

Pacific Islander Health Study Report

2012

Preliminary Findings



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Acknowledgements

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Acknowledgements

The Pacific Islander Health Study is the result of the collective efforts of the Native Hawaiian and Pacific Islander community and the “call to action” for baseline data and full implementation of the revised Office of Management and Budget (OMB) 15 mandate to collect and report data using the new racial category, “Native Hawaiian and Other Pacific Islanders.” This fundamental policy decision enabled us to design and conduct this representative study, paving the way for scientific research and collection of evidence-based information on Pacific Peoples and their respective communities. We are very grateful to “ALL THE HANDS AND VOICES” that contributed to this major milestone.

We are indebted to the Department of Health and Human Services, Office of Minority Health (OMH), W.K. Kellogg Foundation, and Asian Pacific Islander American Health Forum (APIAHF) Health through Action program for their generous support. Specifically, we would like to acknowledge the leadership of Howard Koh, Garth Graham, Mirtha Beadle, J. Nadine Gracia, Sophie Tan, Christine Montgomery, Gail Christopher, Alice Warner-Mehlhorn, Fatima Angeles, Dexter Louie, Ho Tran, Marguerite Ro, and Kathy Ko.

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Finally, we thank the respondents and their households for their participation and willingness to share their “stories” and help raise awareness of the health disparities facing Pacific Islander communities in the United States.

Malo ‘aupito! and Fa’afetai tele lava!

Section One - Development of the Pacific Islander Health Study

Introduction

The Pacific Islander Health Study was funded by the Department of Health and Human Services' (DHHS) Office of Minority Health, the Asian and Pacific Islander American Health Forum (APIAHF), and the W.K. Kellogg Foundation to address the need for evidence-based information on the health and healthcare utilization of U.S. Pacific Islanders. This study developed a scientific protocol to facilitate data collection among numerically small and hard to reach Pacific Islander populations, and to collect comparable sets of baseline information to determine Pacific Islander health disparities.¹ The study is timely as national-level data on Native Hawaiian and Other Pacific Islanders (NHPIs) remain inadequate and very little is known about the population and its subpopulations.^{2,3,4} Over the last fifteen years significant policies and expert recommendations helped pave the way for the Pacific Islander Health Study. This, combined with a "Call To Action" by Pacific Islander (PI) stakeholders for "disaggregated" data through several community deliberations^{5,6,7} and professional meetings,^{8,9,10} served as the impetus for this scientific work.

In 1997, the Office of Management and Budget (OMB) implemented a new racial category, disaggregating Asian Americans and Pacific Islanders (AAPIs), and mandating all federal agencies to collect and report data using the revised racial and ethnicity categories. The two distinct groups are:^{11,12}

1) Asian. The "Asian" category is defined as "A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam."

2) Native Hawaiian and Other Pacific Islanders (NHPIs). (The term "Native Hawaiian" refers to the indigenous people of the Hawaiian Islands and their descendants, rather than individuals' native to the state of Hawaii by virtue of being born there.) In addition to Native Hawaiians, Guamanians, and Samoans, this category includes the following Pacific Islander groups reported in the 1990 census: Carolinian, Fijian, Kosraean, Melanesian, Micronesian, Northern Mariana Islander, Palauan, Papua New Guinean, Ponapean (Pohnpelan), Polynesian, Solomon Islander, Tahitian, Tarawa Islander, Tokelauan, Tongan, Trukese (Chuukese), and Yapese.

In 2009 the Institute of Medicine (IOM) issued a report calling for granular data on race, ethnicity, and English-language proficiency to identify which populations are most at risk and reduce health disparities for specific population groups.¹³ Acting on the IOM recommendations, the US Department of Health and Human Services Office of Minority Health issued a National Stakeholder Strategy for Achieving Health Equity, which explicated the need for increased *awareness* of significant health disparities, their impact, and actions to improve health outcomes for racial, ethnic and underserved populations, as well as the need to improve *data* availability, coordination of research, community-based research and action, and interventions.¹⁴ Accompanying this report is the HHS Action Plan to Reduce Racial and Ethnic Health Disparities, specifically Goal IV: Advance Scientific Knowledge and Innovation, which calls for an increase in the availability and quality of data collected and reported on racial and ethnic minority populations.¹⁵ These initiatives seek to create new opportunities for establishing baseline health information and enable leaders to make evidence-based decisions and interventions to reduce health disparities. These new mandates represent the government’s commitment to provide opportunities for researchers to contribute to health equity among all underserved populations, including Pacific Islanders living in the United States.

According to Katherine Wallman, Chief Statistician for the United States housed at the Office of Management and Budget, since 1992: “When NHPIs are aggregated in the broader Asian category, their real needs are masked; as a result, these communities are often overlooked and may not receive the extra support they need to succeed.”

Key findings from the study are to be disseminated to the NHPI community and the general public to facilitate future interventions and policies, with the ultimate goal of eliminating health disparity and achieving health equity for all Pacific Peoples living in the continental United States, Hawai`i, and U.S. Territories—American Samoa, Guam, Northern Mariana Islands and Freely Associated States—Federated States of Micronesia, Marshall Islands and Palau.

Background

To test our methodologies for obtaining robust comparable information and to keep survey costs manageable, the baseline Pacific Islander Health Study (PIHS) was conducted in two Pacific Islander community clusters selected from two geographical areas—Samoan residents in Los Angeles County and Tongan residents in San Mateo County. Both groups are Polynesians, but they each represent different cultures, histories, languages, geographies, and political associations with the U.S. government. For instance, Samoans include migrants from the territory of American Samoa and immigrants from the independent nation of Samoa, as well as U.S. born Samoans; and Tongans include immigrants from the Pacific Island Kingdom of Tonga and U.S. born Tongans. It is also not unusual for Samoan and Tongan immigrants to originate from other nations such as Australia, New Zealand, Fiji, or Canada.

According to the 2010 Census, NHPs represented one of the fastest growing racial groups in the U.S. between 2000 and 2010.¹⁶ Overall, 29 percent of the total NHP population resides in Hawaii followed by 23 percent in California, with the remaining 48 percent distributed across the other 48 states.

Polynesians make up 43 percent of the total NHP population with Samoans and Tongans making up the largest ethnic groups after Native Hawaiians. Respectively, Samoans and Tongans represented 184,440 people and 57,183 people in the 2010 Census enumeration of the United States detailed population.¹⁶

Data collection was administered in Los Angeles and San Mateo counties because they have a high concentration of Samoan and Tongan populations. This physical distance in location also allowed for examination of geographical variations in health outcomes, important given the significance of place effects established in previous health studies.^{14,17,18} Los Angeles County is located in southern California and San Mateo County in northern California. The most populous county in the United States, LA County, encompasses 88 cities and 93 school districts, and is home to a diverse population of more than 9.8 million people. Pacific Islanders make up approximately 0.4 percent of the total population of LA County. San Mateo County is the 14th-most populous among California's 58 counties. As of Jan. 1, 2010, San Mateo County had a population of approximately 754,285 residents, a 5 percent increase over the prior census enumeration. Pacific Islanders make up approximately 2 percent of the San Mateo population.

“...foster evidence-based research, data-collection, and analysis on AAPI populations and subpopulations, including research and data on public health, environment, education, housing, employment, and other economic indicators of AAPI community wellbeing...” **BARACK OBAMA, THE WHITE HOUSE, October 14, 2009**

Role of Pacific Islander faith-based organizations

Faith-based organizations play a significant role in the lives of Pacific Islanders and their community cohesion. These institutions serve as extensions of the mainstream religions while providing community representatives that offer services in the native languages, opportunities for learning and preserving cultural practices, and attention to the needs of Pacific Islander migrants and immigrants entering the United States. According to a Samoan elder pastor, “in the islands, Pacific Islanders live and belong to villages, however when they move to America, it is the church that assumes the place of the village.” The majority of Pacific Islanders are Christians and they maintain strong religious affiliations even after relocating to the United States.

Community outreach and access to Pacific Islanders in local communities is often accomplished with the permission and support from faith-based organization leaders who act as community advocates. This is necessary due to the language and cultural barriers that exist between many Pacific ethnic groups and the general population. Having the support of faith-based organizations is also essential in building trust between the community and the researchers and organizations that seek to work within it. While work can and does occur without coordination with faith-based organizations, it is far more efficient and culturally appropriate to engage these community representatives in the research process.¹ The support of community leaders is seen as an important mechanism for obtaining good response rates and the cooperation of the community members themselves.

Methods

Using community-based participatory research (CBPR) approaches, the research team engaged community members in the study development and design.^{19,20} Several focus group meetings were held prior to the project to identify important health challenges and needs as perceived by the community. The focus group meetings also probed community concerns about participating with external researchers and their studies. During these meetings, numerous individuals expressed dissatisfaction with past collection of data by “helicopter researchers” or “mosquito researchers” who studied the community but did not provide it with any measurable benefit. Drawing upon the findings of the focus groups, the study PI (Panapasa) worked closely with community and faith-based leaders, explaining the purpose of the study and collaboratively identifying the kinds of deliverables that would ensure the community received clear benefits from their participation.

"Today, we have an unprecedented opportunity to improve the health of our most vulnerable and underserved populations. But to truly make an impact, we need to better understand the unique challenges facing different groups -- and how we can reach those who are most in need." -- Dr. J. Nadine Gracia, MD, MSCE, Deputy Assistant Secretary for Minority Health (Acting)

Working with faith-based community leaders, the research team identified a total of 20 Samoan and Tongan faith-based organizations (i.e., church groups) that consented to participate in the study by providing their membership registries. These were used to establish a representative sampling frame of Pacific Islanders, from which a stratified random sample of 300 households was selected within the Los Angeles and San Mateo county study areas. Each household was screened by a team of interviewers and an eligible adult respondent, age 18 years and older, was randomly selected and administered a face-to-face interview using the adult survey. A random sample of adolescents (13 to 17 years of age) – up to two from each household participating in the adult survey – was selected for a separate survey interview. Of the 300 households selected for the baseline study, interview teams ultimately administered surveys to a total of 239 households.

The PIHS employed questions derived from the National Health Interview Survey (NHIS) and California Health Interview Survey (CHIS), which provide detailed health information for the United States and California. The PIHS also drew questions from other studies—the National Survey on American Lives (NSAL) and the Chicago Community Adult Health Survey (CCAHS) —which allow for comparative analyses on a variety of health measures dealing with anthropomorphic indicators, health condition and health behavior, disability, women’s and men’s health, mental health, psychosocial stressors, oral health, physical activity, nutrition, religion, health insurance, healthcare utilization and access, adolescent health, and key components of core health beliefs and health-seeking behaviors and strategies.

The study questionnaire design included an adult survey for respondents age 18 years and older and an adolescent survey for respondents between ages 13 and 17 years. This allowed the PIHS to replicate the specialized modules found in both the NHIS and the CHIS for adults and children. A total of 10 bilingual Samoan and Tongan interviewers were recruited from the local communities. The bilingual ability of the interviewers was an essential requirement as English proficiency is not universal among Samoan and Tongan households. In addition to ensuring that the interviewers could speak the relevant languages, the adult questionnaires were also translated into Tongan and Samoan to allow the respondents to use translated instruments, if this made the interview process more effective. Translation of the adult questionnaire in Tongan and Samoan was essential for administration to respondents who were not proficient in the English language. The selected interviewers received interviewer training from ISR staff before data collection. During this time, the questionnaire itself was pretested to ensure the questions had cultural relevance within Pacific Islander communities.

Completed survey questionnaires were processed and analyzed at the University of Michigan Institute for Social Research. The preliminary results provided below are unweighted frequencies and bivariate measures. Future reports will include weighted statistics as we calibrate population weights appropriate to the state of California and the United States.

"Obtaining robust, baseline information on small, hard-to-reach populations is vital," says James S. Jackson, Director of the University of Michigan Institute for Social Research (ISR). "The Pacific Islander Health Study is a model of how to obtain evidence-based information on heterogeneous, underserved populations. I hope it will serve as an inspiration for many other similar studies in the near future."

Summary

This report has four primary sections in addition to Section 1:

- Section 2: Adult Health Disparities. A comparison of select salient results, demonstrating health disparities between Pacific Islanders and the adult populations of the study counties, California, and the overall U.S. population.
- Section 3: Adolescent Health. Presents salient health results for Pacific Islander adolescents compared to health results for adolescents in California and the U.S.
- Section 4: Conclusion, Key Findings and Recommendation. Presents a summary of key findings and recommendations for eliminating health disparities among Pacific Islanders and building healthy communities.

