

## **NDEP Webinar Series**

### **Innovations in diabetes screening and interventions**

#### **TRANSCRIPT**

**Slide**–Innovations in diabetes screening and interventions for Asian American, Native Hawaiians, and Pacific Islanders

Judith McDivitt: Welcome everyone to today's webinar to celebrate Asian-American and Pacific Islander Heritage Month. The title of the webinar is “Innovations in Diabetes Screening and Interventions for Asian Americans, Native Hawaiians, and Pacific Islanders.”

**Slide**–Introduction

My name is Jude McDivitt. I'm the Director of the National Diabetes Education Program at the Centers for Disease Control and Prevention. We're very excited about today's program.

We have almost 700 registrations. And we have people from all over the world; from Canada, and Australia, to the Marshall Islands, Micronesia, Puerto Rico, Sri Lanka, and other Pacific Islands; and a number of other places.

So, thank you to everyone who registered for today's event.

**Slide**–Continuing Education

Continuing education credits can be provided through the CDC training and continuing education online system.

**Slide**–Webinar Objectives

The objectives for this webinar are to describe the American Diabetes Association's 2015 diabetes screening guidelines for Asian Americans and the science that's behind them; to explain the Screen at 23 Campaign; and to describe culturally appropriate tools and strategies for preventing and managing diabetes in AANHPI populations.

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#### **Slide**–Today’s Presenters

We have a fabulous panel of experts that I would like to introduce now.

María Rosario or “Happy” Araneta is a Professor of Epidemiology at the University of California San Diego's Department of Family Medicine and Public Health. She is the Principal Investigator of the UCSD Filipino Health Study and Longitudinal Study of Diabetes, Cardiovascular Disease, and Osteoporosis Among Filipino Men and Women.

She received the 2014 American Diabetes Association's Vivian Fonseca award for her research on diabetes among Asians and Pacific Islanders. And she will be speaking about the data behind the new diabetes screening guidelines for Asian Americans.

Ho Luong Tran is President and CEO of the National Council of Asian and Pacific Islander Physicians. She is involved in understanding the multifaceted aspects of health status and healthcare delivery in relation to minority populations, and has become a staunch advocate for policy changes for the elimination of health disparities, and for health equity. She will tell us about a national campaign to inform and motivate healthcare providers about the new guidelines.

Angela Sun is Executive Director of the Chinese Community Health Resource Center as well as Founder and President of the Asian Alliance for Health. She has led a number of studies to identify effective outreach strategies targeting Asian Americans on health topics, including diabetes, cancer, tobacco, quality of life, end of life, obesity, technology use, and health.

Dr. Sun serves on numerous national and local committees to advocate for reducing health disparities among Asian Americans. She will talk about

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developing culturally tailored approaches to address diabetes in Asian Americans.

And Nia Aitaoto is an Assistant Professor in the College of Medicine and Co-Director of the Center for Pacific Islander Health at the University of Arkansas for Medical Sciences. She has over 15 years of experience in the health and education field focusing on cancer, diabetes, cultural competency, and tobacco related initiatives.

Dr. Aitaoto specializes in providing technical assistance, data assessment, and support to Ministries of Health and community groups in the Pacific Islands, and will discuss intervention strategies for Pacific Islanders by Pacific Islanders.

And then we will have some time for questions and answers. So, without further ado, Happy, you have the mic.

**Slide**–The “Skinny” on The American Diabetes Association’s New Screening Guidelines for Asian Americans

Maria Rosario (Happy) Araneta: Thank you and good afternoon.

**Slide**–Testing for Type 2 Diabetes in Asymptomatic Individuals, ADA 2015 Guidelines

The American Diabetes Association recommends diabetes screening for adults age 45 years and older who are overweight with at least one diabetes risk factor shown in the yellow box. And it includes belonging to a high risk racial or ethnic group such as Asian or Pacific Islanders.

In January of 2015, the ADA revised the screening guidelines by lowering the BMI cut point of 25 kilograms per meter squared in all ethnic groups to 23 for

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Asian Americans. California is ethnically diverse where 63 percent are ethnic minorities.

And it is home to the largest Asian/Pacific Islander population.

**Slide**—Prevalence of Type 2 Diabetes Among 2,123,548 Adult Members of Northern California Kaiser Permanente Hospitals in 2010

Data from two million members of Kaiser Permanente Hospitals show diabetes prevalence was highest among Pacific Islanders, Filipinos, and South Asians.

And they had higher prevalence compared to Latinos, African-Americans, and Native Americans – groups perceived to be at highest risk for diabetes. You'll notice that Japanese, Vietnamese, and other Asians also had higher diabetes prevalence compared to whites.

**Slide**—Standardized Diabetes Incidence (per 1,000 Person/year) Among 16,283 Adults Diagnosed with Incident Diabetes in 2010, Kaiser Permanente Northern California

This graph demonstrates the importance of this aggregating Asian and Pacific Islanders subgroups. Diabetes incidence appears similar among African-Americans and Latinos compared to all Asians and Pacific Islanders when reported collectively and circled in red.

