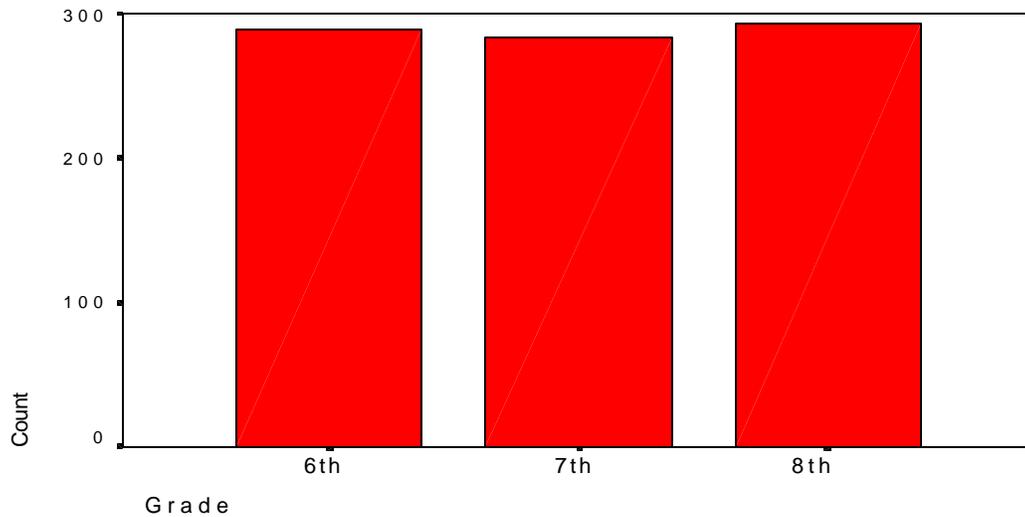


Middle Schools

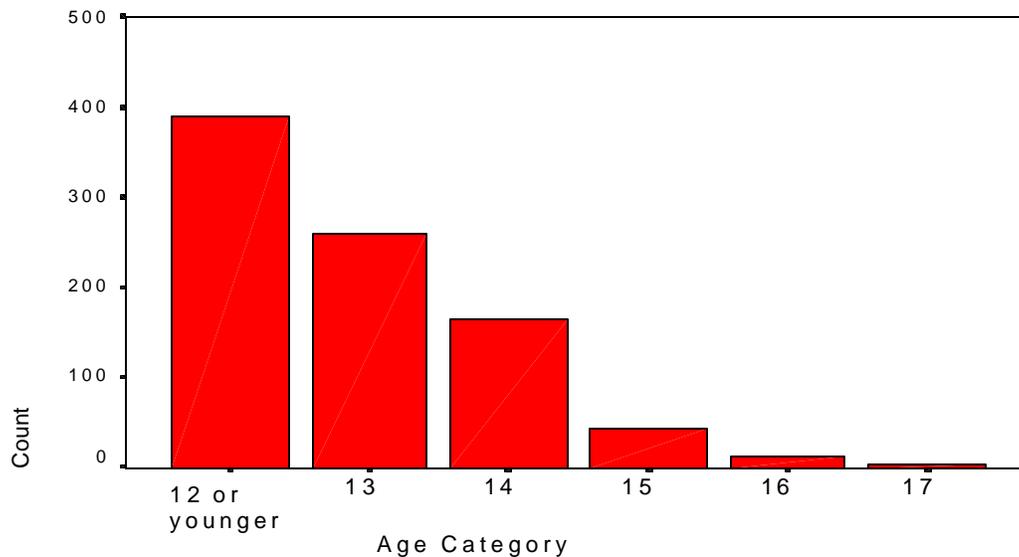
In Palau's middle schools, 956 students in grades 6-8 were eligible and 876 participated in the Youth Tobacco Survey, for a response rate of 91.63%. Because all 18 eligible schools participated in the survey and all students were asked to complete questionnaires, the response rate in Palau compares very favorably with those reported by U.S. states.

Figure 10: Grade Distribution of Respondents



There were almost equal numbers of respondents in each of the three middle school grades: 289 in 6th, 285 in 7th, and 293 in 8th. There were 9 students who did not answer this question.