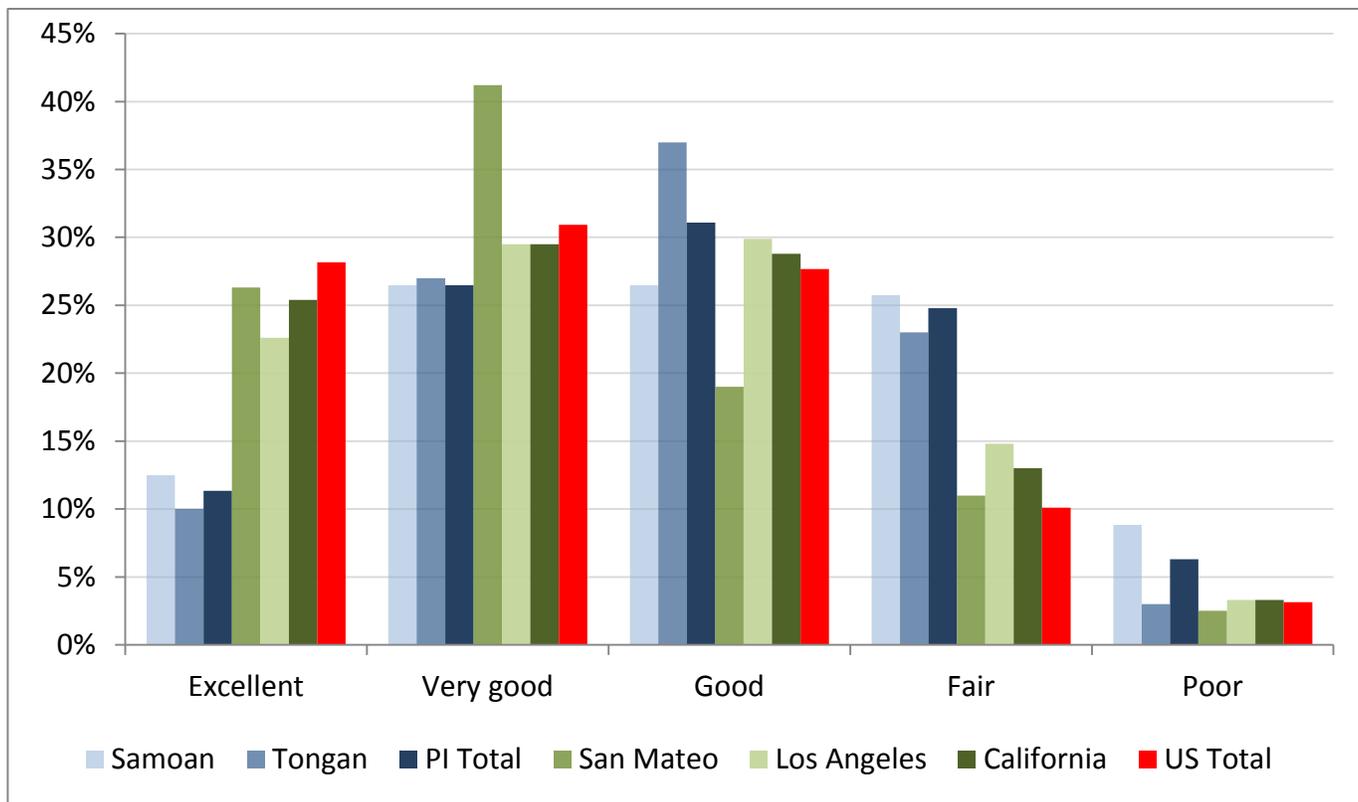
Section Two: Adult Health

Health Status

One of the most important goals of this study is to examine the overall health of the Pacific Islander (PI) communities as it compares to the health of the population of the United States and people living in California, home to large Samoan and Tongan populations. Individuals' self-reports of health can be combined to form an important barometer of a population's overall health. Self-reported health has become an extremely common measure used in representative surveys over the years due to its ease of administration (no health assessment required), its high level of validity as an indicator of overall health, and its usefulness in garnering reliable information across cultural boundaries.^{21,22,23} Its use in this study allows direct comparisons of PI self-reported health to that of respondents in other studies asking identical questions.

Exhibit 2-1 shows this breakdown among Samoans and Tongans separately, as well as combined, along with the total US population. PIs fare discernibly worse than the total US population. Whereas nearly 30 percent of the US population reports being in *excellent* health, only 11 percent of PIs report the same. Although this gap narrows considerably when looking at those who responded *very good*, the total US population is still noticeably higher. The positions reverse for the remaining response categories, where more PIs report being in *good*, *fair*, or *poor* health than do adults in the overall US population. Notable here is the difference between Samoans and Tongans: Tongans are much more likely to report being in *good health* than Samoans with Samoans being more likely than Tongans to report their health as fair or poor. One anomalous finding is that 42 percent of all residents of Los Angeles County rate their health as being *very good* compared to only 26 percent of the Samoans who live there. Among those who responded *fair* health, the difference between PIs and the US is again quite stark, with 26 percent of Samoans and 23 percent of Tongans reporting their health as *fair*, compared to 13 percent of California adults and 10 percent of US adults. In particular, Samoans report *poor health* at a higher rate (10 percent) than the US population (3 percent), while Tongans are nearly identical to the US when reporting poor health.

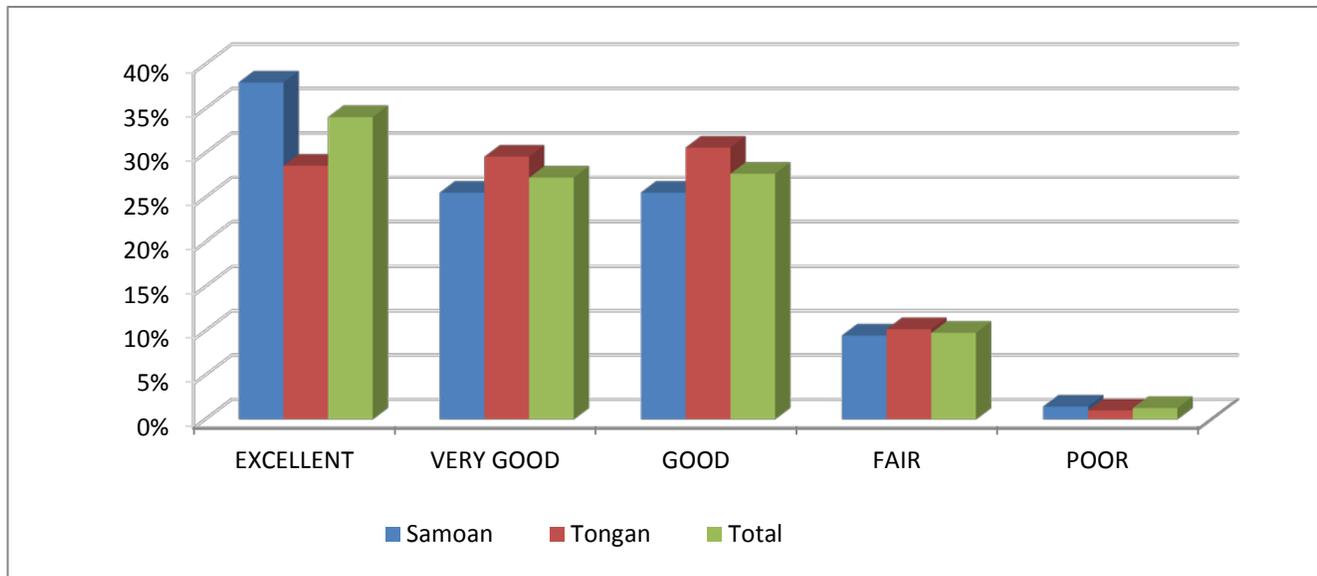
Exhibit 2-1: Self-Reported Health



Self-Reported Mental Health

Self-reported mental health is less commonly collected in surveys than self-reported physical health. This measure is useful as it provides a means for Pacific Islanders to evaluate their sense of overall mental health which can then be compared to more standard measures of depression and psychological distress also present in the survey instrument. As seen in Exhibit 2-2, Pacific Islander respondents were most likely to rate their mental health as *excellent* or *very good*. There is some variation between groups with Tongans being somewhat less likely than Samoans (27 percent vs. 41 percent) to report their mental health as *excellent* and more likely to report their health as *very good* or *good*. Less than 10 percent of the adult Pacific Islanders interviewed reported that their mental health was either fair or poor. These measures offer a baseline statement of perceived mental health which can be further examined in relation to the other measures of mental health present on the survey.

Exhibit 2-2: Self-Reported Mental Health

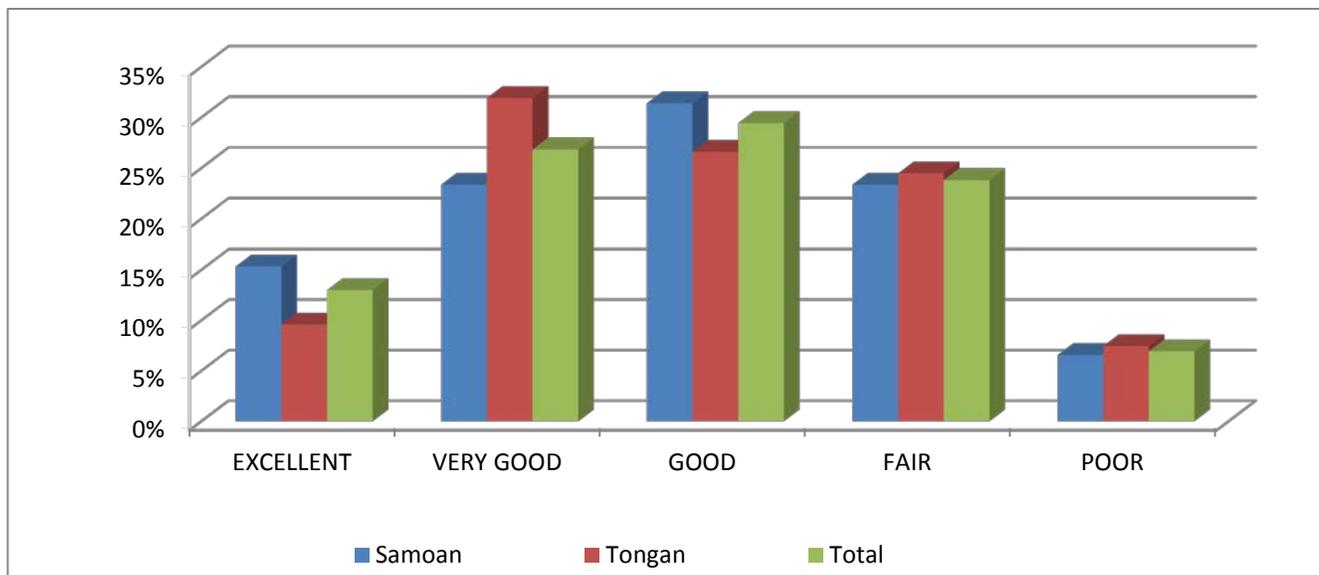


Oral Health

Self-reported oral health provides an indicator of the perceived quality of the respondents' current dentition and overall oral health. As seen in Exhibit 2-3 the majority of Pacific Islanders rated their oral health as being either very good or good. Only 22 percent of Samoans reported their oral health is *very good* in comparisons to 31 percent of Tongans. Just under 25 percent of both Samoan and Tongan respondents reported their oral health as being *fair*; and almost 15 percent of Samoans and 8 percent of Tongans reported *excellent* oral health. Approximately 5% of Pacific Islanders reported their oral health as being *poor* as of the time of the survey. This baseline measure can then be compared to other measures of oral health in the survey.

There are no direct comparative measures for the question on self-reported oral health but analysis reported in a latter section of this report look at PI access and utilization of dentists and how this compares to California and the US. At present, the fact that almost 30 percent of all adult Pacific Islanders rate their oral health as either fair or poor suggests that this is an area that calls for more detailed review.

Exhibit 2-3: Self-Reported Oral Health



Health Conditions

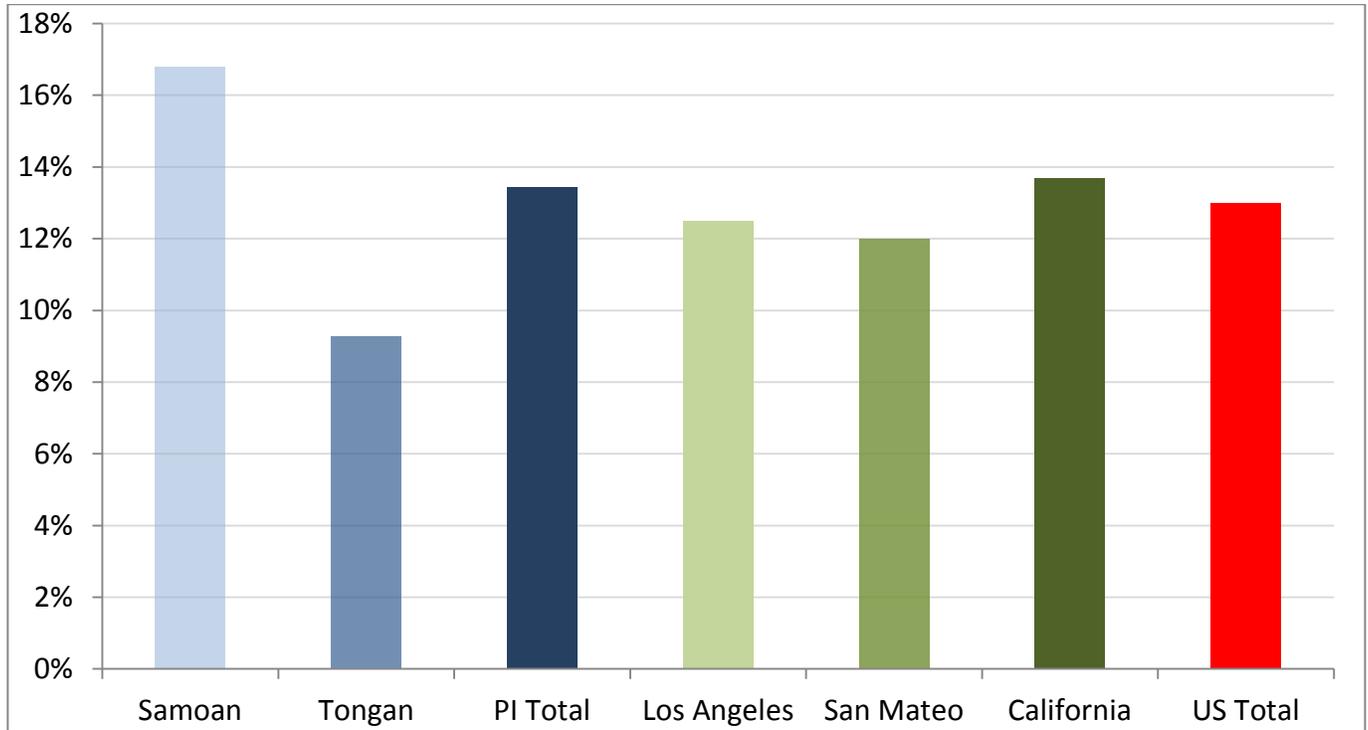
The data reported in Exhibit 2-1 on overall self-rated health indicate that PIs view themselves as significantly less healthy than do others in similar county, state, and national populations. But a more detailed examination of several important health indicators reveals that PIs do not necessarily fare worse than the overall US population across the board. Indeed, in some areas (such as rate of arthritis) PIs seem to be in better health than the total US population. The breakdowns below compare PIs to the larger populations in which they reside on nine indicators of health, revealing both areas most problematic to PIs and the heterogeneity inherent within the Pacific Islander population. Samoans and Tongans sometimes show significant differences, with one group comparing quite well to the US population on some indicators while the other does not. Identifying these differences is key to understanding how best to serve these populations.

