	17.2	±2.9	169

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002.

Current alcohol intake, defined as alcohol consumption within the past 12 months, is depicted in Table 27. Adult men are much more likely to have imbibed alcoholic beverages in the past year than adult females. For both sexes, the probability of current alcohol intake is highest among the youngest age group.

Table 27. Alcohol consumption in the past 12 months, by sex and age, Pohnpei, 2002

Age	Total population				Men				Women			
	N	Current Consumers			N	Current Consumers			N	Current Consumers		
		%	95%CI	n		%	95%CI	n		%	95%CI	n
25-34	492	35.3	±5.1	143	171	59.4	±7.4	102	321	12.8	±5.2	41
35-44	497	29.0	±5.1	117	186	47.3	±7.6	90	311	9.6	±4.7	27
45-54	429	20.8	±6.0	78	179	33.4	±10.2	59	250	7.1	±3.2	19
55-64	208	11.1	±4.3	24	96	18.2	±7.5	19	112	4.3	±3.5	5
Total	1626	27.9	±3.3	362	632	45.9	±4.8	270	994	9.8	±2.7	92

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

For current alcohol drinkers, the number of drinks consumed per drinking day in the past year is shown in Table 28. The gender difference in the amount of alcohol consumed per drinking day is notable, with over half of female recent drinkers reporting one drink per day, but close to one-third of male drinkers reporting 8 or more drinks consumed per drinking day.

Table 28. Alcohol consumption per drinking day during the past 12 months, for current consumers of Alcohol, by age and sex, Pohnpei, 2002

Age	Total Population																				
	N	1				2-3				4-5				6-7				8+			
		%	CI	n	%	CI	n	%	CI	n	%	CI	n	%	CI	n					
25-34	140	25.6	±7.2	44	21.2	±7.0	30	10.4	±5.0	14	15.0	±6.8	19	27.8	±8.6	33					
35-44	114	22.8	±8.4	33	26.8	±9.5	28	7.5	±4.0	9	16.7	±6.6	19	26.3	±9.6	25					
45-54	71	27.7	±11.6	23	21.3	±11.6	14	5.8	±4.5	5	15.3	±9.5	10	30.0	±10.1	19					
55-64	23	43.1	±19.2	10	17.7	±19.0	5	-	-	0	27.4	±20.8	6	11.7	±15.8	2					
Total	348	25.6	±5.3	110	22.9	±4.8	77	8.4	±3.2	28	16.1	±5.1	54	27.0	±5.3	79					
Men																					
25-34	100	19.0	±7.1	21	20.9	±8.3	22	11.1	±5.9	11	16.7	±7.6	16	32.3	±10.1	30					
35-44	88	17.5	±8.3	17	29.5	±11.0	25	8.9	±4.7	9	16.4	±7.0	16	27.7	±11.2	21					
45-54	54	22.8	±13.2	13	24.1	±12.8	13	3.5	±4.5	2	16.5	±11.4	9	33.2	±12.7	17					
55-64	19	31.5	±18.8	6	21.4	±21.7	5	-	-	0	33.0	±25.8	6	14.1	±18.6	2					
Total	261	19.5	±5.9	57	24.3	±5.7	65	8.8	±3.5	22	17.2	±5.6	47	30.1	±6.3	70					
Women																					
25-34	40	54.2	±18.7	23	22.2	±16.7	8	7.5	±7.8	3	7.8	±9.1	3	8.4	±8.2	3					
35-44	26	50.4	±29.4	16	12.4	±15.0	3	-	-	0	18.3	±18.3	3	18.9	±18.0	4					
45-54	17	53.4	±22.2	10	6.9	±14.0	1	17.7	20.1	3	8.9	±17.6	1	13.2	±15.7	2					
55-64	4	100	±0.0	4	-	-	0	-	-	0	-	-	0	-	-	0					
Total	87	54.7	±14.7	53	16.3	±11.2	12	6.2	±4.9	6	10.9	±8.3	7	12.0	7.4	9					

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

Table 29 depicts the amount of alcoholic drinks consumed within the past 7 days, for current alcohol users, disaggregated by age and sex. Adult men report having consumed about 3 drinks in the past week, which is double the amount reported by adult women. Together with the data from the previous table, it would appear that adult men in Pohnpei who consume alcohol tend to have a pattern of episodic binge drinking rather than regular heavy drinking.

Table 29. Number of standard drinks consumed during past 7 days, for current consumers of alcohol, by age and sex, Pohnpei, 2002

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	3.5	±1.5	42	3.8	±1.6	34	1	-	8
35-44	2.1	±0.4	43	2.1	±0.4	37	1.8	±0.7	6
45-54	2.4	±0.5	30	2.4	±0.6	26	3.2	±2.8	4
55-64	3.8	±3.8	7	3.8	±3.8	7	-	-	-
Total	2.8	±0.6	122	2.9	±0.7	104	1.6	±0.5	18

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

Table 30. Number of days of binge drinking* during past 12 months, for current consumers of alcohol, by age and sex, Pohnpei, 2002

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	31.8	±11.9	102	31.4	±13.3	82	34.7	±34.1	20
35-44	36.4	±15.2	79	39.8	±16.6	70	4.5	±1.5	9
45-54	35.8	±22.6	44	39.8	±24.0	35	13.0	±16.4	9
55-64	13.1	±16.1	12	14.0	±17.2	11	1.0	-	1
Total	33.4	±7.4	237	34.8	±8.3	198	21.9	±20.2	39

* Men: ≥5 standard drinks/day; Women: ≥4 standard drinks/day

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

Table 30 demonstrates that in general, current drinkers in Pohnpei spend an average of 33.4 days (approximately 1 month) per year binge drinking. Adult men are much more likely than adult women to binge drink, except for the youngest age category, where both sexes report the same number of days spent binge drinker annually. Thus, while older adult men have the highest likelihood of binge drinking, young women aged 25-34 are as likely to binge drink as men.

