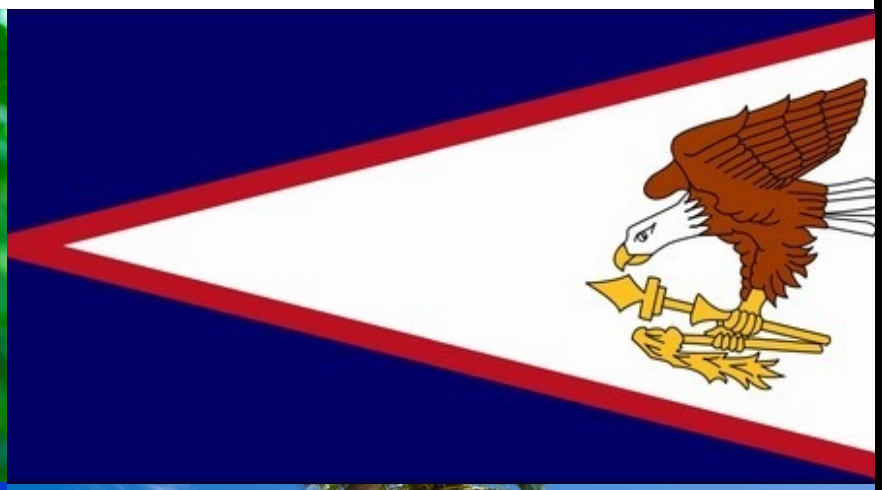
American Samoa

Adult Hybrid Survey

2024

AMERICAN SAMOA DEPARTMENT OF HEALTH

PO Box 5666
American Samoa Government
Pago Pago, American Samoa 96799

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DR. SAIPALE FUIMAONO
Director

FARAITOAFA M. UTU
Deputy Director

TALALELEI VESI FAUTANU
Deputy Director

ELIZABETH I PONAUSUL
Deputy Director

Re: Letter of Endorsement: American Samoa Hybrid Survey 2024

Talofa lava and Greetings,

It is with great pride and a sense of shared accomplishment that I formally endorse the findings of the 2024 American Samoa Adult Non-Communicable Disease (NCD) Hybrid Survey, conducted by the American Samoa Department of Health (ASDOH), in collaboration with the Pacific Island Health Officers Association (PIHOA).

The completion of this survey represents a significant milestone for public health in American Samoa. It was an immense undertaking that has helped address critical gaps in our understanding of the health status of our adult population and the challenges posed by NCDs and their associated risk factors. The timely, reliable, and comprehensive data generated through this effort provide us with a stronger foundation for understanding the health needs of our people and identifying opportunities for meaningful public health action.

The findings of the 2024 Hybrid Survey will serve as an important resource for the Department of Health and our partners as we work to strengthen disease prevention and health promotion efforts across the Territory. These data will help guide evidence-based policies, inform program planning and evaluation, support effective allocation of resources, strengthen public health interventions, and contribute to our continued efforts to reduce preventable illness and premature mortality associated with NCDs.

On behalf of the American Samoa Department of Health, I extend our sincere appreciation and fa'afetai tele lava to PIHOA for its collaboration and continued partnership, as well as to all local, regional, and federal partners and stakeholders whose expertise, commitment, and support contributed to the successful implementation of this survey. Your collective efforts have helped ensure that this report is not simply a collection of statistics, but a practical tool that can be used to strengthen American Samoa's response to NCDs and improve the health and well-being of our communities.

Most importantly, we extend our deepest gratitude to the people of American Samoa who participated in the survey. Your willingness to contribute your time, experiences, and health

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information made this work possible. Your participation has ensured that the findings reflect the realities of our community and provide a meaningful representation of the health of our people.

While the completion of the 2024 Hybrid Survey is an accomplishment worthy of recognition, the true value of these data will be measured by the actions we take because of them. We must now use these findings as a roadmap—turning evidence into action, strengthening successful programs, addressing identified gaps, and building public health strategies that respond to the needs of our people.

Health is a shared responsibility. The American Samoa Department of Health remains committed to working alongside PIHOA, our healthcare and community partners, government leaders, and the people of American Samoa to translate the findings of this survey into meaningful and sustainable action.

Together, we can use the knowledge gained through the 2024 American Samoa Adult NCD Hybrid Survey to guide our decisions, strengthen our public health system, and create a healthier and more resilient future for American Samoa.

Fa'afetai tele lava.

Sincerely,

.....

Dr. Saipale Fuimaono
Director of Health
American Samoa Department of Health

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Summary

The aim of this report is to assess the current prevalence of non-communicable diseases (NCDs) and selected risk factors for NCDs in American Samoa. We hope that this report enables American Samoa to better understand its burden of these conditions and risk factors, monitor trends, and determine who is at greatest risk for poor health to improve health through the development of targeted evidence-based interventions.

NCDs such as heart disease, cancer, and diabetes are global issues that result in high burdens of disability and premature death [1]. Additionally, substance use, and poor mental health can also greatly contribute to disability and premature death throughout the world [2]. NCDs, substance use, and poor mental health are highly linked to several key risk factors, such as cigarette smoking, tobacco chewing, excessive alcohol consumption, unhealthy diet, lack of physical activity, and overweight/obesity [1]. Over the past few decades there have been drastic changes in lifestyle in American Samoa. American Samoa has shifted from mostly subsistence living and reliance on locally produced crops and fish to a more Western lifestyle that includes sedentary occupation and more reliance on imported foods. This lifestyle shift has resulted in higher burdens of certain risk factors, NCDs, and poor mental health [3].

The NCDs of concern in the US-Affiliated Pacific Islands (USAPIs) include diabetes, heart disease, stroke, cancer, and chronic obstructive pulmonary disease [1,2]. The social determinants of health demonstrate that there is a complex system of factors that are linked to NCDs which include demographic, social, technological, cultural, environmental, biological, economic, and political [4]. However, the four leading risk factors attributable to NCDs globally include unhealthy diets (insufficient consumption of fruit and vegetables, excessive consumption of salt, high fat, and high sugar foods), insufficient physical activity, excessive consumption of alcohol, obesity, and tobacco use [2]. In the Pacific Islands, betel nut (which is carcinogenic to humans) chewing with or without tobacco is also identified as a significant health problem [4].

American Samoa undertook its second population-based household survey, the Adult Hybrid Survey, that combined NCDs and associated risk factor indicators in 2024. A total of 1002 individuals aged 18 years or older participated in the survey. Respondents answered questions about their alcohol and tobacco use, other substance use, dietary habits, physical activity, health access, oral health, health conditions, mental health, and cancer screening. Additionally, height and weight, fasting blood glucose, total cholesterol, and blood pressure were measured.

American Samoa vs. USA

The table below compares American Samoa's 2024 Adult Hybrid prevalence data to relevant U.S. prevalence data using the most comparable sources available.

*Due to lack of raw data from US sources, statistical analysis could not be performed.

Most selected health indicators had a relatively worse prevalence in American Samoa than in the US. However, e-cigarette use, alcohol use, and the prevalence of binge drinking are lower in American Samoa than in the US. The prevalence of high cholesterol is lower in American Samoa, though the prevalence of all other chronic conditions, such as overweight/obesity, diabetes, and hypertension, is higher than in the US.

	AS (%)	US (%)	Comparison
Current tobacco use (past 30 days)			
Cigarette smoking	19.9	14.0	↑
E-cigarette use	3.3	7.7	↓
Current alcohol use (past 30 days)			
Alcohol use (any)	14.1	53.6	↓
Binge drinking (5+ drinks per day)	10.5	17.0	↓
Nutrition			
Consuming fruit <1 time per day	52.0	40.8[1]	↑
Consuming vegetables <1 time per day	40.2	19.7[1]	↑
Health and healthcare			
Fair or poor health (self-reported)	14.9	17.0	O
No medical checkup in the past year	41.2	23.2	↑
Oral health			
No dental visit within past year	61.5	34.2	↑
Extracted permanent teeth due to decay/disease	34.3	40.3	↓
Chronic conditions			
Overweight/obesity	92.7	73.1[2]	↑
Diabetes (self-reported + undiagnosed)	31.9	14.7[3]	↑
Hypertension (self-reported + undiagnosed)**	42.6	31.7[4]	↑
High Cholesterol**	2.3	11.3[5]	↓
Cancer screening			
No Pap smear in the past 3 years (women 21-65 yo)	82.2	22.3[6]	↑
No mammogram in the past 2 years (women 50-74 yo)	76.9	21.7[6]	↑

**Diabetes prevalence is estimated based on either a self-report of diabetes for which the patient is taking medication and/or an A1c of ≥6.5% during the survey

**Hypertension prevalence is estimated based on either a self-report of hypertension for which the patient is taking medication and/or a measured average blood pressure (of 2 readings) of ≥140/90.

**High cholesterol is based on a measurement of total cholesterol of ≥240mg/dL.

Source for US comparison: BRFSS 2022 unless noted with:

[1]BRFSS 2021

[2]NHANES 2017-2018 (adults 20+)

[3]CDC National Diabetes Report 2022 (includes diagnosed and undiagnosed diabetes)

[4]NHANES 2017-2018 (adults 18+; includes diagnosed and undiagnosed hypertension)

[5]NHANES 2013-2018 (adults 20+)

[6]BRFSS 2020

Surveillance in American Samoa

The table below compares the 2018 American Samoa Hybrid Survey results to the 2024 American Samoa Hybrid Survey.

Chi-square analysis ($p<0.05$ considered statistically significant) was used for comparisons with:

red indicating a worsening trend
yellow indicating no significant change
green indicating an improving trend

	2018 (%)	2024 (%)	Comparison
Current tobacco use			
Cigarette smoking in the past 30 days	21.5	19.9	O
Smokeless tobacco use	0.5	0.9	O
E-cigarette use	1.0	3.3	↑
Current alcohol use			
Alcohol use in the past 30 days	14.7	14.1	O
Binge drinking in the past 30 days	11.6	10.5	O
Nutrition			
<5 servings of fruits and vegetables per day	78.8	79.2	O
2+ sugar-sweetened beverages per day	52.9	52.2	O
2+ processed meats per day	57.9	61.9	O
Health and Healthcare			
Self-reported fair or poor health	30.9	14.9	↓
Medical checkup in the past year	54.8	58.8	O
Oral Health			
Dental visit within past year	39.3	38.5	O
Any permanent teeth extracted due to decay/disease	64.4	34.3	↓
Cancer Screening			
Up-to-date Pap (women 21-65 yo)[1]	29.3	17.8	↓
Up-to-date mammogram (women 50-74 yo)[2]	25.4	23.1	O
Chronic conditions			
Overweight/obesity[3]	93.5	92.7	O
Diabetes[4]	33.6	31.9	O
Hypertension[5]	39.8	42.6	O
High cholesterol (240mg/dL or higher)	4.0	2.3	↓

[1]up-to-date is a Pap within the past 3 years per USPTF guidelines
[2]up-to-date mammogram is a mammogram within the past 2 years per USPTF guidelines
[3]Overweight/obesity determined as a BMI ≥25 based on measured height and weight
[4]2018: diabetes was determined by a self-report of medicated diabetes and/or fasting blood glucose of ≥126mg/dL; 2024: diabetes was determined by a self-report of medicated diabetes and/or an A1c of ≥ 6.5%
[5]Hypertension was determined by a self-report of medicated hypertension and/or an average blood pressure reading (out of 3 readings) of ≥140/90

Introduction

Non-communicable diseases (NCDs) are the leading causes of morbidity and mortality for adults in the United States Affiliated Pacific Islands (USAPIs) (American Samoa, Guam, Commonwealth of the Northern Mariana Islands [CNMI], Federated States of Micronesia [FSM], Republic of Palau, and Republic of Marshall Islands [RMI]).

In 2010, the Pacific Island Health Officers Association (PIHOA) declared a regional health emergency due to the epidemic of NCDs in the USAPIs [1]. The NCDs of concern in the USAPIs include diabetes, heart disease, stroke, cancer, and chronic obstructive pulmonary disease [2]. The social determinants of health demonstrate that there is a complex system of factors that are linked to NCDs which include demographic, social, technological, cultural, environmental, biological, economic, and political factors [3]. However, the five leading risk factors attributable to NCDs globally include unhealthy diets (insufficient consumption of fruit and vegetables, excessive consumption of salt, high fat, and high sugar foods), insufficient physical activity, excessive consumption of alcohol, obesity, and tobacco use [2]. In the Pacific Islands, betel nut (which is carcinogenic to humans) chewing with or without tobacco is also identified as a significant health problem [4].

Key components of PIHOA's response to the NCD crisis include strengthening NCD surveillance systems and building epidemiologic capacity to improve data quality and reporting in the USAPIs.

Prior to the development of the Hybrid Survey, the last NCD adult population-based survey in American Samoa was conducted in 2004. Due to the need for current NCD and risk factor prevalence data, the American Samoa Department of Health developed and implemented an adult population-based survey, the Hybrid Survey, initially in 2018, then again in 2024. The Hybrid Survey was designed to assess NCD risk factors and conditions through self-diagnosis, as well as physical and biochemical measurements.

Background on American Samoa

American Samoa is comprised of seven islands in the southern Pacific Ocean and is a territory of the United States.

It covers a total land area of approximately 76 square miles. There are three geo-political districts: Western District, Eastern District, and Manu'a District, as well as two "unorganized" atolls: Rose Atoll and Swain's Island. The largest island in American Samoa is Tutuila and covers an area of 55 square miles. Pago Pago, located on Tutuila is the political and commercial center of American Samoa [3].

The total population of American Samoa is 55,519 (2010 census). Over half (53%) of the population of American Samoa is less than 20 years of age [8]. According to the 2010 census, there were 28,170 males (50.7%) and 27,349 (49.3%) females. A majority of the population resides in the Western District with 31,329 residents (56.4%). This is followed by the Eastern district with 23,030 residents (41.5%), then the Manu'a district with 1,143 residents (2.1%). The total fertility rate in American Samoa is 2.7 children born/woman. However, the population is decreasing due to out migration.

Survey Methodology

The American Samoa Adult Hybrid Survey aimed to assess the prevalence of selected NCDs, risk factors, community wellbeing, and substance use/mental health indicators according to CDC, PIHOA, SAMHSA, and WHO surveillance frameworks.

Objectives

1. Inform the local community of American Samoa and support partners on NCDs, risk factors, substance use, and mental health prevalence
2. Use these data to prioritize and tailor prevention programs developed and supported by the American Samoa Department of Health
3. Support further research on risk and protective factors of NCDs and substance use/mental health in American Samoa
4. Use these data to monitor progress and trends to reduce morbidity and mortality in American Samoa

Target group

Participants eligible for the American Samoa Adult Hybrid Survey included all residents in American Samoa aged 18 and older who were able to comprehend either the English or Samoan language and provide consent.

Data collection

Data collection began August 2024 and ended December 2024. A total of 1002 respondents completed the survey and measurements. All interviews and measurements were performed by trained surveyors hired by the American Samoa Department of Health.

Sampling procedures

Multi-stage sampling was be used to recruit participants in this survey. This procedure is described in detail below. This sampling methodology was modeled after the 2004 STEPS for comparability purposes.

Stage 1: Geographical Stratification and Household Sampling

All villages were sampled based on adult population size within these villages based on most recent estimates from the American Samoa Department of Commerce. Individual households were then randomly selected from American Samoa Power Authority (ASPA) household electric meter listings.

Stage 2: Selection of the individual from the household for the Hybrid survey

Stage 3: Kish methodology was used for random selection of one adult per selected household.

Data collection

Data were collected by trained surveyors hired by or working for the American Samoa Department of Health. All surveyors underwent extensive training. Interviews were conducted in either Samoan or English. Data were collected during August to December 2024.

Data entry

All data were collected electronically on a tablet using the ODK Collect app. Tablets were uploaded on a weekly basis to the PIHOA Ona account.

Data cleaning

Descriptive statistics were produced for all variables. Outliers were also checked, validated, and rectified.

A data dictionary was created to explain the indicators and data codes.

Data analysis

Descriptive data analysis was conducted. Chi-squared analysis was used to analyzed differences by:

- **age group** (18-24 years old, 25-34 yo, 35-44 yo, 45-55 yo, 55-64 yo, 65+ yo)
- **gender** (male, female)
- **education** (less than high school, high school, or more than high school)
- **district** (Eastern, Western)

[To ensure statistical validity, data from Manu'a (n = 31) were aggregated with household data from Eastern district. Refer to Annex A for estimates specific to Manu'a.]

Due to the age of the most recent Census data, large sample size, and ability to analyze locally, these data were not weighted.

Sample Summary

The sample collected was similar to population estimates based on the 2010 Census. Although the sample appears to be a bit older, the comparison population statistics are over a decade old. Therefore, these data were not weighted.