Asthma

Exhibit 2-4 shows asthma rates for Samoan, Tongans, the combined PI populations, study area populations, and the US population. Although the combined PI population reports an almost identical rate of asthma as found in the US population, Samoans report far higher asthma rates (18 percent) than the US population (13 percent), while Tongans actually report a lower rate (9 percent). This may be due in part to the geographic location of these samples. Samoans are exposed to LA County's air quality –

potentially a significant factor when it comes to asthma rates. When planning intervening health initiatives, it is important to take this difference into account.

Exhibit 2-4: Have You Ever Had Asthma?



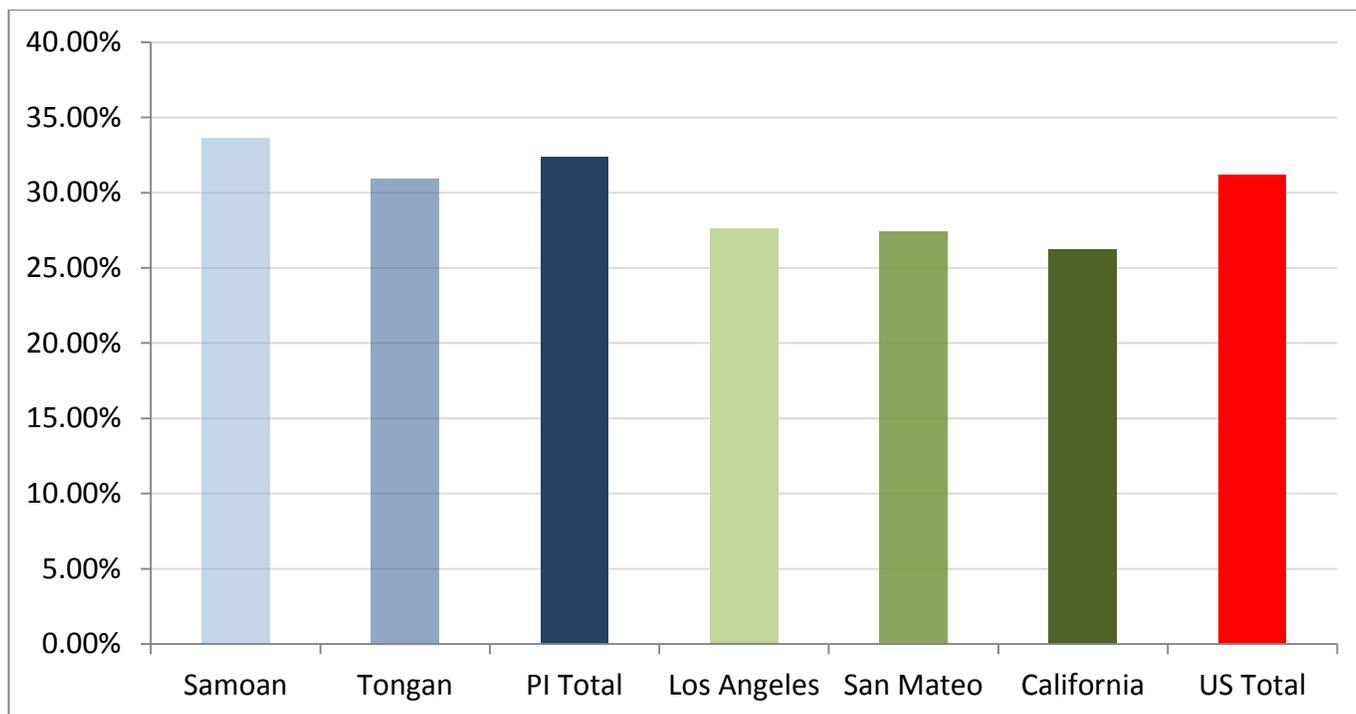
Hypertension

Hypertension, or high blood pressure, is commonly considered to represent a significant health concern within Pacific Islander communities. As a chronic condition, particularly when untreated or under-treated, hypertension increases the risk of a wide variety of life-threatening conditions including stroke and congestive heart disease, as well as reducing the overall quality of life and increasing the costs of lifetime health care.²⁴

Exhibit 2-5 shows that hypertension rates are quite similar between PIs and the larger US population. At 34 percent, Samoans reported a slightly higher rate than seen for Tongans and US adult population (31 percent). PIs report higher rates than either of the study area populations or California residents, suggesting PIs may be underserved for this condition in California.

Hypertension is a particularly deadly disease because of the large number of people who are unaware that they are at risk for it or have it. It is estimated that almost one-third of hypertensive people are not aware of it and so do not seek intervention early, when the disease is most treatable.²⁵ As the only way to know if an individual has hypertension is through regular checkups and monitoring changes in measured blood pressure readings, it was felt that the reported cases of known hypertension among the Pacific Islander sample may significantly underreport the actual prevalence in the community. To test this assumption, the survey team also obtained resting blood pressure readings at two intervals during the interview from all consenting respondents. While the blood pressure data is still being reviewed for reliability, early findings suggest that among those reporting no history of hypertension 30 percent had BP readings suggestive of high blood pressure and almost 50 percent had at least pre-hypertensive readings. These results strongly suggest the potential for significant levels of undiagnosed hypertension in the Pacific Islander community.

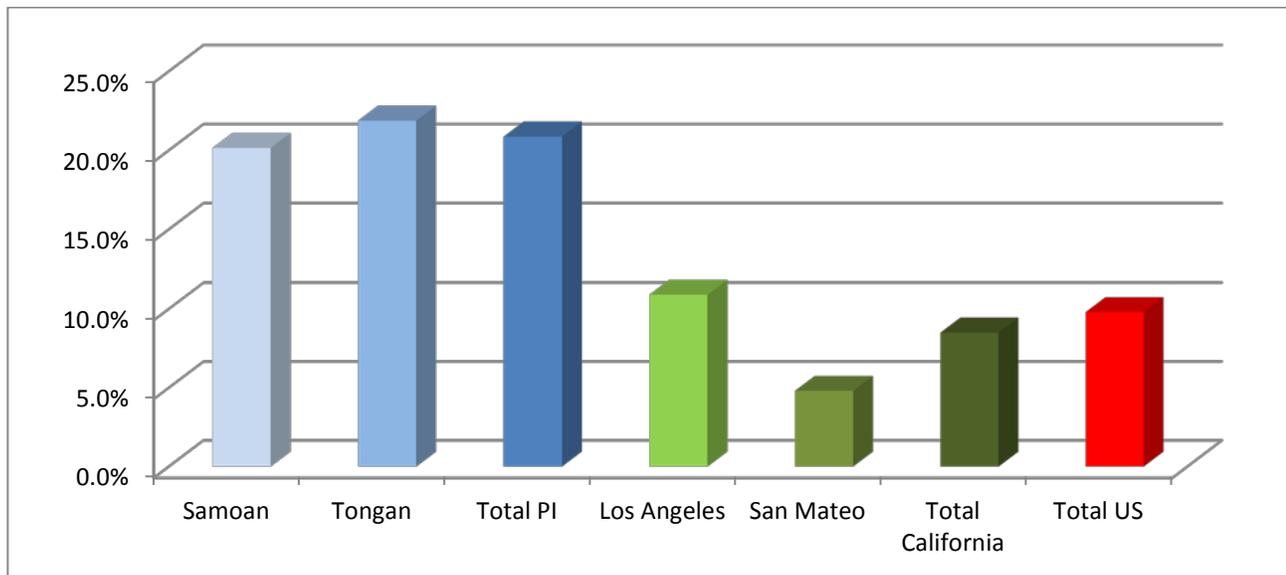
Exhibit 2-5: Reporting Hypertension



Presence of Diabetes

Like hypertension, diabetes is commonly believed to be a significant problem for adult Pacific Islanders, but no national health survey reliably shows the degree to which the population suffers from this chronic and debilitating disease. As seen in Exhibit 2-6, the self-reported prevalence of diabetes is more than twice as high for both Tongans (at 21 percent) and Samoans (19 percent) as for either the state of California or the United States as a whole, which are well under 10 percent. The most pronounced disparity is between the population in San Mateo County (less than 4 percent), where the Tongans reside, and the Tongans, who report a rate over five times higher (21 percent). These findings support the long-standing assumption of the high rate of diabetes among Pacific Islander populations and argue strongly that targeted interventions are needed to help prevent and treat diabetes among Pacific Islanders.

Exhibit 2-6: Ever Been Told You Have Diabetes?



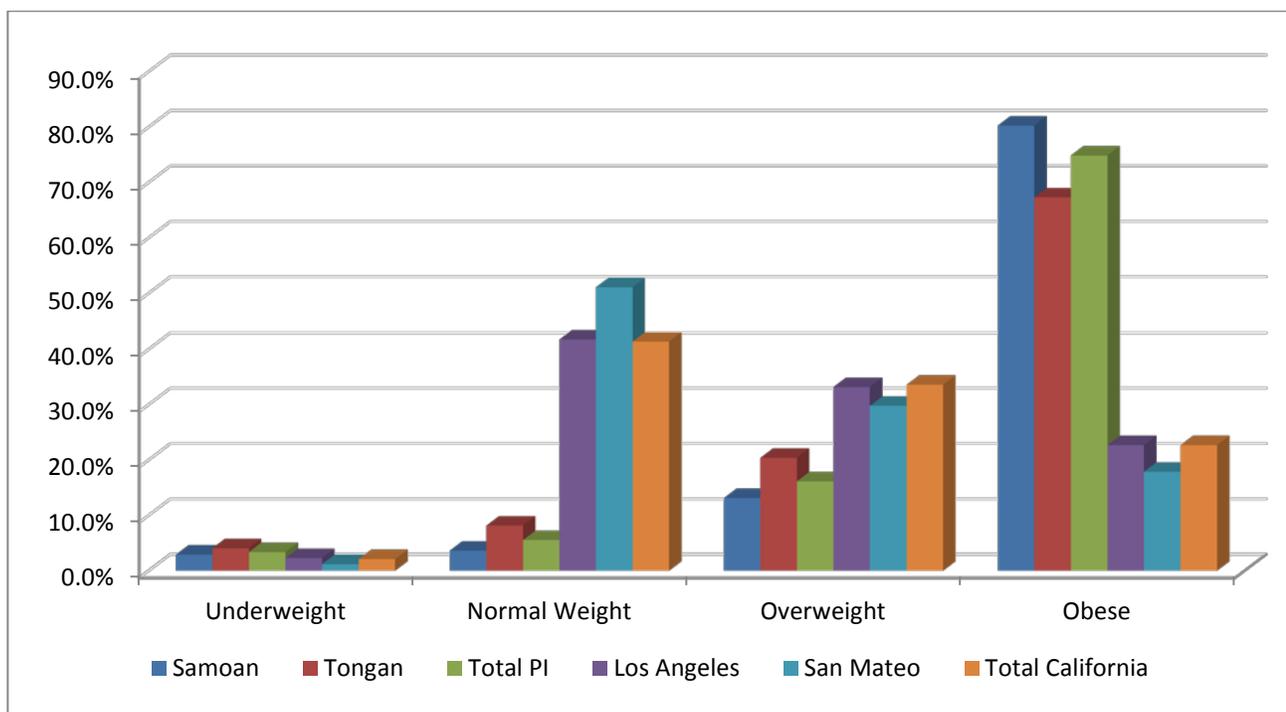
Adult Body Mass Index

Body Mass Index is an important and commonly used measure that relates a person's height and weight ratio to overall health. BMI is calculated by dividing a person's weight in kilograms (kg) by his or her height in meters squared. The National Institutes of Health (NIH) now defines normal weight, overweight, and obesity using the BMI calculation rather than using the traditional height/weight charts

once common in doctor’s offices and health books. The further a person is from the optimal normal weight based on their BMI, the more at risk they are for a number of health conditions including hypertension, diabetes, cardiovascular disease, and even Alzheimer’s.