Adult men report consuming almost three times as much alcohol as adult women, with an average of twenty-one drinks as the largest number of drinks consumed on a single occasion (Table 31). Adults of both sexes aged 25-44 have the highest reported average number of drinks consumed in a single occasion.

Table 31. Largest number of drinks consumed on single occasion, for current consumers of alcohol, by age and sex, Pohnpei, 2002

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	17.8	±5.0	117	19.8	±5.5	89	6.6	±4.6	28
35-44	22.4	±10.6	88	24.6	±12.0	72	7.6	±4.6	16
45-54	15.2	±5.7	50	17.8	±6.9	37	3.1	±1.4	13
55-64	8.4	±3.9	15	8.6	±4.1	14	5.0	-	1
Total	18.8	±5.0	270	20.8	±5.6	212	6.4	±3.1	58

Source: WHO STEPs Pilot Survey, Pohnpei State, 2002

In 1997, the non-governmental organization (NGO) Micronesia Seminar produced a report on *Alcohol and Drug Use in the Federated States of Micronesia: An Assessment of the Problem with Implications for Prevention and Treatment*. This report was based not on surveillance data, but rather on key informant interviews. Key informants from a non-random selection of

“representative” communities from each state provided information related to alcohol and illicit drug use on all residents of the selected communities. This approach is more typical of social science research rather than epidemiological research; caution is required in interpreting the data.

Table 32 reveals estimates of the prevalence of current alcohol use (within the past 12 months) of individuals 15 years and older in each of the FSM States, based on key informant reports. The estimates for Pohnpei are similar to the data obtained from the 2002 STEPs survey. According to this study, current alcohol consumption is highest in Yap and lowest in Kosrae.

Table 32. Current alcohol consumption, 15 years and older, by State, 1997

	Males		Females		Total	
	N	%	N	%	N	%
FSM	1223	54.9	195	9.1	1418	32.4
Pohnpei	477	61.4	108	14.4	585	38.2
Kosrae	52	34.9	2	1.2	54	17.3
Chuuk	520	50.5	10	1.1	530	27.0
Yap	174	63.1	75	26.7	249	44.6

Source: *Micronesian Seminar, 1997*

The Micronesian Seminar study provides estimates on alcohol consumption among youth aged 10-19 (Table 33). Current alcohol use is highest among youth in Pohnpei, and nonexistent among youth in Kosrae. As with adults, consumption rates are markedly higher among males. Alcohol use increases markedly after the age of 14 for both males and females.

Table 33. Current alcohol consumption within the past year among youth by State, 1997

Age range	Males %		Females %		Total %	
	10-14	15-19	10-14	15-19	10-14	15-19
FSM	2.6	32.4	0.8	5.5	1.8	19.0
Pohnpei	6.4	44.4	2.1	9.9	4.3	27.6
Kosrae	0	0	0	0	0	0
Chuuk	1.7	27.9	0	1.1	0.9	14.9
Yap	0	22.2	0	11.1	0	16.7

Source: *Micronesian Seminar, 1997*

The 1997 assessment explored the effect of being in school on current alcohol use among youth aged 10-19. With the exception of Kosrae, which did not have any youth identified as a current alcohol user, being out of school markedly increased the likelihood of current alcohol consumption (Table 34).

Table 34. Current users of alcohol, 10-19 years, and educational status by State, 1997

	Males		Females		Total	
	N	%	N	%	N	%
FSM						
In-school	55	10.6	11	2.1	66	6.3
Out of school	100	42.7	16	9.6	116	28.9
Pohnpei						
In-school	29	18.8	7	4.3	36	11.3
Out of school	56	56.0	12	13.8	68	36.4
Kosrae						
In-school	0	0	0	0	0	0
Out of school	0	0	0	0	0	0
Chuuk						
In-school	21	8.4	1	0.4	22	4.3
Out of school	37	31.1	1	1.5	38	20.3
Yap						
In-school	5	4.4	3	2.9	8	3.7
Out of school	7	46.7	3	25.0	10	37.0

Source: *Micronesian Seminar, 1997*

More recent data on alcohol consumption among youth is available from the Youth Risk Behavioral Survey (YRBS), which had been conducted by the Department of Health, Education and Social Affairs (HESA) in Pohnpei in 2003. The results of this survey were not available at the time of writing of the first FSM Epi Profile, and the data is more recent than that of the Micronesian Seminar study. Also, the YRBS was a direct survey of school children, with participants selected using a randomized sampling frame. The limitations of the YRBS were discussed in the previous section.

The following table (Table 35) depicts lifetime and current alcohol consumption, binge drinking, and age at first use, disaggregated by age and sex.

Table 35. Alcohol use, HS students, Pohnpei, 2003

	Total (%)	Male (%)	Female (%)	15 or under (%)	16-17 (%)	18 or older (%)
Lifetime alcohol use	50.5	72.1	31.1	42.3	50.3	57.4
Current alcohol use*	34.4	50.4	20.8	27.7	32.8	41.9
Age at first use before 13 years	18.3	25.2	11.0	22.1	15.5	18.6
Binge drinking**	23.8	34.7	14.1	17.5	22.6	30.4

Source: *Youth Risk Behavior Survey, Pohnpei, HESA, 2003*

*Current alcohol use = at least one drink of alcohol in the past 30 days

**Binge drinking = 5 or more drinks in a row, within a couple of hours, in the past 30 days

Overall, half of high school students in Pohnpei have tried drinking alcohol, and about one in five first tried alcohol before the age of 13. About one-third have consumed alcohol in the past month. One in four has gone binge drinking within the past 30 days.

Boys are more likely to have tried alcohol, to be current users of alcohol, to have gone binge drinking and to have first used alcohol before the age of 13. Older students are more likely to have tried alcohol, gone binge drinking and to be current drinkers, but younger students are more likely to have tried alcohol at an earlier age.