Figure 11: Age Distribution of Respondents



Responses were evenly divided along gender lines: 51.3% of respondents were female and 48.7% were male. Most middle school students are 14 and under. The median age of middle school students who completed the survey was 13.

Most of the students who took part in the survey (92.7%) describe themselves as Palauan. 2.9% are from other Pacific Islands, and 2.4% are Asian (including Filipinos). Only 0.3% describe themselves as Caucasian, Black/African-American, or of “Other” ethnic origin.



VII. Surveillance and Evaluation

Tobacco use is a preventable health risk and in many countries, it is the leading preventable cause of death. Most tobacco users first experiment with tobacco products in adolescence and many become regular users before age 18. Smoking tobacco is responsible for heart disease, cancers of the lung, larynx, mouth, esophagus and bladder; stroke; and chronic obstructive pulmonary disease. Chewing tobacco alone or in betelnut is associated with leukoplakia, oral cancers, tooth and gum disease, and cardiovascular disease.

To monitor the extent and nature of youth tobacco use, it is necessary to measure prevalence, as well as knowledge and attitudes.

Prevalence of Tobacco Use Among Young People

E. Use of Any Tobacco Product

Lifetime use:

More than 2/3 (**70.7%**) of Palauan middle school students have tried using some form of tobacco (in betelnut, smoking, or chewing smokeless tobacco) in their lives. Exposure to tobacco products in various forms is clearly very common.

Current use:

Literature on tobacco and other substance use defines a “current user” as someone who has used a product on one or more of the past 30 days. Almost fifty-eight percent (**57.9%**) of students in grades 6 through 8 are current users of some form of tobacco. There is no significant difference in the proportion of boys and girls who are current users of any form of tobacco, but the proportion of students who report currently using any form of tobacco increases significantly as grade increases ($\chi^2 = 16.341$, **p<0.001**).

Frequent use:

22.3% of all students are frequent tobacco users, defined as having used a tobacco product on 20 or more of the past 30 days. There is no significant difference in the proportion of boys and girls who are frequent users of any form of tobacco. The same trend, an increasing proportion of frequent users as grade increases, is apparent in students who frequently use any form of tobacco ($\chi^2 = 27.188$, **p<0.001**).

F. Betelnut Use

Lifetime use:

Abput 3/4 (**74.7%**) of middle school students in Palau have tried chewing betelnut. There was not a significant difference in the proportions of males and females who had ever tried betelnut. However, students of Palauan origin were overwhelmingly more likely to have ever tried betelnut than students of other ethnic backgrounds ($\chi^2 = 24.149$; $p < 0.001$)

Current use:

The survey asked students about how much they chewed in the past 30 days. **56.8%** of middle school students are ‘current users’ of betelnut, defined as having chewed betelnut on one or more of the past 30 days.

There is a significant increase in the proportion of current users as grade increases ($\chi^2 = 7.542$, $p = 0.023$). By grade 8, almost 2/3 (**62.8%**) of students are currently using betelnut.

Table 18: Current Betelnut Users by Grade

Grade	6 th	7 th	8 th
Proportion Currently Using Betelnut	51.6%	56.5%	62.8%

Frequency/amount of betelnut use:

A substantial proportion (**21.1%**) of middle school students are ‘frequent users’, chewing betelnut on 20 or more of the previous 30 days. There was no significant difference in the proportion of males and females who were frequent betelnut users.

Most students who currently use betelnut (**86.2%**) chewed 10 or fewer prepared betelnut chews (*elaus*) per day. However, a substantial fraction (**6.7%**) reported that in the previous 30 days, they had chewed more than 25 elaus per day.

Age of initiation:

Of the youth who answered that they had ever tried chewing betelnut, more than half (**61.3%**) had first chewed betelnut (with or without tobacco) by age 10.