Comparing the BMI of the Pacific Islander population to that of the state of California and the study counties clearly reflects the serious problem obesity represents among adult PIs. While California and the study counties report that 40 to 50 percent of their population falls within the normal weight BMI range, less than 5 percent of the PI population can be classified as normal weight. Further 72 percent of all PIs in the sample have BMIs in the obesity category, with Samoans somewhat more likely than Tongans to be classified as obese (80 percent versus 67 percent); and over 90 percent of the sample are either overweight or obese. These findings show the need for a massive investment in nutritional education and other interventions that can help Pacific Islanders more successfully manage their weight. The long-term costs of living with obesity are strikingly large, including high costs to the medical care system to provide health support to a significant proportion of this population for conditions directly related to an excessively high BMI.

Exhibit 2-7: Adult Body Mass Index



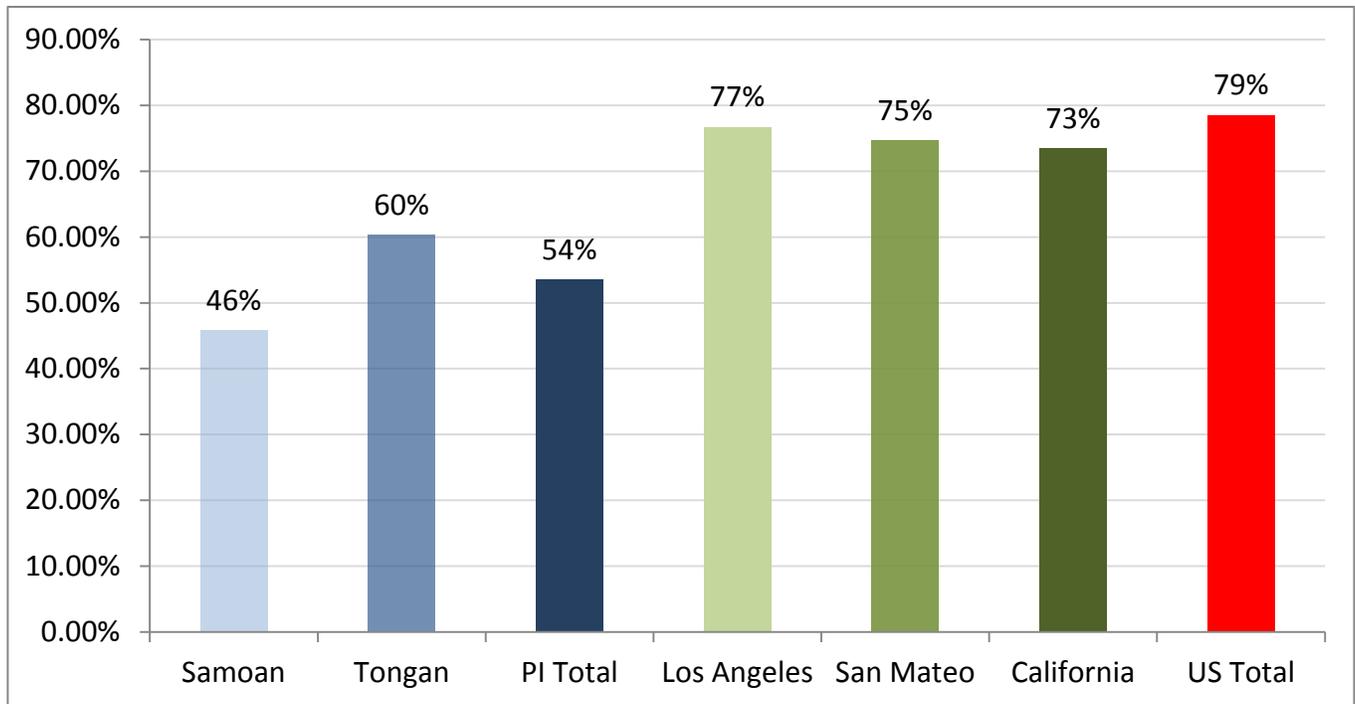
Mammogram

While there has been some debate about the need for routine mammograms among women under the age of 40,^{26,27} the National Cancer Institute continues to recommend that all women aged 40 and over have a mammogram every 1 to 2 years. As shown in Exhibit 2-8, both groups of PIs reflect far lower rates than other populations in terms of the percent of women aged 50 and older who ever had a mammogram. While the mammogram rate is nearly 80-percent in the US population and 77 and 75 percent in Los Angeles and San Mateo counties, it is only 46 percent for Samoans and 60 percent for Tongans.

The lack of routine mammograms among midlife and older Pacific women represents a concern, as mammograms remain one of the most reliable means to diagnose the presence of breast cancer at the earliest possible stage. That fewer Pacific Island women are either seeking or receiving mammograms when compared to other groups within the same geographic region, suggesting inequities in access, availability, and use of healthcare services. In particular, these findings indicate Samoan women are underserved in regard to mammograms when compared to the state of California and the United States in general.

An important topic for additional research, both using the present study and expanding the study in the future, will be to determine what factors drive the underutilization of health services. In this case, to what degree does lack of good insurance, the availability of healthcare providers within the community, or cultural barriers reduce a woman's willingness to seek mammograms on a regular basis?

Exhibit 2-8: Ever Had a Mammogram?



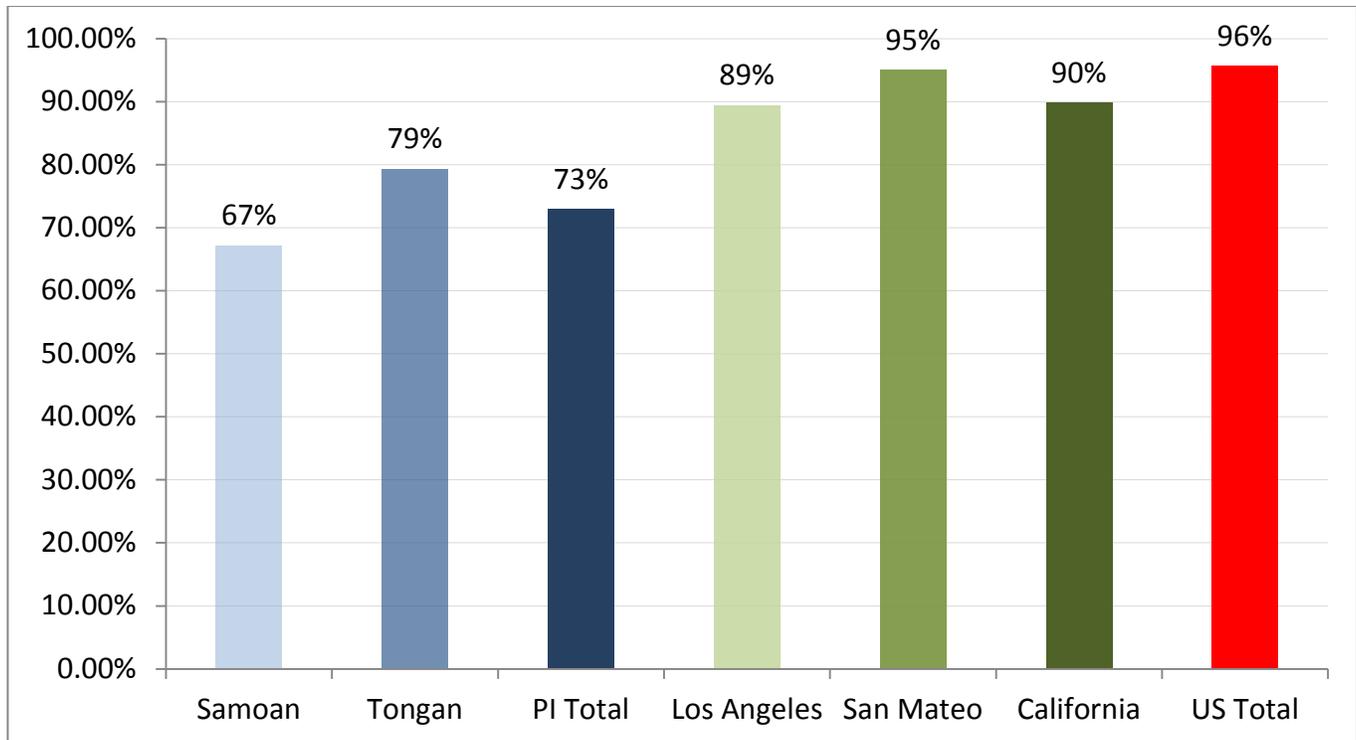
Pap Smear

Access to and utilization of routine tests to help identify and address a variety of gynecological problems, from simple infections to more serious concerns such as cervical, ovarian, uterine, vaginal, or vulvar cancers, are important to woman’s overall health. Cervical cancers are typically considered to be the easiest to diagnose and treat as the test for the presence of this disease is commonly performed as part of an annual physical. The test is relatively inexpensive and quite often can be provided to women free of charge if they lack health insurance.²⁸ While, as with mammograms, there has been some recent debate about the ideal frequency of Pap smears, this test remains one of the more common diagnostic screens given for cancers in the United States. Today’s guidelines suggest that Pap smears should be conducted every three years if the previous test showed no concerns and annually if the test finds concerns that need to be followed.

As shown in Exhibit 2-9, Pacific Islander women had a significantly lower rate of Pap smear tests (73 percent) than women in the US (96 percent), California (90 percent), or the study area (89 and 95 percent) populations. A higher portion of Tongan than Samoan women (79 versus 67 percent) reported

having had a Pap smear. As Pap smears are often a routine part of women’s medical examinations, it could be that Pacific Island women failed to obtain regular physical exams or that cultural barriers make the physical intrusiveness of the test a cause for concern and refusal of service. Better understanding of why Pacific Island women fail to receive this essential test for cervical cancer may help guide the development of interventions to improve compliance.

Exhibit 2-9: Ever Had a Pap Smear?



Health Behavior

Cigarette Smoking

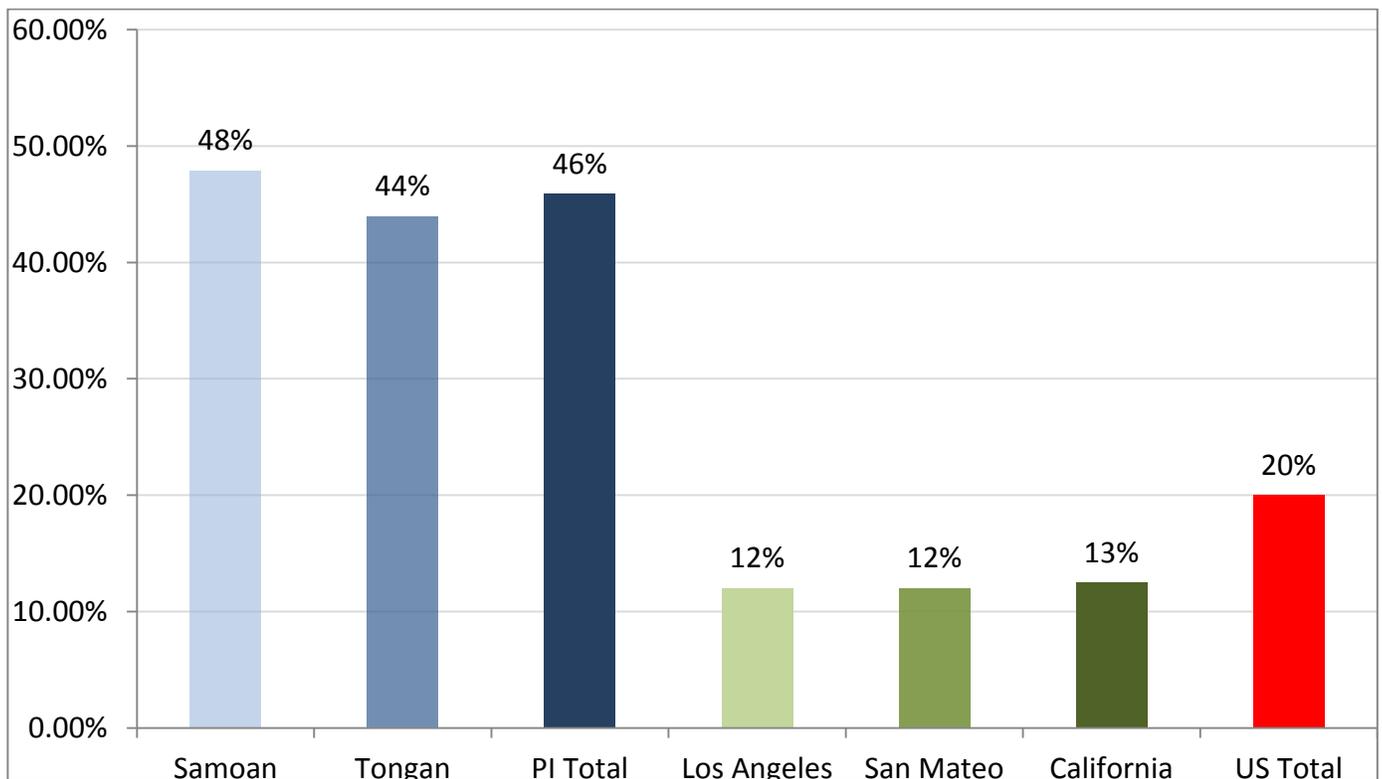
Among various risky behaviors that negatively impact the health of individuals, smoking is one of the most detrimental, leading to a wide array of diseases and comorbidities, including increased risk for cancers, heart attacks, strokes, and lung diseases, as well as increasing the risks associated with hypertension, diabetes, and a wide array of chronic health conditions.²⁹ Since the 1960s the US public health services, Surgeon Generals, physicians, and other healthcare advocates have all joined in a fight

to eliminate cigarette smoking among all individuals in the United States. These efforts have significantly reduced the number of current smoker’s in the US.