Table 36. Drinking, driving and riding in a motor vehicle driven by someone who had been drinking, HS students, Pohnpei, 2003

	Total (%)	Male (%)	Female (%)	15 or under (%)	16-17 (%)	18 or older (%)
Riding in a motor vehicle driven by someone who had been drinking alcohol	50.8	58.4	42.7	47.6	49.2	55.3
Drinking and driving	16.1	22.4	9.5	15.7	15.2	17.8

Source: Youth Risk Behavior Survey, Pohnpei, HESA, 2003

Roughly half of all students surveyed have ridden in a motor vehicle driven by someone who had been drinking alcohol. Boys were slightly more likely than girls to have done this. However, boys were more than twice as likely as girls to drive after drinking. Both risky behaviors increased with age (Table 36).

Table 37. Alcohol use, HS students, Pohnpei vs. US, 2003

	Pohnpei (%)	US (%)
Lifetime alcohol use	50.5	74.9 (+/- 2.7)
Current alcohol use	34.4	44.9 (+/-2.4)
Age at first use before 13 years	18.3	27.8 (+/- 2.1)
Binge drinking*	23.8	28.3 (+/- 2.0)
Riding in a motor vehicle driven by someone who had been drinking alcohol	50.8	30.2 (+/- 2.1)
Drinking and driving	16.1	12.1 (+/- 1.2)

Source: Youth Risk Behavior Survey, Pohnpei, HESA, 2003; Youth Risk Behavior Survey, US average, CDC, 2003

Compared to data from the US in 2003, youth in Pohnpei are less likely to have tried alcohol, to be current and/or binge drinkers, to have first tried alcohol before the age of 13 (Table 37). In contrast, Pohnpeian students are significantly more likely to engage in risky behaviors, specifically riding in a vehicle driven by someone who had been drinking, and drinking and driving. These comparisons need to be interpreted cautiously because the Pohnpeian data is unweighted.

The Health Behavior and Lifestyle of Pacific Youth survey, conducted in Pohnpei in 2001 through a collaborative effort headed by the World Health Organization found that 76.3% of students had used alcohol at least once in the past. Among 15 year old youth respondents, 51.7% of boys (CI: 44.5-59.0) and 18% of girls (CI: 13.5-19.7) had been drunk two or more times in their life. These figures are consistent with the YRBS data on current alcohol use.

The survey also found that the experience of drunkenness was quite common, with almost half of male students reporting that they had been drunk at least twice in the past, and one in five reporting that they had been drunk more than ten times.

The SEOW did not have access to the data tables and summary report from this survey. However, the Epidemiologist was able to obtain an online copy of the journal article "Comparison of tobacco, alcohol and illegal drug usage among school students in three Pacific island societies" at www.sciencedirect.com. This article lists a table on alcohol consumption among youth surveyed in Pohnpei (Table 38), derived from the Health Behavior and Lifestyle of Pacific Youth survey.

Table 38. Alcohol consumption among Pohnpei students aged 15 years, 2001

Alcohol consumption	Boys (%) (95% CI) n = 136	Girls (%) (95% CI) n=174
Never	7 (6-7)	17 (15-18)
Ever	26 (22-30)	39 (37-42)
Drunk once	17 (13-21)	26 (23-30)
Drunk twice/more	51 (46-56)	18 (16-19)

Source: Health Behavior and Lifestyle of Pacific Youth survey, 2001, Pohnpei

Because each of these surveys---YRBS and HBLPY---has been conducted once only, no trend data is available for alcohol consumption among youth in Pohnpei.

ALCOHOL

Consequences

The 2008 FSM Statistical Yearbook provides updated information on alcohol-related arrests in each of the States of FSM (see Table 44 below). The rest of the section is unchanged, as no new data was provided or available.

Five of the top ten causes of mortality in FSM in 2003, comprising 48.1% of all deaths, were alcohol-related (Table 39).

Table 39. Leading causes of death, FSM, 2003

	Number	Percent of all deaths
Total deaths	427	100.0
Heart disease*	114	26.7
Endocrine (mostly Diabetes)	60	14.0
Cancer*	53	12.4
Respiratory Diseases (COPD)	52	12.2
Infectious and parasitic diseases	36	8.4
Genitourinary diseases	19	4.4
Digestive diseases*	17	3.9
Ill-defined syndromes	17	3.9
Suicide*	13	3.0
Perinatal causes	10	2.3
Accidental injuries*	9	2.1

*alcohol-related

Source: FSM Statistical Yearbook, 2005

In 2004, 14 (3.6%) of the 386 deaths in the entire FSM were due to chronic liver cirrhosis. This represents a crude death rate from liver cirrhosis of 13 per 100,000 (FSM Dept. of HESA, 2004). Chronic liver cirrhosis predisposes to liver cancer, which is the second leading cancer for all 4 States combined.

Pohnpei State, which has the highest rate of alcohol consumption among both adults and youth, has liver cirrhosis as the 8th leading cause of death, comprising 1.3% of all deaths from 1998-2002. Suicide, which is closely correlated to alcohol and drug abuse, ranks together with liver cirrhosis as the 8th most common cause of mortality (Table 40).

Table 40. Leading causes of death, Pohnpei State, 1998-2002

	Number	Percent of all deaths
Total deaths	741	100.0
Heart disease*	151	20.4
Stroke*	73	9.9
Cancer*	68	9.2
Chronic obstructive pulmonary disease (COPD)	62	8.4
Sepsis	59	8.0
Pneumonia	31	4.2
Accidents*	31	4.2
Diabetes mellitus	13	1.8
Cirrhosis*	10	1.3
Suicide*	10	1.3
All other deaths	233	31.4

*Alcohol-related

Source: Office of Health Statistics, Department of Health, Pohnpei State

Cancer is the 3rd leading cause of death in Pohnpei State. Liver cancer ranked 3rd among all cancer deaths in the State from 1998-2002 (Table 41), accounting for almost 9% of all deaths from cancer. Liver cancer was the 2nd most common cancer in Kosrae State from 2003-2005, comprising 16.4% of all cancers in the State.