However, once dis-aggregated, Pacific Islanders, South Asians, and Filipinos have higher diabetes incidence compared to all other ethnic groups in a population with similar access to healthcare.

**Slide**—Body Mass Index (BMI) Among 1,704,363 Adult Members, by Race and Diabetes Status, Kaiser Permanente Northern California, 2010

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The orange line represents a BMI of 30, marker for clinical obesity. Whites, blacks, Latinos, Native Americans, and Pacific Islanders with incident diabetes in gray, that middle column; and diabetes prevalence in white; and even some non-diabetics in the black columns all had a mean BMI above this orange obesity line. Whereas the mean BMI of Chinese, Japanese, Filipinos, and South Asians with either newly diagnosed or prevalent diabetes were below this orange obesity line.

#### **Slide–Body Mass Index**

Several studies have shown that Asians such as Dr. Yajnik on your right with the beard – has significantly more body fat compared to whites of similar BMI.

Both gentlemen have a BMI of 22. But the South Asian man has twice the body fat, 21 versus 9 percent.

#### **Slide–Visceral Adipose Tissue (VAT) by Computed Tomography African American vs Filipina Women**

Visceral adipose tissue is an active endocrine organ, which releases cytokines that have an important role in glucose homeostasis. This CT image shows a six millimeter slice between the L4 and L5 vertebrae. The overweight African-American woman on your left has 25 cubic centimeters of visceral adipose tissue shown in red.

While the Filipino American woman on your right with a BMI of 20 at 5'4," 115 pounds with a 26-inch waistline has 84 cubic centimeters of visceral adipose tissue, three times the volume of the overweight African-American woman. Such excess visceral fat accumulation has also been reported in South Asian, Japanese, and Korean populations.

#### **Slide–2015 ADA Guidelines for Asian Americans**

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Before 2015, ADA guidelines suggested screening for type 2 diabetes should be considered in asymptomatic adults ages 45 years and older with a BMI of 25 or higher with at least one known diabetes risk factor. However, Asian Americans manifest diabetes at lower BMIs; and might not be screened.

Our objective therefore was to identify the optimum BMI cut points for diabetes screening among Asian American adults. We searched the medical literature and identified just four clinical studies which performed an oral glucose tolerance test to ascertain type 2 diabetes in Asian Americans.

#### **Slide–Methods: Study Population – 1**

They included the University of California, San Diego Filipino Health Study; the North Kohala study in the Big Island of Hawaii. The MASALA study in San Francisco and Chicago; and the Seattle Japanese Diabetes Community Study.

#### **Slide–Methods: Study Population – 2**

Participants reported race and ethnicity, and had no non-Asian admixture and no prior diagnoses of diabetes.

All had measures of BMI and fasting and two-hour glucose values from the OGTT. Glycosylated Hemoglobin was available from all sites except for Filipino men in San Diego, and Japanese participants in Seattle.

#### **Slide–Methods: Clinical Measures**

Type 2 diabetes was defined as A1c levels of 6.5 percent or higher; or a fasting glucose after a minimum eight-hour fast of 126 milligrams per deciliter or higher; or a two-hour post-challenge glucose level of 200 milligrams per deciliter or higher.

#### **Slide–Methods: Statistical Analysis**

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Statistical analyses included receiver operating characteristic curve analysis, calculations of sensitivity, specificity, and positive predicted value; and selection of optimal BMI cut points included reviewing Youden's Index values as classification rates; the BMI cut point for sensitivity was equal specificity; and a practical targeted sensitivity of 80 percent.

#### **Slide—Demographic Characteristics**

Among our 1,663 participants, 58 percent were women; one-third were Filipino; 37 percent were South Asian; and 30 percent were Japanese. The mean age was 59.7 years; and the mean BMI was 25.4 kilograms per meter squared.

#### **Slide—Age-adjusted Type 2 Diabetes Prevalence by Ethnicity**

The age adjusted prevalence of type 2 diabetes was almost 17 percent. And it was highest among Filipinos at 22.8 percent compared to 13 percent among Japanese and South Asians. Among the 1,200 participants with all three glucose measures, age-adjusted diabetes prevalence was 18 percent.

#### **Slide— Age-adjusted Type 2 Diabetes Prevalence by Diagnostic Method (n=1214)**

Half had A1c levels greater than 6.5 percent; and only 5.5 percent had fasting hyperglycemia. But the majority, 15.5 percent, had post-challenge glucose levels exceeding 200 milligrams per deciliter.

This means that if screening is limited to just the A1c and fasting glucose measures only, almost half, or 44 percent of Asian Americans with diabetes; those with isolated post-challenge hyperglycemia – that is normal A1c, and normal fasting glucose, but an elevated two-hour post-challenge glucose – might remain undiagnosed without an OGPT test.

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**Slide**–Percent distribution of Asian-American with newly diagnosed Type 2 Diabetes by Body Mass Index

The mean BMI at the time of diabetes diagnosis was 26.7. However, 37 percent of women and 21 percent of men on the left side of the yellow arrow had BMIs less than 25. Some even had BMIs as low as 16; a woman who was 5'4" and just 93 pounds at the time – she was diagnosed with diabetes. The screening was limited to a BMI greater than 25.

