

# NCD Hybrid Surveys

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PIHOA Board Meeting

American Samoa

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# **Pacific Islands Health Officers Association**

## **Board Resolution #48-01**

*“Declaring a Regional State of Health Emergency  
Due to the Epidemic of Non-Communicable Diseases  
in the United States-Affiliated Pacific Islands”*

## Figure 1-

# NCD Surveillance Framework

### Every 1-2 Years

- Is the NCD response being implemented?
- Is it succeeding?

### Youth Risk Factors

- 30 day Tobacco use prevalence
- 30 day Alcohol use prevalence
- Overweight + Obesity prevalence

(YRBS, GSYS, or local school survey grades 9-12)

### Core Policies Uptake

(per NCD Response M&E Plan)



### Every 3-5 Years

- More detailed feedback to adjust routine strategy and confirm success

### Adult Risk Factors

- 30 day Tobacco use prevalence
- 7 day problem alcohol use prevalence
- Overweight + Obesity prevalence
- HTN, DM, High Cholesterol prevalence

**(25-64 yo-NCD Steps, or face-to-face BRFSS with physical measurements)**

### Mortality

- All-cause mortality 30-69yo
- Cause specific mortality 30-69 yo
  - Cancer
  - CVD
  - COPD
  - Diabetes

**(Vital Stats & Census)**

### As Needed

- Supplemental and special studies to test & refine strategies

Cancer Registry

Food Access Surveys

Environment Surveys

Economic Impact Studies

Regulation Compliance Surveys

Health System Capacity Surveys

Hospital & Outpatient Encounter Data

Health Service Quality and Coverage

# NCD Survey Report Card

	<u>Survey within past 5 years</u>	<u>At least 2 for comparison</u>
American Samoa	✗	✗
CNMI	✓	✗
Guam	✓	✓
Chuuk	✓	✓
Kosrae	✓	✗
Pohnpei	✗	✓
Yap	✓	✓
Palau	✓	✓
RMI	✗	✗

# Adult NCD Survey Challenges

- Not being conducted regularly
  - No surveillance plans in place; inconsistent funding and support
- Data not consistently collected
  - Multiple partners using multiple frameworks; different methodologies
- Limited staff and staff capacity
  - Staff wear multiple hats; Limited epidemiological training
- Long delays with data analysis
  - STEPS reports have taken up to 10 years
- Data ownership
  - STEPS data not available; underutilization of these data

# How can we do things differently?



World Health Organization



# Benefits of hybrid survey

- Ongoing adult NCD surveillance that meets reporting needs of multiple support partners
- Using local staff to complete survey while building capacity through thorough training and ongoing TA
- Data ownership
- Timely data and data dissemination (reports and workshops)
- Quality data collection and customization to meet local needs for planning and evaluation
- Collaboration within jurisdiction and external partners- breaking the silos

# Progress

- 2016
  - CNMI- report complete/endorsed
  - Palau- report complete/endorsed
- 2017
  - American Samoa- data collection complete
  - RMI- data collection almost complete
- 2018
  - Guam “BRFSS-plus”- ongoing
  - FSM- Kosrae beginning September
  - FSM- Pohnpei and Yap- potentially 2018
- 2019
  - FSM Chuuk

How we can use our hybrid data...

An example examining diabetes in  
Palau



## Palau vs. USA



Compared to the US, Palau has worse health outcomes and behaviors with the exceptions of general alcohol use, hypertension, and high cholesterol.