	Survey sample N = 1002	2020 Census data (18 and older) N = 31,486
Gender		
Male	444 (44.3%)	15,968 (50.7)
Female	558 (55.7%)	15,518 (49.3)
Age group		
18-24 years	90 (9.0%)	4917 (15.6)
25-34 years	150 (15.0%)	6187 (19.7)
35-44 years	185 (18.5%)	6209 (19.7)
45-54 years	187 (18.7%)	6372 (20.2)
55-64 years	190 (19.0%)	4654 (14.8)
65+ years	200 (20.0%)	3147 (10.0)
District (total pop.)		
Eastern	320 (31.9%)	17881 (36.0%)
Western	682 (68.1%)	31819 (64.0%)

Demographics

	n	%
Gender		
Male	444	44.3%
Female	558	55.7%
Education*		
Less than high school	57	5.7%
High school	738	74.4%
Associate's degree	112	11.3%
Bachelor's degree	51	5.1%
Graduate or professional degree	34	3.4%
Ethnic Background*		
Samoan	898	89.7%
Other	103	10.3%
Citizenship/Nationality		
United States	138	14.0%
United States National	527	53.4%
Other	321	32.6%
Location of Birth*		
American Samoa	486	48.6%
Samoa	380	38.0%
U.S.: Hawai'i	21	2.1%
U.S.: somewhere other than Hawai'i	23	2.3%
Other	91	9.1%
Marital Status		
Single, never married	241	24.3%
Married/Common law or domestic partnership	635	63.9%
Widowed	88	8.9%
Divorced/separated	29	2.9%

NOTE: some Ns may not total 1002 due to responses of “don’t know” or “refused”

Religion*

Congregational Christian Church	333	33.4%
Catholic	162	16.3%
Methodist	73	7.3%
Seventh Day Adventist	48	4.8%
LDS/Mormon	156	15.7%
Pentecostal/AOG	135	13.6%
Baha'i	6	0.6%
Jehovah's Witness	13	1.3%
No Religion	16	1.6%
Other	54	5.4%

Military Status*

Active Duty	2	0.2%
Reservist	5	0.5%
Veteran	14	1.4%
Retired	19	1.9%
Never served	951	96.0%

Employment Status

Employed for wages	386	38.8%
Employed not for wages	15	1.5%
Self-employed	62	6.2%
Out of work, looking	39	3.9%
Out of work, not looking	101	10.2%
Homemaker	210	21.1%
Retired	155	15.6%
Student	26	2.6%

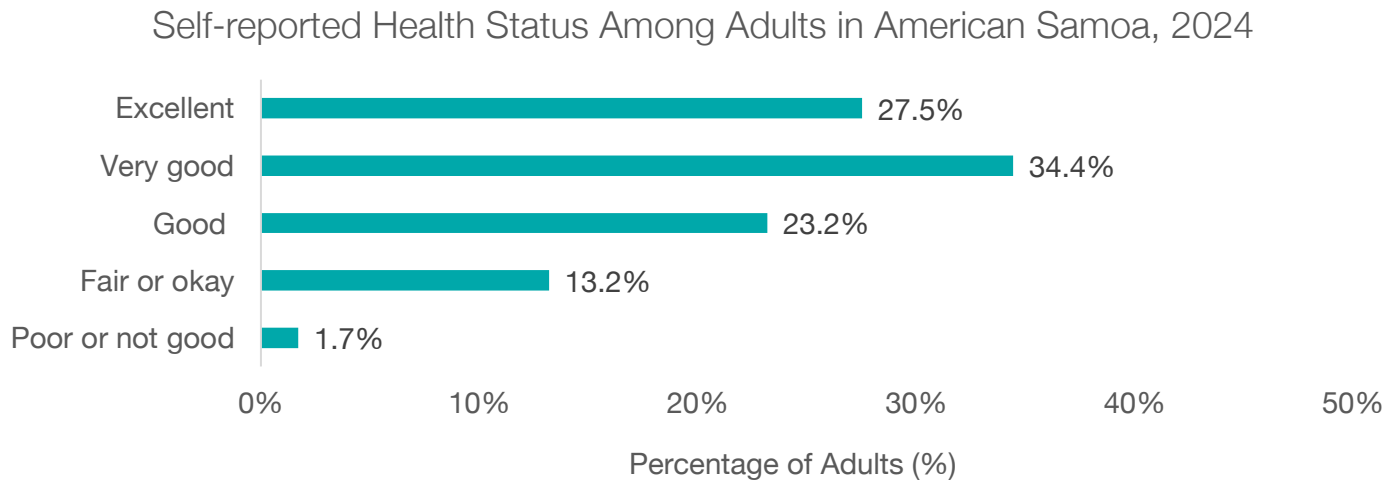
Income*

0	87	10.5%
$1 to < $10,000	147	17.8%
$10,000 < $20,000	228	27.6%
$20,000 < $30,000	157	19.0%
$30,000 < $40,000	101	12.2%
$40,000 < $50,000	62	7.5%
$50,000 or more	45	5.4%

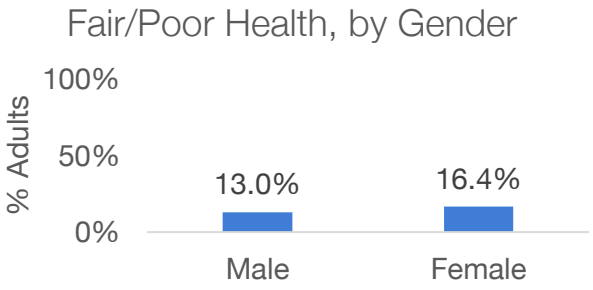
NOTE: some Ns may not total 1002 due to responses of “don’t know” or “refused”

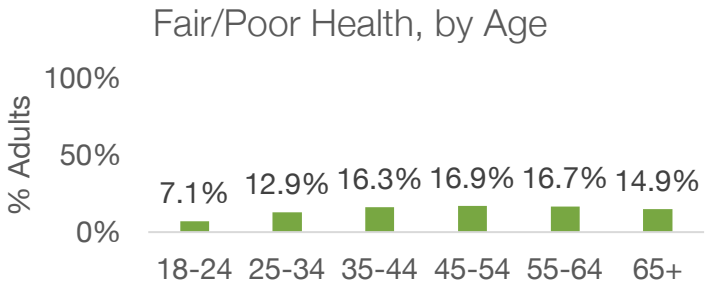
General Health

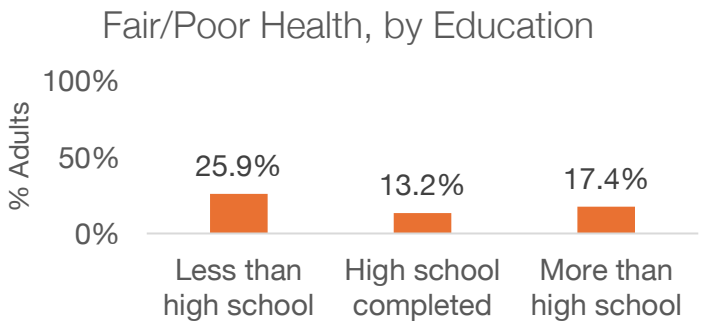
Nearly one out of five (14.9%; 95% CI: 12.7% - 17.3%) of adults in American Samoa self-reported their general health to be fair or poor.

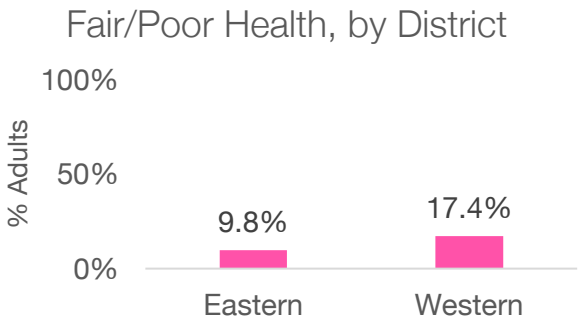


Perception of fair or poor health was higher among those with less than a high school education as well as those living in Western District. There were no statistically significant differences in self-report of fair or poor health among gender or age.



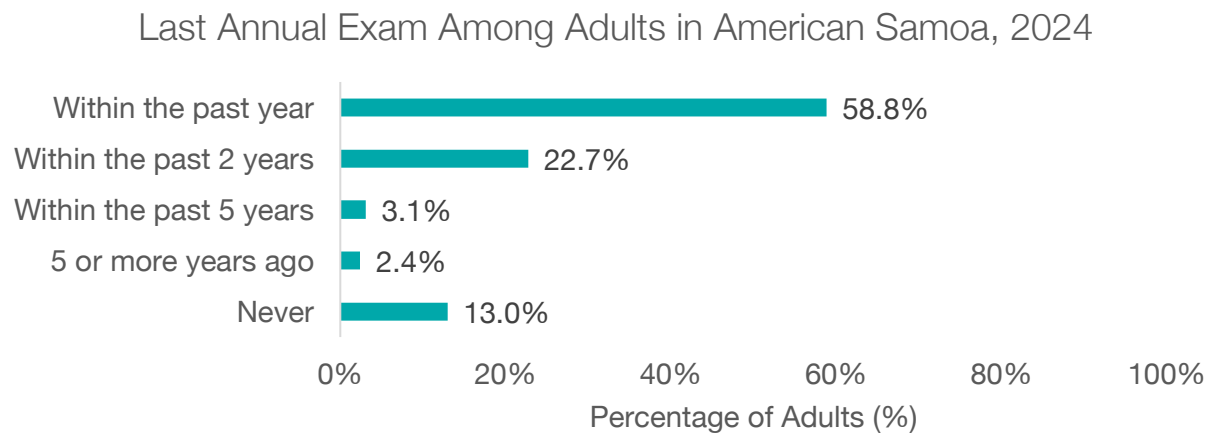




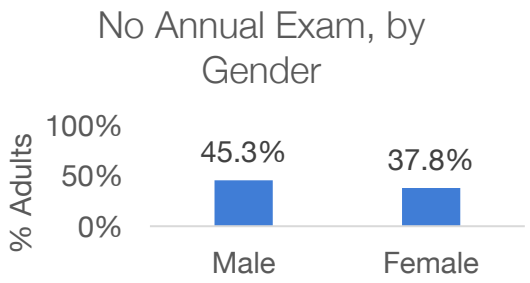


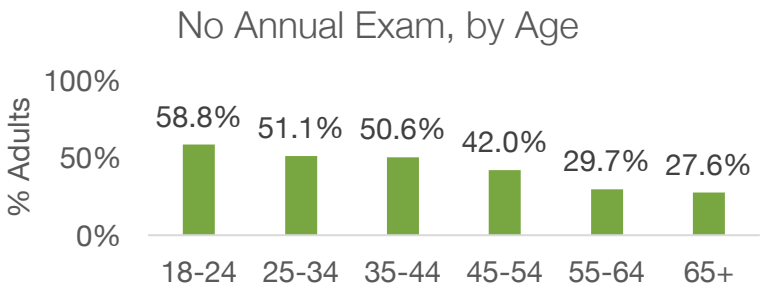
Access to Care: Annual Exam

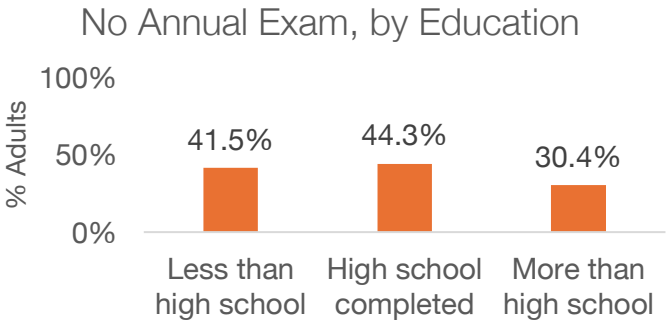
Nearly a half (41.2%; 95% CI: 38.0% – 44.4%) of adults in American Samoa did not receive an annual exam in the past year. Almost one-fifth (13.0%) of adults have never had an annual exam.

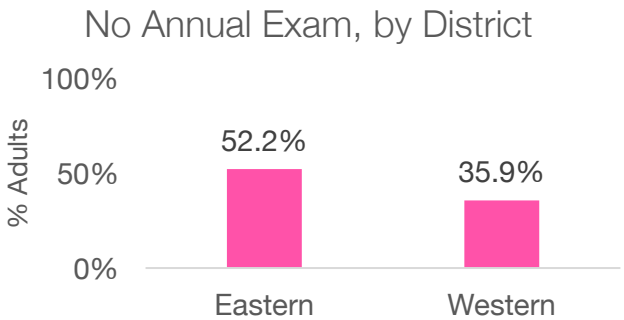


Males, younger adults, those with a high school education, and those living in Eastern district were significantly more likely to not have had an annual exam in the past year.



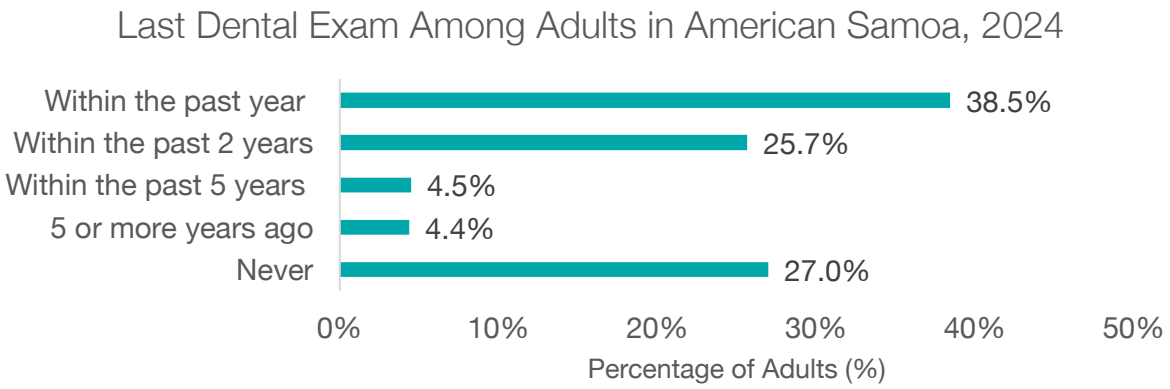




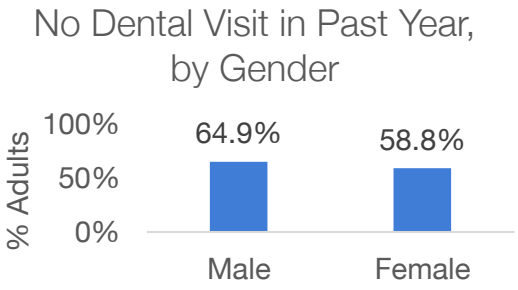


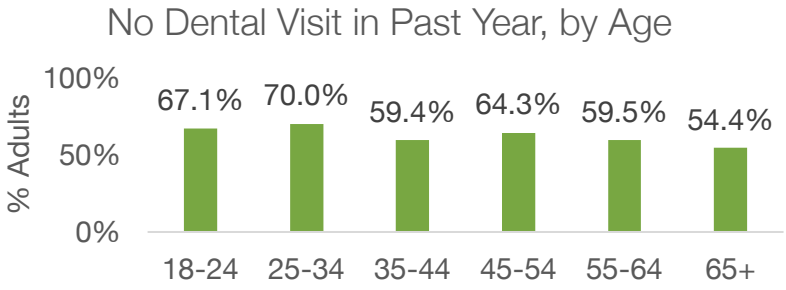
Oral Health: Last Dental Exam

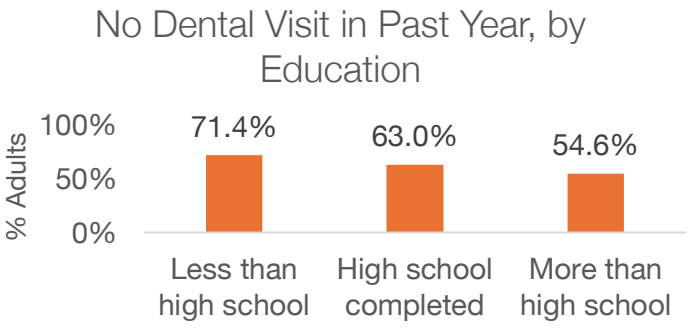
Nearly two-thirds of adults (61.5%; 95% CI: 58.3% - 64.7%) in American Samoa did not have a dental visit in the past year. Additionally, nearly a third (27.0%) of adults reported that they have never had a dental visit.

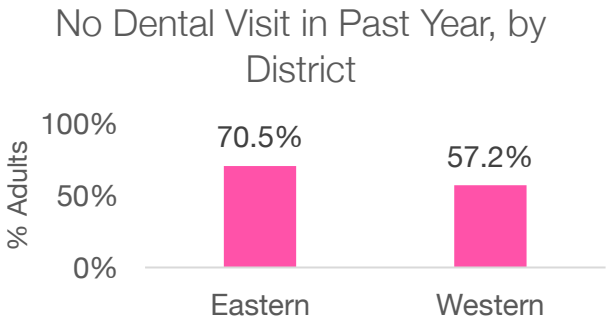


Not having a dental exam in the past year was significantly higher among those with less than a high school education and those living in Eastern district.



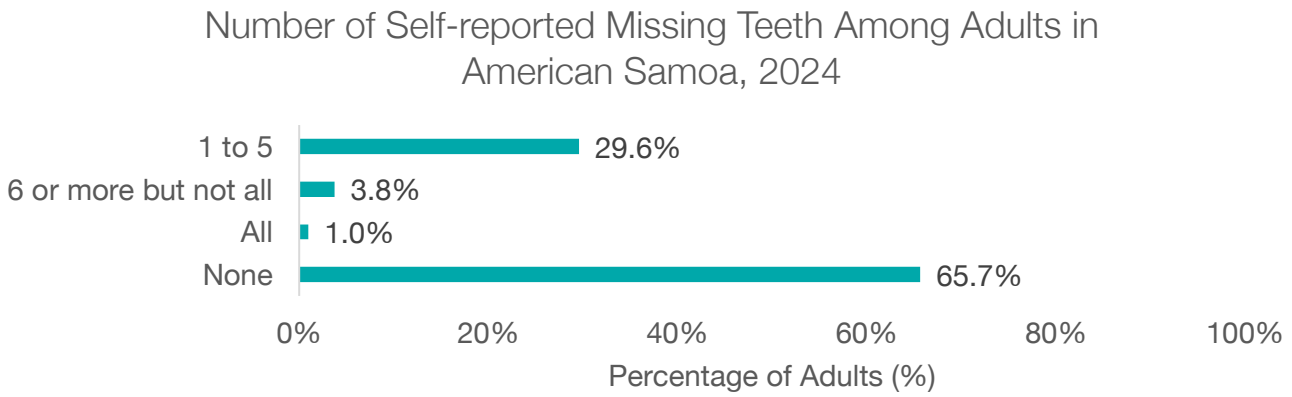




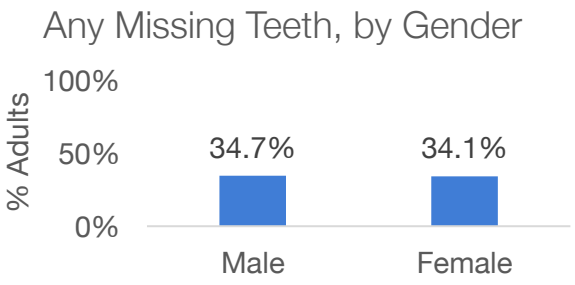


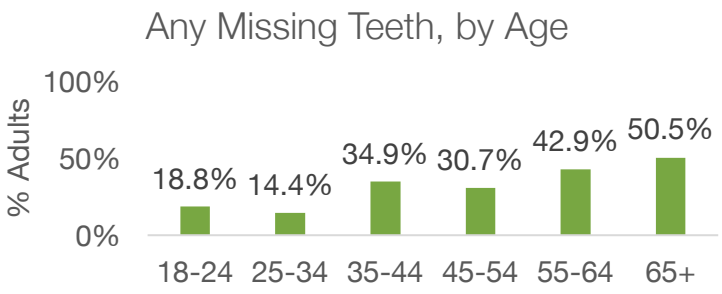
Oral Health: Missing Teeth

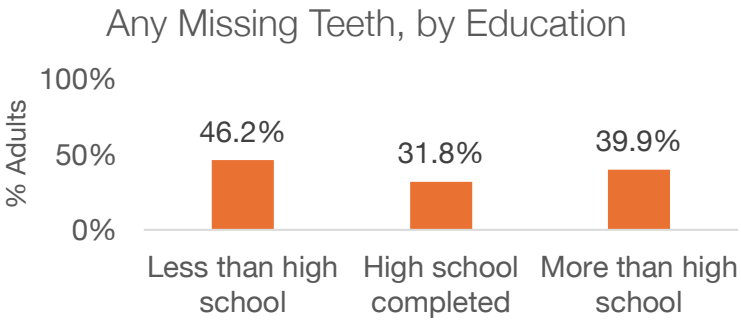
Over one third of adults (34.3%; 95% CI: 31.4% - 37.5%) in American Samoa self-reported that they have at least one missing tooth due to tooth decay or gum disease.

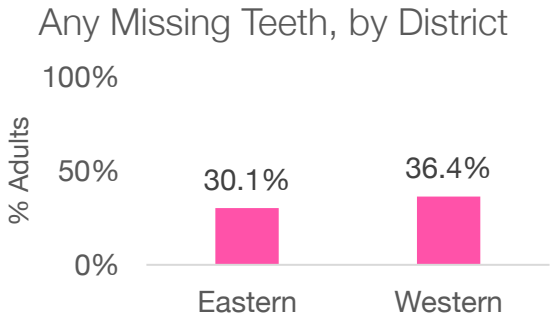


Having at least one missing tooth is significantly higher among older adults and those with less than a high school education.