**Slide**–Type 2 Diabetes by BMI > 25 kg/m<sup>2</sup> Cut Point

The sensitivity is just 64 percent; which suggests that one-third, at least 102 of the 281 with diabetes, might remain undiagnosed since their BMI is less than 25.

**Slide**– Type 2 Diabetes Prevalence, Sensitivity, and Specificity by BMI Cut Point, Asian-Americans, Ages >45 Years

The sensitivity ranged from 85 to 36 percent even though the misclassification rate was similar across BMI cut points. The sensitivity and specificity approached each other at a BMI of 25.

**Slide**–Sensitivity at Selected BMI Cut Points

But as shown in the previous slide, which failed to diagnose one-third of Asian Americans with diabetes. When using Youden's Index, you see that the Youden's Index values shown in burgundy are similar and similarly low across all BMI cut points.

**Slide**– Optimal BMI Cut Points at Targeted Sensitivity of 80% - 1

But at a BMI of 23, the sensitivity is at least 80 percent or higher for all of the Asian subgroups.

Since the misclassification rate and Youden's Index values were similar across BMI cut points, we used a targeted sensitivity of 80 percent and identified an

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optimum BMI cut point of 23.5; which applied to the total population by gender as well as among Filipinos and South Asians; and a cut point of a BMI of 22.8 among Japanese Americans.

#### **Slide—Optimal BMI Cut Points at Targeted Sensitivity of 80% - 2**

When stratified by diabetes diagnosis, the optimal BMI cut point ranged from 24 for those diagnosed with diabetes by glycosylated hemoglobin, to 23.2 for those with post-challenge glucose levels above 200.

#### **Slide—Summary and Conclusions**

The old guidelines of screening at a BMI of 25 may fail to identify one of every three Asian Americans with diabetes; a BMI cut point of 23 kilograms per meters squared may be most practical for diabetes screening in Asian Americans. However, limiting screening to glycosylated hemoglobin and fasting plasma glucose measures may fail to identify almost half of Asian Americans with diabetes; reiterating the importance of OGTT measures.

#### **Slide—American Diabetes Association Revised Screening Guidelines, Effective January 2015**

Drs. Will Hsu, Alka Kanaya, Jane Chiang, Will Fujimoto, and I were delighted to write this position statement for the ADA and hope that the new screening guidelines facilitate early diagnosis and management of type 2 diabetes. And reinforces awareness of ethnic differences in the pathophysiology of type 2 diabetes.

#### **Slide—Strengths and Limitations**

The strengths of this analyses include population and community based samples. And diabetes was ascertained by glycosylated hemoglobin and OGTT. However, our data is not representative of all Asian Americans.

#### **Slide—Acknowledgements**

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Finally, data to inform these new guidelines would not have been possible without the commitment of our study participants, our community's research teams, and multiple funding agencies. Thank you.

**Slide**–Diabetes in in Asian Americans – “Screen at 23”

Ho Luong Tran: So, good afternoon, and to continue with the presentation of Dr. Araneta, (unclear) I will talk about diabetes in Asian Americans, the Screen at 23 campaign.

The Screen at 23 campaign came out, was initiated, by the Asian American, Native Hawaiian, and Pacific Islander Diabetes Coalition, which was created as a national coalition to decrease the burden of diabetes among our communities.

We saw the evidence-based scientific data just presented by Dr. Araneta. We came together to promote and to launch a campaign. Very simply, to say, “Screen at 23,” to educate our population of people about how to take care of themselves.

And how to know when to be tested, and how to be treated.

**Slide**–Who Are We, the Asians?

Because as Jude said initially, we are celebrating Asian-Pacific Heritage Month in May, I just want to remind everyone. Who are we, the Asians?

And in 2010, by the Census data, we are about 4.9 percent of the U.S. population. In 2014, we represented about 5.9 percent of the U.S. population, which means about 18.5 million of Asians in 2014.

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And we are one of the fastest growing racial/ethnic groups driven by immigration. It's a very important point to remember about the immigration status of our population.

When we talk about the term Asian, it is referring to any person, any individual whose origin is in the Far East, China, (Chinese), Korea, Japanese, Southeast Asia like myself, and Vietnamese, Cambodian, Laotian, or the Indian subcontinent. And it includes but not – it's not limited to Asian Indians, Cambodians, Chinese, Filipino, and Hmong, Japanese, Korean, Pakistanis, and Vietnamese.

The largest Asian American subpopulation is Chinese, about 23 percent; followed by Filipinos, 20 percent; Asian Indians, 18; Vietnamese, 10 percent; and Koreans.

The reason as a coalition -- a national coalition of researchers, community leaders, and medical providers -- we chose diabetes is because it is a clinical issue that affects very much our population or communities.