	Palau %	US %	Comparison
<b>Current tobacco use (past 30 days)</b>			
Cigarette smoking	20.4	17.0	↑
Smokeless tobacco use	45.8	4.0	↑
<b>Current alcohol use (past 30 days)</b>			
Alcohol use (any)	41.1	54.0	↓
Binge drinking (5+ drinks per day)	27.3	16.9	↑
<b>Nutrition</b>			
<5 servings of fruits and vegetables (per day)	90.1	76.5 <sup>1</sup>	↑
<b>Health and healthcare</b>			
Fair or poor health (self-reported)	46.7	16.7	↑
<u>No</u> medical checkup in the past year	48.1	29.2	↑
<b>Oral health</b>			
<u>No</u> dental visit within past year	59.5	33.7	↑
Extracted permanent teeth due to decay/disease	65.7	43.4	↑
<b>Chronic conditions</b>			
Overweight/obesity	72.5	65.4	↑
Diabetes (self-reported + undiagnosed)	22.2	12.2 <sup>2</sup>	↑
Hypertension (self-reported + undiagnosed)	32.9	33.5 <sup>3</sup>	○
Measured High cholesterol ( $\geq 240\text{mg/dL}$ )	4.9	12.1 <sup>4</sup>	↓
<b>Cancer screening</b>			
<u>No</u> Pap smear in the past 3 years (women 21-65 yo)	39.7	17.5	↑
<u>No</u> mammogram in the past 2 years (women 50-74yo)	70.3	21.9	↑

Source for US comparison: BRFSS 2016 unless noted with <sup>1</sup>BRFSS 2009 or <sup>2</sup>Estimation of U.S. (diagnosed + undiagnosed) 18+ prevalence based on NHANES 2011-2014 or <sup>3</sup> NHANES 2013-2014 (adults 20+).  
<sup>4</sup>NHANES 2011-2014 (adults 20+). Note that the US BRFSS overweight/obesity measures are based on self-report.

# Surveillance in Palau: 2012 vs. 2016

The table below compares the 2012 Palau STEPS results from adults 25-64 years old to the 2016 Palau Hybrid Survey limited to adults 25-64 years old for comparison. From 2012 to 2016, tobacco use through betel nut chewing decreased while smoking increased. There was a decrease in overweight/obesity prevalence and hypertension, however there was no change in diabetes prevalence, and high cholesterol increased. Note that some of these changes could be explained by shifting demographics (mostly due to immigration) in Palau.

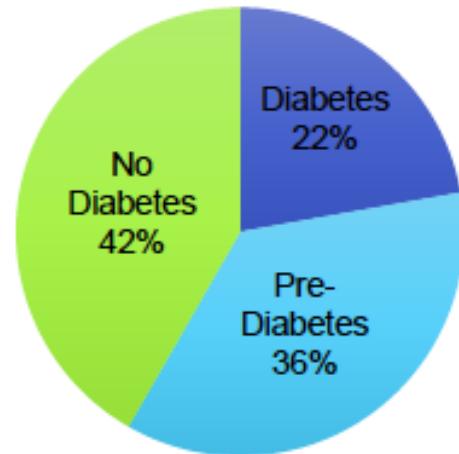
	2012%	2016%	Comparison
<b>Current tobacco use</b>			
Cigarette smoking	16.6	20.6	↑
Chewing betel nut with tobacco	54.2	46.2	↓
<b>Current alcohol use</b>			
Binge drinking (5+ drinks per day)	29.3	29.2	○
<b>Chronic conditions</b>			
Overweight/obesity	77.6	71.7	↓
Diabetes (self-reported on meds or $\geq 126\text{mg/dL}$ )	20.4	21.1	○
Hypertension (self-reported on meds or $\geq 140/90$ )	49.0	30.1	↓
High cholesterol (self-reported on meds or $\geq 240\text{mg/dL}$ )	7.2	11.0	↑

# High Blood Sugar / Diabetes

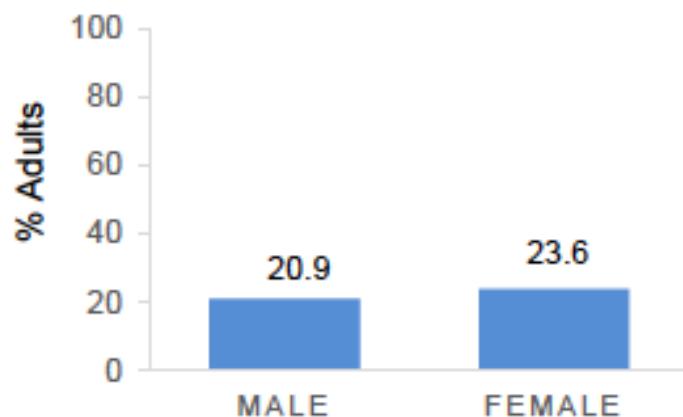
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22.2% of adults had measured high fasting blood sugar ( $\geq 126\text{mg/dL}$ ) or self-reported having diabetes for which they were taking medication.