Table 41. Cancer deaths in Pohnpei State, 1998-2002

Site	Number	Percent of all deaths
Cervical	10	14.7
Lung	9	13.2
Liver	6	8.8
Gastric	5	7.4
Prostate	4	5.9
Total Cancer Deaths	68	100

Source: Office of Health Statistics, Department of Health, Pohnpei State

Within the Federated States of Micronesia, suicide consistently ranks in the top causes of mortality. Table 42 depicts the number of suicide deaths in the country from 1993 to 2003.

Table 42. Suicide deaths in FSM, 1993-2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total deaths (N)	475	460	437	467	468	447	440	418	479	539	427
Suicide deaths (n)	14	7	17	13	11	19	7	11	3	11	13
Rank	8th	12th	9th	10th	10th	8th	11th	11th	10th	11th	8th
% of total deaths	2.9	1.5	3.9	2.8	2.4	4.2	1.6	2.6	0.6	2.0	3.0

Source: Office of Health Statistics, Department of Health, Pohnpei State

The national SAMH program reported 27 clinical encounters for attempted suicide in 2003, 7 encounters in 2004, 6 encounters in 2005, and 29 encounters in 2006. Most of these were alcohol-related (Table 43).

Table 43. Attempted suicides by State, 2003-2004.

	2003		2004		2005		2006	
	Number	As % of all SAMH encounters	Number	As % of all SAMH encounters	Number	As % of all SAMH encounters	Number	As % of all SAMH encounters
FSM	27	0.8	7	0.2	6	0.2	29	-
Pohnpei	-	-	-	-	6	1.0	16	-
Kosrae	27	1.9%	3	0.5	-	-	-	-
Chuuk	-	-	4	0.4	-	-	-	-
Yap	-	-	-	-	-	-	-	-

Source: FSM SAMH, 2003-2005, as reported by Ms. Arlene Roby and Ms. MaryAnn Eperiam

The Kosrae SAMH program provided the following information regarding suicide within their State (Table 44). Nineteen (86.4%) out of the twenty-two attempted and completed suicides were alcohol-related.

Table 44. Attempted and completed suicides by sex, Kosrae State, 2002-2006

Fiscal Year	2002		2003		2004		2005		2006	
Type of Suicide/Sex	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Attempted	-	-	3	-	8	2	-	-	2	1
Completed	-	-	-	-	1	-	3	-	2	-
Alcohol-related	-	-	3	-	9	1	3	-	3	-
Total	0	0	3	0	9	2	3	0	4	1

Source: Kosrae SAMH, as reported by SEOW member Ms. Carsila Tulensa

Table 45 contains information about alcohol and non-alcohol related offenses by State from the years 2000-2007. Overall, alcohol contributed to over 40% of all reported offenses. This represents a decrease from previous years, where alcohol-related offenses comprised over half of all offenses. Chuuk contributed the most to the decline in proportion of alcohol-related offenses, with a significant decrease in its rate after 2005. A smaller decline was also noted in the State of Pohnpei. However, the proportion of alcohol-related offenses appears to be increasing in Kosrae and Yap. Alcohol was a factor in over 86% of all offenses in Yap.

The State of Chuuk passed a law (enacted in 2004) requiring a drinking permit for the consumption of alcoholic beverages. This may have been a significant factor in the notable decline in alcohol-related offenses in that State. If so, it demonstrates the effectiveness of environmental interventions in changing behavior.

Table 45. Alcohol and non-alcohol related offenses by State, 2000-2007

State and Year	Total	Alcohol related N (%)	Non-alcohol related N (%)
FSM (Total)			
2000	na	na	na
2001	na	na	na
2002	3607	1901 (52.7%)	1706 (47.3%)
2003	3716	2048 (55.1%)	1668 (44.9%)
2004	4315	2557 (59.3%)	1758 (40.7%)
2005	2922	2093 (71.6%)	828 (28.4%)
2006	3407	1352 (39.7%)	2055 (60.3%)
2007	3954	1688 (42.7%)	2266(57.3%)
YAP			
2000	592	415 (70%)	177 (30%)
2001	432*	299 (69%)*	133 (31%)
2002	349	254 (73%)	95 (27%)
2003	203	134 (66%)	69 (34%)
2004	228	153 (75%)	75 (33%)
2005	172	134 (78%)	38 (22%)
2006	251	204 (81.3%)	57 (18.7%)
2007	255	221 (86.7%)	34 (13.3%)
CHUUK			
2000	na	na	na
2001	na	na	na
2002	708	554 (78%)	154 (22%)
2003	750	670 (89%)	80 (11%)
2004	493	420 (85%)	73 (15%)
2005	905	800 (88%)	105 (12%)
2006	751	56 (7.5%)	695 (92.5%)
2007	300	75 (25%)	225 (75%)
POHNPEI			
2000	1992	558 (28%)	1434 (72%)
2001	2247	1065 (47%)	1182 (53%)
2002	1930	720 (37%)	1210 (63%)
2003	2321	914 (39%)	1407 (61%)
2004	2875	1583 (55%)	1292 (45%)
2005	1276	873 (68%)	403 (32%)
2006	1862	732 (39.3%)	1130 (69.7%)
2007	2865	986 (34.4%)	1897 (65.6%)
KOSRAE			
2000	563	110 (20%)	453 (80%)
2001	1073	561 (52%)	512 (48%)
2002	620	373 (60%)	247 (40%)
2003	442	330 (75%)	112 (25%)
2004	719	401 (56%)	318 (44%)
2005	569	286 (50%)	283 (50%)
2006	543	360 (66.3%)	183 (33.7%)
2007	534	406 (76%)	128 (24%)

Source: 2005 FSM Statistical Yearbook, May 2006; 2005 Statistical Bulletin, Aug 2006; 2008 FSM Statistical Yearbook
*Revised figure May 2006 Yearbook to August 2006 Bulletin

Preliminary data from the FSM Department of Public Safety indicates that for the year 2004-2005, 421 traffic accidents were reported in the entire federation, of which 219 (52%) were alcohol

related. Ninety-six of these traffic accidents resulted in minor injuries and two resulted in fatalities. Eighty-one (19.2%) involved youth aged 12-19 (FSM SAMH, 2004-2005).