**Slide**—Countries with Highest Estimated Diabetes Cases – WHO 2000 and 2030

The countries with highest estimated diabetes care based on the WHO that shows that from 2000 – the year 2000 to 2030, a steep increase in our diabetes. And it is being called like an epidemic in our Asian countries. For example, India from 32 million – in 2030, it was an estimated up 79 million.

The same with China, a steep increase, as well as others. And you could see that for Bangladesh, in the year 2000, it's only three million. It would be, in 2030, 11 million.

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So, that is one of the reasons that we felt, you know, we believed that diabetes is very prevalent in our country of origin as well as in America.

#### **Slide—Diabetes Prevalence in the U.S.**

The diabetes prevalence in the U.S. shows that, as Dr. Araneta was saying, that for Asian populations, in total we are 20.6 percent, which is almost similar to the African-American population of 21.8 percent. But higher, almost double, the white – the Caucasian -- rates or the overall of 14.3.

What Dr. Araneta was pointing out in her presentation earlier, it is the diagnosed and undiagnosed. If we base the screening, the testing, and the identification, you know, of diagnosing the disease on the standard-- a body mass index of 25 – we will be missing almost one out of two in the other case. So, the further diagnoses for the Asian is 10 percent, with a 10 percent (10.6 percent) as undiagnosed.

#### **Slide—10 Leading Causes of Death in 2009 in the U.S.**

Another reason for the coalition to look at diabetes of Asians among, you know, in America, it is from the 10 leading causes of death in 2009 in the U.S. for the Caucasians. That it is, it's number seven.

And we all know that diabetes is a problem, is an issue for the U.S. in terms of the disease impact, the negative impact of the disease, as well as the cost. Perhaps it is costly to treat and to manage the disease. And for Asian and Pacific Islanders, it is the fifth leading cause of death for our population.

#### **Slide—Conclusions**

So, with this, that as a conclusion we came to agree that the science shows that, when it comes to diabetes, Asian Americans are different as a first statement. And the guidelines now reflect this reality. And the screening practices must change to reflect these guidelines.

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#### **Slide**– “Screen at 23” Campaign - 1

But, the Screen at 23 campaign, the purpose is to increase the awareness and actions amongst physicians, health authorities, and the general public of the screening guidelines.

Second, that it is organized by the AANHPI Diabetes Coalition, a coalition of over 20 diabetes research and advocacy organizations. And it is supported by the National Council of Asian Pacific Islander Physicians, the ADA, and Joslin Diabetes Center.

#### **Slide**–“Screen at 23” Campaign - 2

We launched the campaign in 2015, a few months after the recognition from the ADA about changing the ADA guidelines on screening for Asian patients with a BMI of 23.

We first launched the campaign in October of 2015 in San Francisco. And that reached a resolution from the health, the San Francisco Department of Public Health, Health Commission.

We have been sharing the information and presented it to different national, regional, and local organizations across the country. As an example, I just presented last night to the Santa Clara County Medical Society at their Board meeting. And they all endorsed the guidelines -- the screening guidelines.

We developed a toolkit for physicians – *Diabetes in Asian Americans* – that will be shared, you know, with physicians to do the presentation to their networking of our colleagues at the local levels as well.

And at the same time, we have developed a toolkit for the patients/community residents: *The Eight Steps to Avoid, Control, and Reverse Diabetes*.

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#### **Slide**–For Additional Information

So, for additional information that you can look at, [www.screenat23.org](http://www.screenat23.org), is a website that has all of the information; educational, research study, and the updated information on diabetes of our community on this website. And for any other information, you can look at [www.ncapip.org](http://www.ncapip.org).

#### **Slide**–Culturally Tailored Strategies and Approaches in Diabetes Prevention and Management for Asian Americans

Angela Sun: Good afternoon and thank you all for participating in this webinar. I'm going to share with you about some of the culturally tailored strategies in helping Asian Americans in their diabetes prevention and management.

#### **Slide**–Asian American (AA) Population in the U.S.

I will first share with you some of the demographics related to Asian Americans, and challenges and barriers they face in diabetes prevention and management. According to U.S. Census, Asian Americans make up 5.4 percent of the U.S. total population.

And it depends on which report we use; so at least we say 5.4 percent of the U.S. total population. Here are the states with the highest Asian American populations.

#### **Slide**–The 18 Largest U.S. Asian Groups by Country of Origin

This slide – this slide shows the 18 largest U.S. Asian groups by country of origin. The top five being Chinese, Filipinos, Asian Indians, Vietnamese, and Koreans.

#### **Slide**–Growth Rates From 2000-2012

According to U.S. Census from 2000 to 2012, Asian Americans have a 51 percent growth rate.

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#### **Slide—Asian American Nativity/Foreign-Born by Country of Origin 2010**

The majority of Asian Americans are foreign born, and close to 80 percent of those are foreign born who are 18 and older.

#### **Slide—Adults in Poverty, 2010**

Twelve percent of Asian Americans are in poverty; and Koreans, Vietnamese, and Chinese, their percent of poverty is above the national level.

