



Chuuk Rapid Youth Survey

2017 Report

Prepared by: Haley Cash, PIHOA



CHUUK STATE GOVERNMENT
DEPARTMENT OF HEALTH SERVICES
STATE OF CHUUK
FEDERATED STATES OF MICRONESIA 96942

P.O. Box 400
PHONE • (691) 330-2216/2217
FAX • (691) 330-2320

Julio Marar • Director
Winiplat Bisalene • Deputy Director
Friday Shomour • Hospital Administrator

Letter of Endorsement

The Rapid High School Survey is a locally developed surveillance tool to monitor trends of non-communicable disease risk factors among youth in Chuuk. This report presents findings from the 2017 survey. This report should be reviewed and used to guide public health program and policy making in Chuuk.

Sincerely,

Julio Marar
Director
Department of Health Services

Table of Contents

Summary.....	4
Background.....	5
Methodology.....	6
Sample Summary.....	7
Tobacco Smoking.....	8
Tobacco Chewing.....	9
Betel Nut Chewing.....	10
Alcohol Use.....	11
Overweight/Obesity.....	12
Discussion/Recommendations.....	13
Acknowledgements.....	14
Annex.....	15

Summary

The aim of this report is to present current prevalence of certain risk factors for developing non-communicable disease (NCD) among high school youth in Chuuk. These data can be used to better understand the burden of these risk factors, monitor trends, and determine who is at greatest risk for poor health in order to improve health among Chuuk youth through the development of targeted evidence-based interventions. The table below compares selected comparable indicators in Chuuk to Guam, Commonwealth of the Northern Mariana Islands (CNMI), and the United States (US). Green shading represents the location with the “best” prevalence, followed by orange shading, and red shading.

	Chuuk	Guam*	CNMI*	US*
Substance Use	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Smoking (within past 30 days)	19.4 (16.9-21.9)	13.2 (10.5-16.6)	12.4 (11.0-13.9)	8.8 (7.2-10.7)
Tobacco chewing (within past 30 days)	24.8 (22.1-27.5)	13.5 (10.6-16.9)	15.2 (13.7-16.9)	5.5 (4.4-6.7)
Alcohol use (within past 30 days)	17.4 (15.0-19.8)	18.2 (15.1-21.8)	23.3 (21.4-25.3)	29.8 (27.3-32.4)
Overweight/obesity				
Had obesity	19.4 (16.9-21.9)	23.0 (19.8-26.5)	16.4 (14.8-18.1)	14.8 (13.8-15.8)
Were overweight	21.0 (18.4-23.6)	19.3 (16.8-22.1)	18.2 (16.6-20.0)	15.6 (14.7-16.6)