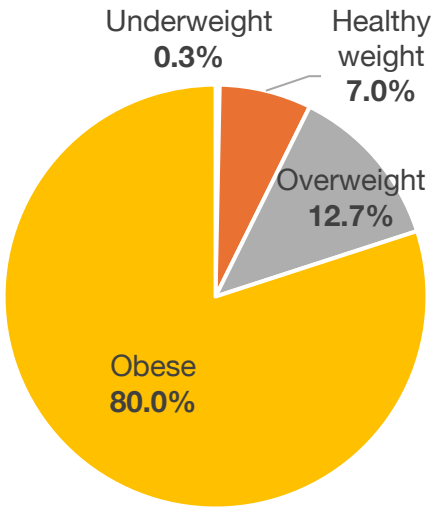




Overweight / Obesity

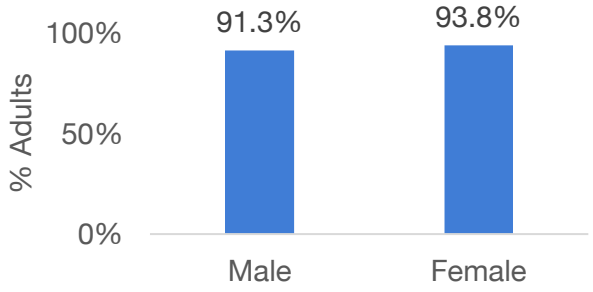
Body Mass Index (BMI) is calculated based on height and weight measurements. A majority of adults (92.7%; 95% CI: 90.8% - 94.2%) in American Samoa are overweight or obese.

BMI Categories Among Adults in American Samoa, 2024

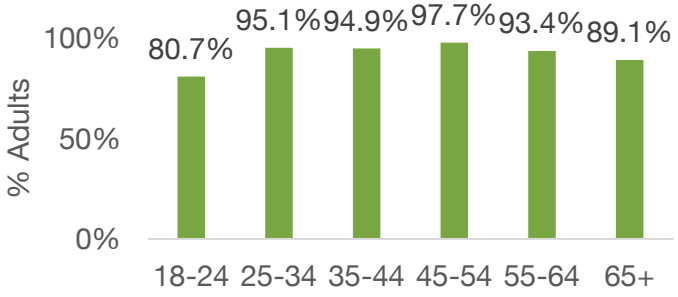


Overweight/obesity prevalence was significantly higher among those 25 to 64 years old and with increasing levels of education.

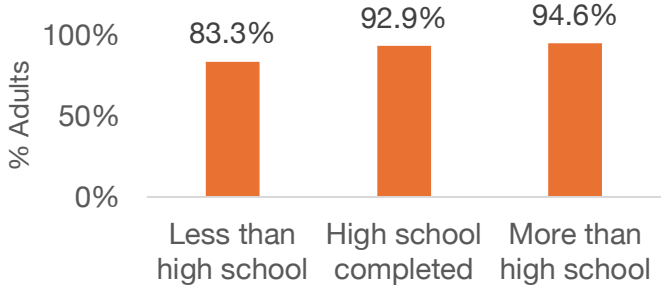
Overweight/obesity, by Gender



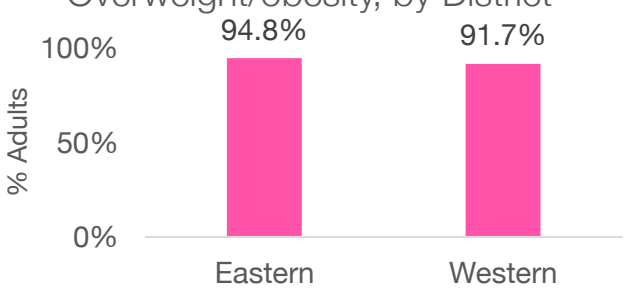
Overweight/obesity, by Age



Overweight/obesity, by Education



Overweight/obesity, by District

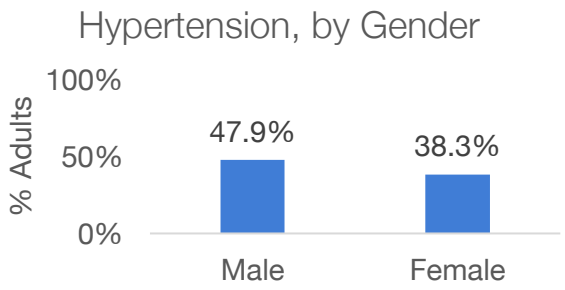


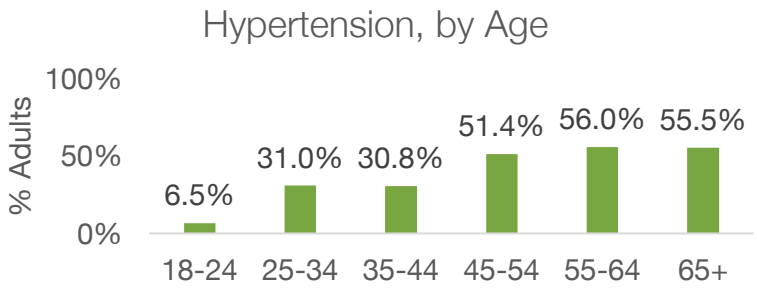
Hypertension

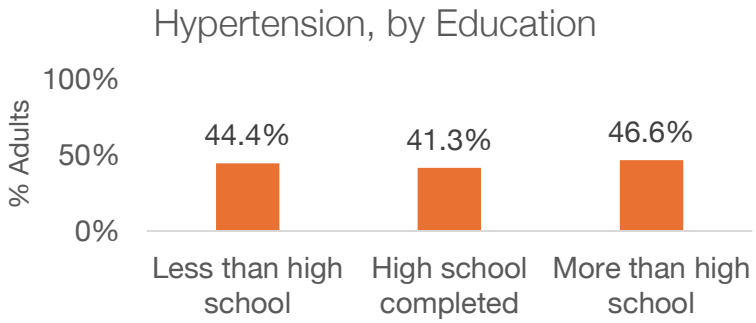
Over a third of adults (42.6%; 95% CI: 39.5% - 45.8%) in American Samoa had high blood pressure (≥140/90) during screening or self-reported having hypertension for which they took medication.

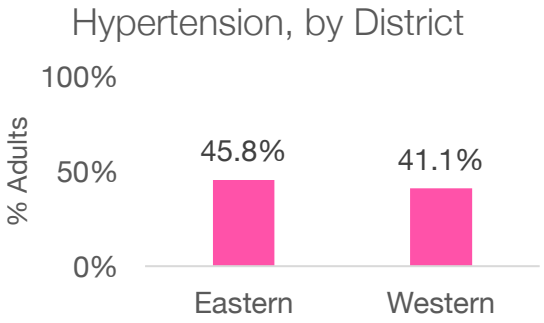
*Hypertension prevalence is estimated based on either a self-report of hypertension for which the patient is taking medication and/or a measured average blood pressure reading (of 3 readings) of ≥140/90.

Prevalence of hypertension was significantly higher among males and older adults.





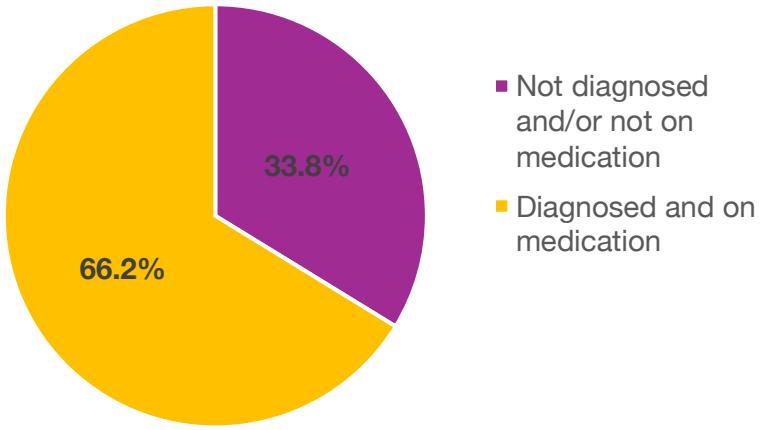




Hypertension Diagnosis & Control

42.6% of the adult population in American Samoa is estimated to having hypertension. Among those adults estimated to having hypertension in American Samoa, a third (33.8%) reported that they either were undiagnosed, or diagnosed and not taking medication for hypertension.

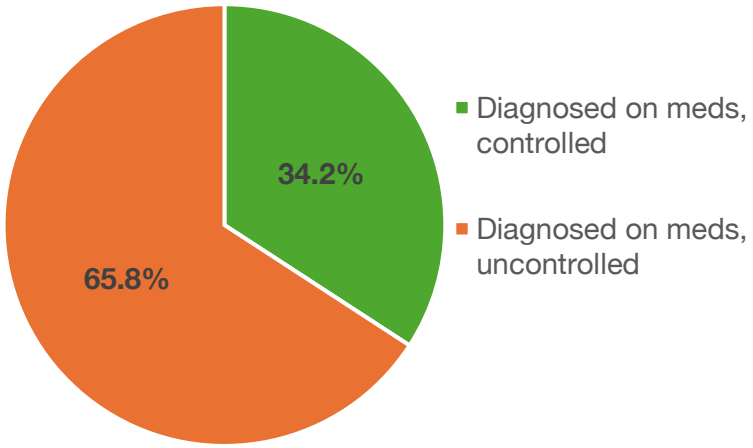
Diagnosis and Medication Status Among Hypertensives in American Samoa, 2024



Among those adults who reported that they were diagnosed and taking medication for their hypertension, 46.0% had an uncontrolled blood pressure measurement.

*Uncontrolled blood pressure status was defined as having an average blood pressure measurement that was ≥ 140/90. This indicates that these individuals with hypertension who are on medication are not controlled.

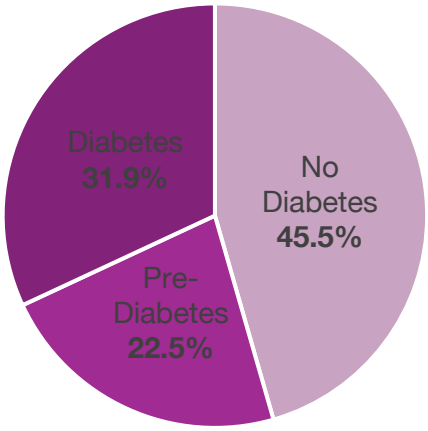
Blood Pressure Levels Among Diagnosed Hypertensives on Medication in American Samoa, 2024



Diabetes

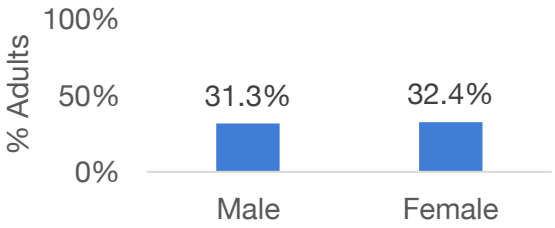
Nearly a third of adults (31.9%; 95% CI: 29.1%-34.9%) in American Samoa were estimated to have diabetes.
*Diabetes prevalence is estimated based on either a self-report of having diabetes for which the patient is taking medication and/or an A1c measurement of 6.5% or higher.

Adult Diabetes in American Samoa, 2024

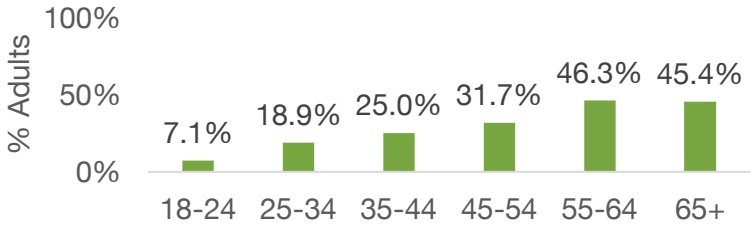


Diabetes prevalence was significantly higher among older adults, being higher among adults 55 and older, as well as those living in Eastern district.

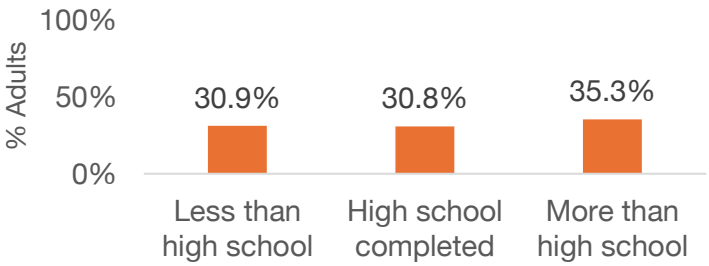
Diabetes, by Gender



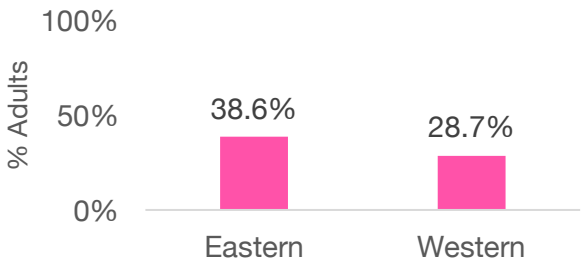
Diabetes, by Age



Diabetes, by Education



Diabetes, by District

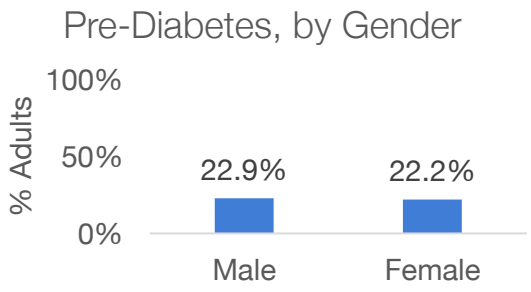


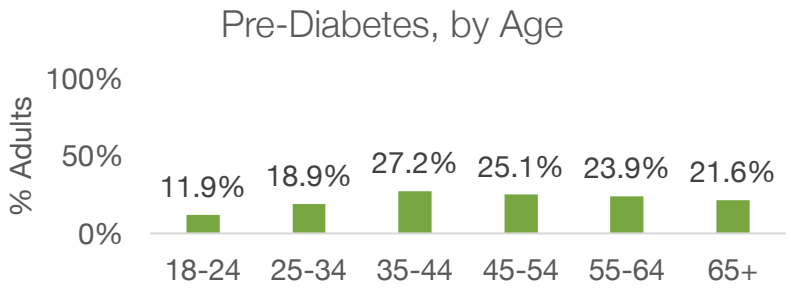
Pre-diabetes

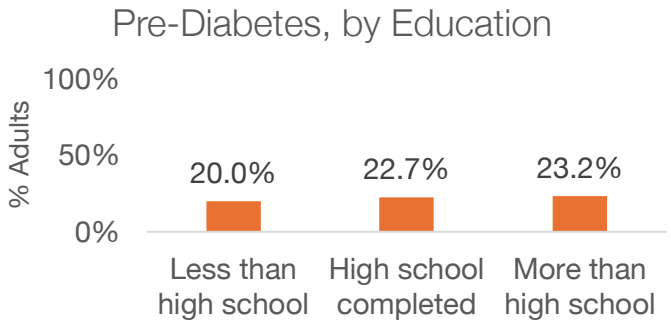
22.5% (95% CI: 20.0% - 25.2%) of adults in American Samoa were estimated to have pre-diabetes.

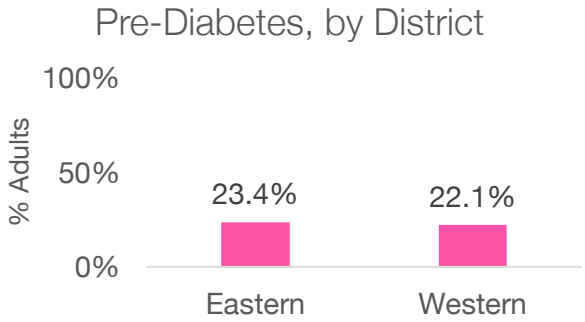
*Pre-diabetes prevalence is estimated based on either a self-report of pre-diabetes and/or an A1c measurement of 5.7%-6.4%).

There were no statistically significant differences in the prevalence of pre-diabetes in American Samoa by selected demographic characteristics.





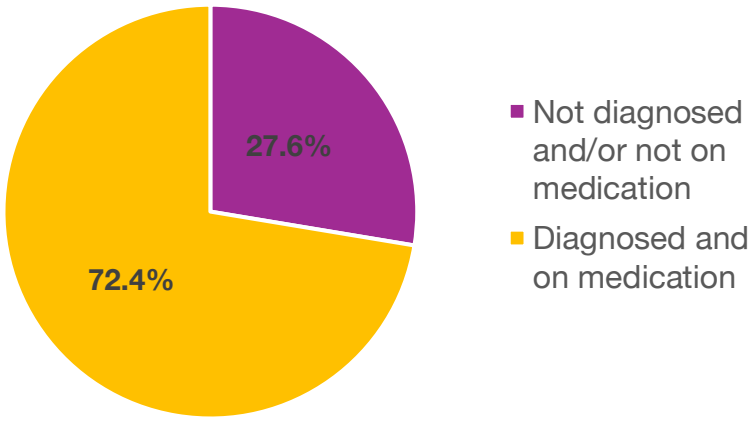




Diabetes Diagnosis & Control

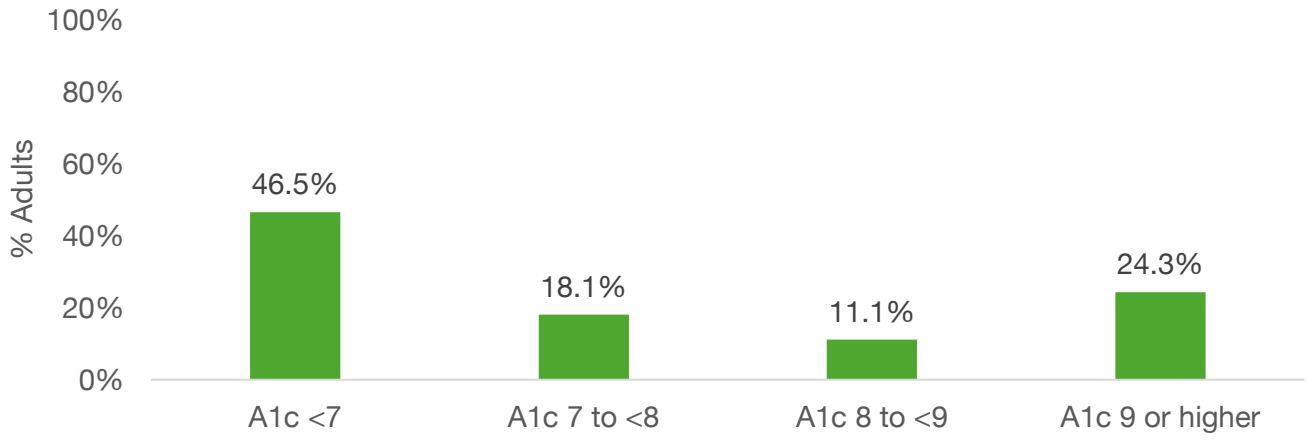
Among the adults in American Samoa classified as having diabetes, 72.4% reported that they were diagnosed and taking medication for their diabetes. Nearly a third (27.6%) of adults with diabetes in American Samoa are either not diagnosed or diagnosed and not taking medication.

Diagnosis and Medication Status Among Diabetics in American Samoa, 2024



Among the adults in American Samoa classified as having diabetes, who have been diagnosed and on medication, nearly half (46.5%) are reaching the American Diabetes Association (ADA) A1c goal for diabetics having an A1c <7%. A majority (53.5%) of the diagnosed and currently medicated diabetics surveyed in American Samoa had uncontrolled blood sugar levels (HbA1c 7% or higher).