#### **Slide—Educational Attainment & English Proficiency of Asian Adults, 2010 (%)**

Regarding education attainment for those who have less than high school education, Vietnamese Americans had the highest percent. And Japanese had the lowest. And the red denotes the highest. The blue denotes the lowest.

And so, for English proficiency, Vietnamese Americans had the highest percent in speaking English less than very well. And Japanese had the lowest.

#### **Slide—Diversity within the Asian American Communities**

There's a vast diversity within the Asian American community. And there's also a great difference even within the first and second generation of immigrants in each sub-Asian group, and regarding their language and technology skills, literacy levels, social and economic status, and acculturation levels.

#### **Slide—Chronic Care Model**

Most of you are familiar with the chronic care model. We can incorporate culturally tailored strategies in this model to achieve improved diabetes management outcomes.

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But we must first be aware of challenges and barriers that are facing Asian Americans before we can develop any more strategies.

So, in my next few slides, I will highlight some of the major barriers.

#### **Slide—Challenges and Barriers**

Similar to other ethnic immigrant groups, Asian Americans also face challenges and barriers such as language, culture, generational gaps, body concepts and image, and stigmas associated with diseases.

For example, some of the first-generation Asian Americans perceived being plump, which we define as overweight, as a sign of health and wealth.

#### **Slide—Challenges and Barriers: Concept of Health and Disease Prevention**

Asian Americans' concepts of health and disease prevention very much differ from the mainstream population. Many of their concepts of health were based on Eastern philosophy.

Eastern philosophy emphasizes harmony, yin and yang energy balance, collectiveness, and community. For example, in medical decision making, elderly Asian Americans also will rely on their children for their medical treatment decisions.

So therefore, it is important for us to involve all Asian patients' family members in their management of diabetes.

Eastern philosophy also believes that a disease is preventable or controllable by maintaining balanced energy levels within. So, therefore many Asian American immigrants, they will avoid taking your prescribed Western medicine for fear of causing an imbalance of this energy level.

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They will also use herbal medicines alone. Or, they will use them in combination and with the prescribed Western medicine. In their dietary practice they may avoid certain types of foods, which dietitians view as a good source of nutrition.

#### **Slide**–Dietary Practice – Cool and Cold Foods

In this slide, many of the foods are considered as a good source of vitamins and antioxidants; but are labeled as cold foods in terms of yin and yang energy, and are discouraged to consume by those who have too much cold or yin energy in them. And too much yin energy is believed to weaken the immune system.

#### **Slide**–Dietary Practice – Warm and Hot Foods

On this slide, we find many foods here are good sources of protein, but are considered as hot foods -- as in terms of yin and yang energy -- and are discouraged to consume again by those who have too much hot, or yang, energy in them. And too much yang energy is believed to cause problems such as constipation, no sleep, a sore throat, and so forth. Some of the common health myths are also barriers to diabetes management.

#### **Slide**–Challenges and Barriers

For example, some Asian Americans believe that even sugar or sweets will cause diabetes. So, to them, just avoid eating sweets alone, and they believe they will prevent diabetes or improve their diabetes management.

Access to care or high health insurance deductible or copay, is a common barrier to all with low SES, including Asian Americans.

#### **Slide**–Health-Seeking Pathway

Asian Americans' health seeking pathway or behavior can be another barrier. It prevents them from seeking professional help right away when a health

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issue arises, such as high blood pressure or high blood glucose levels. And for some, they will seek self-help, home remedy, friends, herbal healers first before they seek out for your help.

#### **Slide–Promoters**

Knowing the barriers and addressing cultural competencies, linguistic appropriateness, communication style, and family involvement – all those can become our promoters for better program outcomes.

#### **Slide–Strategy/Approach - 1**

Some of the common strategies that you are familiar with such as nutrition counseling, patient navigation, and support groups. But when we provide them in a culturally appropriate way, they can provide very practical help for Asian Americans to prevent and/or manage their diabetes.

#### **Slide–Strategy/Approach - 2**

For example, for a diabetes management support group and tailored for Chinese Americans with diabetes, we were able to achieve a significant improvement in participants' knowledge of diabetes, and on the reduction in their A1c.

We made sure all of the intervention materials were focus-group tested for culture and language appropriateness. And we also kept in mind of their dietary preferences; and involved their family members in the management of their diabetes.

#### **Slide–Utilizing Technology**

Technology, when it is culturally tailored, can be another effective approach to reach out to Asian Americans, especially those who have some skills in using technology.

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According to the reports, 90 percent of Asian Americans have cell phones, 74 percent are using laptops, and 77 percent have wireless connectivity; but it does say that it's of English-speaking Asian Americans only.

**Slide**—A survey in 2013 of 403 Chinese American Immigrants Age 50 to 75  
In 2013, we have conducted a survey among a cohort of 403 Chinese immigrants age 50 to 75. And found that 52 percent had smartphones; 86 percent had Internet access at home; 72 percent use the Internet for health information; and 53 percent said that they would like to learn how to use their smartphones to improve their health.