*Guam, CNMI, and US data from the 2017 YRBS

Background

Chuuk

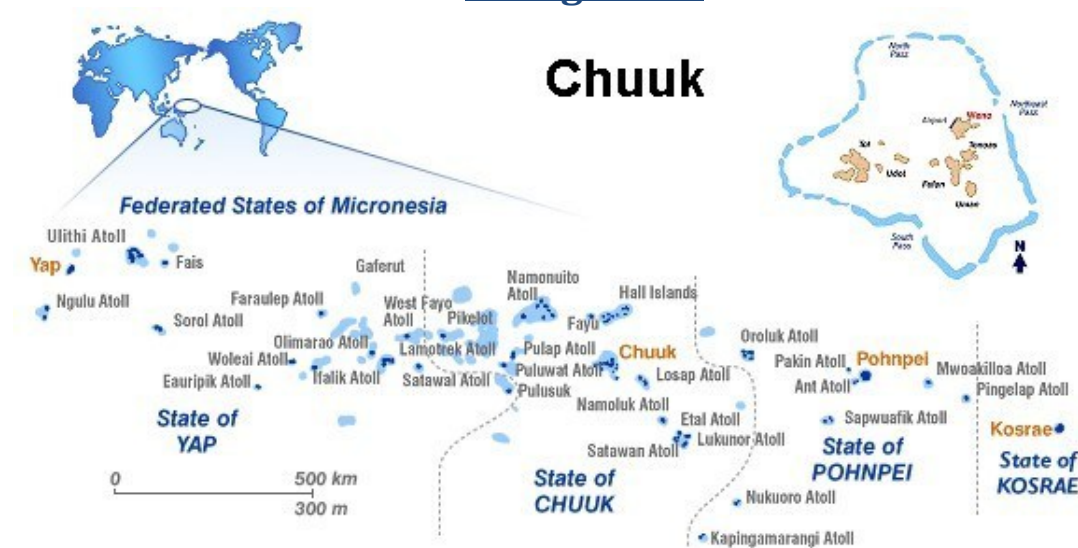


Figure 1. Map of Chuuk

Source: <https://thorfinn.net/diving-chuuk/>

Chuuk is one of the four states of the Federated States of Micronesia (FSM) located in the Pacific Ocean east of the Philippines. Chuuk is made up of several island groups with a total land area of 46 square miles. Most of the population lives within Chuuk Lagoon that contains the State Capitol, Weno. As of 2010, the total population of Chuuk was 48,654, making it the most populated state in FSM.

In 2011, Chuuk State declared a State of Health Emergency due to the epidemic of non-communicable diseases (NCDs). This is largely due to loss of longevity, quality of life, and loss of workforce productivity due to NCDs. There has been a shift away from traditional lifestyle and foods that negatively impacts the culture and health of Chuukese. The majority of the adult population in Chuuk is now overweight or obese, about one-third of adults smoke tobacco, and use of betel nut (generally with tobacco) has recently become common.

In 2010, the Pacific Island Health Officers' Association (PIHOA) declared a regional health emergency due to the epidemic of NCDs in the US-Affiliated Pacific Islands (USAPIs). The USAPIs include American Samoa, Commonwealth of the Mariana Islands (CNMI), Guam, Federated States of Micronesia (FSM), Republic of Palau, and Republic of the Marshall Islands. Stemming from this regional declaration of emergency, all six of these USAPIs agreed upon a regional NCD surveillance framework that includes core NCD and risk factor indicators that need to be routinely and consistently collected across the region in order to monitor the progress of local and regional NCD responses. This includes the following core youth indicators to be measured among high school youth every two years: 30-day tobacco smoking, 30-day tobacco chewing, 30-day alcohol use, and overweight/obesity (by physical measurement of height and weight). Therefore, Chuuk adopted the Chuuk Rapid Youth High School Survey beginning in 2017 to be implemented biannually.

Methodology

The Chuuk Rapid Youth High School Survey was developed by the Chuuk State Department of Health Services (Chuuk DHS) with assistance from PIHOA (see Annex for copy of the survey). This survey instrument collects data on core youth NCD indicators (30-day smoking, tobacco chewing, betel nut chewing, and alcohol use and overweight/obesity). The Chuuk Rapid High School Youth Survey is conducted at all high schools in Chuuk. All students in grades 9-12 present on the survey day are eligible to participate in the survey.

The Chuuk DHS staff conducted the 2017 survey from March-May, 2017. Prior to data collection, all staff were trained on survey administration to include physical measurements of height and weight. Chuuk DHS staff first recorded demographic information of each student in Section 1 of the paper survey form, then took height and weight and also recorded these in Section 1. Section 2 of the paper survey form was then completed by students confidentially and turned in anonymously to collect information on substance use. Afterwards, Chuuk DHS staff entered the paper surveys into a Microsoft Excel database. PIHOA provided technical support for cleaning and analyzing these data.