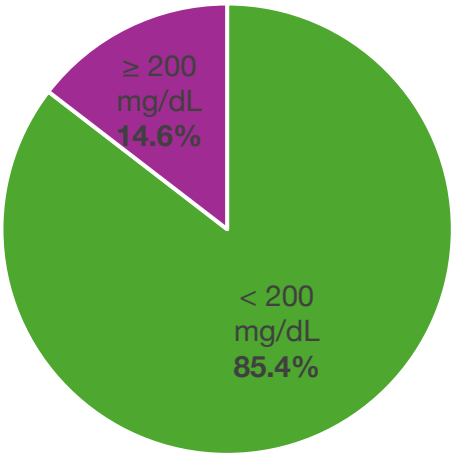
A1c levels among those diabetics who are diagnosed and on medication in American Samoa, 2024



Total Cholesterol

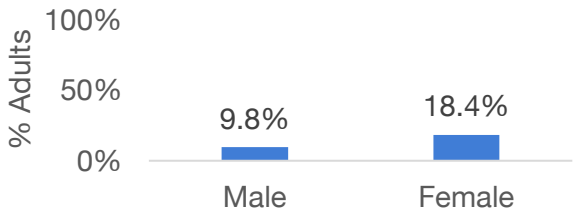
Nearly one out of five adults (14.6%; 95% CI: 12.5% - 16.9%) in American Samoa had "elevated" total cholesterol (200 mg/dL or higher) during screening. 2.3% of adults (95% CI: 1.6% - 3.5%) had "high" total cholesterol (240 mg/dL or higher).

Adult Total Cholesterol in American Samoa, 2024

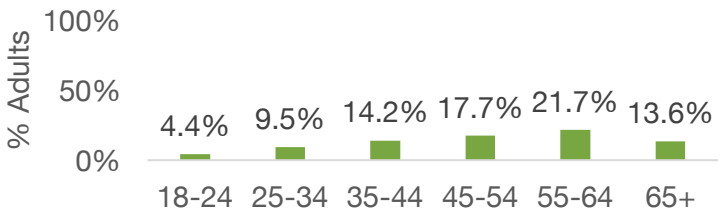


Elevated total cholesterol was significantly higher among females, those with more than a high school education, and increasing age.

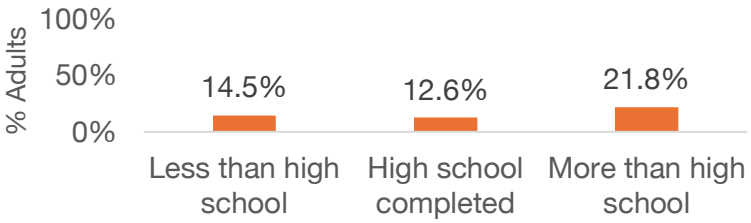
Elevated Cholesterol (≥ 200 mg/dL), by Gender



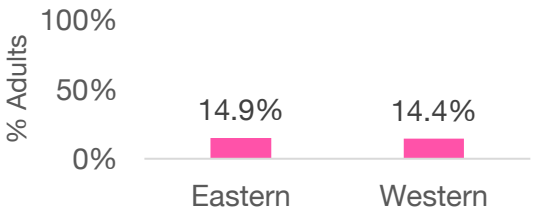
Elevated Cholesterol (≥ 200 mg/dL), by Age



Elevated Cholesterol (≥ 200 mg/dL), by Education



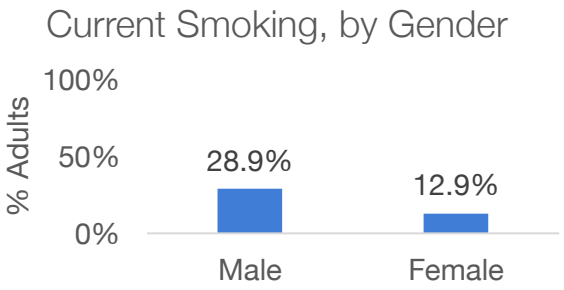
Elevated Cholesterol (≥ 200 mg/dL), by District

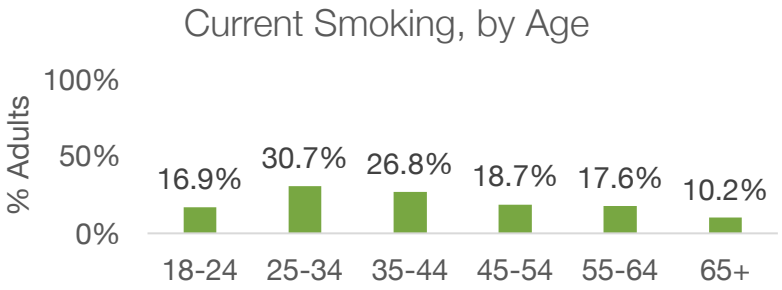


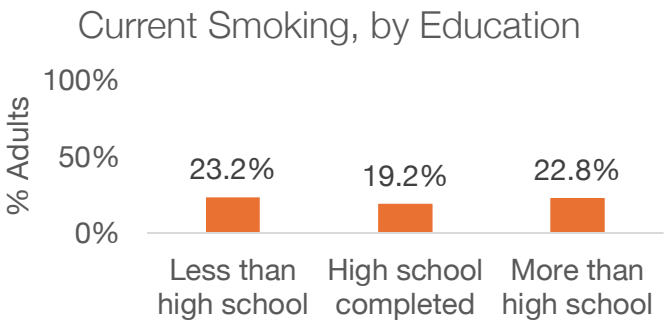
Cigarette Smoking

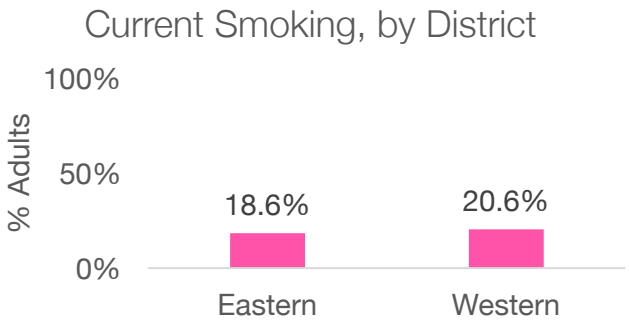
One out of five adults (19.9%; 95% CI: 17.6% - 22.5%) in American Samoa reported cigarette smoking in the last 30 days (current smoking). Among current smokers, 38.1% reported smoking every day in the past 30 days.

Cigarette smoking was significantly higher among males and those 25 to 44 years old.





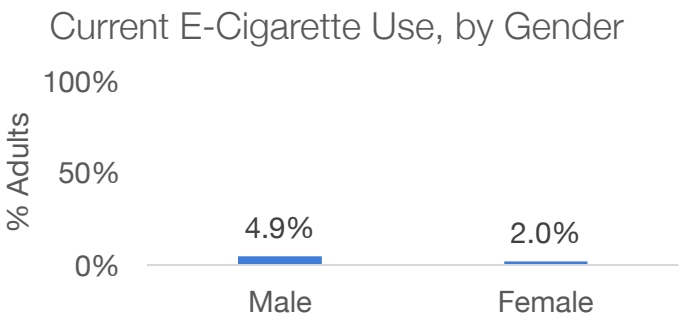


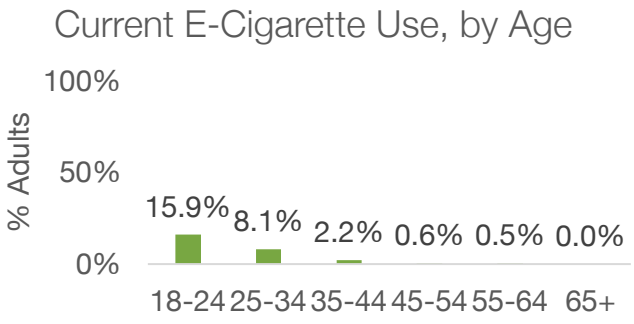


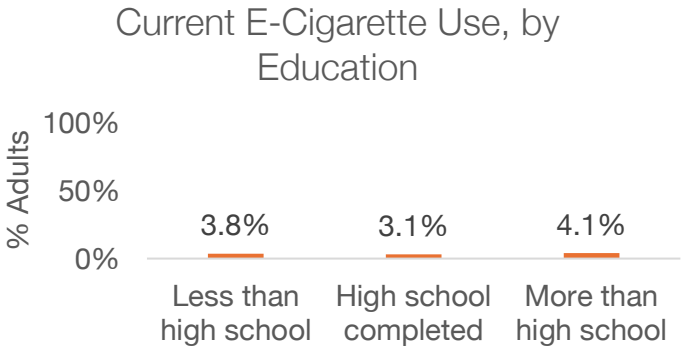
Electronic Cigarette (E-Cigarette) Use

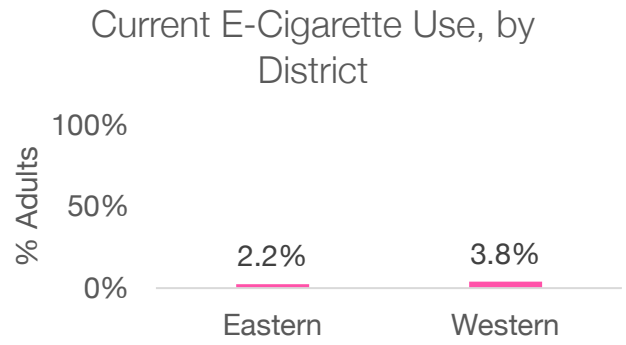
The prevalence of e-cigarette use among adults in American Samoa was 3.3% (95% CI: 2.3% - 4.6%).

Current e-cigarette use in American Samoa was significantly higher among males and younger adults.





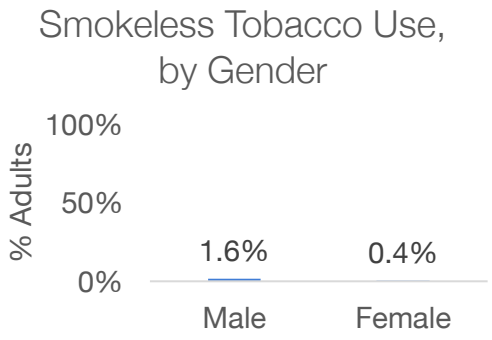


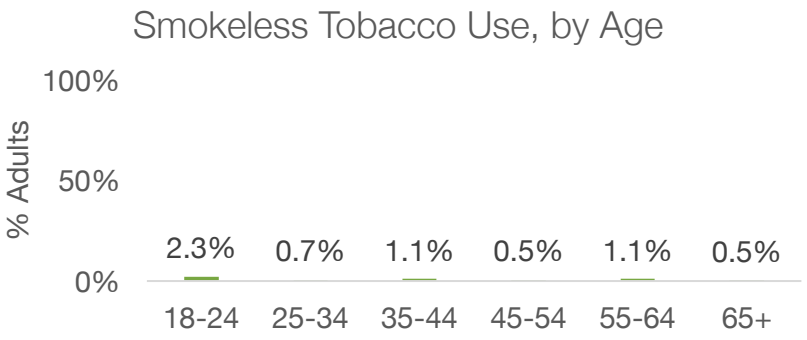


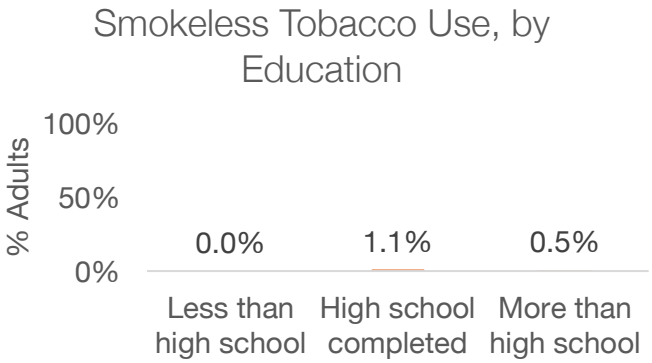
Smokeless Tobacco Use

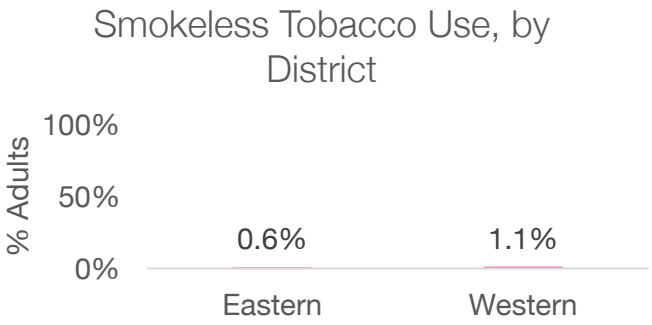
1% of adults (0.9%; 95%CI: 0.5% - 1.8%) in American Samoa reported current smokeless tobacco use (use in the past 30 days).

There were no statistically significant differences in the prevalence of smokeless tobacco use in American Samoa by selected demographic characteristics.







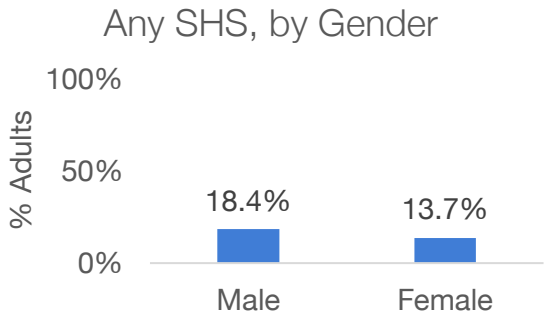


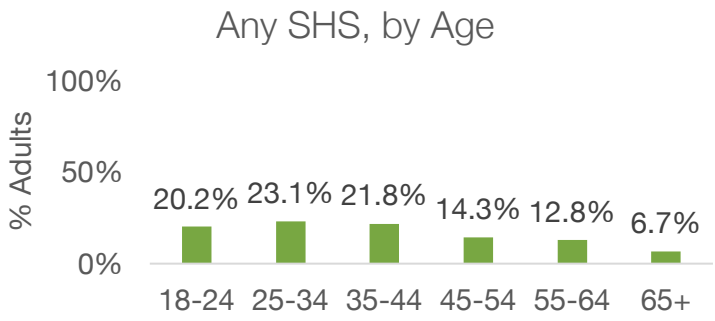
Second-hand Smoke

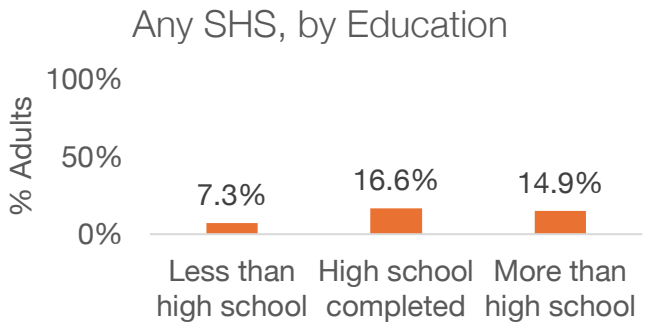
Nearly one out of five adults (15.7%; 95% CI: 13.6% - 18.2%) in American Samoa reported being exposed to second-hand smoke (SHS) at home, in indoor areas at work, or a vehicle in the past 7 days.

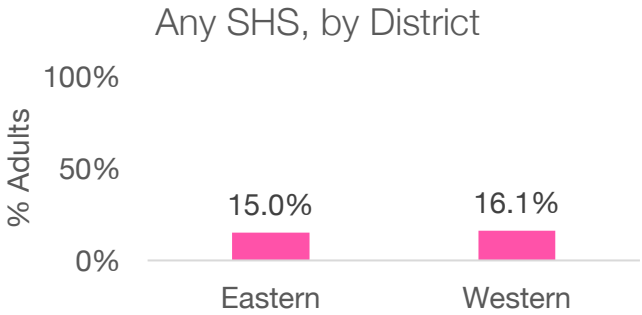
Exposed to second-hand smoke in the home in the past 7 days	**9.7%**
Exposed to second-hand smoke in indoor areas at work in the past 7 days	**8.3%**
Exposed to second-hand smoke in a vehicle in the past 7 days	**10.6%**

Exposure to second-hand smoke was significantly higher among males and across decreasing age.









Alcohol Use

Nearly one out of five adults (14.1%; 95% CI: 12.0% - 16.4%) in American Samoa reported alcohol use in the past 30 days.

One out of ten adults (10.5%; 95% CI: 8.7% - 12.6%) in American Samoa reported binge drinking in the past 30 days. 81.0% of current alcohol users binge drank in the past 30 days.

Among current drinkers, the average age of alcohol use initiation is 20. The average number of drinks consumed per day is 3.4 while the average number of days alcohol was consumed in the past 30 days was 6.4.

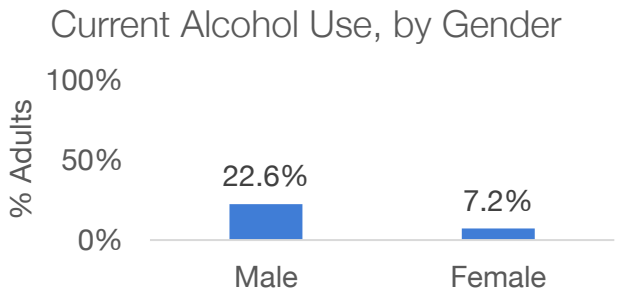
23.1% of adults in American Samoa reported driving a vehicle after they consumed alcohol in the past 30 days, while 4.4% of adults reported being a passenger in a vehicle with a driver who had consumed alcohol.

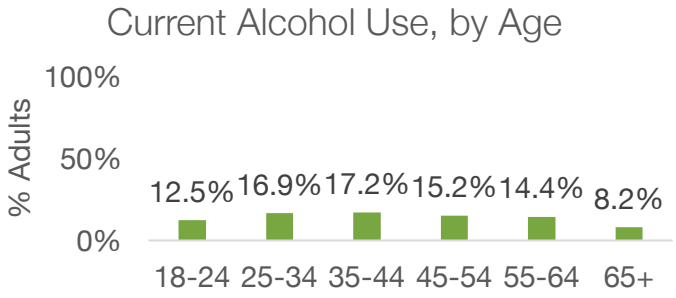
Current alcohol use prevalence (alcohol use in past 30 days)	**14.1%**
Current binge drinking in the past 30 days *Defined as drinking 5+ standard drinks (men) / 4+ standard drinks (women]) on one occasion	**10.5%**
Average age of first drink among current alcohol users	**20**
Average number of drinks per day consumed among current alcohol users	**3.4**
Average number of days current alcohol users consumed alcohol in the past 30 days	**6.4**
Drove a vehicle after they've consumed alcohol in the past 30 days (among current alcohol users)	**23.1%**
Been a passenger in a vehicle in the past 30 days with a driver other than themselves who has consumed alcohol	**4.4%**

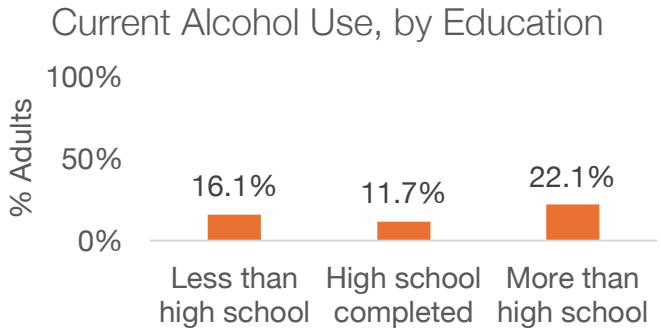
Alcohol Use

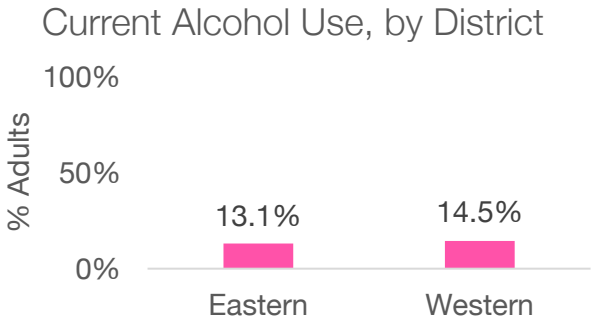
Nearly one out of five adults (14.1%; 95% CI: 12.0% - 16.4%) in American Samoa reported current alcohol use (any alcohol use in the past 30 days).