Table 46 chronicles the number of SAMH encounters for alcohol-related reasons for the years 2003-2005 in the four States. Given the prevalence of binge drinking, and the significant percentage of alcohol-related offenses reported, the number of encounters for treatment of alcohol abuse/addiction appears small.

Table 46. Alcohol and drug-related SAMH encounters by State, 2003-2005

State and Year	Alcohol Abuse (% encounters)	Alcohol/Drug Abuse (% encounters)	Drug abuse (% encounters)	Dual Addiction (% encounters)	Total Encounters
CHUUK					
2003	1 (0.14%)	4 (0.5%)	-	-	733
2004	-	-	-	-	739
2005	-	-	-	-	1188
KOSRAE					
2003	5 (0.35%)	-	5 (0.35%)	-	1421
2004	3 (0.48%)	-	1 (0.16%)	-	619
2005	-	-	-	-	1170
POHNPEI					
2003	-	64 (7.2%)	85 (9.5%)	-	891
2004	4 (0.37%)	27 (2.51%)	51 (4.74%)	20 (1.86%)	1076
2005	-	-	14 (2.33%)	59 (9.82%)	601
YAP					
2003	1 (0.33%)	7 (2.31%)	-	1 (0.33%)	303
2004	8 (1.5%)	3 (0.54%)	2 (0.37%)	-	532
2005	-	1	-	5 (1.07%)	468
FSM					
2003	7 (0.21%)	75 (2.24%)	90 (2.68%)	1 (0.03%)	3354
2004	15 (0.51%)	30 (1.01%)	54 (1.82%)	20 (0.67%)	2966
2005	-	1 (0.03%)	14 (0.41%)	64 (1.87%)	3427

Source: FSM SAMH, 2003-2005, as reported by Ms. Arlynn Roby and Ms. MaryAnn Eperiam

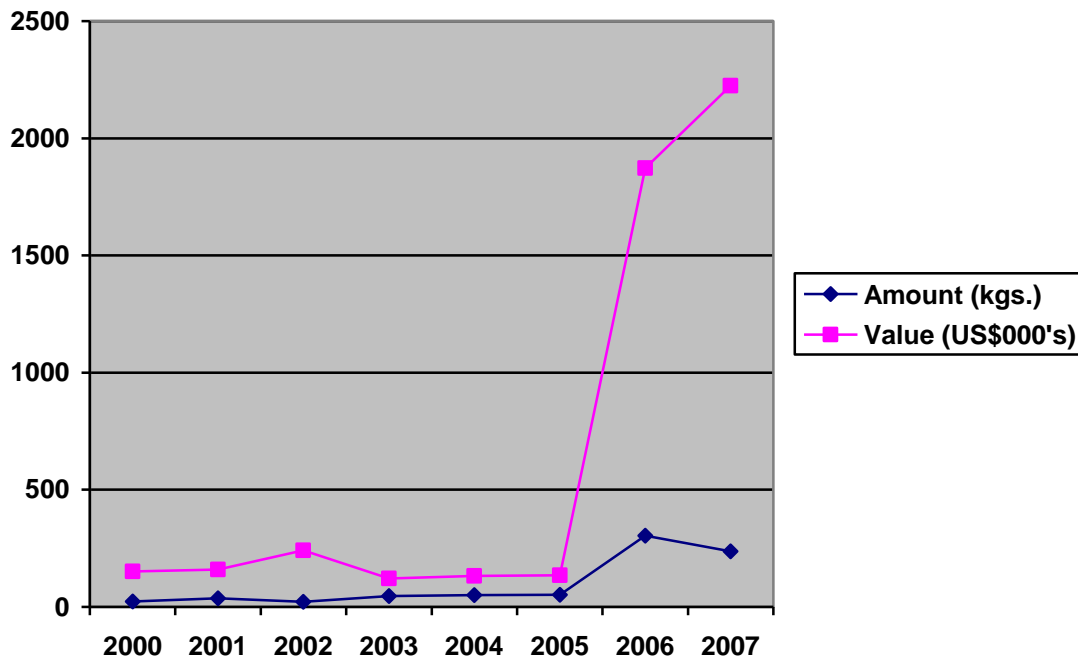
SAKAU (KAVA)

Consumption

Sakau (*Piper methysticum*), or kava, is a drink made from the roots of the pepper shrub, a plant native to the Micronesian region. Long used in traditional ceremonies for resolution of political and social disputes, sakau is documented to have anxiolytic, analgesic, anesthetic and muscle relaxant properties. The potential for abuse exists.

The only available new information on sakau consumption for this updated edition of the profile comes from the 2008 FSM Statistical Yearbook. Sakau's value as an export product for FSM has risen significantly in recent years. In 2007, a total of 237 kilograms of sakau were exported from FSM, at a value of US\$2,224,000.00, up from 52 kilograms worth US\$135,000.00 in 2005 (Figure 6).

Figure 6. Quantity and value of sakau exports from FSM, 2000 to 2007



The subsequent portion of this subsection is unchanged from the previous edition of the profile.

The WHO STEPs pilot study in Pohnpei included questions on the use of sakau. Table 47 contains information on lifetime sakau consumption status disaggregated by age and sex. Two-thirds of the adult population in Pohnpei report having consumed sakau, with males reporting higher consumption rates than females, overall. The likelihood of ever having consumed sakau is least among the oldest age groups, which is surprising given the prominent role sakau plays in traditional Micronesian culture.