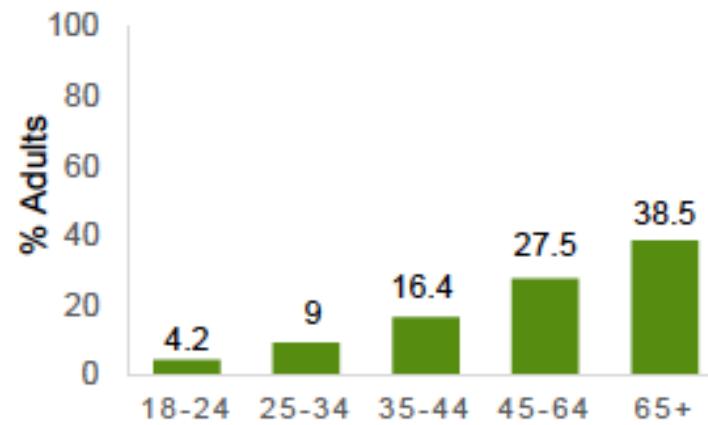
36.1% of adults self-reported having pre-diabetes or had a fasting blood sugar  $\geq 100\text{mg/dL}$ .



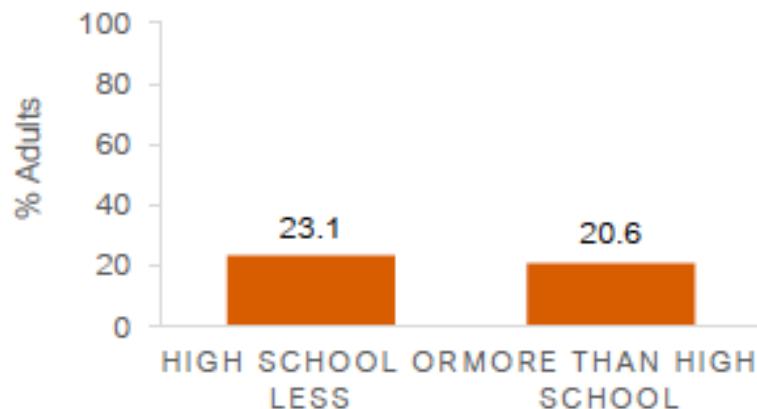
### Diabetes, by gender



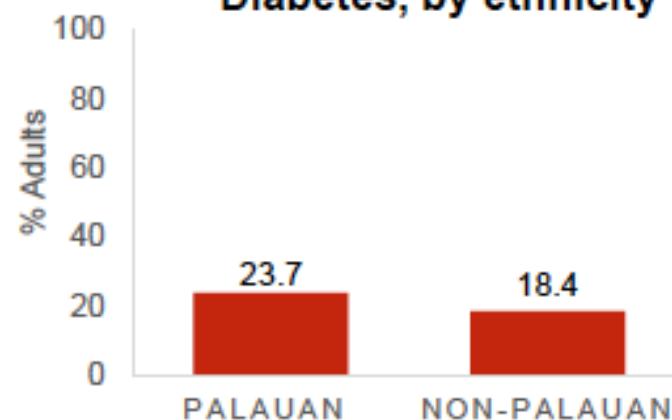