Current alcohol use prevalence in American Samoa was significantly higher among males, and adults with less than and more than a high school education.





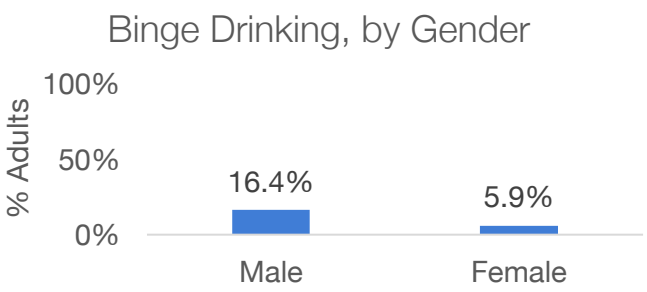


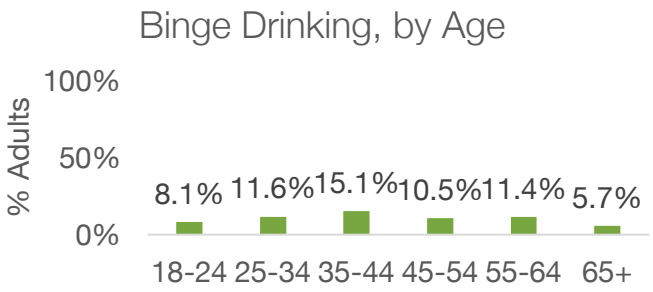


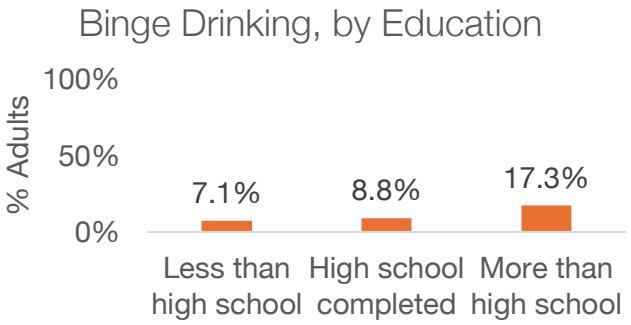
Binge Drinking

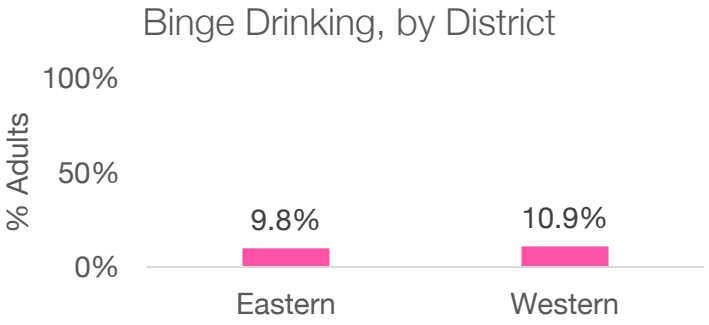
One out of ten adults (10.5%; 95% CI: 8.7% - 12.6%) in American Samoa reported binge drinking in the past 30 days.

Binge drinking prevalence in American Samoa was significantly higher among males and those with more than high school education.









Other Substance Use

Adults in American Samoa reported their use of different types of substances.

The substance reported to be most used was ava consumed in non-ceremonial instances.

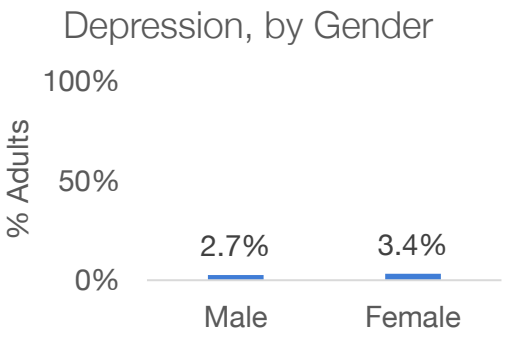
Current use (in past 30 days) of non-ceremonial ava	1.8%
Current use (in past 30 days) of prescription drugs such as tramadol, Demerol, oxycodone, codeine, or morphine without a doctor's orders	1.2%
Current use (in past 30 days) of marijuana	0.8%
Current use (in past 30 days) of heroin.	0.2%
Current use (in past 30 days) of inhalants or sniffed/huffed substances such as glue, gasoline, paint thinner, markers, butane, or propane	0.1%
Current use (in past 30 days) of methamphetamine	0.0%
Current use (in past 30 days) of LSD	0.0%

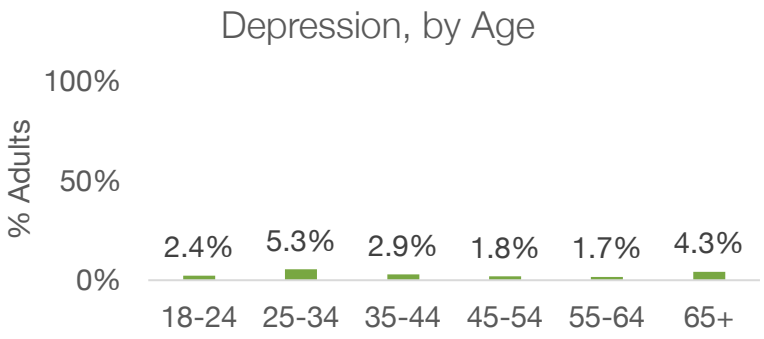
Mental Health: Depression

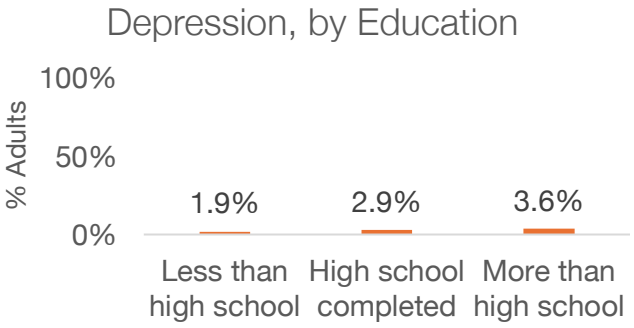
Participants were asked questions regarding their mental health status.

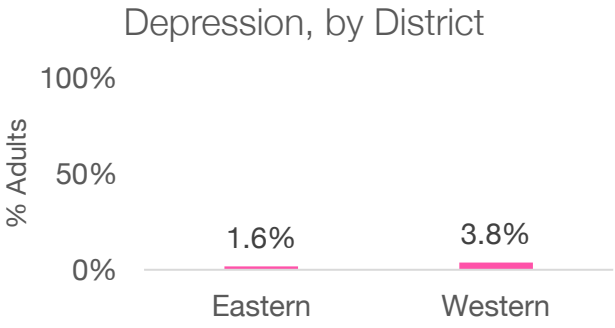
3.1% of adults (95% CI: 2.1% - 4.4%) in American Samoa reported signs of depression.
*Depression was screened using the PHQ-2.

There were no statistically significant differences in the prevalence of depression in American Samoa by selected demographic characteristics.









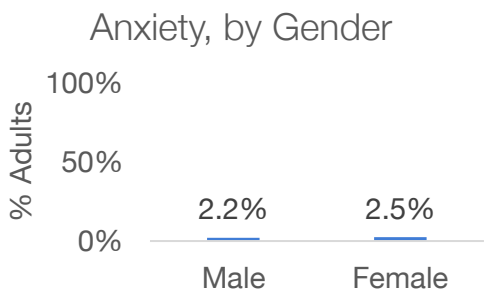
Mental Health: Anxiety

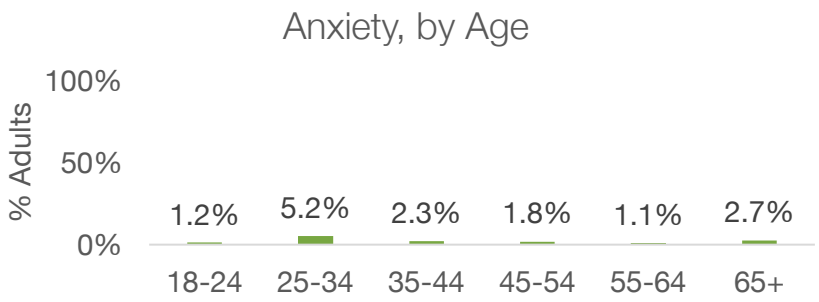
Participants were asked questions regarding their mental health status.

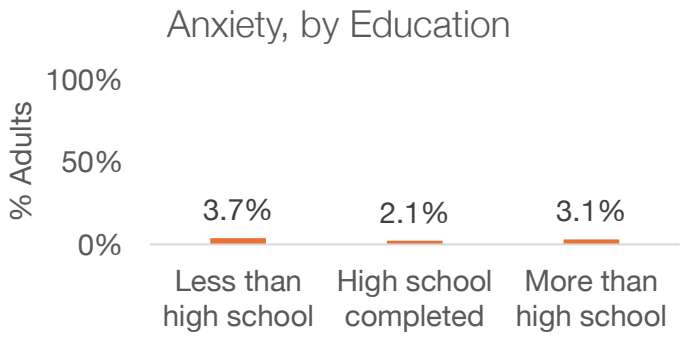
2.4% of adults (95% CI: 1.6% - 3.6%) in American Samoa reported signs of anxiety.

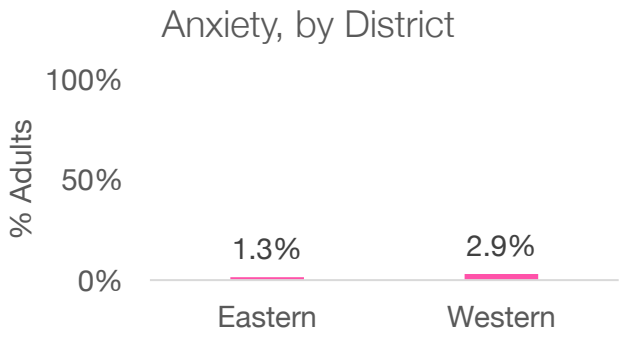
*Anxiety was screened using the GAD-12.

There were no statistically significant differences in the prevalence of anxiety in American Samoa by selected demographic characteristics.



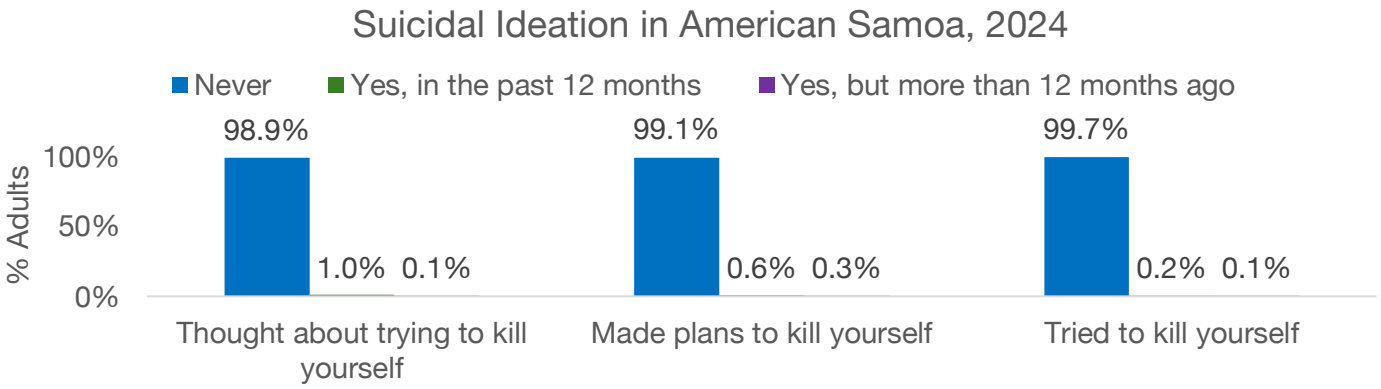






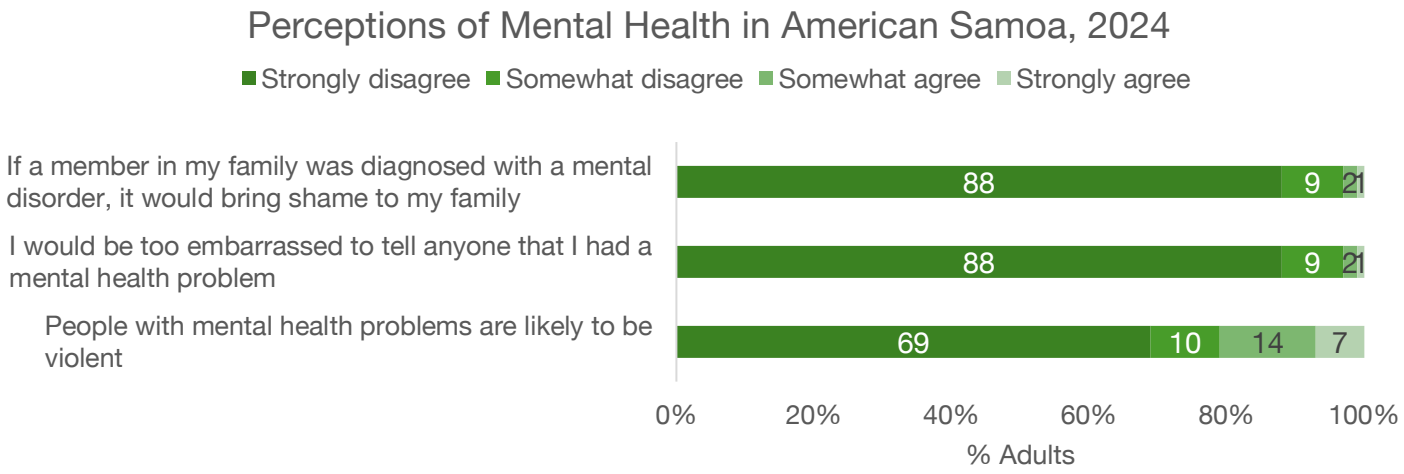
Mental Health: Risk Factors

A majority of adults in American Samoa indicated that they have never exhibited suicidal ideation or behavior.



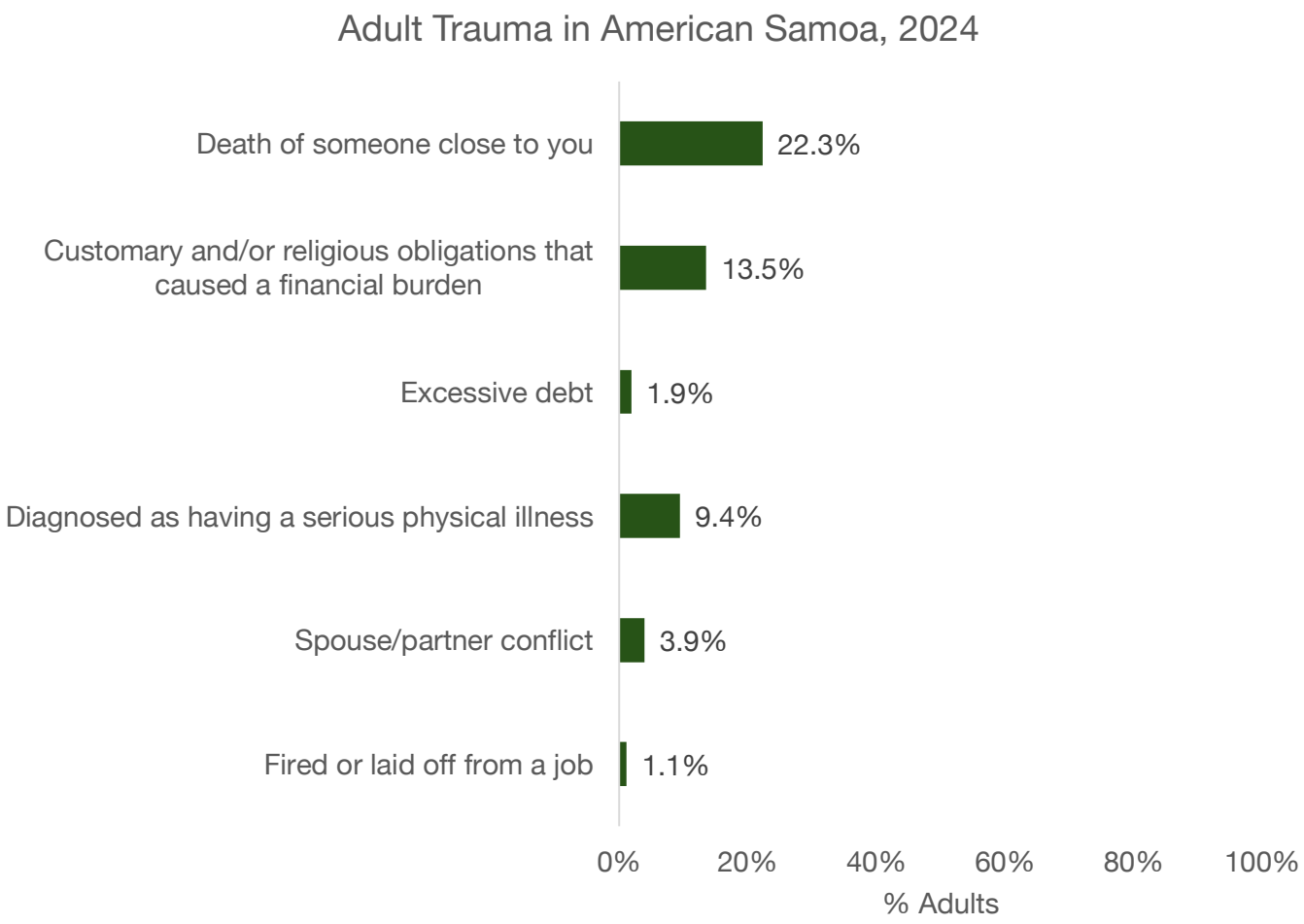
Participants were asked about their perceptions of mental health status.

- 97% of adults reported that they disagree that a family member being diagnosed with a mental disorder would bring shame to their family.
- 97% of adults reported that they disagree that they would be too embarrassed to tell anyone that they have a mental health problem.
- 79% of adults reported that they disagree that people with mental health problems are likely to be violent. However, 7% of adults strongly agree that people with mental health problems are likely to be violent.



Mental Health: Adult Trauma

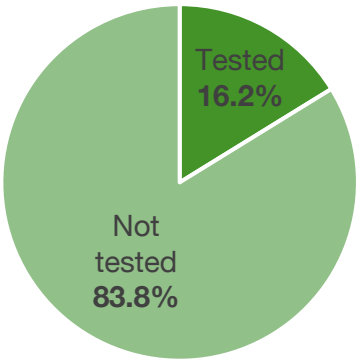
Study participants were asked about the occurrence of adult trauma in the past 12 months. The most reported trauma experienced was the death of someone close to the participant (22.3%) and customary or religious obligations that caused financial burden (13.5%).