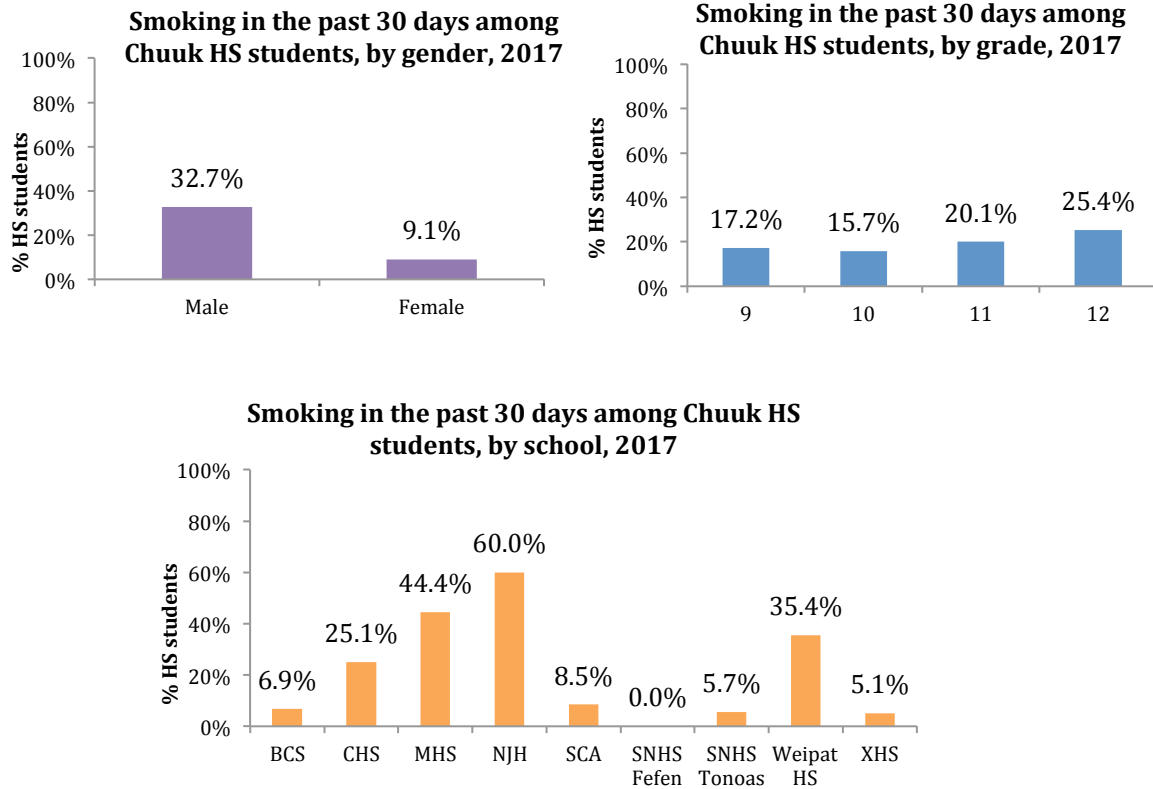
Data on substance use are all based on self-report. Measured height and weight were used to calculate Body Mass Index (BMI). BMI percentiles were used to determine BMI categories for those students under 17 years old. Adult BMI calculations were used for those students 18 and older. Overall, all students were classified as underweight, healthy, overweight, or obese.

Sample Characteristics (N=980)

<u>Demographic Characteristics</u>	N	%
Gender		
Male	434	44.3%
Female	545	55.7%
Age		
13-14	129	13.2%
15-16	442	45.2%
17-18	346	35.4%
19+	61	6.2%
Grade		
9	319	32.5%
10	210	21.4%
11	226	23.1%
12	225	23.0%
BCS	58	5.9%
CHS	460	46.9%
MHS	37	3.8%
NJH	10	1.0%
SCA	130	13.3%
SNHS Fefen	28	2.9%
SNHS Tonoas	53	5.4%
Weipat HS	79	8.1%
XHS	125	12.8%
Total	980	100.0%