### Diabetes, by age



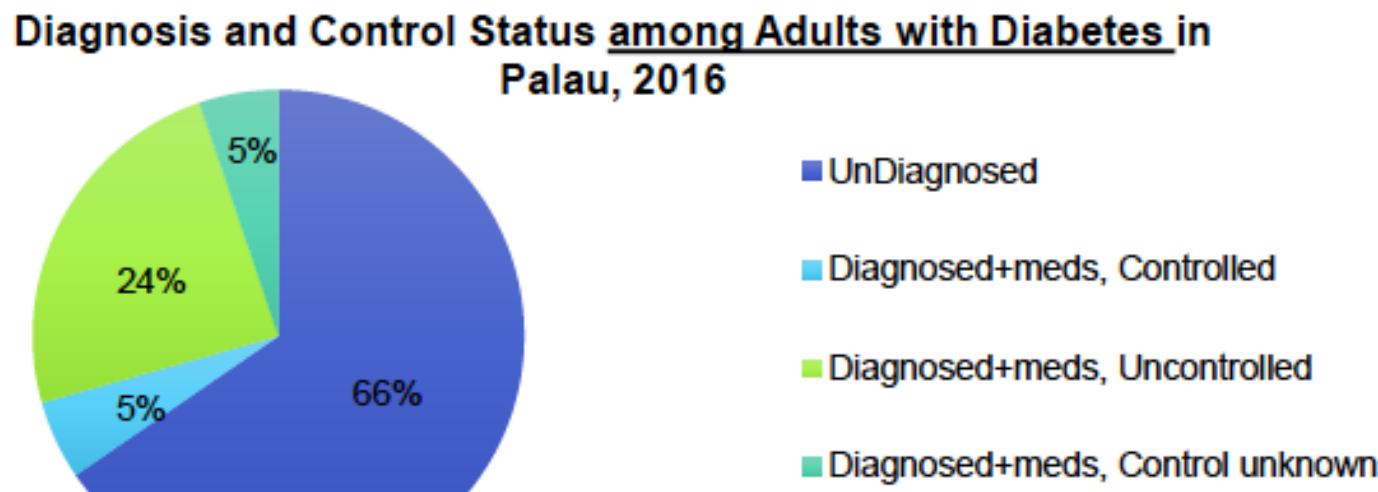
### Diabetes, by education



### Diabetes, by ethnicity

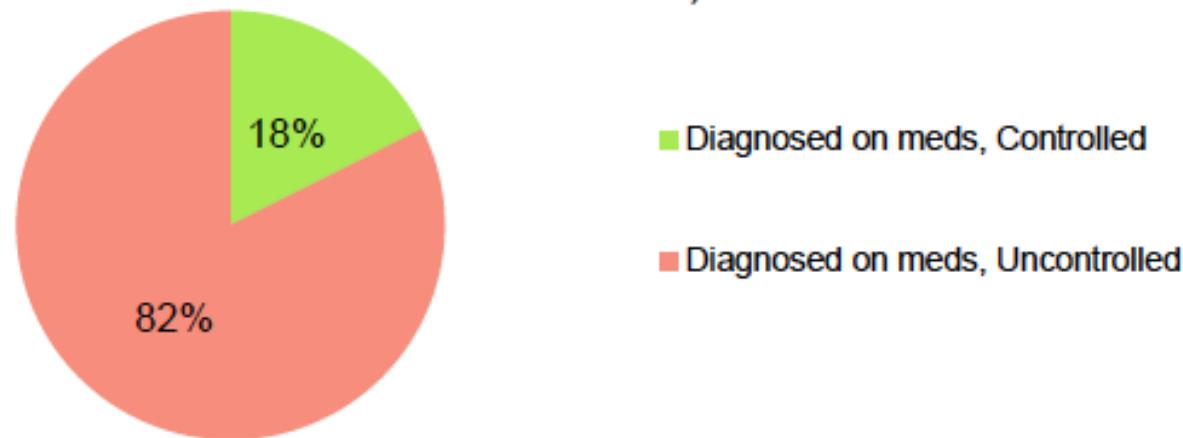


Among those adults in Palau classified as having diabetes, two-thirds of these adults (66%) are undiagnosed.