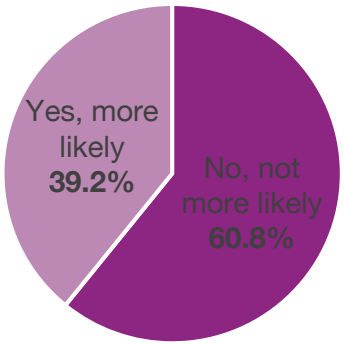
Mental Health: Workplace Policy

16.2% of employed adults in American Samoa were tested by their employees for alcohol or drug use in the past year. 60.8% of adults reported that they would not be more likely to want to work for an employer that randomly tests its employees for drug or alcohol use.

Tested for Alcohol/Drug Use by Employer in Past Year, 2024

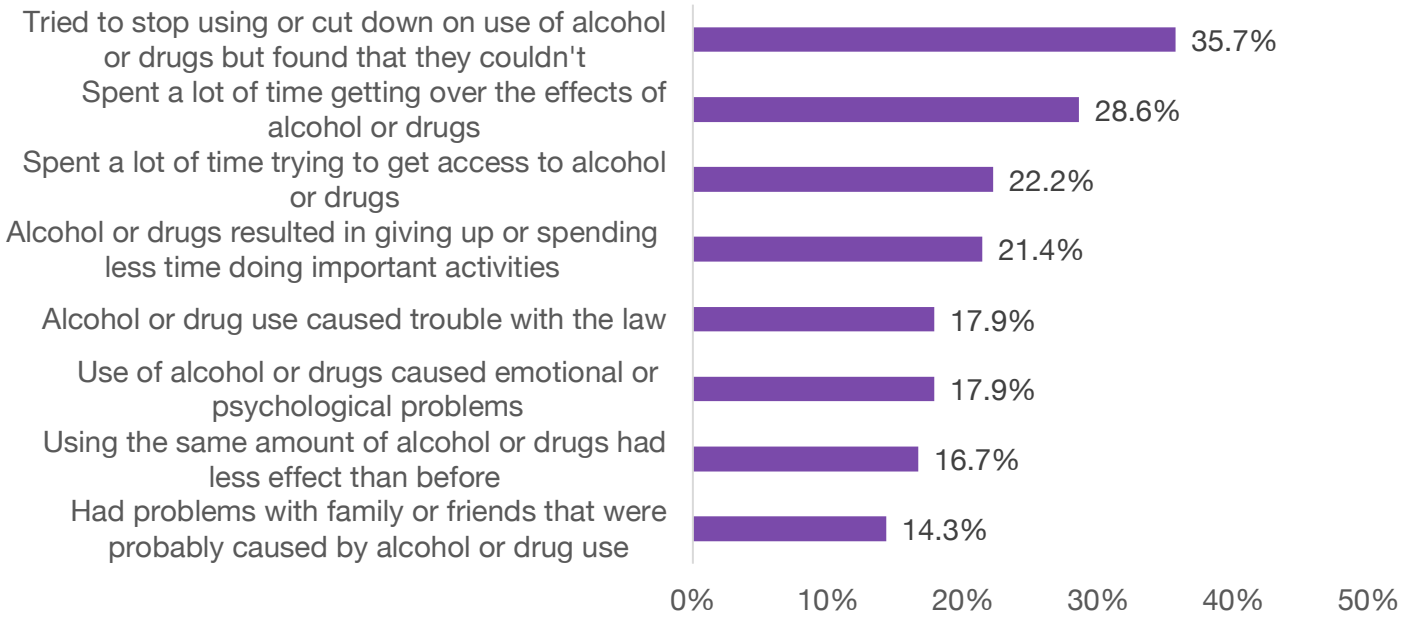


Likelihood of Working for Employer That Randomly Alcohol/Drug Tests, 2024



2.9% of study participants reported spending a lot of time using alcohol or drugs. These participants were asked about negative consequences related to their use of alcohol or drugs.

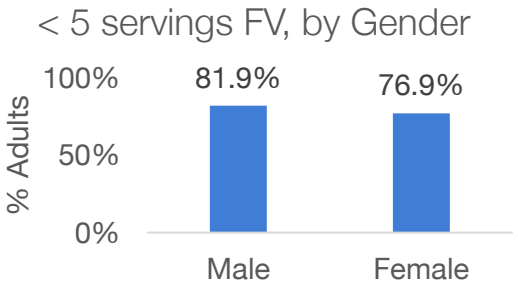
Negative Consequences of Drug/Alcohol Use Among Adults in American Samoa, 2024

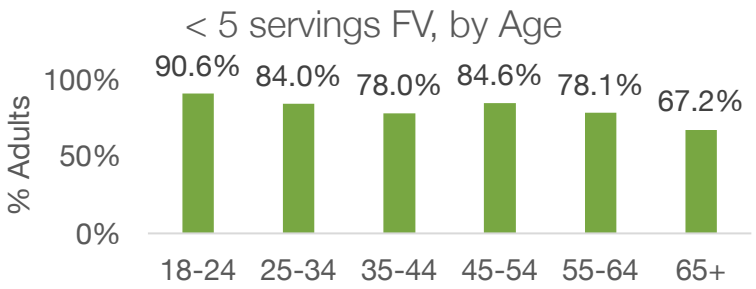


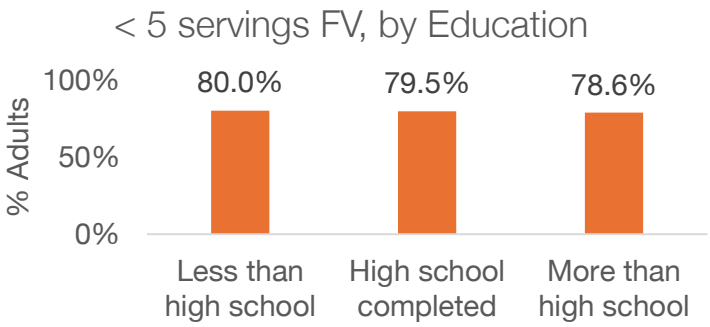
Fruit and Vegetable Consumption

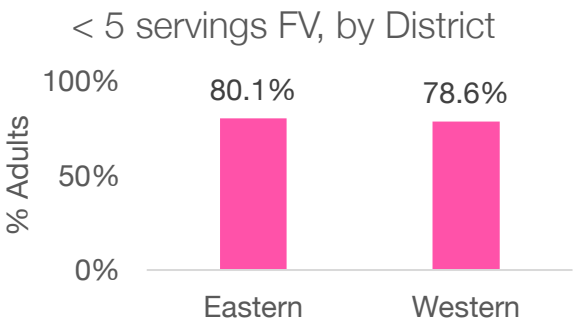
More than 3 out of 4 adults (79.1%; 95% CI: 76.4% - 81.6%) in American Samoa reported that they consumed less than the recommended daily servings of fruits and vegetables (at least 5 per day).

Low fruit and vegetable consumption (<5 servings per day) was significantly higher among younger adults.



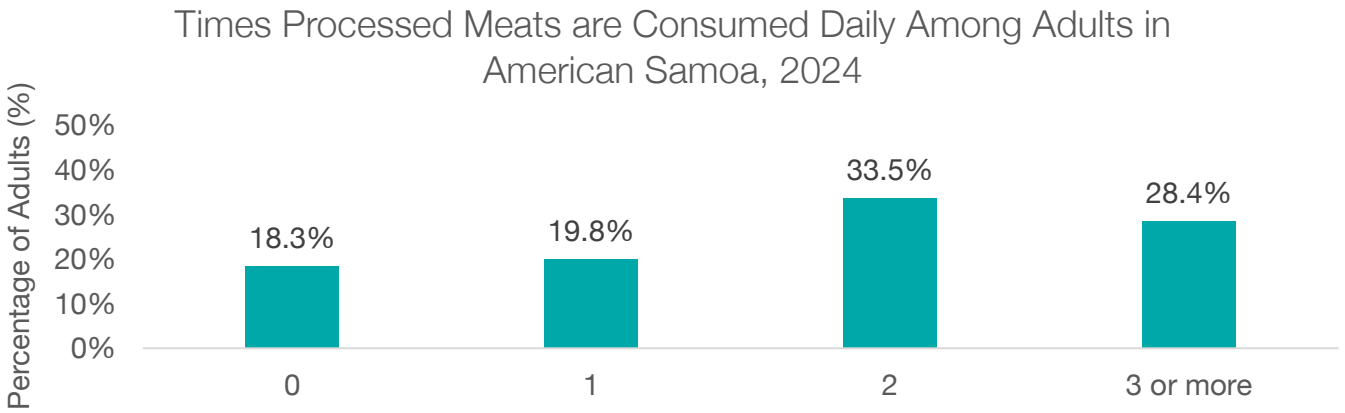




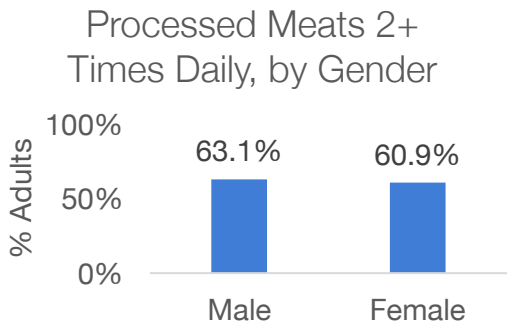


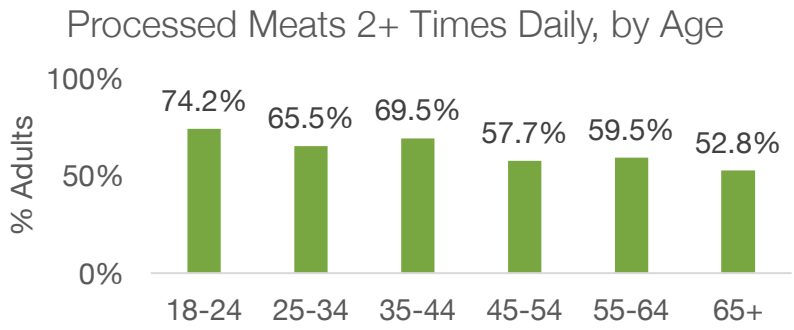
Processed Meat Consumption

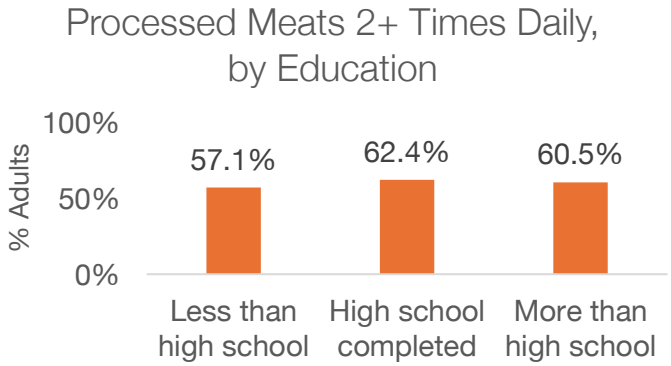
8 out 10 adults (81.7%) in American Samoa reported that they consumed processed meats at least once per day. Nearly two-thirds of adults (61.9%; 95% CI: 58.8% - 64.9%) in American Samoa reported that they consumed processed meats 2 or more times per day.

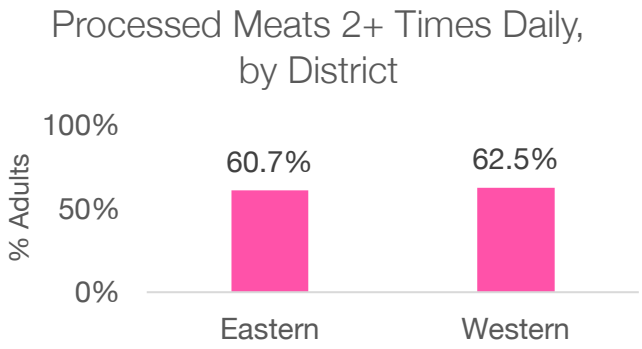


Heavy consumption of processed meats (2+ times per day) was significantly more prevalent among younger adults.



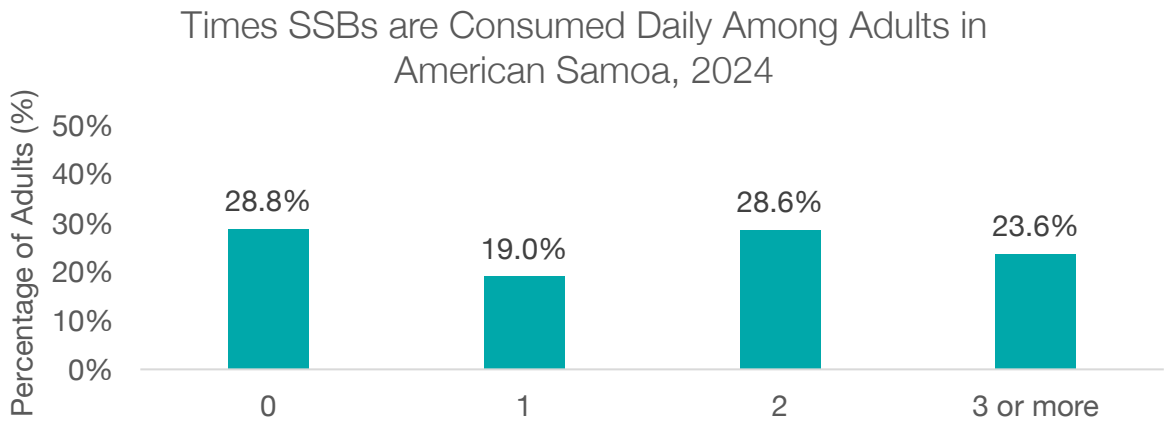




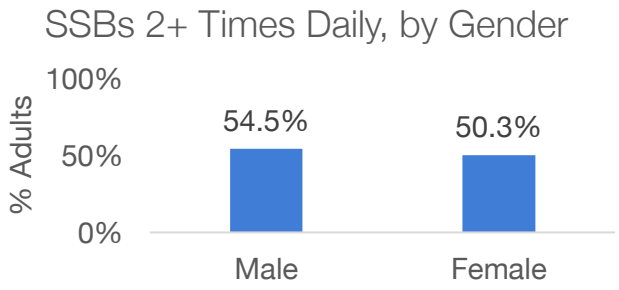


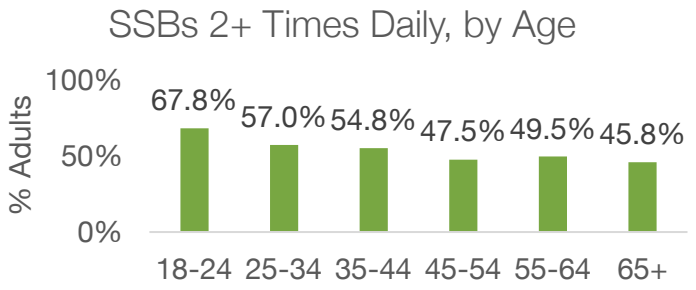
Sugar-Sweetened Beverages

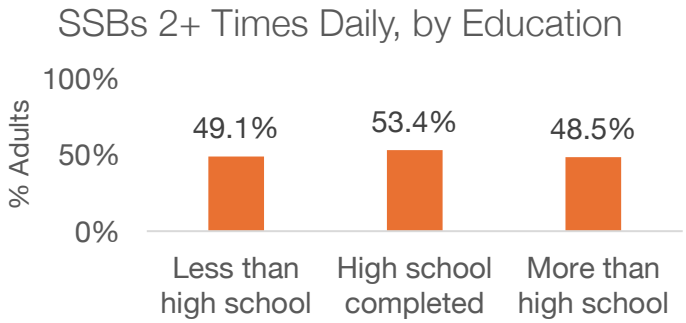
7 out 10 adults (71.2%) in American Samoa reported that they consumed processed meats at least once per day. Over half of adults (52.2%; 95% CI: 49.0% - 55.3%) in American Samoa reported that they consumed sugar-sweetened beverages 2 or more times per day.

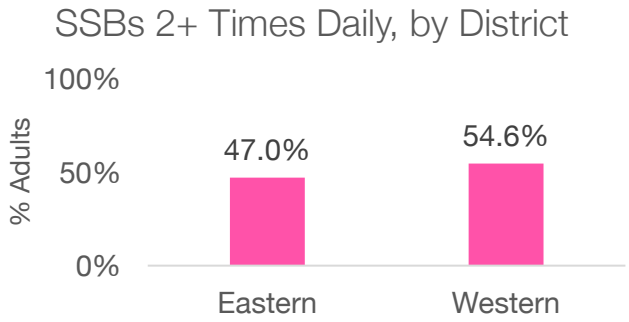


Heavy consumption of SSBs (2+ times per day) was significantly more prevalent among younger adults and those living in Western district.



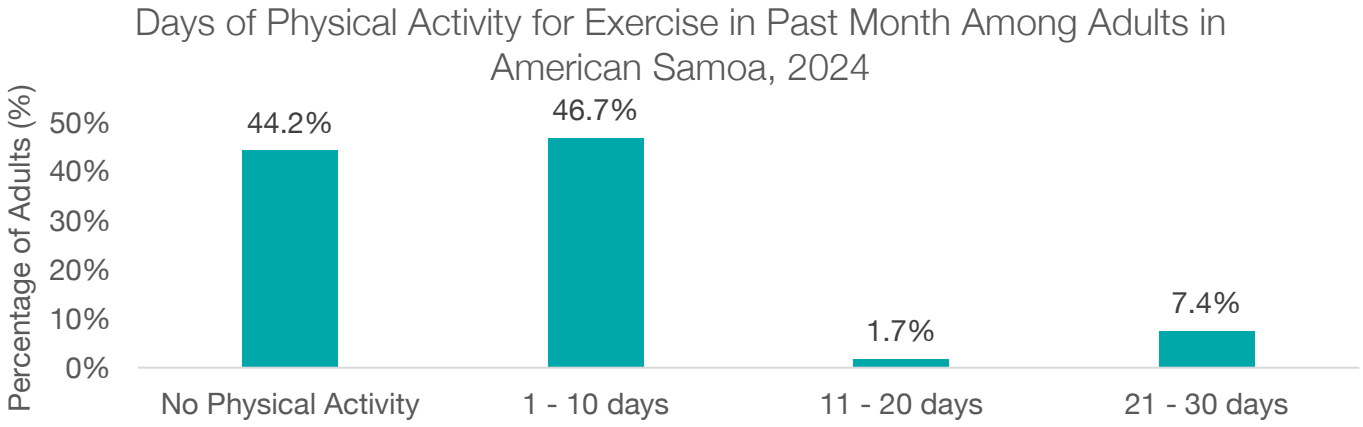




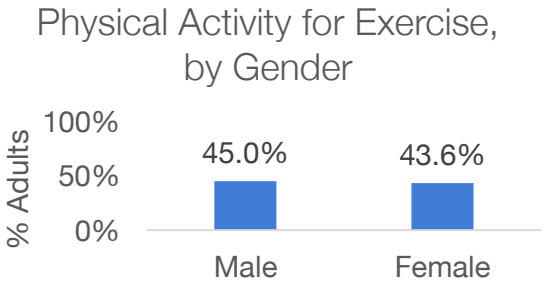


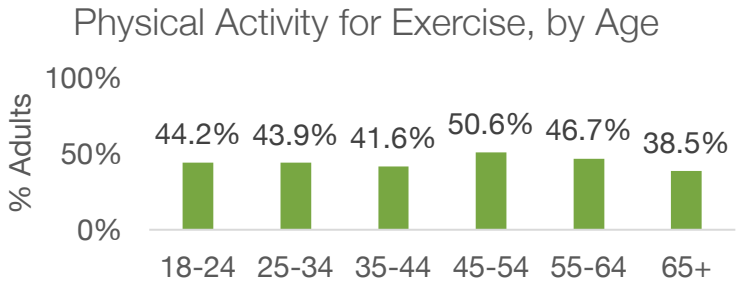
Physical Activity

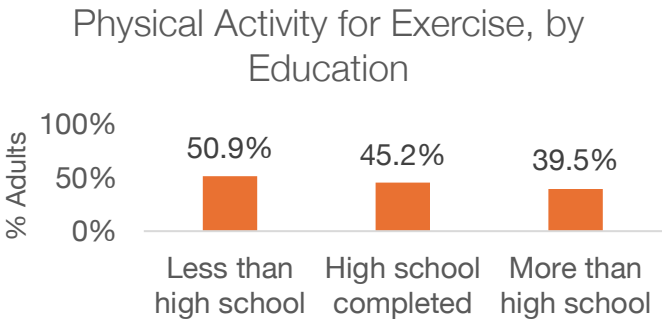
In American Samoa, over a half of adults (55.8%; 95% CI: 52.6%-58.9%) reported participating in any physical activity specifically for exercise in the past 30 days.