As shown in Exhibit 2-10, Pacific Islander adults have an abnormally high incidence of smoking – at 46 percent, their rate is almost four times as high as in California (13 percent) and over two times as high as in the nation as a whole. At 48 percent, Samoan adults have the highest rates of cigarette smoking, with Tongans, at 44 percent, not far behind.

These strikingly high reported rates of smoking represent an area of apparent failure for intervention strategies that have proved effective for the general population. Why intervention strategies to reduce smoking have not been successful among this population, and what alternative approaches might work better needs to be addressed in future research. Cigarette smoking has very high personal and societal costs, and is one of the greatest causes of preventable disease and death.

Exhibit 2-10: Currently a Smoker?



Flu Shot

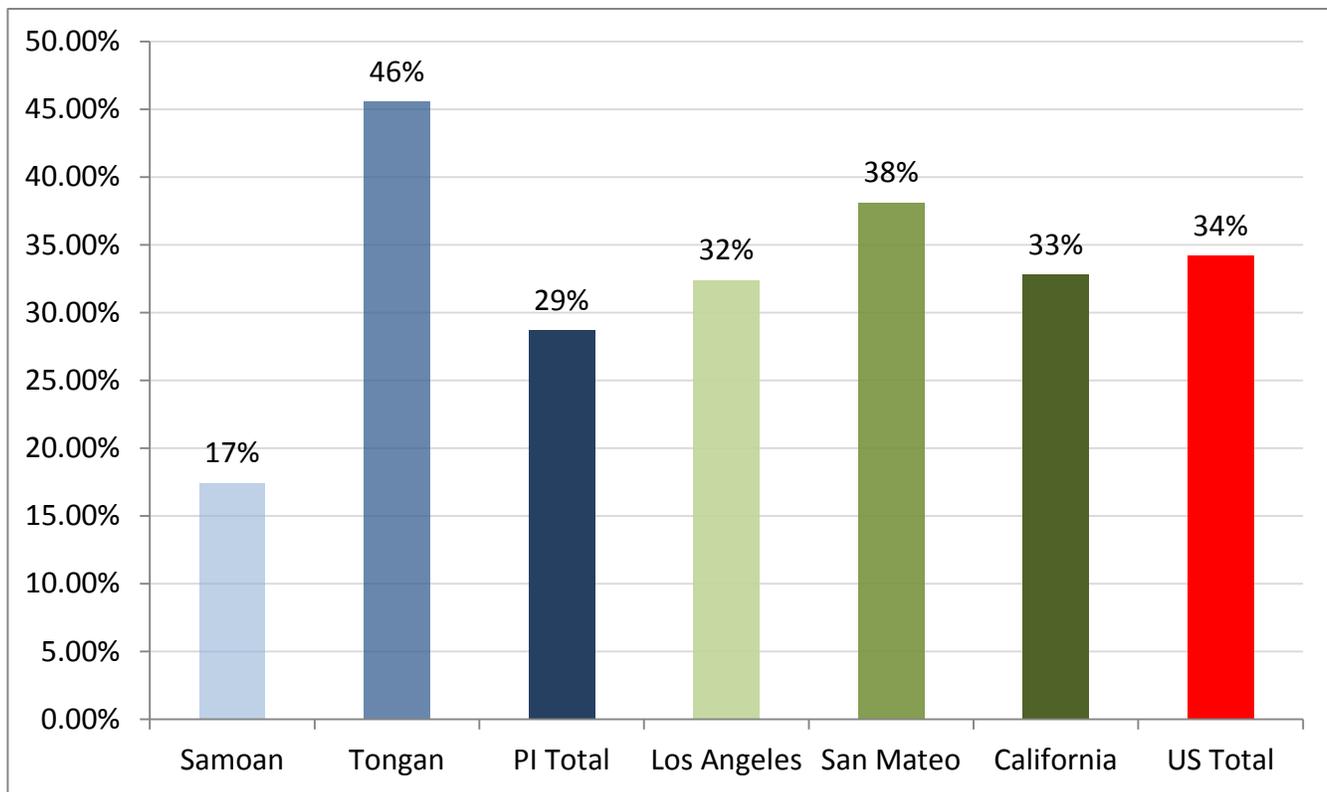
Obtaining a flu shot (vaccination) is a simple and relatively inexpensive preventive measure that can make a significant impact on individuals overall health during the course of a year, and particularly during flu season.³⁰ The US Department of Health and Human Services and many health care providers encourage annual flu vaccinations and many programs offer them for a minimal price via pharmacies and clinics, making them widely available and affordable even for individuals lacking insurance. While fluctuations in the availability of flu vaccine have occurred from year to year, there have been no marked shortages in recent years.

Exhibit 2-11 shows the percentage of respondents who said they had gotten a flu shot in the previous year. Overall, Pacific Islanders are less likely to report getting a flu shot (29 percent) than those in California (33 percent) and United States (34 percent), but Tongans (46 percent) report a rate that's two and a half times higher than the rate among Samoans (17 percent). Access to the flu vaccine may have played some role in this as San Mateo County, where the Tongan respondents resided, also reported a higher overall rate of flu shots than Los Angeles County, where the Samoan sample was drawn.

In this case, an important avenue for additional research will be to explore whether or not a particularly successful intervention or advertising campaign motivated Tongans to seek a flu shot during the reporting period. If so, the intervention might prove successful among the Samoan population as well. In broader terms, understanding what additional outreach might succeed with PIs – more information of health risks, broader availability of vaccine, lower thresholds to getting the shot – may help address the disparity.

As it stands now, the Samoan population is at far greater risk of having the flu and potentially spreading it among their family members and community. While for most people getting the flu is a relatively minor and temporary inconvenience, for others it can lead to serious health consequences and sometimes death.

Exhibit 2-11: Had a Flu Shot in the Past Year?



Oral Health

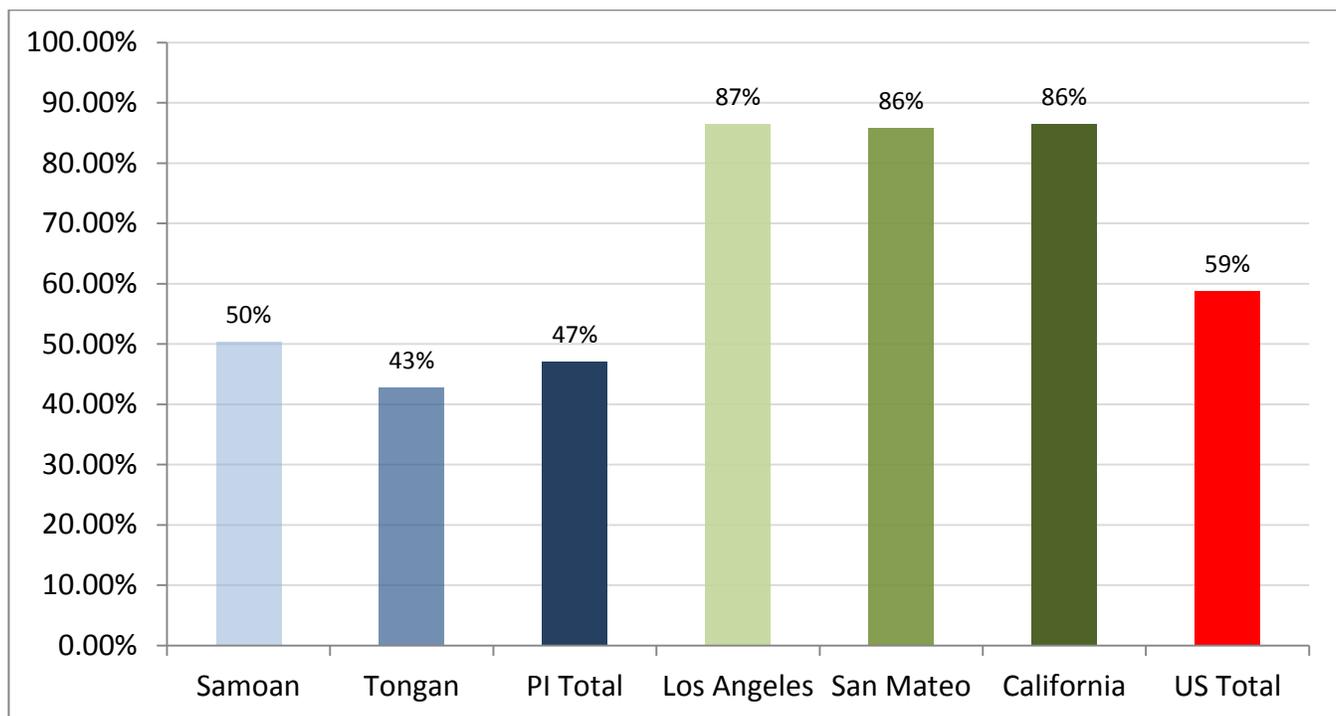
Oral health is an important but often overlooked aspect of the overall health of an individual and their quality of life. Dental care in the United States is unevenly distributed due to wide variations in insurance plans, the high costs associated with corrective procedures such as root canals and dentures, and a general reluctance of many individuals to seek preventative dental care which could help them avoid most dental problems later in life. Tooth loss, gum disease and other problems related to the jaw, tongue and throat can all have significant impacts on the ability of individuals to maintain a healthy diet.

As shown in Exhibit 2-12, more than half of the adults in the United States (60 percent) and almost 90 percent of those in California reported seeing a dentist at least once in the previous 12 months. Among Pacific Islanders a different picture emerges, with only 51 percent of Samoans and 43 percent of Tongans reporting the same.

These rates for PIs are especially concerning given the overall high rates of dental visits among Californians. While the state does provide dental services to low-income families through the Denti-care

program, the number of participating doctors remains low and service provision has declined in recent years due to California’s fiscal crisis and lowered reimbursement rates for dental care (HCA, 2002). Further investigation into the kinds of insurance Pacific Islanders use to obtain dental care will be required to better understand this problem. Other important areas include ensuring availability of dental care in and near Pacific Islander communities; and offering educational programs that emphasize the importance of routine dental care that are targeted to Pacific Islander communities both in terms of language and cultural competencies. As it stands now, the lack of routine dental care evidenced among Pacific Islanders could result in significant oral health problems as these individuals age and face long-term consequences of poor dental hygiene.

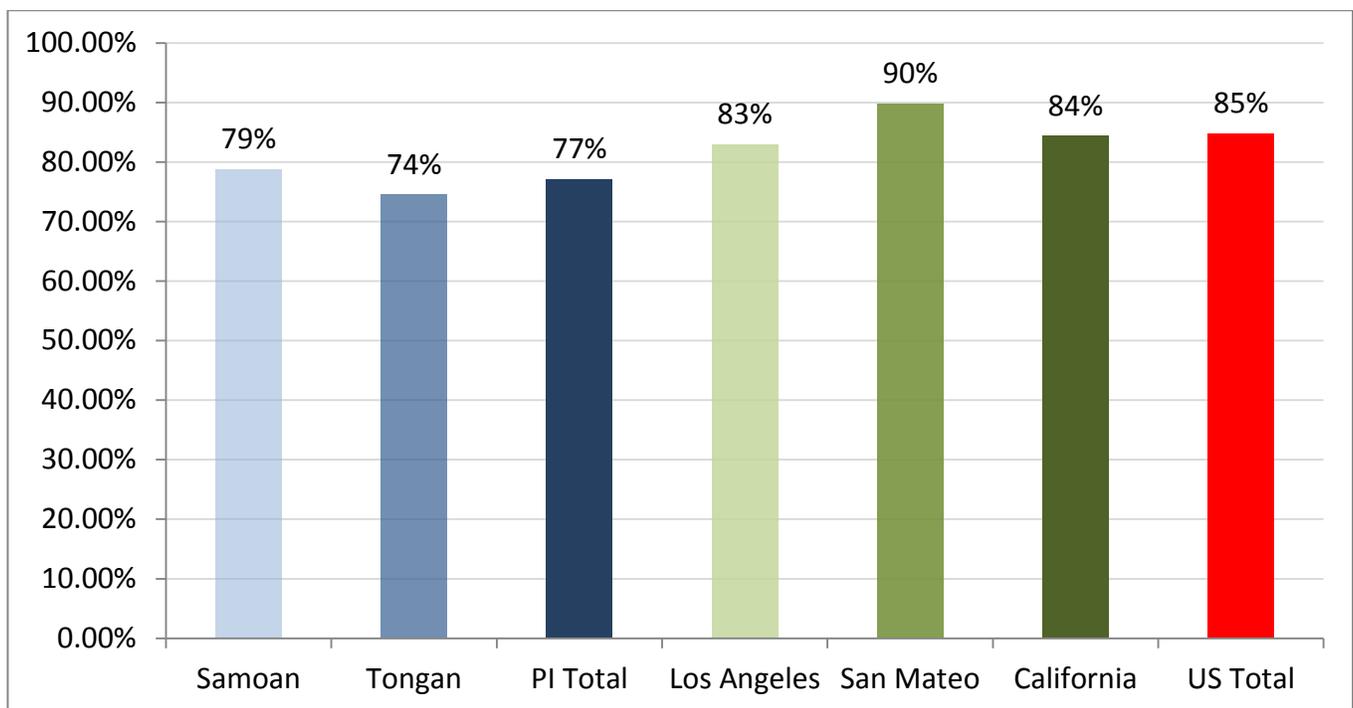
Exhibit 2-12: Seen a Dentist in the Last 12 Months?