**Slide**—Using Culturally Appropriate Tools

And this data is somewhat similar to the one collected from the English speaking Asian Americans on the previous slide. Although this data was collected from a convenience sample at a health event.

But it can provide us some insight about their use of the technology. For those who have technology skills and online access, we have created tools that are tailored for Chinese Americans.

And because of the budget limitation, unfortunately, we are only able to have the tools available in Chinese and English. Some of the tools include grocery shopping tips, nutrient analysis, and BMI calculators.

And these tools help users to read labels and know the calorie and nutrient content of the foods that that are commonly consumed by Chinese Americans. When you have a chance, you can browse through our website at [Asiansforhealth.org](http://Asiansforhealth.org); and under the menu bar of Multimedia and Tools for details.

**Slide**—Utilizing Ethnic Media

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Working with ethnic media can also be a very effective approach for health promotion targeting Asian American immigrants. This has been well studied and published. According to the reports, the number of Asian media outlets has increased from 102 to over 1,200 from year 1999 to 2010, nearly 10 years.

#### **Slide—Forming Partnership with Faith-Based Community**

Forming partnerships with local faith-based communities can be another strategy in promoting our diabetes education and management programs. The efficacy of this type of partnership, again, has been well studied and published. And we can tell from this graph that many Asian Americans have religious affiliations.

And this – the type of faith-based communities that we wish to form partnerships with -- will depend on our target population. For example, if our target population are Chinese and Filipino Americans, we will want to form partnerships with local Christian churches for Chinese and Catholic churches for Filipino Americans.

We all know that effective communication plays a critical role in delivering of health messages.

#### **Slide—Facilitating Communication Between Provider and Patient**

And studies show that compared to any other racial ethnic group, Asian Americans were most often cited to have poor doctor–patient relations because of their race, limited English abilities, and low health literacy.

So, to serve as a reminder for us in overcoming this barrier, we should use pictures and models, and avoid jargon in our patient teachings whenever it is possible. It is also important for us to be aware of culturally appropriate body languages.

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For example, many Asians do not feel comfortable to have direct eye contact when spoken to because it is considered rude. However, providing direct eye contact is highly valued in Western culture.

#### **Slide—Conclusion: Achieving Patient Centered Diabetes Care**

Having said that, we also need to be careful not to be stereotyping, either. So, in conclusion, to achieve patient-centered diabetes care among Asian Americans; it is essential for us to be culturally sensitive; be aware of their barriers and promoters; and form partnerships with local faith-based communities and CBOs; and utilize venues to deliver messages that are patient centered.

And remember, one size does not fit all. And so in utilizing effective communication styles whenever it's, whether it's verbal or nonverbal, provide culturally appropriate materials so our patients can be empowered; involve family and their social network whenever it is possible; and of course, use a team approach.

#### **Slide—Thank you**

Thank you.

#### **Slide—References**

#### **Slide—Policy, Systems and Environmental (PSE) Intervention Strategies for Pacific Islanders by Pacific Islanders**

Nia Aitaoto:

Well, Aloha from Arkansas. I'm going to talk about an initiative that was going on in the Pacific about, you know, for five years.

#### **Slide—Age-Standardized Diabetes Prevalence in Adult Women, 2014**

So, as we all know, the diabetes epidemic is severe in the Pacific as you can see from this slide for adult women;

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#### **Slide– Age-Standardized Diabetes Prevalence in Adult Men, 2014**

And the next one for adult men. Our prevalence for diabetes is above 20 percent.

#### **Slide–Diabetes in USAPI**

And since my talk is about the U.S. Pacific, our rates of diabetes ranges from 11 percent in Guahan or Guam, to 47 percent in American Samoa, which is extremely higher than the rates here in the United States of 8 percent.

#### **Slide–Background**

So, we're going to focus on one island, the Island of Ebeye in the Republic of the Marshall Islands. And the population is 12,000. The land mass is 6.33 square miles.

It's a highly dense population group. And our median household income is \$14,195. Our risk factors are: 91 percent consumed less than five servings of fruits and vegetable per day, and 66 percent engage in low levels of physical activity, and 63 percent are either obese or overweight.

#### **Slide–Island of Ebeye Image**

This is a picture of the Island of Ebeye. As you can see, there's not a lot of places to grow fruits and vegetables. Actually, there's several stores. There are about three stores there. And if you don't like what you – what's in the store -- you can take a 30-minute ferry, and then you get on another island, get on an airplane (you spend about \$400 to the next island; it's about 45 minutes), and then you can shop there.

So, it's truly a food desert. And that, as far, for physical activity, you can see there's not a lot of places to be physically active. And it's near the equator, so,

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it's extremely, extremely hot. And so this is where the barriers that we came across. So, you know, well where we can go from there?

#### **Slide**—Community Building Approach

So, we started out with a community building approach. The first level of that approach is actually, we received funding from CDC through the Association of Asian and Pacific Community Health Organizations (we call them AAPCHO).

And when AAPCHO received the money, they engaged one of our community health centers. Actually, it's the only federally qualified community health center in the Republic of the Marshall Islands, which is the Ebeye Community Health Center.