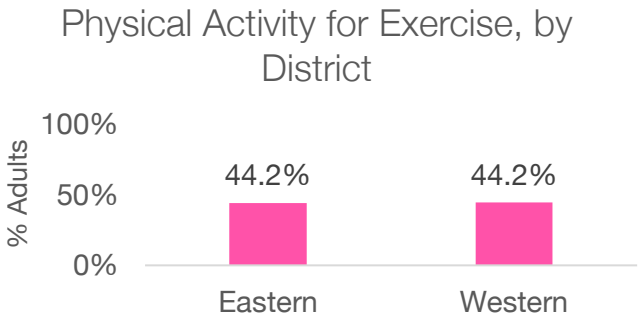


There were no statistically significant differences in the prevalence of physical activity in American Samoa by selected demographic characteristics.



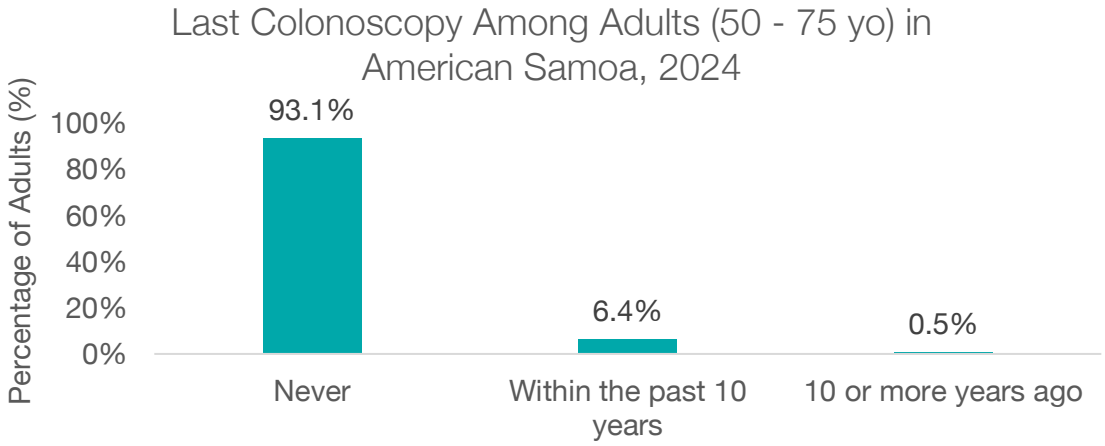




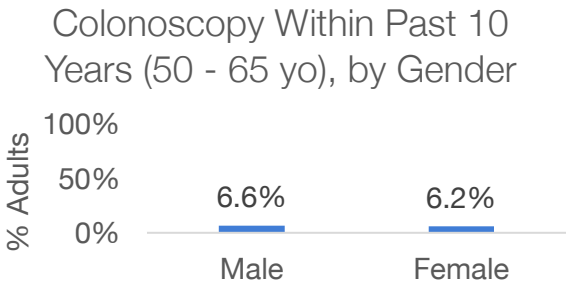


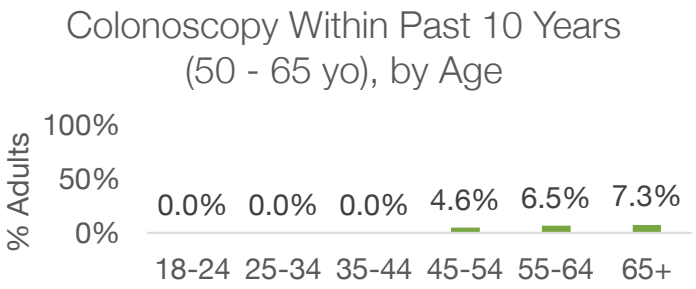
Colon Cancer Screening: Colonoscopy

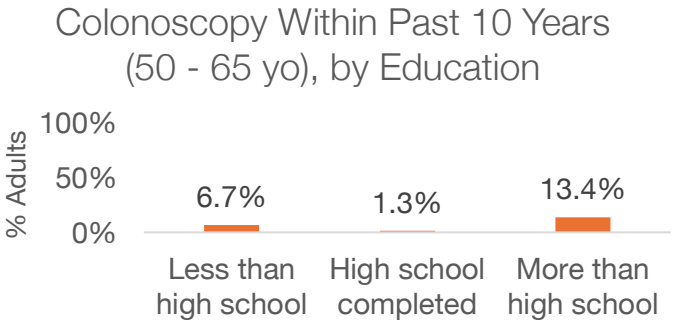
Less than 1 out of 10 adults (6.4%; 95% CI: 4.4% - 9.1%), aged 50 to 75 years, in American Samoa, meet the American Cancer Society recommendation of receiving a colonoscopy in the past 10 years.

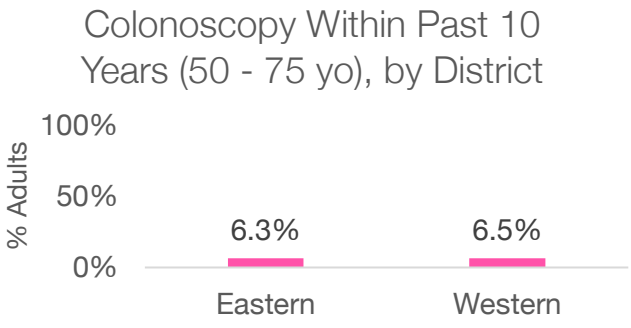


Prevalence of up-to-date colonoscopy was significantly higher among adults with more than a high school education.



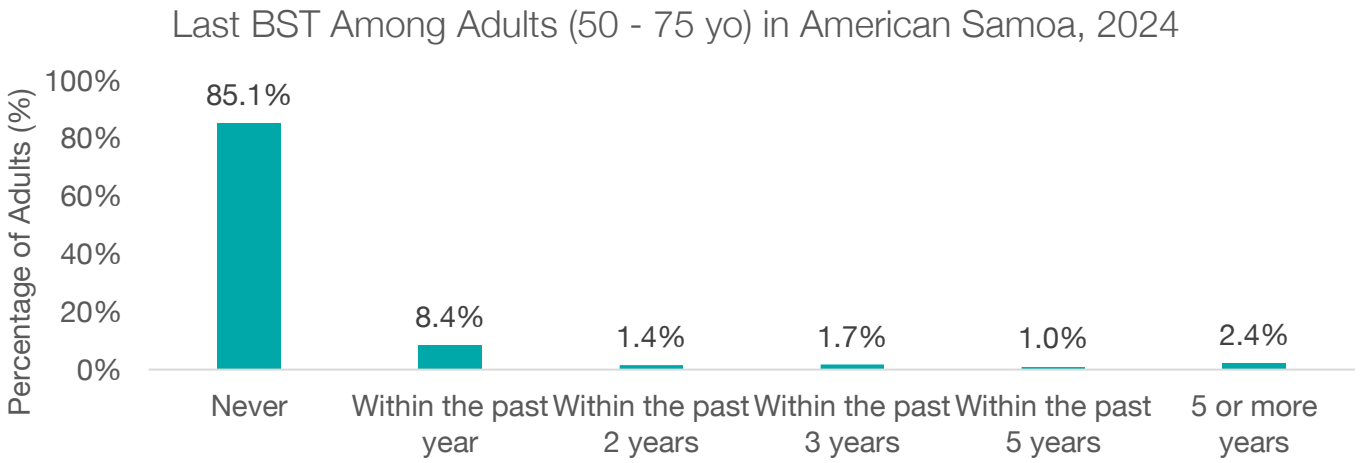




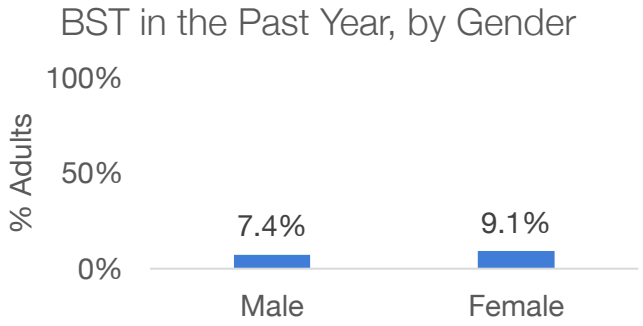


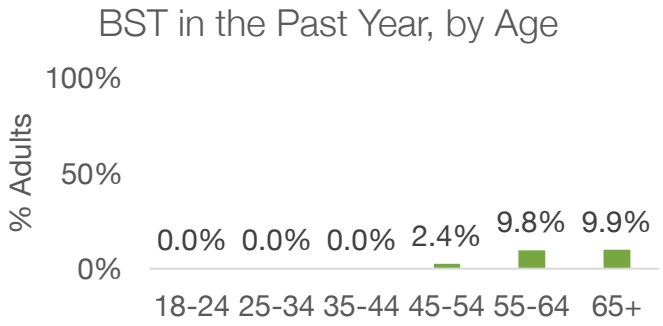
Colon Cancer Screening: Blood Stool Test

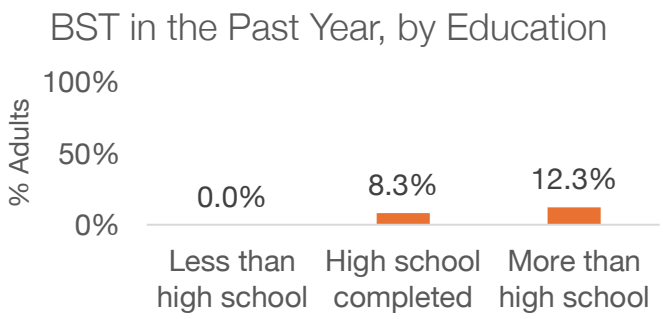
Among adults aged 50 to 75 years in American Samoa, less than 1 out of 10 (8.4%; 95% CI: 6.1% - 11.4%) met the American Cancer Society recommendation of receiving a Blood Stool Test (BST) once in the past year.

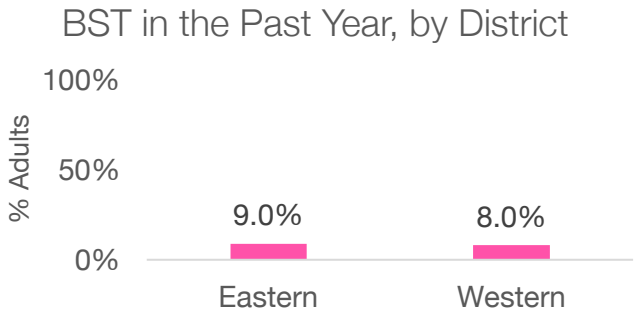


There were no statistically significant differences in the prevalence of receiving a BST in the past year in American Samoa by selected demographic characteristics.







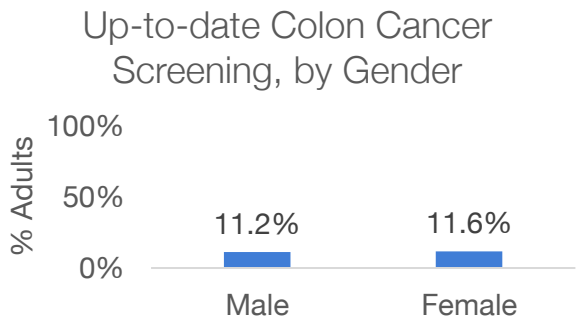


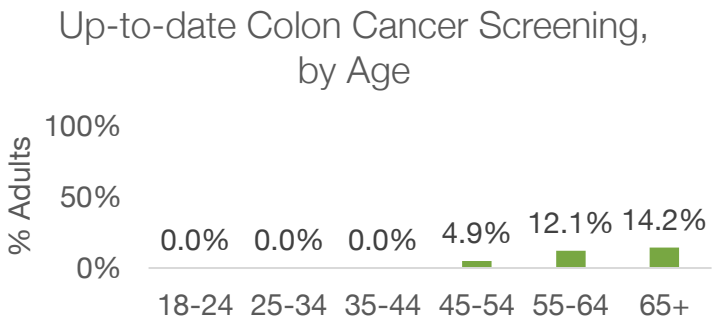
Any Colon Cancer Screening

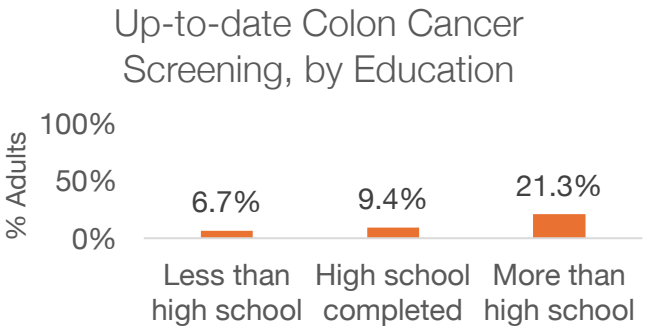
Among adults aged 50 to 75 years in American Samoa, one out of ten (11.4%; 95% CI: 8.7% - 14.8%) have had any up-to-date colon cancer screening.

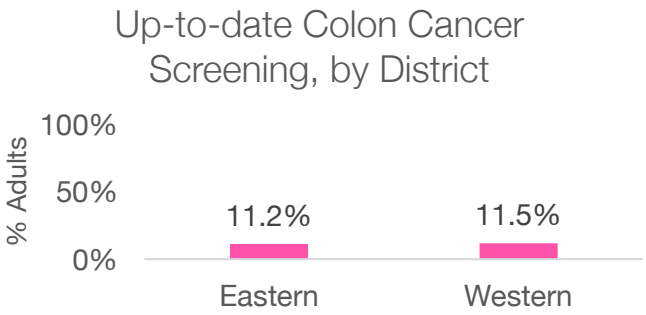
*Any colon cancer screening is defined as someone who has had a blood stool test in the past year and/or a colonoscopy in the past 10 years.

Having any up-to-date colon cancer screening was significantly higher among adults with more than a high school education.



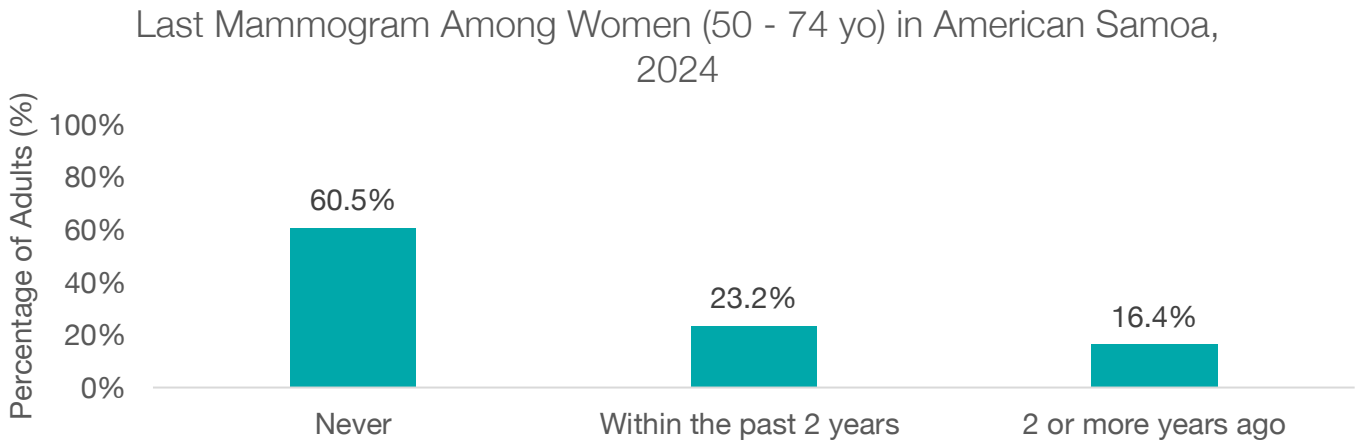




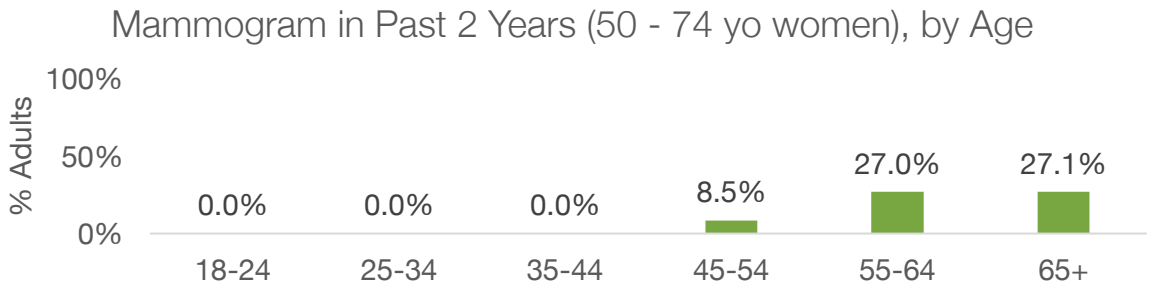


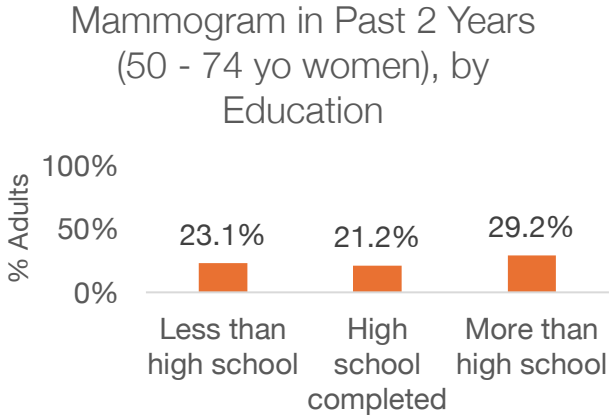
Female Cancer Screening: Mammogram

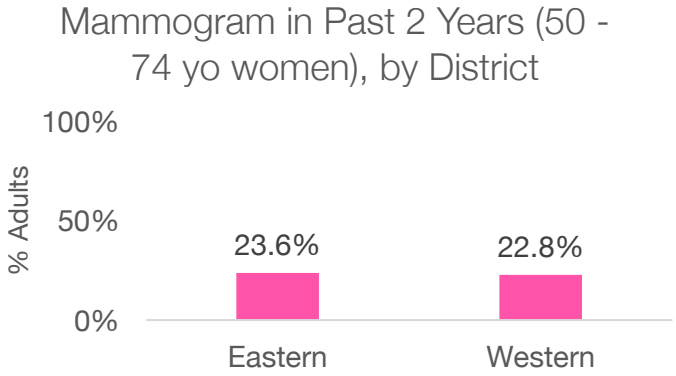
1 out of 5 women (23.1%; 95% CI: 18.0% - 29.1%), aged 50 to 74 years, in American Samoa have received a mammogram in the past two years per the US Preventative Task Force (USPTF) recommendation.