Smoking

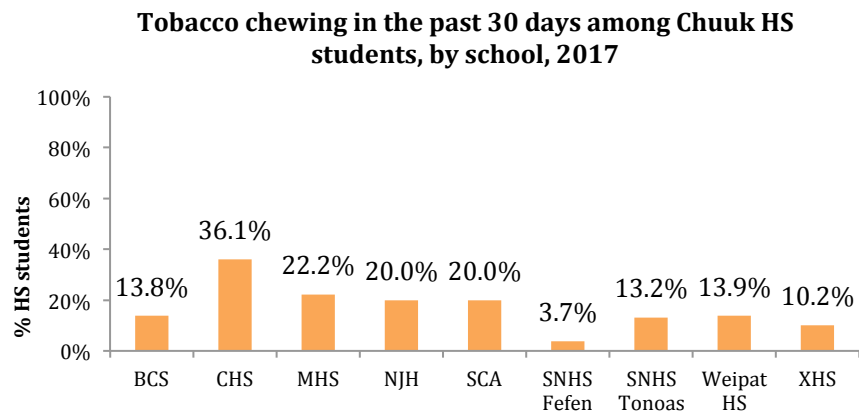
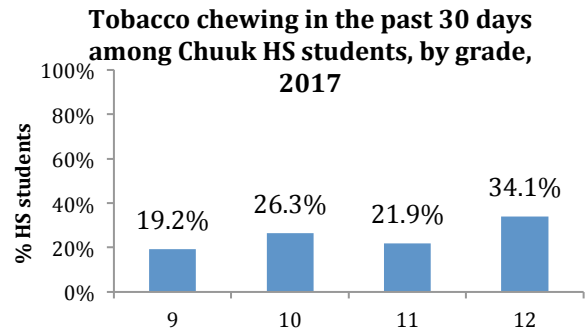
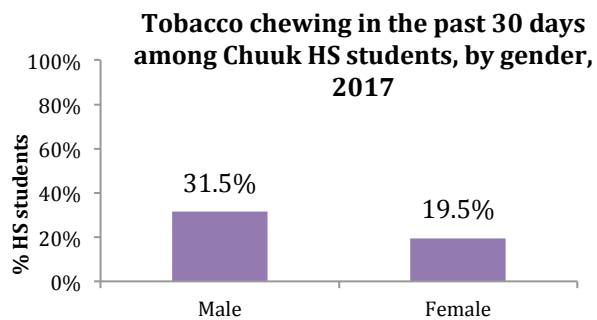
19.4% of high school students in Chuuk are current smokers (smoked in the past 30 days).



Male students have a smoking prevalence over three times higher than female students (32.7% vs. 9.1%). When examined by grade, smoking prevalence is highest among 12th graders at 25.4%. There also appears to be a lot of variation by school, ranging from 0% at SNHS Fefen to 60.0% at NJH.

Tobacco Chewing

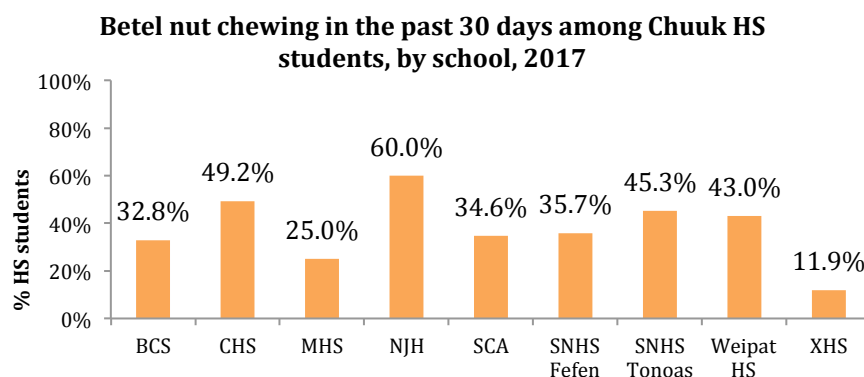
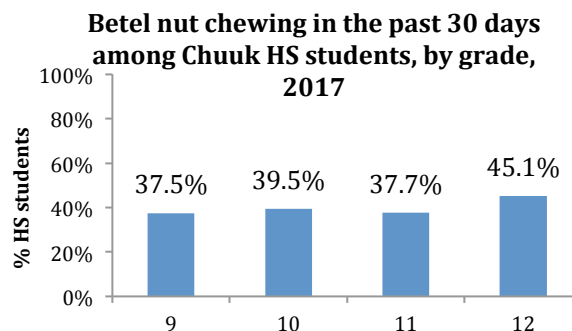
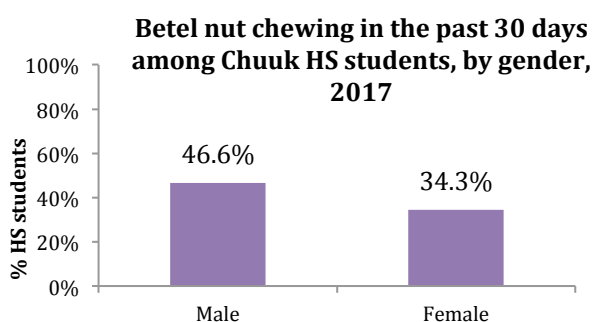
24.8% of high school students in Chuuk are current tobacco chewers (chewed tobacco in the past 30 days). This includes chewing tobacco with or without betel nut.