Table 19: Age at First Betelnut Use

Age Category	Percent
5 or younger	13.4
6 to 8 years old	22.6
9 to 10 years old	25.4
11 to 12 years old	28.8
13 to 14 years old	8.0
15 to 16 years old	0.9

G. Betelnut Use with Tobacco:

Lifetime use:

The YTS question about adding tobacco to betelnut (Question 19) does not distinguish between lifetime and current use. More than half (**53.7%**) of middle school students answered that they usually added tobacco to their mungeech. **51.5%** usually added cigarettes; **2.2%** answered that they usually added smokeless tobacco.

Current use:

More than half of middle school students (**53.7%**) are current users of betelnut with tobacco, adding cigarettes or smokeless tobacco to their chew on 1 or more of the previous 30 days. It is apparent that almost all students who are chewing betelnut are doing so with added tobacco. The proportion of students who are chewing betelnut with added tobacco increases significantly as grade increases ($\chi^2 = 19.606$; $p < 0.001$)

Table 20: Current Tobacco Users in Betelnut by Grade

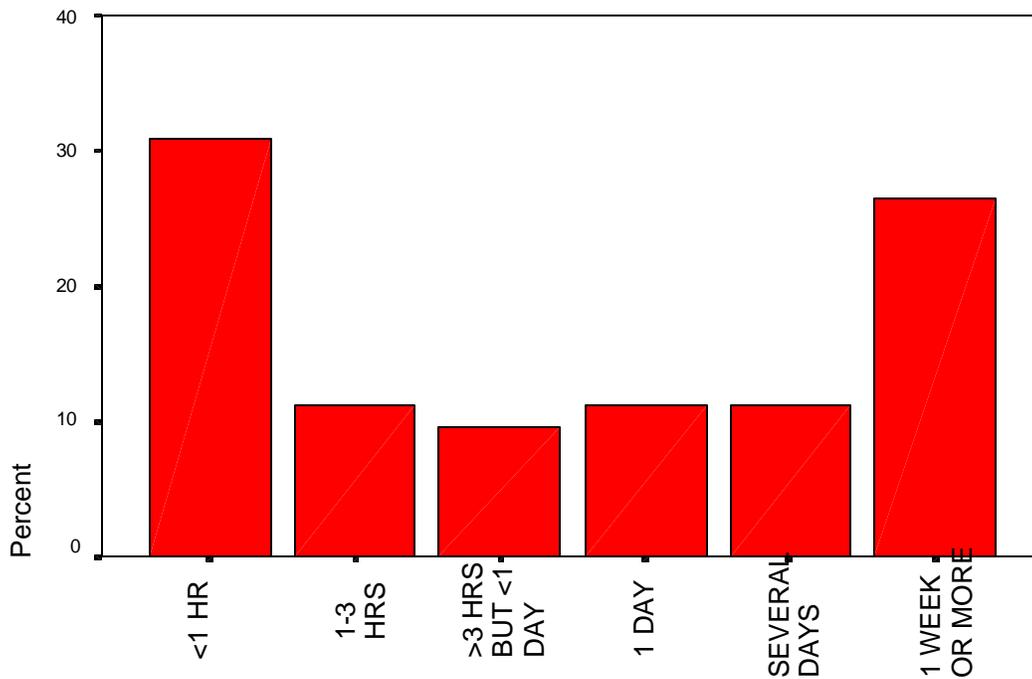
Grade	6th	7th	8th
Proportion Currently Using Betelnut with Tobacco	43.6%	55.4%	63.0%

Frequency/amount of use:

21.6% of middle school students are frequent users of tobacco with betelnut, adding cigarettes or smokeless tobacco to their elaus on 20 or more of the previous 30 days. Almost five percent (**4.7%**) of students were consuming half a pack or more (11 or more cigarette sticks), on the days they chewed betelnut with cigarettes.

Of the students who chewed betelnut with cigarettes or smokeless tobacco, more than 1/3 (**41.9%**) reported that they experienced cravings in less than 3 hours.

Figure 12: Time to Experiencing Craving



Age of Initiation:

Most youth who use tobacco in their betelnut started doing so at an early age. Almost half (47.9%) had started using tobacco in their betelnut chew by age 10.