And the leaders of the health center engaged community members. And they later formed the Kwajalein Diabetes Coalition. And then they engaged the community. It's very important to understand that level – that process of engagement.

And in the beginning, we're looking at sector. You know, they say that you need to get different sectors, or businesses: education, and government, and traditional leaders.

But we went beyond that. Because in our evaluation, one of our participants said that it's not just the sector, it's the heart. And when they say heart, they're looking at kindness, and gentleness, trust, leadership skills, and honesty.

So, doing indigenous evaluations, these are the values that we actually looked at in community engagements. And then also, another participant said that, (you know, we do a lot of community engagement all over the United States), we actually overused the word “engagement” and “engaged.”

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But we believe that engagement is a good first step, but it's not the only step. We have to go further than engage. Like you've got to have a lot of engaged people, and nobody married yet.

So, we've got to just, you know, continue on this whole process. And what does that process look like is that we started doing coalition building. We actually started to provide trainings to the community on how to do community assessment.

So, it's not like we went in there and conducted the community assessment. We actually did community assessment training. And our community partners and community members actually conducted the assessment.

We also helped with coalition infrastructure and technical assistance: how to come up with your bylaws, and how to do a communication plan, and how to have meetings so that we just don't sit around and talk story all day and nothing comes out. That was an issue, too.

So, those are the kind of things that we did to build our infrastructure. And then, also provide technical assistance and support in planning and evaluation.

#### **Slide—PSE Interventions: Nutrition**

So, this report is mostly on how we did with evaluation. But before we go on evaluation; you know, what we did is that we just wanted to explain the program.

So, in a setting where there's very limited resources, you know, it's very hard to decide. You know what I mean? Should we do physical activity? Should we just do nutrition? Should we just do policy and systems?

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It's like baking a cake. You cannot just say OK, we're going to pick a flour, or just eggs, or sugar. You need all of the ingredients. And in settings like the Pacific, a lot of it is missing. So, we need to identify what's there, but then also address what's not there.

And so, this coalition was very bold in a sense that they decided to do it all. They decided to do PSE, and then nutrition, physical activity, and diabetes management.

So, for policy, we thought of nutrition. So, for policy, they decided to remove tax on fruits and vegetables in the RMI.

We came to find out in that process, they realized, there was no tax on fruits and vegetables. The tax actually was a local tax. So, they were able to focus their energy on that.

That whole experience in community – finding that out, and going through their policies, and figuring out these policies and stuff – it was very – it was a learning experience that was invaluable.

For the systems side, they actually did a “farmacy”. (When I submitted my slides to CDC, pharmacy there was spelled f-a-r-m, like the farm – “farmacy.”)

Because what happened is that we actually, we changed the community health setting system so that we have a “farmacy”, our “farmacy,” f-a-r-m actually distributes vegetables.

So, we had a garden. And then we have our stand right next to the traditional pharmacy. And then, we actually give out free vegetables. And then, we

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came to find out a lot of people didn't recognize some of the new vegetables that we were growing.

So, we actually developed cookbooks. And we also had cooking classes. Because a lot of people will not try anything that they haven't tried before. Like they would not purchase a vegetable; or take it home and cook it, if they don't know what it tastes like.

So, we had cooking classes in the clinic and then developed recipe books. And that worked out very well.

And then for our environmental approach is that we started a community garden; and then also individual gardens. We actually have a garden right in front of the clinic, and all of the schools.

And then also we took boxes out. Like, if you have a diabetes patient, we can give you a box with seedlings, and things. And you can take it home. And then you can grow it for your family.

#### **Slide—Physical Activity**

For physical activity, we work with churches. Actually, church is very important in the Pacific.

And there is a Pacific Physical Activity Guidelines for Adults that FPC came up with. All we did was we would go to the churches and convince pastors and church leaders to adapt the guidelines.

For example, do church walking; you know, your meetings when you meet at a church. We do a lot of church meetings in the Pacific. So, walking instead of sitting down and meet. You know, and things like standing up and doing church service.

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You know, our church services average about two to three hours, so, you know, it's a lot of time to just sit. So, it's standing in most of that time.

So, we work with the churches to adapt that.

And then for the system, it is actually, we have our physician prescribe physical activities. We did a lot of work in this site because a lot of our medical providers, you know, were not comfortable in the medical clearance for physical activities.

So, we asked Dr. Ray Samoa, in California to help us out with that. He also did a lot of CMEs on how to do the clearance. And then, we also came out with a protocol to advance physical activity.

And in the places like Ebeye in the Pacific, there's not a lot of fitness centers you have access to, and even walking paths.

It's hard to walk around the Pacific, you know, because of lack of walking paths. So, we actually changed the environment. So, we actually – there's only one hotel there, and we took their convention room, or a conference room, and we converted it into a fitness center.

And then we also built a walking path. Actually, the walking path is still going on right now. It costs us like a quarter of a million dollars because we have to trench the ocean, and all that kind of stuff.