Section 3 - Health Access and Utilization

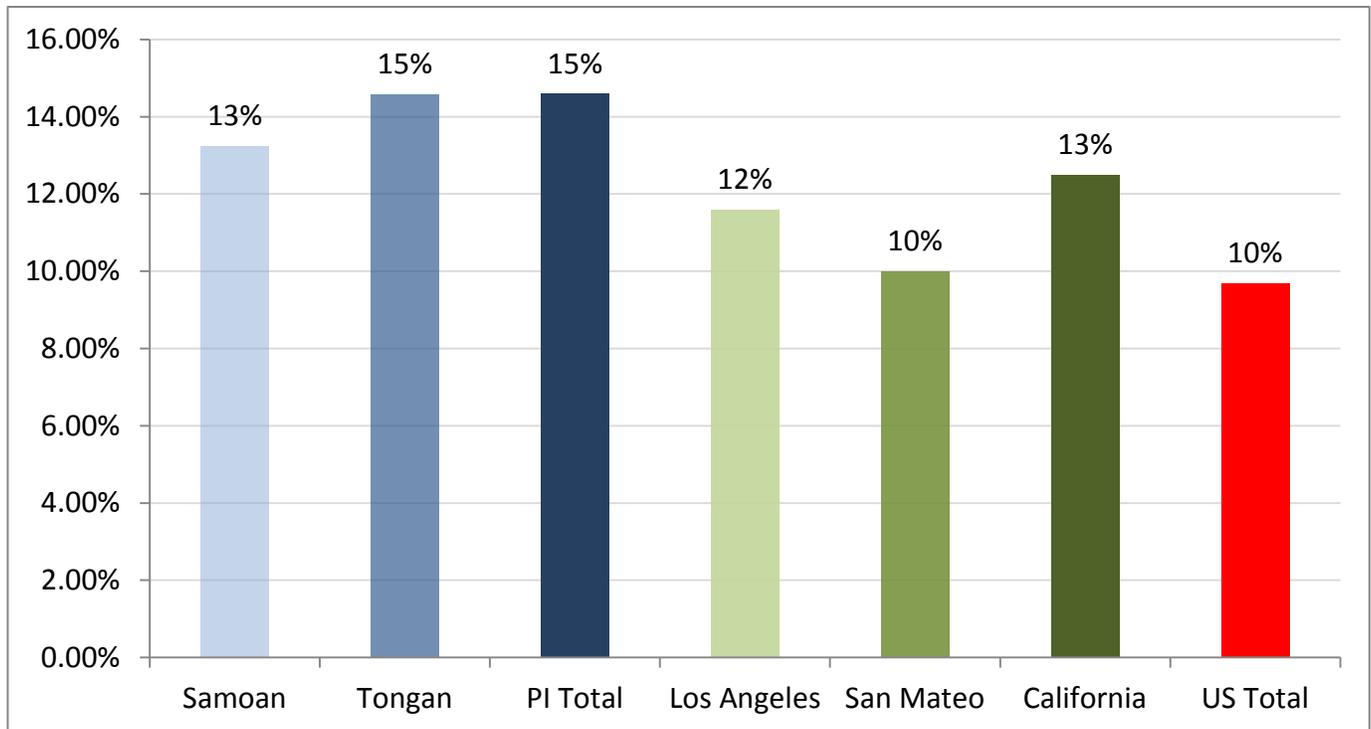
As part of understanding the reasons for potential interventions to address the disparities in health conditions and behaviors explored here, it is essential to examine health insurance rates among the study populations. We found more uniformity in health insurance rates than in some of the other measures examined in this report. As shown in Exhibit 3-1, Pacific Islanders report lower levels of health insurance than the larger US population (77 versus 85 percent), which may contribute to some of the larger health-related disparities found here, like rates of asthma, hypertension and dental visits.

Exhibit 3-1: Do You Have Any Form of Health Insurance?



In an area perhaps related to rates of health insurance coverage, Exhibit 3-2 looks at rates of delays in seeking medical treatment. Compared to the US as a whole, Pacific Islanders are more likely to report delays in seeking treatment (10 versus 15 percent). At the county level, Samoans and Tongans are more likely to delay seeking medical care than are all residents of the counties in which they reside: 13 versus 12 percent for Samoans and 15 versus 10 percent for Tongans. While California as a state shows higher rates than the US overall, Pacific Islanders are the most likely of all these groups to put off seeking medical treatment.

3-2: Have You Delayed Seeking Medical Care for any Reason?



Section Four: Adolescent Health

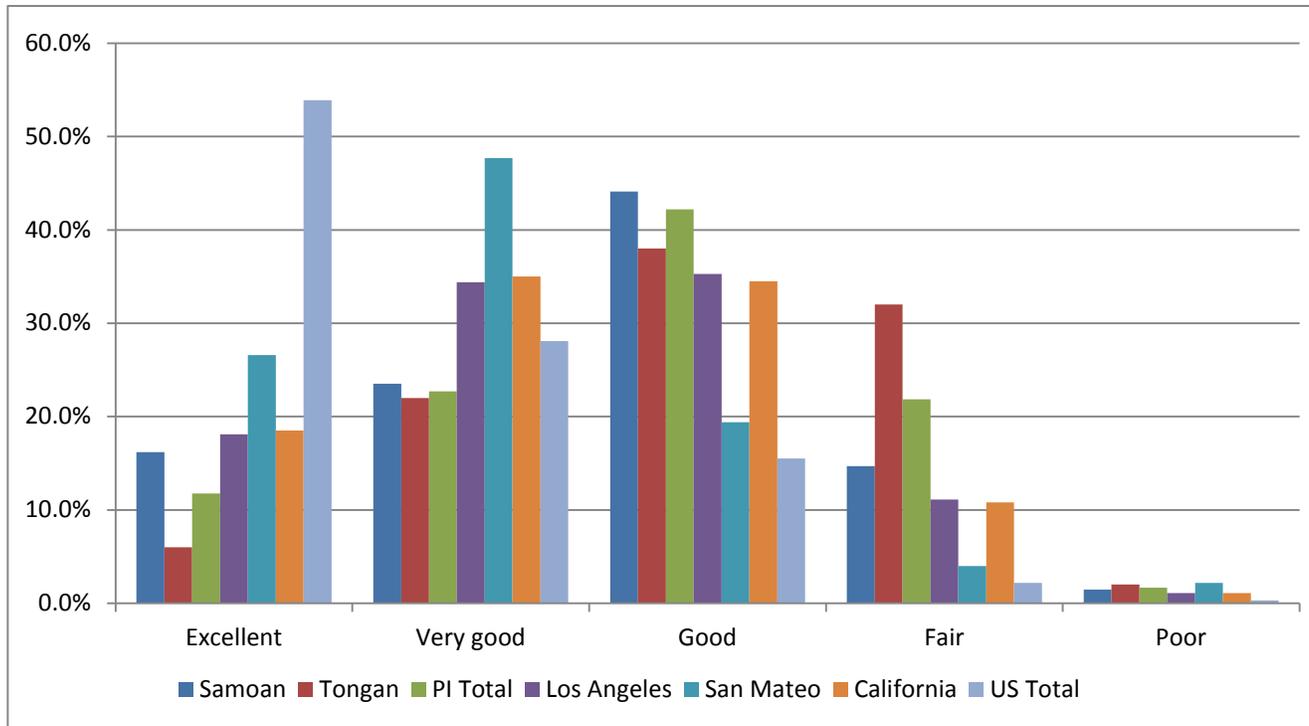
Self-Reported Health

Like Pacific Island adults, PI adolescents also view and report their overall health less favorably than the general population of the same ages. While the vast majority of adolescents in the United States have reportedly *excellent* or *very good* health, this may be affected by the methodology of the National Health Interview Survey, which collects information on adolescents by proxy and thus increases the risk of overstating health. The results for California will be used for comparative purposes in the subsequent analysis.

As shown in Exhibit 4-1, the majority of California adolescents report their overall health as being *very good*, followed by *excellent*. In contrast, Pacific Islander adolescents overwhelmingly rate their health as *good* with *fair* and *very good* health being about the same. Only 11 percent of Pacific Island adolescents report *excellent* health as compared to 18 percent of California adolescents. Tongans are far less likely to report their health as *excellent* and more likely to report their health as *poor* when compared to

Samoans. The reports of *excellent* health among Samoans, while lower than that seen for California as a whole, are somewhat comparable to rates reported for Los Angeles County where the Samoan sample was drawn. Samoans are far more likely to report their health as *good* as opposed to *Very Good*, while Los Angeles county rates are concentrated in *excellent* and *very Good*. Tongan adolescents report rates of self-reported health that are markedly lower than those reported for San Mateo county overall.

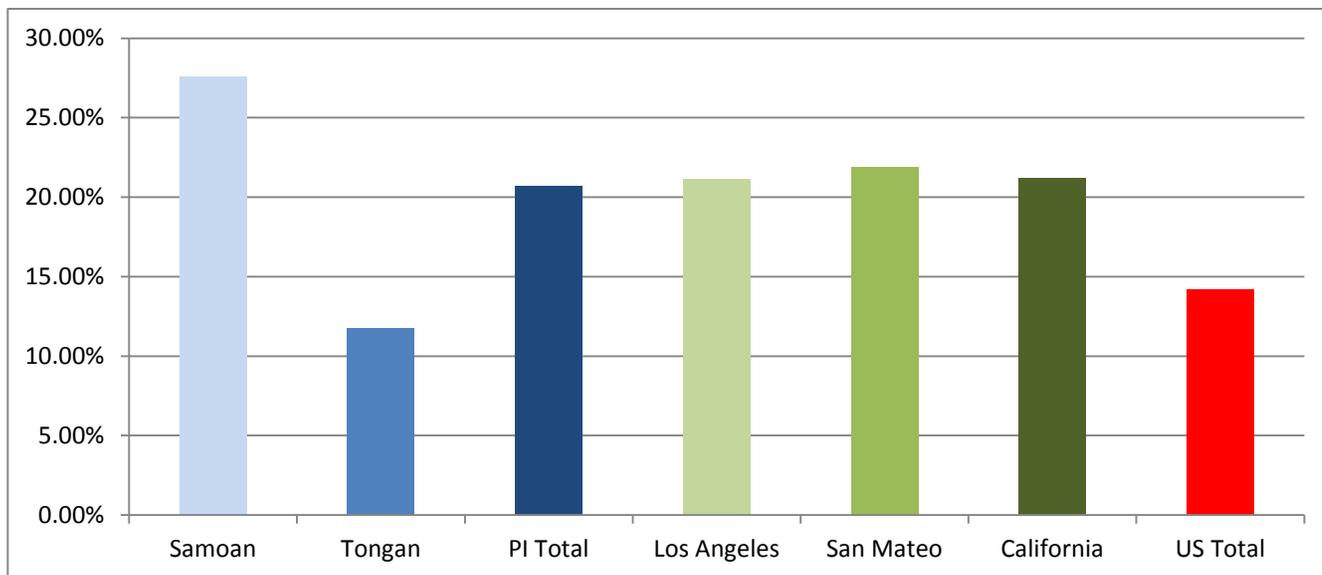
Exhibit 4-1: Self-Reported Health (Adolescents)?



Asthma

As shown in Exhibit 4-2, asthma is a health concern for Pacific Islander adolescents. With an overall rate of 21 percent, PI adolescents are comparable to California adolescents, but markedly higher than their peers in the United States. At 27 percent, Samoan adolescents have a much higher rate of asthma than Tongans, at 12 percent. Compared to the counties from which the PI samples were drawn, Samoan teens also report a much higher rate than found in Los Angeles county (27 versus 21 percent) county, while the rate of asthma for Tongans was much lower than for adolescents in San Mateo county (12 versus 22 percent).

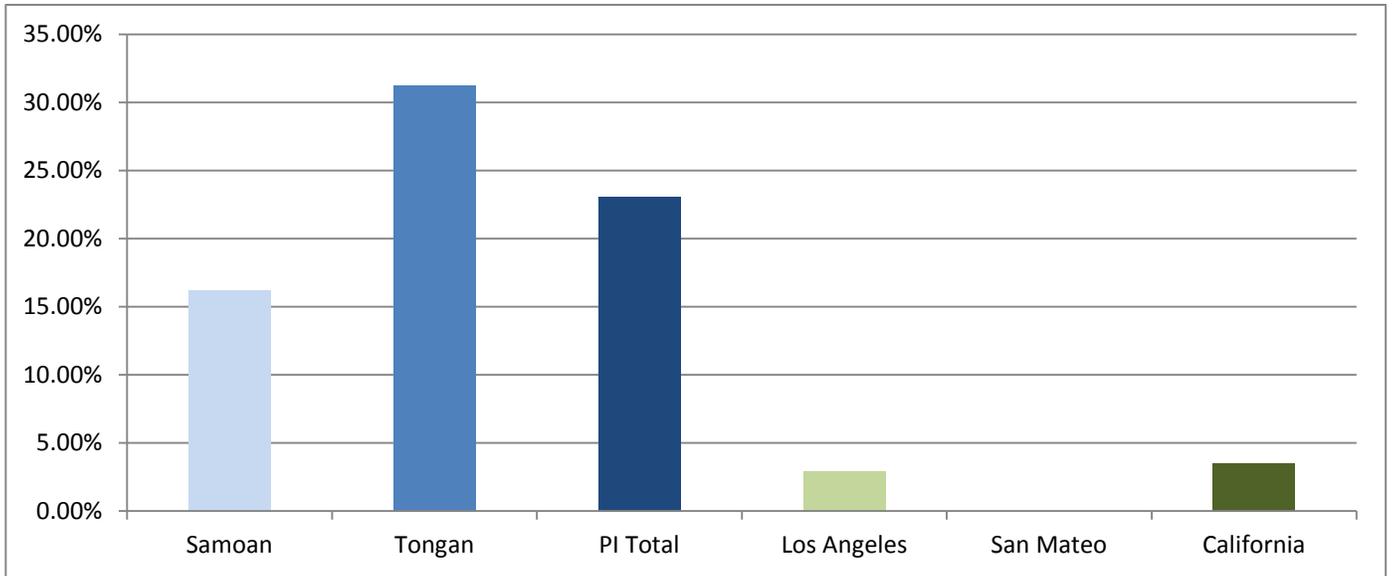
Exhibit 4-2: Having You Ever Had Asthma (Adolescents)?