Table 21: Age at First Tobacco Use in Betelnut

Age Category	Percent
5 or younger	7.2
6 to 8 years old	18.2
9 to 10 years old	22.4
11 to 12 years old	38.6
13 to 14 years old	10.9
15 to 16 years old	1.5

H. Other Tobacco Use

Lifetime use:

More than 1/3 of middle school students have ever tried smoking cigarettes. Reported below are the proportions of students who have ever tried smoking and using various forms of tobacco.

Table 22: Types of Tobacco Products Ever Tried

Type of Tobacco	Proportion Ever Tried
Cigarettes	43.3%
Cigars, cigarillos or little cigars	26.1%
Smokeless/chewing tobacco	8.6%
Smoking pipe tobacco	9.2%
Smoking bidis or kreteks	1.8%

Gender difference in tobacco experimentation:

Among middle school students, males were significantly more likely than females to have ever smoked tobacco in a pipe ($\chi^2=4.939$, $p=0.026$); ever tried smokeless tobacco ($\chi^2=6.372$, $p=0.012$); and to have ever tried bidis and/or kretek cigarettes ($\chi^2=6.896$, $p=0.009$). There was no difference in the proportion of boys and girls who had ever tried smoking cigarettes or cigars.

Current use:

Current smokers are defined as those who have smoked cigarettes on 1 or more of the past 30 days. **18.3%** of middle school students are current smokers. Even though this is not the primary form of tobacco use among Palauan middle school students, the level of current smoking is higher than many U.S. states, and much higher than the national average. The 1999 State Youth Tobacco Surveys report rates of current cigarette smoking among middle school students ranging from **10.0%** to **23.4%**. The national prevalence of current smoking among middle school students in the United States was measured at just **9.2%** in 1999.

6.4% of Palauan middle school students currently use smokeless/chewing tobacco (not in betelnut). This compares to just 2.7% in the U.S. See *MMWR* 49: SS-10 (October 13, 2000) for complete details of the 1999 National and State Youth Tobacco Surveys.

Frequency/amount of use:

1.5% of middle school students are frequent smokers, smoking cigarettes on 20 or more of the previous 30 days. Most (**77.9%**) smoke 1 cigarette or less on the days they smoke; **3.4%** of current smokers smoke half a pack or more per day.

More than a third (**37.9%**) of current smokers in grades 6-8 reported that they could last less than 3 hours before they experienced cravings for a cigarette.

Age of initiation:

Almost 2/3 of middle school students (**63.8%**) report that they have never smoked a whole cigarette. However, **40.6%** of those who had smoked a whole cigarette reported doing so by the time they were 10 years old.

Table 23: Age at First Whole Cigarette Smoked

Age Category	Percent
8 or younger	19.4
9 to 10 years old	21.2
11 to 12 years old	38.1
13 to 14 years old	20.5
15 to 16 years old	0.7



Tobacco-Related Knowledge and Attitudes

Susceptibility to tobacco use:

A substantial proportion of middle school students are susceptible to using tobacco with betelnut. **9.4%** of students who had never chewed betelnut with tobacco reported that they would DEFINITELY or PROBABLY use betelnut with cigarettes or tobacco in the next 12 months. **7.3%** of those who had never chewed betelnut with tobacco said that they would DEFINITELY or PROBABLY take elaus with tobacco if offered by a close friend.

Palauan middle school students are less susceptible to cigarette smoking than their high school counterparts. **6.6%** of those who had never smoked said they would DEFINITELY or PROBABLY smoke a cigarette in the next year. A similar proportion, **6.1%**, said they would DEFINITELY or PROBABLY smoke a cigarette if offered one by a close friend.

There was no difference in the susceptibility of males and females to using tobacco in betelnut, in the next year or if offered by a close friend. Males who had never smoked were significantly more likely than females to be susceptible to smoking a cigarette in the next year ($\chi^2=9.745$, **p=0.002**). Males in middle school who had never smoked were also much more likely to smoke a cigarette if offered one by a good friend ($\chi^2=19.574$, **p<0.001**).