Male students have a tobacco chewing prevalence 1.5 times as high as the female prevalence (31.5% vs. 19.5%). Tobacco chewing increases among 12th graders to 34.1%. Tobacco chewing prevalence varies by school, ranging from 3.7% at SNHS Fefen to 36.1% at CHS.

Betel Nut Chewing

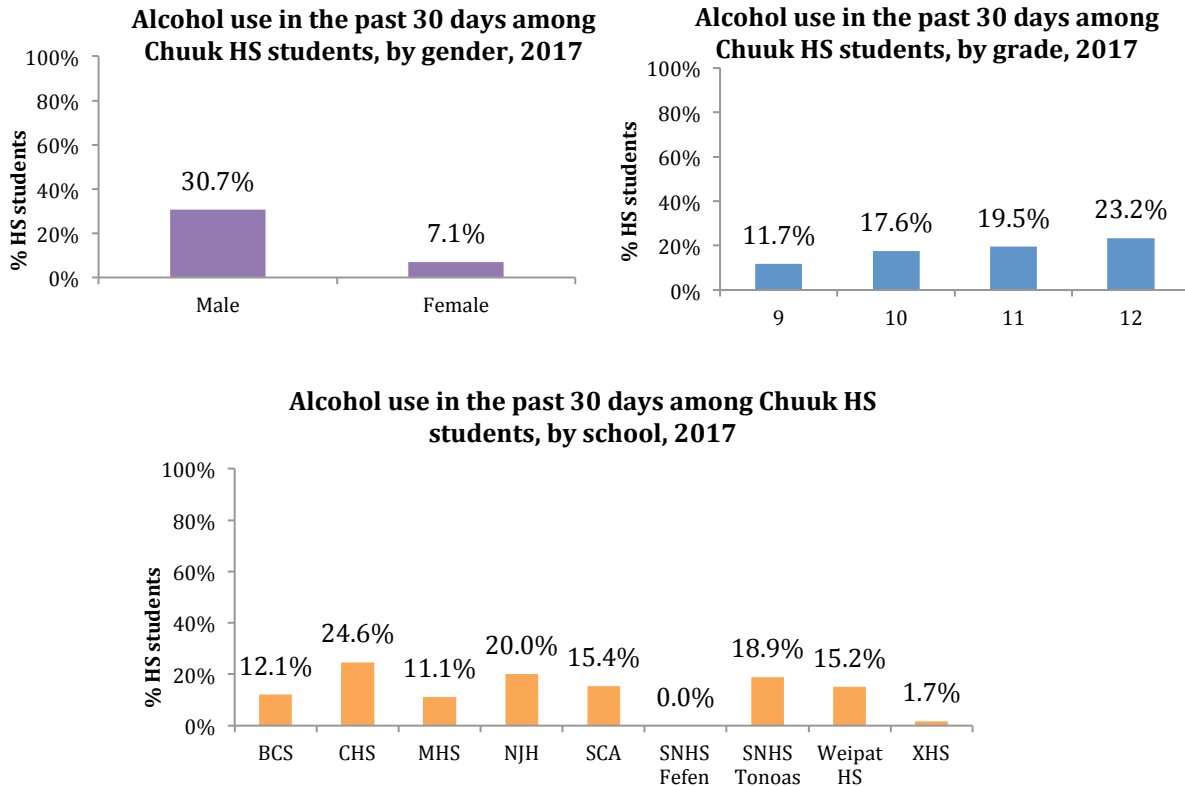
Two out of five (39.8%) of high school students in Chuuk are current betel nut chewers (chewed betel nut in the past 30 days).



Betel nut chewing prevalence is higher among male students (46.6%) compared to female students (34.3%). Betel nut chewing prevalence is similar between grades 9 to 11, but by 12th grade, almost half (45.1%) of students chew betel nut. However, it should be noted that more than one-third (37.5%) of 9th graders are already using betel nut. Betel nut prevalence varies by school ranging from 11.9% at XHS to 60.0% at NJH.