Among those adults who are diagnosed and taking medication, the majority of these adults (82%) remain uncontrolled

**Control Status among Adults Diagnosed with Diabetes and on Medication in Palau, 2016**



# Qualitative Interviews, June/ Sept

- 102 people engaged in total (22 men and 87 women)
  - Focus groups and individual research interviews
  - Meetings and informal visits
  - MOH staff, community members, remote populations
- Koror, Babeldaob, Kayangel
- 23 hours of interviews, cultural engagement, clinic visits



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# Access to health services

- Denial- don't want to know
- Fear of diagnosis, seen as incurable and a death sentence ("They know but they're still scared to find out")
- Embarrassment around NCDs (*It's more like a secret thing. We don't go around telling people my brother is a diabetic. People don't want to be seen as a sick person...*)
- You only go to the hospital when you're sick ("We Palauans we don't scream wolf until the wolf is eating us and then we scream.")
- Some issues with transportation and lack of services, especially in outer islands
- Palauans want to be strong and being sick is weakness



# Health is perceived as not a priority for Palauans

- Social and monetary obligations of cultural customs (*They used to have rules to follow, they had standards. Now we're just competing. It used to be based by family ranks. Went from respect to competition.*)
- Customs cause a lot of stress (*Most people are obligated with family matters and things, they miss the important stuff (like health). Some don't care enough to go to checkups. People are very involved with customs here. Funerals, hot pot for women almost every weekend – weekend is supposed to be free time for families and things.*)
- People have to work and take care of their families (young and old)
- People know what good health is and they know about services, but they aren't doing what they should do



# Palauan Culture

*There was a time when western culture invaded us, we were eating fish, sweet potato leaves, fresh Palauan fruits, tangerines, until the time that the Western people came in, and we didn't know but the food tasted good and they were cheap. How would I have known they would give me diabetes one day? Eating corned beef and all that would give us all these diseases now? When we transferred from our own staple food to your food, something went wrong. How could we have known that? How do we tell these kids now? How can we take this corned beef and tuna and how can we make it healthier? I tried every new juice, every new juice I tried it. The result was I became diabetic. Then it took me years to get myself back to a healthier stage.*

- Traditional Palauan ways are healthy
- Respect for elderly
- Roles models in community
- Palauans look out for one another, protect each other
- Palauans can adapt to the world but still keep their culture



# Using your data

- There's rich information available
- These tell us a story about what's really happening
- Qualitative data are easy to collect and are a good complement
- Our data can point us in the right direction and allow us to think outside of the box

# Recent publications from the region

- Dela Cruz R, Grant J, Heck JE, Cash HL. (2018) Disparities in Adverse Perinatal Outcomes among Pacific Islanders in the Commonwealth of the Northern Mariana Islands: Evidence and suggestions for better understanding of the perinatal health of this population. *Prev Chronic Dis*, 15:170385.
- Tutii IM, Roseveare C, Viney K, Cash HL, Udui T, Ikerdeu E. (2017) Breast and Cervical Cancer Screening in Palau: Have We Improves Early Detection and Survival? *Hawaii J Med Public Health*, 76(12):337-43.
- Lin T, Huang JN, Cash HL. (2017) Comprehensive Review of Preschool Age Anemia in the Pacific Island Jurisdictions. *Hawaii J Med Public Health*, 76(12):331-6.
- Sugiyama MS, Cash HL, Roseveare C, Reklai R, Basilius K, Madraisau S. (2017) Assessment of Gestational Diabetes and Associated Risk Factors and Outcomes in the Pacific Island Nation of Palau. *Matern Child Health J*, 21(10):1961-66.
- Berger K, Mascardo J, Appanaitis I, Watson BM, Temengil EJ, Cash HL. (2016) Pre-pregnancy Obesity and Betel Nut with Tobacco Chewing during Pregnancy are Associated with Increased Risk of Adverse Birth Outcomes in Palau. *Matern Child Health J*, 20(8):1696-703.