Table 47. Sakau consumption status by age and sex, Pohnpei, 2002

Age	Total population				Male				Female			
	N	Ever Consumed			N	Ever Consumed			N	Ever Consumed		
		%	95%CI	n		%	95%CI	n		%	95%CI	n
25-34	502	69.7	±7.3	352	177	78.6	±8.0	144	325	61.2	±9.0	208
35-44	499	66.5	±8.7	330	187	79.8	±9.7	155	312	52.5	±9.6	175
45-54	433	67.0	±9.0	290	182	78.9	±8.5	146	251	54.0	±11.4	144
55-64	212	48.5	±13.3	115	97	51.9	±15.3	57	115	45.3	±14.8	58
Total	1646	66.1	±7.4	1087	643	76.5	±6.6	502	1003	55.5	±8.3	585

Source: WHO STEPs Survey, Pohnpei, 2002

Among sakau ever-drinkers, the age at which sakau drinking started is quite late, with a mean age of 22.6 years (Table 48). Men start consuming sakau at a slightly younger age than women, but in both sexes, age of onset is after 20 years. There appears to be a trend of later age of onset for older adults, regardless of sex.

Table 48. Age of onset of sakau consumption, ever-drinkers, by age and sex, Pohnpei, 2002

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	20.4	±0.7	347	19.01	±1.0	142	22.0	±0.7	205
35-44	23.0	±0.8	327	21.5	±1.2	155	25.5	±1.1	172
45-54	24.4	±1.6	281	22.3	±1.9	144	27.9	±1.8	137
55-64	27.8	±2.6	114	27.0	±3.8	57	28.7	±3.4	57
Total	22.6	±0.7	1069	21.1	±1.0	498	24.7	±0.8	571

Source: WHO STEPs Survey, Pohnpei, 2002

On average, sakau drinkers consume sakau on one out of three days/nights in the past 30 days. No significant difference was noted across age groups and between the sexes (Table 49).

Table 49. Number of days/nights sakau was drank in the past 30 days, for ever sakau drinkers

Age	Total population			Men			Women		
	Mean	CI	N	Mean	CI	N	Mean	CI	N
25-34	10.9	±1.9	317	11.9	±2.4	136	9.6	±2.1	181
35-44	11.1	±2.2	292	10.9	±2.4	147	11.4	±2.6	145
45-54	11.8	±2.6	255	12.7	±3.1	129	10.3	±2.8	126
55-64	9.8	±2.5	97	11.0	±2.9	51	8.3	±3.0	46
Total	11.1	±1.9	961	11.7	±2.1	463	10.1	±1.7	498

Source: WHO STEPs Survey, Pohnpei, 2002

Tables 50 and 51 reveal that close to half of sakau drinkers are also likely to smoke tobacco and/or drink alcoholic beverages either during or after drinking sakau. Engaging in sakau consumption can, therefore, serve as a “trigger” for concomitant tobacco and/or alcohol use.

Table 50. Smoke tobacco during and/or after drinking sakau, for ever sakau drinkers

Age	Total population				Male				Female			
	N	Yes			N	Yes			N	Yes		
		%	95%CI	n		%	95%CI	n		%	95%CI	n
25-34	341	54.7	±5.1	168	142	71.9	±7.7	103	199	32.9	±9.6	65
35-44	323	48.0	±7.1	142	154	61.4	±7.8	97	169	26.1	±8.8	45
45-54	282	39.0	±6.3	100	144	49.3	±8.6	71	138	21.7	±5.8	29
55-64	114	34.3	±11.2	36	57	49.0	±14.7	27	57	18.0	±15.8	9
Total	1060	47.8	±3.8	446	497	61.9	±5.2	298	563	27.5	±5.0	148

Source: WHO STEPs Survey, Pohnpei, 2002

Table 51. Consume alcohol during and/or after drinking sakau, for ever sakau drinkers

Age	Total population				Male				Female			
	N	Yes			N	Yes			N	Yes		
		%	95%CI	n		%	95%CI	n		%	95%CI	n
25-34	347	38.3	±4.9	126	143	42.4	±8.9	61	204	33.3	±7.0	65
35-44	326	47.4	±8.0	143	155	55.9	±9.7	88	171	33.5	±8.5	55
45-54	284	44.8	±6.6	123	145	47.1	±7.3	68	139	40.9	±8.9	55
55-64	114	34.3	±7.3	40	57	29.2	±12.1	17	57	40.1	±11.4	23
Total	1071	42.3	±4.1	432	500	47.2	±5.5	234	571	35.4	±5.2	198

Source: WHO STEPs Survey, Pohnpei, 2002

Among youth, the use of kava at least weekly is reported in the HBLPY survey (Table 52).

Table 52. Weekly use of kava among students aged 15, Pohnpei, 2001

Weekly kava use	Boys (%)	Girls (%)
(95% Confidence Intervals)	18.3	13.0
N=507	(13.0, 23.5)	(10.6, 15.4)

Source: HBLPY survey, Pohnpei, 2001

Consequences

There is no updated information for this section of the profile.

Sakau can cause liver damage with heavy, frequent use. It is possible that some of the deaths from liver cirrhosis in FSM are partly due to sakau consumption. From 2000-2003, the number of hepatitis cases recorded in the FSM ranged from 55-163 cases per year. However, it is difficult to determine what proportion of these cases, if any, can be attributed to sakau use.

Sakau is well-known in Micronesia as part of a mediating ceremony to resolve social disputes, likely due to its calming properties. Data examining the impact of sakau on crime and accident rates is not available at this time.

On a population basis, perhaps the greatest consequences from sakau consumption are related to the concomitant use of tobacco or alcohol, rather than directly to the sakau itself.

Consumption

There is no updated information for this section of the profile.