The prevalence of up-to-date mammogram screening was significantly higher among women 55 years and older.

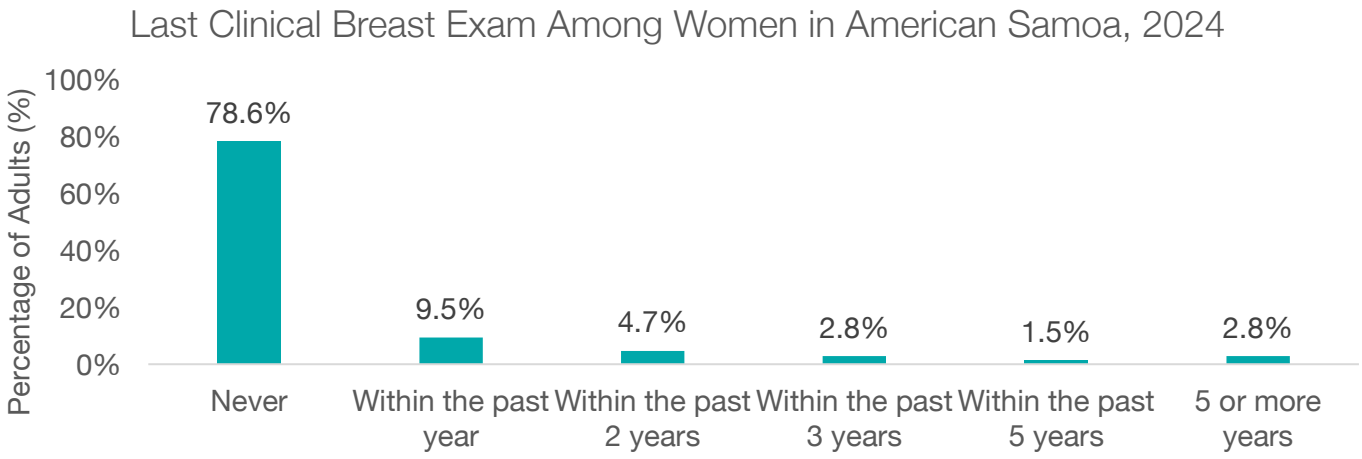




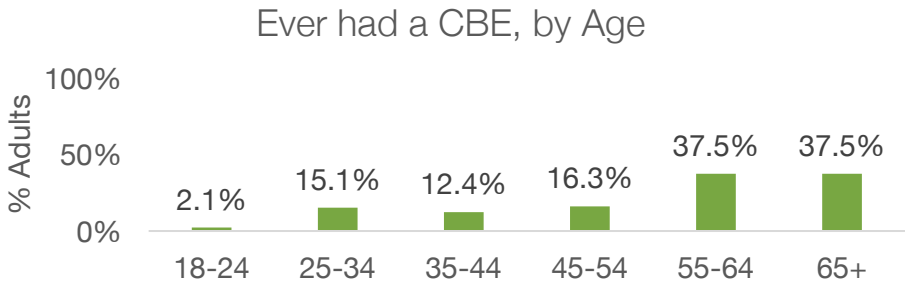


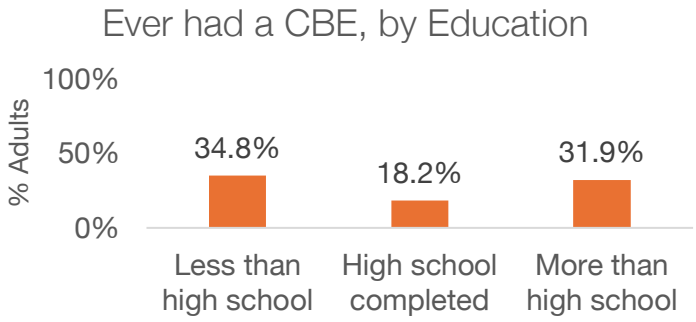
Female Cancer Screening: Clinical Breast Exam

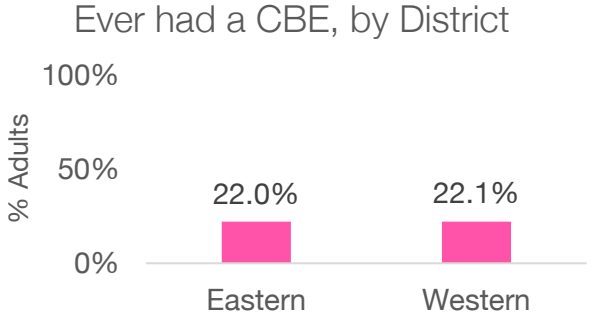
1 out of 5 women (22.0%; 95% CI: 18.7% - 25.8%) in American Samoa have ever had a clinical breast exam.



The prevalence of ever having a clinical breast exam was higher among women with less than and more than a high school education as well as those aged 55 years and older.

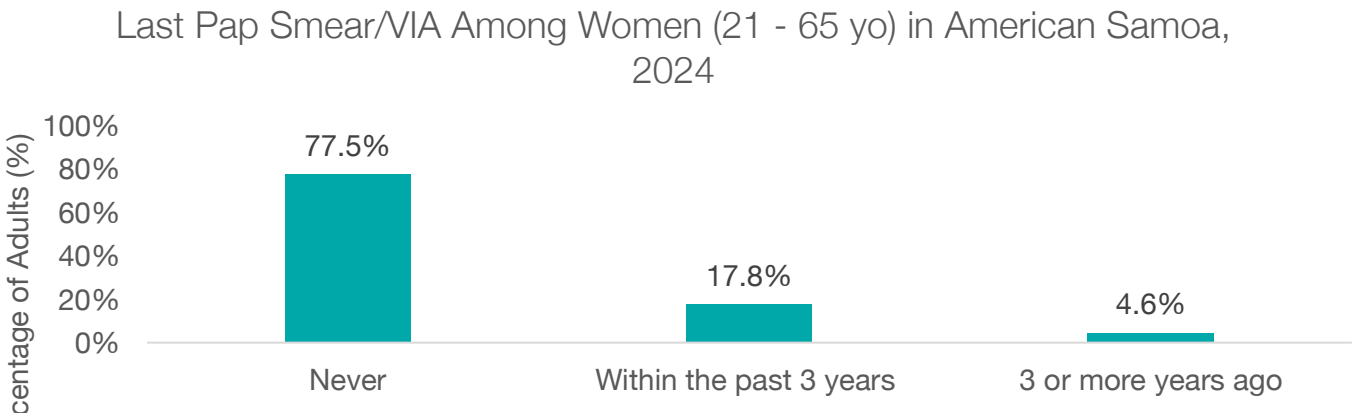




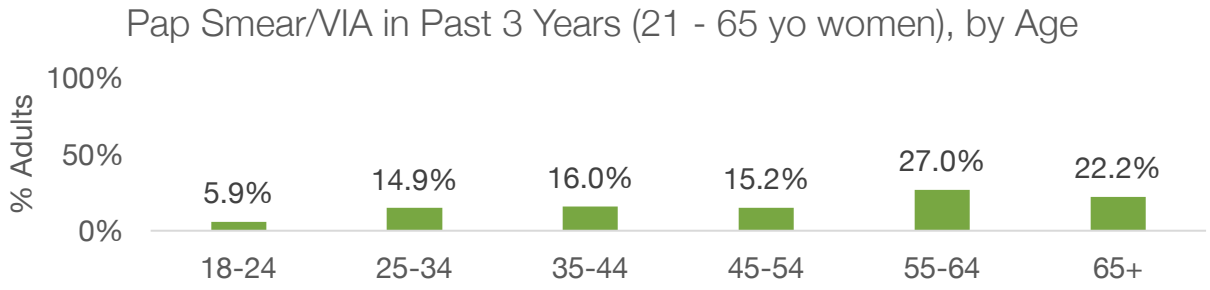


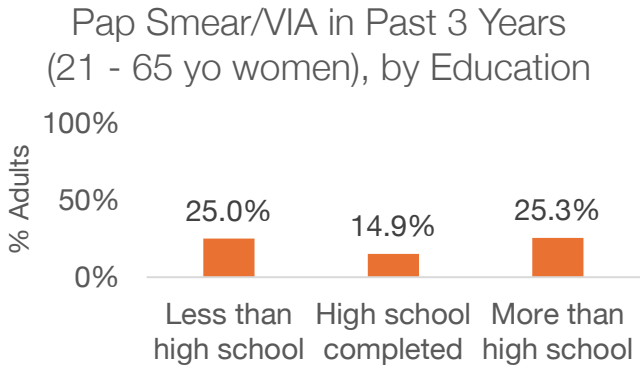
Female Cancer Screening: Pap Smear

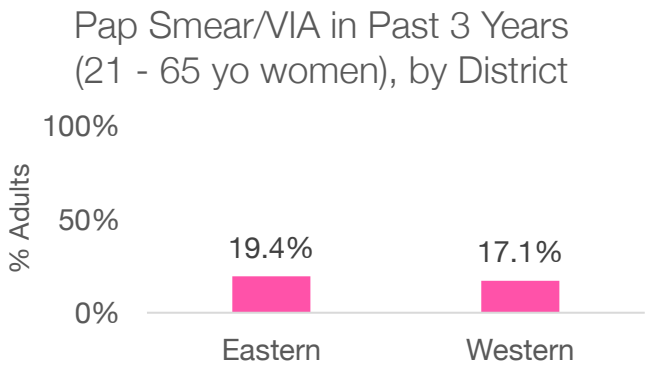
Less than 1 out of 5 women (17.8%; 95%CI: 14.4% - 21.9%) aged 21 - 65 years in American Samoa had a pap smear in the past 3 years (per USPTF recommendation).



Having an up-to-date pap smear was significantly higher among women with less than and more than a high school education.







Notes About the Survey Screening

Limitations

- A good portion of the data collected are self-reported, thus bias may exist, specifically regarding the more sensitive questions about substance use and mental health. Therefore, certain indicators may be under-reported.
- The sample was slightly older than the last Census population estimates. However, the data were not weighted because the most recent Census data were several years old, and there were many population changes during the COVID-19 pandemic.

Strengths

- Physical and biochemical measurements were conducted for NCD prevalence estimation rather than just self-reporting.
- Quality and thorough training was provided for all surveyors over the course of three days.
- The use of tablets ensured data collection was clean, efficient, and timely.
- There were successful partnerships and collaboration between internal and external stakeholders.
- There was substantial support from local leadership.

Challenges

- Owing to out-migration and other population fluctuations, several households were vacant during data collection.
- Younger adults were less likely to participate owing to other obligations, including, school, work, etc.

Discussion

This adult Hybrid Survey provides much needed information about the status of NCDs and risk factors in American Samoa.

Comparing the results of the present survey with data from the US helps to paint a picture of health disparities that exist between American Samoa and the US. Based on these comparisons, it is evident that many health indicators are worse in American Samoa compared to the US. Moreover, trend data comparing 2018 to 2024 indicated little observed improvements among several NCDs and selected risk factors within American Samoa. Specifically, there was no improvement in the prevalence of overweight/obesity, diabetes, or hypertension. Up-to-date female cancer screening rates continue to be low, with 76.9% of women not receiving an up-to-date mammogram. Prevalence of cigarette smoking and smokeless tobacco use have remained constant. The prevalence of e-cigarette use has increased over the years. Prevalence of alcohol use and binge drinking have remained stable over the years. The prevalence of consuming less than the recommended daily fruits and vegetables has been consistent, though this statistic remains very high. The lack of improvement to many of the NCDs and risk factors considered in the hybrid survey over the years indicates an urgent need for more aggressive strategies to tackle these issues.

A large amount of effort has been given to control NCDs in American Samoa, especially in the areas of health promotion, health education, and the delivery of health services. It is now clear, however, that more needs to be done given the concerning rise in overweight/obesity, diabetes, and hypertension prevalence.

The Monitoring Alliance for NCD Action (MANA) Dashboard for American Samoa shows the status of the adoption of critical, evidence-based policies and programs that are known to be effective in controlling NCDs. This dashboard shows that there is much “unfinished business” in adopting policies that protect the community, especially youth, from the risk factors that cause NCDs.

From the MANA Dashboard, the list of policies that need adoption or strengthening for tobacco control includes, raising excise taxes, strengthening smoke-free environments, banning advertising, strengthening sales and licensing, working on tobacco industry interference, and improving tobacco health warnings. To combat obesity, diabetes, and hypertension, measures that need to be done include excise taxes on unhealthy foods (especially sugar-sweetened beverages and processed meats), restrictions on marketing of unhealthy foods to children, healthy food policies in schools, compulsory physical education in school curriculum, and stronger enforcement of NCD policies.

In addition to more aggressive policies needed to control NCD risk factors, the results of this survey indicate that there is a large “protection gap” in the delivery of health services designed to screen for and control the damage done by NCDs. The findings of this survey indicate that less than half of adults (46.5%) with diabetes and 54.0% of those with hypertension have their disease under control, and many adults do not have up-to-date cancer screening (88.6% for colon cancer, 76.9% for breast cancer, and 82.2% for cervical cancer). Much more aggressive efforts are needed to ensure that most adults receive the screening services they need for cancer prevention, and to provide the follow-up and care that those with diabetes and hypertension need to protect them from complications and death.

Recommendations

Recommendations

1. Assure that a Hybrid Adult Survey will be conducted every 5 years, in accordance with the NCD Monitoring & Surveillance Plan (next due in 2029).
2. Use the MANA Dashboard as the basis for developing a policy agenda and tracking progress to more effectively address NCD risk factors, especially overweight/obesity and tobacco use in American Samoa.
3. Develop a strategy across health service agencies to monitor care delivery, expand outreach, tracking, and accessible services for the care of patients with NCDs.
4. Provide appropriate services and support for substance use and mental health.

Priority areas for health improvement in American Samoa include

1. Reducing obesity, diabetes, and hypertension by improving diet/nutrition education and healthy food access and increasing physical activity using evidence-based programs and policies.
2. Strengthening NCD clinical screening and management programs among adults in American Samoa.
3. Providing appropriate cessation services for substance use, specifically tobacco and alcohol.
4. Strengthening mental health services, especially to young adults.
5. Consider policy approaches to reduce certain risk factors, especially those in the Monitoring Alliance for NCD Action (MANA) framework.
6. Support chronic disease self-management programs to help individuals with NCDs control their disease.

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Helping Hands Program
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Immunization Program
IT Division
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Annex A: Households in Manu'a

Data collection for the 2024 American Samoa Hybrid survey took place across the islands of Tutuila and Manu'a. Due to the low number of households sampled in Manu'a (n = 31), report results for district-specific information aggregated Manu'a household data with Eastern district household data. The following table offers prevalence estimates for key NCD indicators as analyzed from the sampled households in Manu'a. Please note, disaggregation of data results in estimates with wide uncertainty, the table below is meant to offer descriptive information only.

*Estimates for Eastern District are aggregated data, including households in Manu'a.

	Manu'a *(N = 31)*	Eastern District *(N = 320)*	American Samoa *(N = 1002)*
	% (95% CI)		
Current tobacco use			
Cigarette smoking in the past 30 days	**16.1** (7.1 - 32.6)	**18.6** (14.7 - 23.2)	**19.9** (17.6 - 22.5)
Smokeless tobacco use	**3.2** (0.6 - 16.2)	**0.6** (0.2 - 2.3)	**0.9** (0.5 - 1.8)
E-cigarette use	**0.0** (0.0 - 11.2)	**2.2** (1.1 - 4.5)	**3.3** (2.3 - 4.6)
Current alcohol use			
Alcohol use in the past 30 days	**9.7** (3.3 - 24.9)	**13.1** (9.9 - 17.3)	**14.1** (12.0 - 16.4)
Binge drinking in the past 30 days	**9.7** (3.3 - 24.9)	**9.8** (7.0 - 13.6)	**10.5** (8.7 - 12.6)
Nutrition			
<5 servings of fruits and vegetables per day	**38.7** (23.7 - 56.2)	**80.1** (75.4 - 84.1)	**79.2** (76.4 - 81.6)
2+ sugar-sweetened beverages per day	**54.8** (37.8 - 70.8)	**47.0** (41.5 - 52.5)	**52.2** (49.0 - 55.3)
2+ processed meats per day	**45.2** (29.2 - 62.2)	**60.7** (55.2 - 65.9)	**61.9** (58.8 - 64.9)
Health and Healthcare			
Self-reported fair or poor health	**3.2** (0.6 - 16.2)	**9.8** (6.9 - 13.6)	**14.9** (12.7 - 17.3)
Medical checkup in the past year	**3.2** (0.6 - 16.2)	**47.8** (42.2 - 53.5)	**58.8** (55.6 – 62.0)
Oral Health			
Dental visit within past year	**3.2** (0.6 - 16.2)	**29.5** (24.5 - 34.9)	**38.5** (35.3 - 41.7)
Any permanent teeth extracted due to decay/disease	**9.7** (3.3 - 24.9)	**30.1** (25.2 - 35.4)	**34.3** (31.4 - 37.5)
Cancer Screening			
Up-to-date Pap (women 21-65 yo)[1]	**0.0** (0.0 - 36.9)	**19.4** (13.6 - 26.9)	**17.8** (14.4 - 21.9)
Up-to-date mammogram (women 50-74 yo)[2]	**0.0** (0.0 - 36.9)	**23.6** (15.3 - 34.6)	**23.1** (18.0 - 29.1)
Chronic conditions			
Overweight/obesity[3]	**100.0** (89.0 - 100.0)	**94.8** (91.6 - 96.7)	**92.7** (90.8 - 94.2)
Diabetes[4]	**90.3** (75.1 - 96.7)	**38.6** (33.4 - 44.1)	**31.9** (29.1 - 34.9)
Hypertension[5]	**50.0** (33.2 - 66.8)	**45.8** (40.3 - 51.4)	**42.6** (39.5 - 45.8)
High cholesterol (240mg/dL or higher)	**3.2** (0.6 - 16.2)	**3.2** (1.7 - 5.7)	**2.3** (1.6 - 3.5)

[1]up-to-date is a Pap within the past 3 years per USPTF guidelines
[2]up-to-date mammogram is a mammogram within the past 2 years per USPTF guidelines
[3]Overweight/obesity determined as a BMI ≥25 based on measured height and weight
[4]2018: diabetes was determined by a self-report of medicated diabetes and/or fasting blood glucose of ≥126mg/dL; 2024: diabetes was determined by a self-report of medicated diabetes and/or an A1c of ≥ 6.5%
[5]Hypertension was determined by a self-report of medicated hypertension and/or an average blood pressure reading (out of 3 readings) of ≥140/90