Alcohol Use

About two out of five (17.4%) of high school students in Chuuk have used alcohol in the past 30 days.

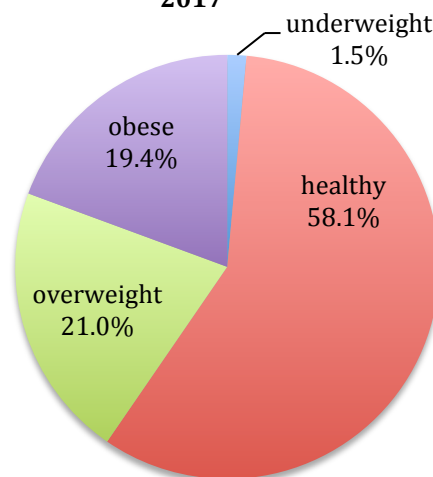


Alcohol use prevalence is more than three times higher among male students (30.7%) compared to female students (7.1%). Alcohol prevalence increases with grade. Among 12th graders, almost one-quarter (23.2%) are using alcohol. Patterns of alcohol use by school are similar to tobacco and betel nut use, ranging from 0% at SNHS Fefen to 24.6% at CHS.

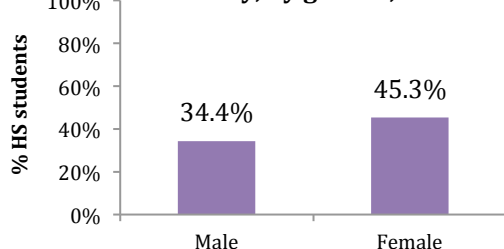
Overweight/Obesity

Two out of five (40.4%) of high school students in Chuuk are overweight or obese.

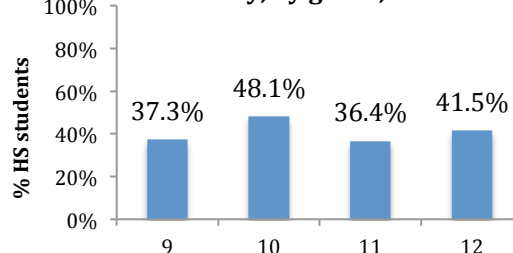
Body Mass Index (BMI) Categories of Chuuk HS students, 2017



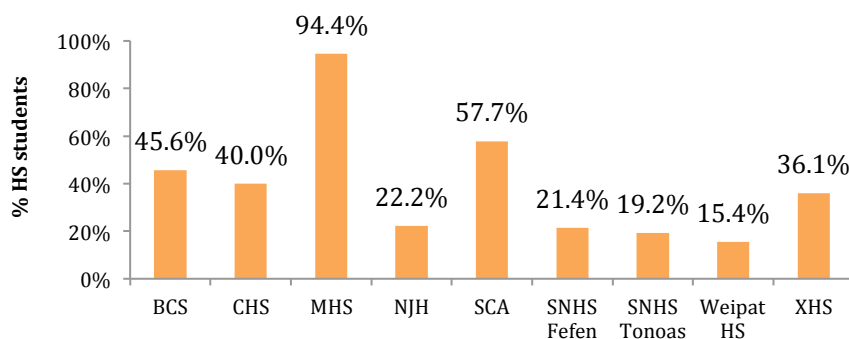
Chuuk HS student overweight/obesity, by gender, 2017



Chuuk HS student overweight/obesity, by grade, 2017



Chuuk HS student overweight/obesity, by school, 2017



Prevalence of overweight/obesity is higher among female students (45.3%) compared to male students (34.4%). Overweight/obesity is highest among tenth graders at 48.1%. Overweight/obesity prevalence ranged by school from 15.4% in Weipat HS to 94.4% at MHS.

Discussion

Based on the data presented in this report, it is clear that many risk factors are highly prevalent among youth in Chuuk. This is the first report with the first high school data to ever be collected in Chuuk, so we therefore cannot yet assess trends. However, it is clear that there is a need to evaluate current efforts regarding substance use, physical activity, and nutrition among youth based on comparisons to the US, Guam, and CNMI.