It is widely believed that marijuana was first introduced into Micronesia in the late 1960s, probably by Peace Corps volunteers (Micronesian Seminar, 1997). Data on marijuana consumption in FSM is limited to the 1997 Micronesian Seminar key informant study, police data and several small-scale anthropological reports. Because the Micronesian Seminar data is now almost 10 years old, it may no longer accurately delineate current marijuana consumption patterns in FSM. FSM does not participate in the SAMHSA National Survey of Drug Use in Households (NSDUH).

Among individuals 15 years and older in 1997, about 8% had smoked marijuana in the past 12 months. Table 53 shows the prevalence of marijuana use over the past year by State and sex. Males are much more likely to smoke marijuana than females in all States. Yap State had the lowest prevalence of marijuana use.

Table 53. Marijuana consumption within the past 12 months, persons 15 years and older, by State and sex, 1997

	Males		Females		Total	
	N	%	N	%	N	%
FSM	337	15.1	16	0.8	353	8.1
Pohnpei	118	15.3	13	1.8	131	8.9
Kosrae	23	15.4	0	0	23	7.4
Chuuk	177	17.2	2	0.2	179	9.1
Yap	19	6.9	1	0.4	20	3.6

Source: Micronesian Seminar, 1997

Adult marijuana users were more likely to be single or divorced (Table 54). The highest use rates were among adults aged 20-44 (Table 55).

Smoking marijuana among youth aged 10-19 was predominantly seen among males. No youth were reported to have used marijuana in the past year in Kosrae State, and no young female users were reported in Yap State. In contrast, Chuukese boys aged 15-19 had the highest reported prevalence (Table 56). Like alcohol, being out-of-school significantly increased the likelihood of using marijuana among youth (Table 57).

Table 54. Current marijuana consumption, 15 years and older, by marital status and sex, 1997

Marital status	Males		Females		Total	
	N	%	N	%	N	%
Single	202	19.8	9	1.1	211	11.3
Married	126	11.4	5	0.5	131	6.0
Divorced	9	24.3	2	4.4	11	13.4
Widowed	0	0	0	0	0	0

Source: Micronesian Seminar, 1997

Table 55. Marijuana users within the past 12 months by age group, sex and State, 1997

	20-29 (% of sample)	30-44 (% of sample)	45-64 (% of sample)	65+ (% of sample)
FSM				
Males	22.4	16.8	3.3	1.0
Females	1.0	1.0	0	0
Total	12.1	9.2	1.6	0.5
Pohnpei				
Males	19.2	20.4	7.2	0
Females	2.8	2.2	0	0
Total	11.6	11.0	3.6	0
Chuuk				
Males	27.1	15.6	1.7	0
Females	0	0	0	0
Total	14.6	8.6	0.8	0
Kosrae				
Males	15.6	32.6	3.8	7.1
Females	0	0	0	0
Total	6.7	18.4	1.9	4.5
Yap				
Males	15.4	4.5	0	0
Females	0	1.1	0	0
Total	7.2	2.7	0	0

Source: *Micronesian Seminar, 1997*

Table 56. Marijuana usage among youth within the past 12 months by age group, sex and State, 1997

	10-14 (% of sample)	15-19 (% of sample)
FSM		
Males	1.9	14.4
Females	0.3	0.9
Total	1.1	7.7
Pohnpei		
Males	2.1	11.6
Females	0.7	1.2
Total	1.4	6.6
Chuuk		
Males	2.9	19.8
Females	0	1.1
Total	1.6	10.7
Kosrae		
Males	0	0
Females	0	0
Total	0	0
Yap		
Males	0	9.3
Females	0	0
Total	0	4.5

Source: *Micronesian Seminar, 1997*

Table 57. Current users of marijuana, 10-19 years, and educational status by State, 1997.

	Males		Females		Total	
	N	%	N	%	N	%
FSM						
In-school	28	5.4	3	0.6	31	2.9
Out of school	44	18.8	2	1.2	46	11.5
Pohnpei						
In-school	6	3.9	2	1.2	8	2.5
Out of school	17	17.0	1	1.2	18	9.6
Chuuk						
In-school	19	7.6	1	0.4	20	3.9
Out of school	25	21.0	1	1.5	26	14.0
Kosrae						
In-school	0	0	0	0	0	0
Out of school	0	0	0	0	0	0
Yap						
In-school	3	2.7	0	0	3	1.4
Out of school	2	13.3	0	0	2	7.4

Source: *Micronesian Seminar, 1997.*

More recent data on youth marijuana consumption in Pohnpei is available from the YRBS and the Health Behaviour and Lifestyle of Pacific Youth (HBLPY) studies (Tables 58 and 59).

Table 58. Marijuana consumption, Pohnpei students, 2003

	Total (%)	Male (%)	Female (%)	15 or under (%)	16-17 (%)	18 or older (%)
Lifetime marijuana use	24.0	34.6	14.5	15.6	24.7	31.0
Current marijuana use	14.6	20.5	8.7	9.6	12.9	21.1
Age at first use < 13 years	10.4	12.5	7.2	10.5	7.9	12.8

Source: *YRBS, Pohnpei, 2003*

Table 59. Weekly marijuana consumption among students aged 15 years, Pohnpei, 2001

Percent reporting weekly marijuana consumption (95% Confidence Intervals) N=507	Boys (%)	Girls (%)
	10.9 (7.4, 14.4)	9.4 (6.8, 11.9)

Source: *HBLPY, Pohnpei, 2001*

The data indicate that about one in four youth have tried using marijuana. Current marijuana use among boys is over twice the prevalence of girls. One in ten current users first tried using marijuana before the age of 13 years. In the HBLPY study, about 10% of youth aged 15 were weekly users of marijuana. This was higher than the reported prevalence in Tonga and Vanuatu.

MARIJUANA

Consequences

There is no updated information for this section of the profile.

Data on the consequences of marijuana use in FSM is scant. In April 2005, the Chuuk State Department of Public Safety reported 2 cases of marijuana cultivation, requiring uprooting of marijuana plants. Information on health and/or social consequences of marijuana use is currently not available.