Ever Smoked Cigarettes?

As found for Pacific Islander adults, smoking among Pacific Islander adolescents is strikingly higher than among their California peers (23 versus 4 percent). As shown in Exhibit 4-3, Tongan teens reported the highest rate, about twice as high as Samoan teens (31 versus 16 percent) and significantly higher in both cases than teen smoking rates reported for Los Angeles and San Mateo counties. As smoking early in life greatly increases the risk of additional and later-life health challenges, this high rate of smoking among PI adolescents represents a serious health concern.

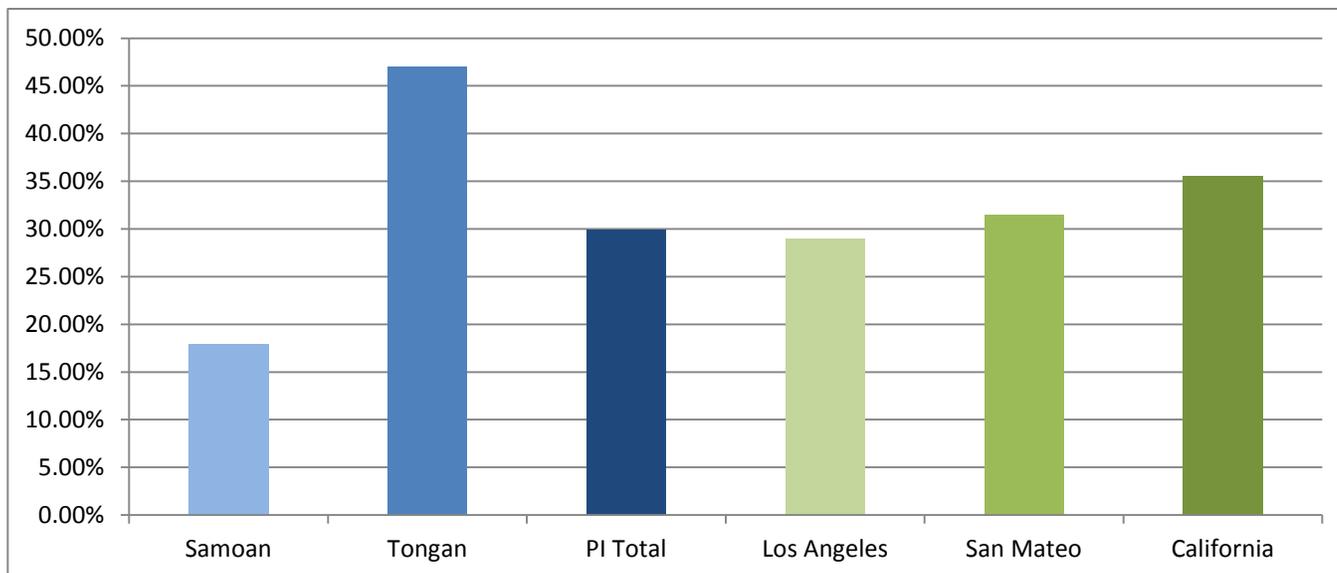
Exhibit 4-3: Have You Ever Smoked (Adolescents)?



Ever Tried Alcohol?

As shown in Exhibit 4-4, experience drinking alcohol is more common among California adolescents than among PI adolescents overall, but is significantly higher among Tongan teens and significantly lower among Samoan teens than for any other peer groups.

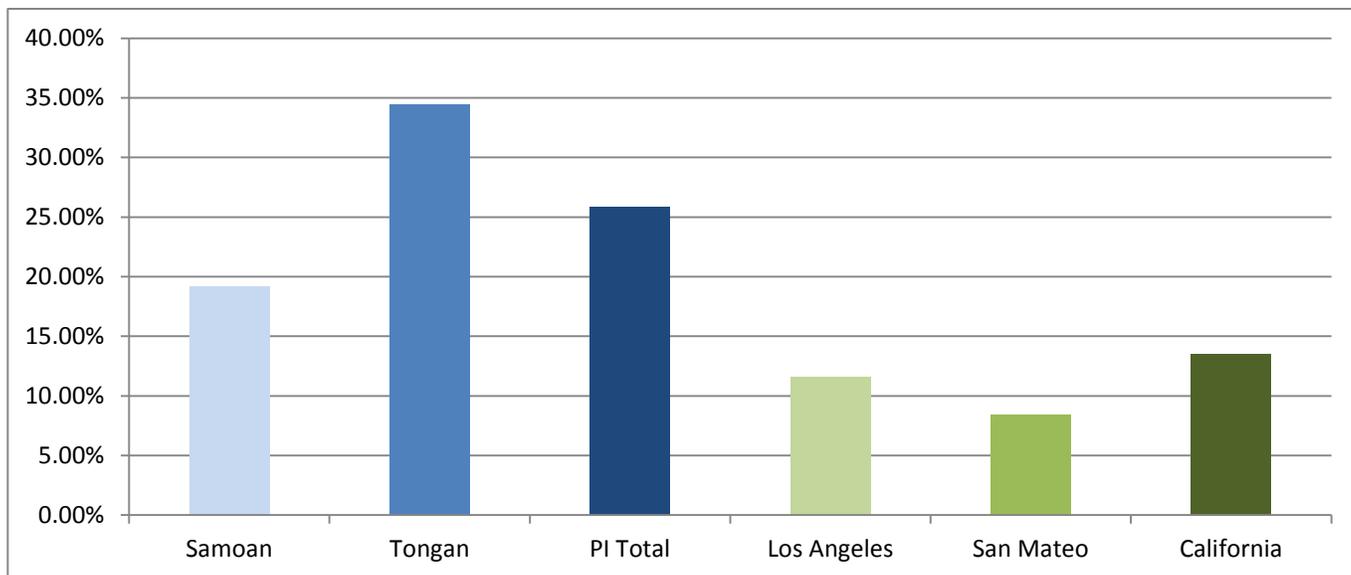
Exhibit 4-4: Have You Ever Tried Alcohol (Adolescents)?



Ever tried Drugs?

As shown in Exhibit 4-5, Pacific Islander (26 percent) adolescents reported having tried drugs at rates markedly higher than teens in California or the two study counties. While the Samoan rate was high in relation to the rate reported for Los Angeles County (19 versus 11 percent), the rate of drug experimentation among Tongan teens (34 percent) was strikingly higher than for all other populations. As the Tongan rate is approximately four times higher than that reported for San Mateo County, it suggests that drug experimentation among Tongan adolescents in particular is an issue that requires additional examination.

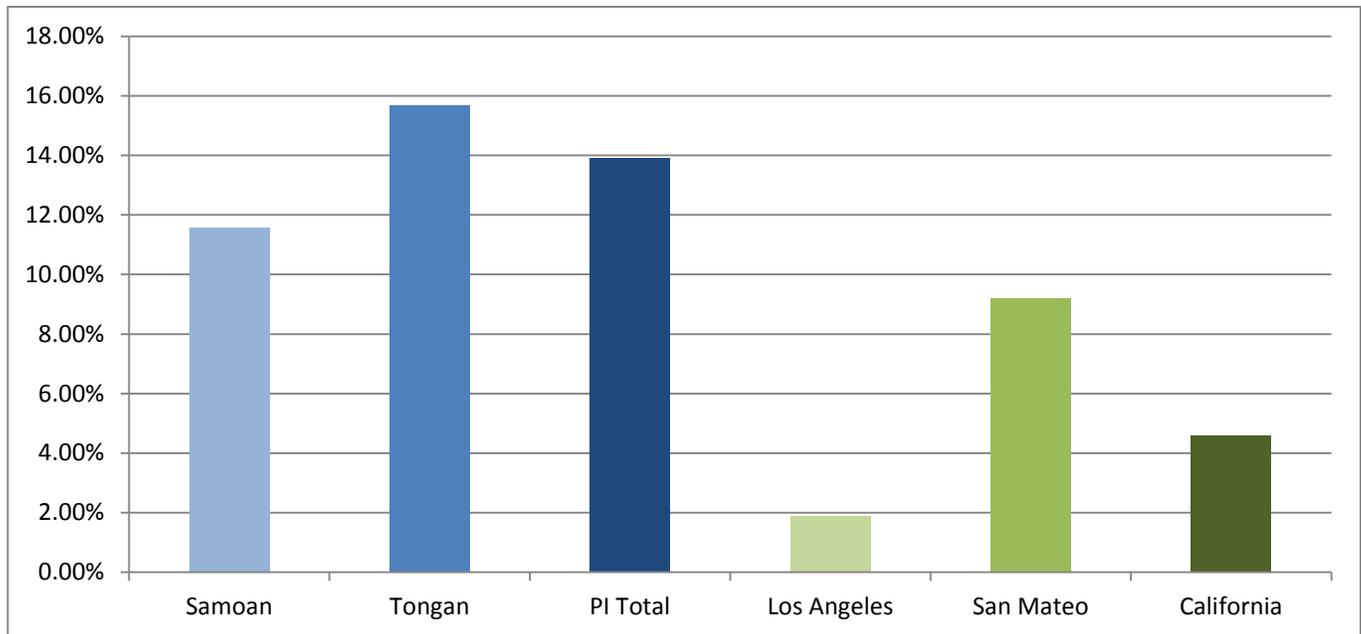
Exhibit 4-5: Have You Ever Experimented With Drugs (Adolescents)?



Ever Used Marijuana?

As shown in Exhibit 4-6, PI adolescents reported discernibly higher marijuana use than all other peer groups studied – for example 14 percent of PI teens said they had tried marijuana compared to about 4 percent of Californian adolescents. Within Pacific Islanders, Tongan teens had higher rates than Samoan teens (15 versus 11 percent). Also of interest was the geographic variation in reported teen marijuana use between Los Angeles and San Mateo counties (2 versus 9 percent). As the Tongan sample is drawn from San Mateo, this community difference may have contributed to the high rate found for Tongan teens.

Exhibit 4-6: Have You Ever Used Marijuana (Adolescents)?



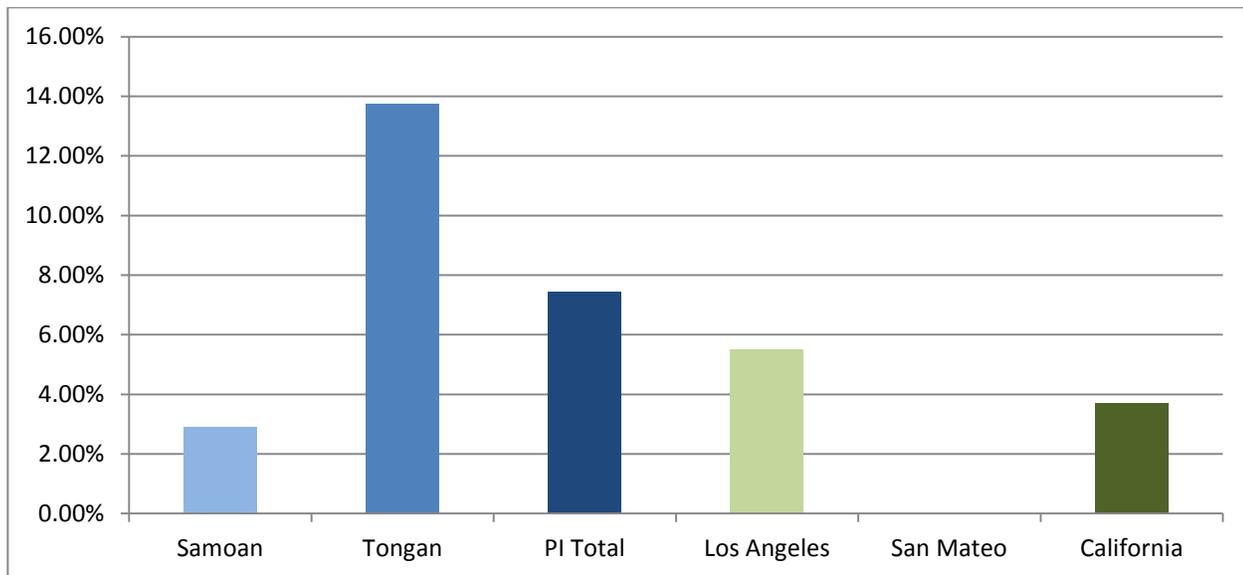
Serious Psychological Distress

Formally defined, serious psychological distress (SPD) is a non-specific category of distress characterized by a DSM-IV-defined mood or anxiety disorder and that is characterized by less functional impairment than serious mental illness (SMI). SPD is considered to be an indicator of possible SMI, with similar but less strict inclusion criteria. The Kessler 6 item scale used in this study was developed with support from the U.S. government's National Center for Health Statistics for use in the redesigned U.S. National Health Interview Survey (NHIS). As described in Kessler et al. (2003), the K6 scale uses 6 questions that have been shown to be sensitive for indications of an increased risk for serious mental illness, and can be used as tool to stratify the population into risk and non-risk groups. On the K6 scale, a score of 13 or higher represents a state of serious psychological distress. This measure has been commonly used in a growing number of federal and independent studies, allowing for broad comparative powers across data sets.