Image of tobacco users:

When asked if chewing betelnut with tobacco makes young people look cool or fit in, **15.1%** said “definitely yes” or “probably yes”. **10.4%** thought that smoking cigarettes “definitely” or “probably” makes young people look cool. Boys were significantly more likely than girls to think that chewing betelnut with tobacco looked cool ($\chi^2=6.672$, **p<0.010**).

Knowledge of health risks:

Most students have had a parent or caregiver tell them about the health risks of tobacco use in any form. **85.7%** of students reported that a parent, grandparent or guardian had discussed the dangers of using tobacco in betelnut, and **82.4%** had been told by at least one parent or a guardian about the dangers of smoking cigarettes or chewing smokeless tobacco.

Students were asked whether they thought tobacco, whether chewed or smoked, was addictive, like cocaine or heroin. The vast majority of students were fully aware of the addictive properties of tobacco. Surprisingly, middle school students did not seem to

think that smoking cigarettes or chewing smokeless tobacco was as seriously addictive as using tobacco with betelnut.

Table 24: Perception of Addiction Risk from Tobacco

Type of Tobacco Use	Definitely/probably addictive	Definitely/probably NOT addictive
Chewing betelnut with cigarettes or smokeless tobacco	82.0%	18.0%
Smoking cigarettes or chewing smokeless tobacco	68.2%	31.8%

However, **39.2%** of students thought that chewing elaus with tobacco was probably or definitely less harmful than smoking cigarettes or chewing smokeless tobacco. Another **35.0%** did not know whether using tobacco in elaus was less harmful.

Students were asked about their perceptions of the risk from using tobacco in small amounts or for a short time.

Table 25: Perception of Risk from Limited Tobacco Use

Type of Tobacco Use	Definitely/probably harmful	Definitely/probably NOT harmful
Chewing betelnut with 1-5 cigarettes/day	81.3%	18.7%
Smoking 1-5 cigarettes/day	66.7%	33.3%
Chewing betelnut with cigarettes or smokeless tobacco for only a year or two	70.9%	29.1%
Smoking cigarettes for only a year or two	84.4%	15.6%

Even though students are well aware of the addictiveness of tobacco, they may be overly confident of their ability to use tobacco in limited amounts or for a brief period and then quit. Middle school students also appear to underestimate the health risks of smoking even a few cigarettes a day.

Approval of tobacco use:

Adolescent perception of the desirability and acceptability of using tobacco is closely tied to what they see their peers and community leaders doing. The Youth Tobacco Survey asked students about their closest friends' tobacco use and who else they have seen using tobacco.

Table 26: Use of Tobacco in Peer Group

How many of your four closest friends..	None	One or more
Chew betelnut with cigarettes or smokeless tobacco?	27.8%	72.2%
Smoke cigarettes, cigars or pipe?	70.1%	29.9%
Chew smokeless tobacco?	77.2%	22.8%

A substantial proportion of students reported that their closest friends smoked or chewed smokeless tobacco. The vast majority of middle school students have one or more friends who chew betelnut with some form of tobacco, which tends to make this behavior more acceptable, even desirable. Students were also asked about adults whom they had seen, in the 30 days prior to the survey, chewing betelnut (with or without tobacco) at their place of work or in their professional roles. Students could answer yes to as many categories as applicable.

Table 27: Use of Betelnut (with or without tobacco) by Adults in Leadership Roles

Adults seen chewing betelnut in past 30 days	Proportion of students who have seen them
Police Officers	37.6%
Sports Coaches	29.0%
Doctors/Nurses/Dentists	27.9%
Teachers/Principals	43.4%
Pastors/Priests/Nuns	8.4%
None of the above	14.2%

It is noteworthy that the adults middle school students see almost daily, i.e. their teachers and principals, are frequently seen to be using betelnut either with or without tobacco. More than 1/3 of students (**43.4%**) said they had seen a teacher or principal chewing betelnut in school in the 30 days before the survey. The adults whom school-age children see most often in their professional roles are, of course, teachers, which partially explains the responses to this question. This series of questions was placed at the end of the Youth Tobacco Survey and a large proportion of middle school students may have been unable to complete these questions in the allotted time. There were numerous missing responses to this question.