INHALANTS

Consumption

There is no updated information for this section of the profile.

Data on inhalant use in FSM is limited. FSM does not participate in the SAMHSA National Survey of Drug Use in Households (NSDUH).

There were 12 individuals identified as current inhalant abusers in the 1997 Micronesian Seminar key informant study. Ten of these were from Chuuk State; the remaining two were from Pohnpei State. Only one user was female, echoing the gender disparity seen with alcohol and marijuana use. Majority were aged 10-19 years.

Recently uncovered data from the YRBS pilot study is depicted in the table below. According to this survey, about one in ten high school students in Pohnpei used inhalants within the past 30 days from the survey, with little difference between boys and girls. Younger students were more likely to be current users of inhalants than older students (Table 60).

Table 60. Inhalant consumption, HS students, Pohnpei, 2003

	Total (%)	Male (%)	Female (%)	15 or under (%)	16-17 (%)	18 or older (%)
Lifetime inhalant use	15.4	17.5	12.5	17.0	14.9	14.9
Current inhalant use	10.3	11.6	8.5	12.3	10.0	9.4

Source: YRBS, Pohnpei, 2003

The HBLPY survey asked about glue sniffing on a weekly basis. Less than 3% of students aged 15 reported this type of inhalant use (table 61).

Table 61. Weekly glue sniffing use among Pohnpei students aged 15 years, 2001

Percent reporting weekly glue sniffing (95% Confidence Intervals) N=507	Boys (%)	Girls (%)
	2.6 (0.0, 7.1)	2.2 (0.7, 3.7)

Consequences

There is no updated information for this section of the profile.

Like marijuana, data on the consequences of inhalant use in FSM is scant. Information on health and/or social consequences of inhalant use is currently not available.

OTHER ILLICIT DRUGS

Consumption

There is no updated information for this section of the profile.

At present, data on other illicit drug use in FSM is limited. The 1997 Micronesian Seminar study uncovered only one case of other illicit drug use. In general, the area of illicit drug use represents a major data gap in FSM.

The YRBS obtained data on cocaine, amphetamine, heroin and MDMA use (Table 62).

Table 62. Other illicit drug consumption, HS students, Pohnpei, 2003

	Total (%)	Male (%)	Female (%)	15 or under (%)	16-17 (%)	18 or older (%)
Lifetime cocaine use	10.1	10.5	8.8	8.9	7.8	13.4
Current cocaine use	5.5	5.1	5.6	4.8	4.7	7.3
Lifetime heroin use	13.7	15.2	11.8	14.5	9.8	17.8
Lifetime methamphetamine use	13.7	14.8	11.8	15.0	10.8	16.5
Lifetime MDMA use	13.7	14.7	11.2	15.9	9.6	16.5
Offered, sold or given drugs on school property in past 12 months	27.3	32.9	21.7	26.0	22.8	33.5

Source: Youth Risk Behavior Survey, Pohnpei, 2003

The sizable percentages reporting lifetime cocaine, heroin, methamphetamine and MDMA use are puzzling, given the difficulty in obtaining these drugs in a remote island and their high cost. Future iterations of this survey will need to ensure that the young respondents fully understand the survey questions and recognize the drugs of interest.

Over one-quarter report having been given, offered or sold drugs in school within the past 12 months, emphasizing the importance of school-based enforcement interventions.

Consequences

There is no updated information for this section of the profile.

The FSM Department of Public Safety reported that for the years 2004-2005, there were 952 arrests related to drug use, and 123 drug-related traffic accidents. Two cases of domestic violence were drug-related, as were 5 suicides, of which 4 were completed. In addition there were 3 additional drug-related deaths, the nature of the deaths was not specified (Department of Public Safety, 2004-2005).

Table 46 (page 39) depicts the number of encounters at the SAMH programs in all 4 States for the diagnoses of alcohol abuse, alcohol and drug abuse, drug abuse and dual addictions. Overall, the number of encounters for drug abuse, either singly or in combination with alcohol, comprised 4.95% of all encounters in 2003, 3.5% of all encounters in 2004 and 2.31% of all encounters in 2005. The table lists encounters, and not individuals; hence it is possible that the number of individuals with these problems is smaller (assuming multiple encounters per individual). It should also be noted that the number of encounters is highly dependent on the staffing and logistic capacity of each State program. Thus, these numbers may not accurately depict the mental health burden of drug abuse in Micronesian society.

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TABLE OF DATA SOURCES

Data Source	Year	Area covered	Tobacco		Alcohol		Other Drugs	
			Consumption	Consequences	Consumption	Consequences	Consumption	Consequences
Adult Tobacco Survey	2004-2005	Kosrae and Pohnpei	X					
Cancer Statistics	1999-2002	Chuuk, Pohnpei, Kosrae, Yap		X		X		
Dept. of Public Safety statistics	2000-2004	FSM				X		X
	2004	Chuuk				X		X
Health Statistics		FSM		X		X		
		Pohnpei		X		X		
Global Youth Tobacco Survey Pilot	2001-2002	Pohnpei	X					
Global Youth Tobacco Survey 2 nd Round	2006-2007	FSM	X					
Health Behavior and Lifestyle of Pacific Youth survey	2001	Pohnpei	X		X		X Marijuana, Sakau, Inhalants	
Micronesian Seminar study	1997	FSM			X		X Marijuana, Inhalants	
SAMH Treatment statistics	2003-2005	FSM				X		X
Suicide Statistics	1993-2004	FSM				X		
	2002-2006	Kosrae				X		
Synar Tobacco Vendors Compliance Survey	2005	FSM	X					
Tobacco Use among Health Professionals	2003	FSM	X					
WHO Global Status Report on Tobacco	2004	Pohnpei			X			
WHO STEPs Survey	2002	Pohnpei	X		X		X Sakau (Kava)	
Youth Risk Behavior Survey (pilot)	2003	Pohnpei	X		X		X	