Tobacco use through smoking and chewing (with betel nut) is a significant concern given that these prevalence rates are higher than other jurisdictions in the region and **one-third of youth are currently using some form of tobacco**. Although alcohol use is lower than other jurisdictions in the region, almost one quarter of 12th graders are using alcohol. There is use of all substances as young as 9th grade, indicating a need for early intervention prior to high school.

40% of high school youth in Chuuk are overweight or obese. This high prevalence indicates the need for high-impact action through evidence-based policies and interventions. Due to the fact that youth who are overweight or obese in adolescence are more likely to be overweight or obese in adulthood compared to healthy weight adolescents, it is important to prevent overweight/obesity in high school students. Physical activity programs in schools, sports programs, school nutrition, and healthy school food policies are effective ways to prevent overweight/obesity among youth.

Recommendations

Overall, the Chuuk Rapid High School Survey collected much needed data from Chuuk high school youth. It is highly recommended that **this survey continue to be conducted on a regular, biannual basis**. Additionally, improvements could be made to data collection and entry to improve completeness and organization of these data. Finally, many youth in Chuuk are not in high school, so it should be noted that these youth are not captured in this current surveillance system. Due to the fact that these youth generally have higher substance use rates, it is very likely that the substance use prevalence data reported here are underestimated.

High school programs around substance use, nutrition, and physical activity should be strategically evaluated. Additionally, Chuuk State and FSM National policies regarding these topics should also be reviewed. These data can be a powerful asset to motivate higher level change, especially regarding tobacco, alcohol, and unhealthy food legislation that have potential to greatly reduce risk factor prevalence among youth in Chuuk. **Without high-impact action, these risk factors will continue to rise** among youth, and continue into adulthood, resulting in high adult risk factor and disease prevalence that greatly contribute to morbidity and mortality in Chuuk and burden the healthcare system.

Acknowledgements

Akius Herman, NCD Community Health Worker
Alexandria Keina Mailo, NCD Data Clerk
Alivios William, Department of Education Director
Anfina William, NCD Community Health Worker
Arichiro Kony, NCD Community Health Worker
Carl Martin, Principal, XHS
Eleanor Setik, Chief of Public Health
Jason Reiong, Principal, CHS
Julio Marar, DHS Director
Larry Ekinon, NCD Nurse
Moria Shomour, NCD Program Manager
Nely Raymond, NCD Community Health Worker
Petrin Petewon, NCD Nurse
Sharry Osi, NCD Community Health Worker
Dr. Haley Cash, PIHOA
Dr. Mark Durand, PIHOA
Denita Beyond, Principal, BCS
Wayne Olap, Principal, SCA
Steiohsy Manuel, Principal, Mizpah
Tommy Ungeni, Principal, SNHS-Tonoas
Narciso Francis, Principal, SNHS-Fefan
Principal, NJH
Principal, Weipat

Annex

Students will first be interviewed and measured by trained NCD Survey Staff to complete questions 1-10 in the shaded box. Then, students will complete questions independently, and then submit forms into a designated box. **No names are to be collected.**

SECTION 1: To be completed by NCD Survey Staff:

1. Date (M/D/Y):	____/____/____
2. Name of School:	_____
3. Grade:	9 10 11 12 (circle one)
4. Name of Class or Section:	_____
5. Gender:	Male Female (circle one)
6. Age (years)	_____ years
7. Residence (Municipality):	_____
7. Staff Member Initials:	_____

8. Height:	_____ inches
9. Weight:	_____ pounds
10. Staff Member Initials:	_____

SECTION 2: To be completed by Student after SECTION 1:

This section is for the student to complete (Do not put your name on this sheet. All information is confidential.)

- | | | | |
|--|------------|-----------|--------------|
| 11. During the <u>past 30 days</u> , did you <u>smoke</u> any tobacco? | Yes | No | (circle one) |
| 12. During the <u>past 30 days</u> , did you have <u>at least one drink of alcohol</u> ? | Yes | No | (circle one) |
| 13. During the <u>past 30 days</u> , did you chew <u>at least one betel nut</u> ? | Yes | No | (circle one) |
| 14. During the <u>past 30 days</u> did you <u>chew</u> any tobacco (with or without betelnut)? | Yes | No | (circle one) |