Exhibit 4-7 shows higher rates of SPD for all PI teens (7 percent) and, particularly, for Tongan teens (14 percent), than for teens in California or either study county. On the other hand, Samoan teens had a lower rate (3 percent) than found in California. The rates were comparable in California and Los Angeles county (around 4 and 5 percent), while San Mateo county reflected no statistically measurable pattern

of SPD at all. This high rate of SPD among Tongan adolescents seems consistent with the earlier findings that Tongan youths were more likely to engage in risky behavior such as cigarette smoking, alcohol, and drug experimentation when compared to Samoan adolescents and their peers in California. These findings argue that Tongan adolescents are facing challenges perhaps more severe than, but certainly different from, those found among Samoan adolescents. Consequently we want to examine the lives of Tongan youths more closely to better understand the risks they face and the risky behaviors they engage in.

Exhibit 4-7: Showing Serious Psychological Distress (Adolescents)?



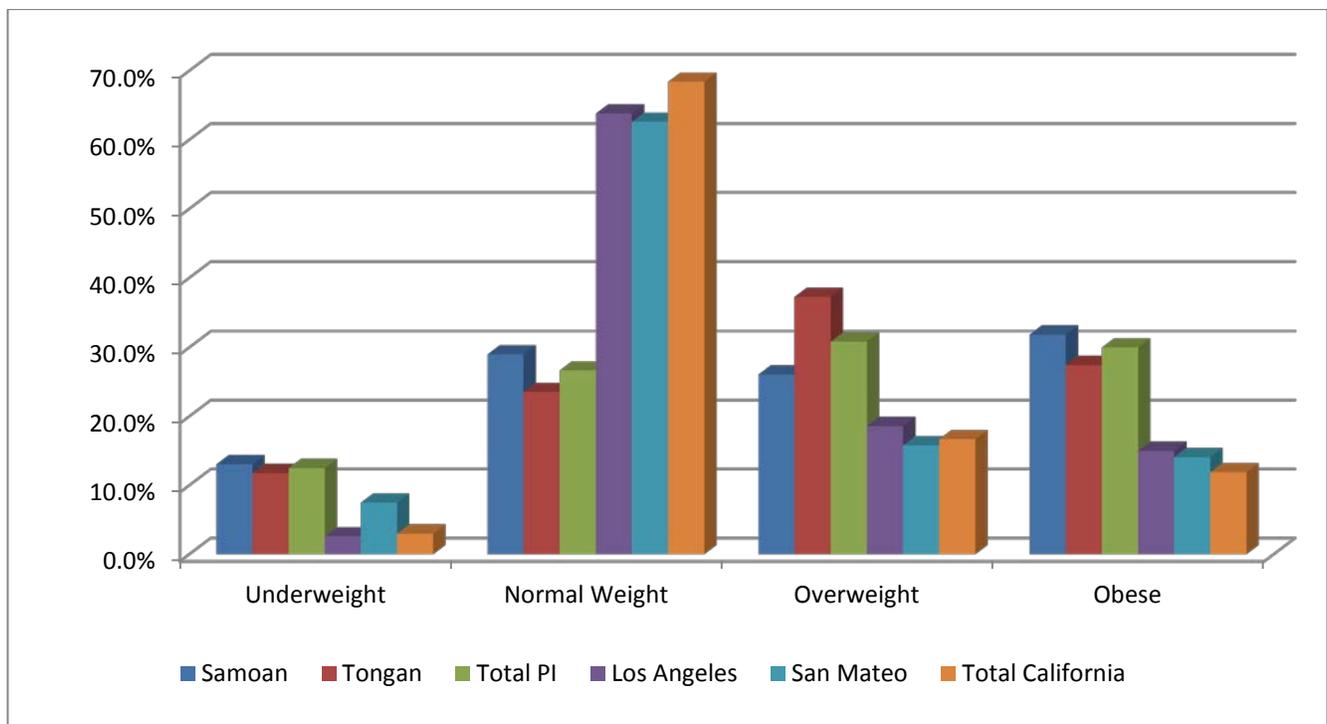
Adolescent Body Mass Index

The measurement of body mass index (BMI) among adolescent Pacific Islanders offers a similar though not quite as stark picture of health as measured through PI adult BMI. As shown in Exhibit 4-8, adolescents show a pattern similar to adults for normal weight distribution, with over 60 percent of adolescents in California and the two study counties reporting normal weight BMI. In contrast, only about 25 percent of adolescent Pacific Islanders were found to have a normal weight BMI and the proportion who had a BMI that classified them as either obese or overweight was significantly higher than for the other groups. Tongans are somewhat more likely to be overweight than Samoans and Samoans are somewhat more likely to be obese compared to Tongans. Also of interest is the finding that portion of underweight Pacific Islander adolescents is about twice as large as that seen for California

overall. This raises questions of nutrition and access to food rather than excess dieting which is more common among white adolescents.

While the level of obesity seen among Pacific Islander adolescents is considerably less than that seen for adults, with only 60 percent of adolescents being classified as either overweight or obese, these rates are still much higher than seen for the state as a whole and may indicate the beginnings of a lifelong tendency towards obesity. If the adolescents follow the path seen among the adults in this study, the consequences of obesity will continue to negatively impact Pacific Islander populations.

Exhibit 4-8: Body Mass Index for Pacific Islander Adolescents



Section Five: Conclusion, Key Findings and Future Directions

Conclusions

The baseline PIHS represents an effort to test our ability to systematically measure and understand the health behaviors of Pacific Islanders. This effort was seen as important due to the lack of information on the lives of Pacific Islanders that was both informative and comparable to existing national surveys of health and socioeconomic status. The results from the study show clearly that these goals can be achieved, that researchers can interview micro-minority populations in a manner that provides scientifically valid observations about the population behavior. Using a questionnaire design that drew from important national and state level surveys the PIHS provides the first statistically robust window into the lives of Pacific Islanders living in the United States. The findings from the PIHS also reinforce the wisdom of the OMB directive that required the collection of data on Pacific Islanders independent of Asians. While it was generally assumed that the use of the older API category introduces significant bias into our understanding of the lives of both Asians and Pacific Islanders, without good data on both groups it was impossible to validate this assumption. The findings emerging now from the PIHS show clearly that Pacific Islanders faced challenges and health concerns that differentiate themselves from Asian populations. This is particularly true in terms of obesity, hypertension and diabetes.

Another important finding is of the level of heterogeneity that exists within Pacific Islanders is a population group. Considerable variation exists in health measures and health outcomes when Samoans are compared to Tongans. While place of residence, Los Angeles County as compared to San Mateo County, they also play a role in this process it is clear that even for small population groups it is essential to have data that allows for the study of subgroups. The analysis of the adult files show that Samoan adults were less likely than Tongans to engage in preventative or diagnostic care such as flu shots, breast exams and Pap smears. In contrast Tongan adolescents showed a much greater tendency to engage in risky behaviors such as smoking and drinking when compared to Samoan adolescents. Tongan adolescents were also far more likely to reflect serious psychological distress when compared to Samoans. The ability to perform this kind of granular analysis could allow for more efficient and effective interventions that are targeted to the specific needs of each group.

Key Findings

Self-reported Health: Pacific Islanders as a group tend to report their overall physical health as being lower than that seen for the US and the state of California while over 25% of the population in these areas report their health as excellent, this is true for only 10% of Pacific Islanders. A similar pattern is seen among adolescent Pacific Islanders in their self-reported health so clear ethnic differences can be seen as well with over twice as many Samoans adolescents reporting excellent health as Tongan adolescents.

Asthma: Reported rates of ever having had asthma among Pacific Islander adults are comparable to that seen for the United States and for California as a whole at approximately 13 to 14 percent of the population. Marked variation is seen within Pacific Islanders however with rates of asthma among Samoans being almost twice as high as that reported for Tongans. This differential rate may have something to do with place as the Samoan sample lives in Los Angeles County as compared to Tongans located in San Mateo. Further research will be required to differentiate environmental effects from population effects but it is clear that asthma reflects heterogeneous findings.

Smoking: Both Pacific Islander Adults and Adolescents smoke at rates much higher than that seen for the US and California. It is clear that the education programs that have so successfully reduced smoking in the US have not successfully migrated to Pacific Islanders and targeted interventions are needed to help current smokers quit and to prevent future smoker from starting.

Diabetes and Hypertension: Rates of both these chronic diseases are markedly higher among Pacific Islanders than among the US and California populations. As both of these conditions can be treated and managed with adequate medical care and modifications to diet and activity levels, there is no reason why these excessive disease rates exist other than the failure to aggressively educate and treat these communities.

Obesity: If there is one single concern that emerges from the Pacific Islander Health Study results it is the massive levels of obesity seen among Pacific Islanders, particularly adults. The consequences of obesity are well established and the costs both the quality of life of the individual as well as to their ability to

productively contribute to the community are so high that addressing this problem alone could help improve health conditions among Pacific Islanders across many areas including heart disease, stroke, high blood pressure and diabetes. That the adolescent population already shows higher rates of obesity than California and their counties of residence suggests that their children will follow the path of the adults where the majority of the population is unhealthy and overweight. This is a health problem that needs to be aggressively addressed and culturally appropriate interventions need to be developed to help reduce endemic obesity among Pacific Islanders.

Mammogram: Among women aged 50 years and older Pacific Islanders lag behind the United States and California in reporting having had a mammogram at some point in their life. While almost 80 percent of all women 50 years and older and over 70 percent of all women in California reported ever having had at least one mammogram and only 54 percent of Pacific Islander women had done so. As the mammogram continues to represent the single most useful diagnostic tool to identify and treat breast cancer at an early stage this is a disturbing finding.

Pap Smear. Even with higher rates of access to this important medical test Pacific women lag behind both the United States and other female residents living in the same counties these Pacific women currently reside in. As was the case with mammograms further investigation is required to better understand the cause of this disparity.

Oral Health. Culturally, the lack of good dental care in the Pacific has resulted in a situation where many elderly in Samoa, Tonga and elsewhere subsist largely on a diet of bread and tea as the bread can be soaked in the tea and softened to a point where it can be ingested by an individual lacking most of their teeth. While this is not generally the case in the United States it remains important to maintain healthy teeth and gums throughout the life course in order to continue to enjoy a high quality of life.

Adolescent Risk Behaviors: Pacific Islander adolescents engage in risk behaviors such as smoking, drinking and experimentation with drugs at rates much higher than that seen for other California adolescents. Within Pacific Islanders, Tongans seem much more likely than Samoans to engage in these kinds of behaviors and the costs of this higher rate of risk taking is seen in Tongan adolescents greater

level of Severe Psychological Distress, an early and disturbing indicator of the potential for mental illness among this group.

Recommendations

While the findings from the present phase of the PIHS offer considerable new insight regarding the health and lives of Pacific Islanders it is important to emphasize the fact that this report draws upon the baseline data collection efforts. While obtaining statistically relevant information on Pacific Islanders represents the core aim of the PIHS the present baseline study also represented an opportunity to develop and field test methodologies specific to obtaining reliable samples from micro-minority populations who live in residential clusters. In this regard the study was also quite successful. Through a combination of community engagement, meetings and focus groups as well as ongoing communications with community and faith-based leaders the study team was able to anticipate and address existing community concerns regarding the lack of tangible benefits that was the norm for previous interactions with researchers interviewing within these neighborhoods. By building trust relationships with community and faith-based leaders the study team was able to acquire reliable sampling frame of community residents from which it could draw a representative sample of Samoans and Tongans in the targeted counties of Los Angeles and San Mateo. Drawing upon the well-established expertise in survey research that the Institute for social research is renowned for the study team was able to develop in field a survey questionnaire that was both comparable to existing surveys and relevant to the cultural expectations of Pacific Islanders. ISR's long history in survey design also allowed us to develop and implement a sampling strategy that maximize the value of the sampling frame obtained from the rosters provided by church leaders. The study team tested, trained and employed bilingual interviewers who were drawn from the communities of interest. This helped overcome and potential language barriers but more importantly the shared cultural ties between the respondent and the interviewer helped increase trust and reduce the risk of inadvertent miscommunications.

The baseline study of the PIHS then accomplished two core goals; it collected information on the health of Pacific Islander and more importantly, it showed that this could be done in a way that produced statistically reliable information in a cost effective manner. The next steps in the research process need to build upon this solid foundation. The sample needs to be expanded, both in terms of the number of

households interviewed and in the collection of data across multiple Pacific Islander ethnicities. In addition, the sample needs to include enough respondents from the same counties for the study to begin to disentangle the relative impacts of place and ethnicity. Now that the methodological approach and the questionnaire content has been tested and validated the study needs to increase the sample size to provide the number of cases required to explore the causes for effects seen in the baseline analysis. As the goal of the PIHS is to become a longitudinal study to follow the lives of Pacific Islanders will also require sufficient case size to allow for attrition and loss to follow-up common in panel studies. Finally, the PIHS will need to become part of a research process that seeks to address health concerns among Pacific Islanders and to work with government agencies, communities and their advocates in developing and implementing effective interventions to help Pacific Islanders achieve a healthy lifecourse and a high quality of life.

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This report was written for timely dissemination of preliminary study results. Readers may quote from this work with proper acknowledgement and without altering the content. For more information on the study, please contact: Sela Panapasa at the University of Michigan Institute for Social Research, 426 Thompson Street, Ann Arbor, Michigan 48106.