And we actually had money from different partners to do that. So, although this community started out with very simple projects, as soon as our funders – or even our partners, within the country and then in the region, and internationally – once they knew we were serious about doing this kind of

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work, we had no problem in getting, you know, funders to help us out. So the walking path, the main walking path, it's ongoing, and they're still building that now.

#### **Slide—Health Management**

And then, we also look at health management. So, because this guide, or this project was specifically for diabetes management, we also want to change the way that we manage diabetes in our healthcare system. So, it was interesting in our assessments.

You know, a lot of people talk about stigma. You know, for diabetes, there's a stigma in the Pacific. How do you address that?

And then, so the committee and the group says, if we declare diabetes as a day, a special day to honor, you know, people who pass from diabetes, people who have diabetes and actually understand what diabetes is, that will make a huge difference. So, the group actually has a stigma policy. And to declare and make a positive spin on it.

It's our Kwajalein Diabetes Day. It's actually – it's the second Monday of April every year. So, actually the president of the Republic of the Marshall Islands, he was on the island when we signed that into law.

And then, on the systems, we actually changed a lot of clinical and treatment protocols. You know, we again, we asked our endocrinologist in California, Dr. Raynald Samoa to help us out, you know, looking at our treatment protocols and things like that.

And he also voluntarily provided a lot of CME, through webinars and through Skype, just to get that into the system. We're changing a lot of things in the

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system. And this is from a community coalition who went in and convinced the Board and then, and also the medical system, to change that.

And then, we also – for the environment, a lot of time we think of environment as your built environment and things like that.

But your environment can also be your family, you know, the way people think about support, that culture of support. So, we have a family model diabetes education where we started off with, you know, each – instead of just a person with diabetes, we actually included family members. We also have a group educational class where we can bring all of your family at one time during diabetes clinics.

So, that's how we change the environment of health management in the, the Republic of the Marshall Islands, in Ebeye.

So, what we're excited about is the outcome.

**Slide**–Outcomes - 1

So, how do you measure PSE?

You know, so what we did is this. The CHANGE tool, the CDC tool that looks at policy systems and environments all over the community, and not just, you know, in your little pocket of your community.

So, the score is from zero to 100 percent. So, you know, 100 percent, you're from the perfect community. (And if you know where that is, let me know, because I want to move there.) And zero is – that means you have nothing and all that kind of stuff.

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So, our policy score for nutrition was 22 percent in the beginning. At the end, it went up to 55 percent. Our environment score was 22 percent. And it went up to 57 percent. So, this is after five years, including assessment and an intervention.

And then, specifically for diabetes patients, we really want to make a case on data. You know, it's something about the Pacific; we lack data. And here (it actually was Ebeye where I heard this first), when our chairman Romeo Alfred said, you know, "In God we trust – and everybody else bring data."

So, we were very serious about collecting our data.

So, the average food and vegetable consumption per day for a diabetes patient was 0.86. And then we moved that up to 2.8 servings per day. For a person to consume at least 5 percent of fruits and vegetable a day, it went from 2 percent to 8 percent.

For physical activity, our policy score of 28 percent, it went up to 63 percent.

And our environment score went from 49 percent to 68 percent.

For diabetes patients – and I actually want to thank the Ebeye Community Health Center for their reviews of data and chart reviews -- the average physical activity, it went from 100 to 195 METs – minutes per week. And then, to the percentage of people engaged in moderate to high physical activity it's from 1 percent to 4 percent.

So, that was a group we're really looking at. Because everybody was low. We were focusing on how can we go into the moderate and high levels?

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So, we're very happy about that. Because that was something that we were challenged with as a coalition.

#### **Slide—Outcomes - 2**

Other outcomes in health management – so, in health management and this particular the Ebeye Community Health Center, their policy score was 48 percent. We moved it up to 84 percent. For environment score, it was 48 percent; and again, we moved that up to 84 percent.

For diabetes patients (all the diabetes patients in the community health center), the average hemoglobin A1c, it went from 9.2 percent down to 8.4 percent. And for percent of diabetes with hemoglobin A1c less than 9 percent – so, in the beginning it was 19 percent; at the end of the project, it was 39 percent. And then the most recent one, I heard it was around 50 percent, but I wasn't able to confirm that before this presentation. So, at least back in 2000 and ... 2015, it went from 19 percent to 39 percent.

So, the Marshall Islands, we went beyond that. We also looked at coalition effectiveness. We have an effectiveness score. So, we also actually test the coalition. How effective they are. We went up from a score of zero to 4.6 out of that tool.

#### **Slide—Coalition Capacity Monitoring and Evaluation**

We also have outcomes. So, we – the Kwajalein Diabetes Coalition -- it is now a chartered nonprofit coalition. And then they also began the RIAK Coalition.

They're all down to not only doing diabetes, they are now doing tobacco and then cancer. They were so successful, other coalitions decided to join forces and become one large NCD coalition.

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For sustainability, there is a RIAK Plan 2. They're implementing that right now. There's RMI NCD and Cancer Program actually incorporated their activities within their plan. And then, actually, some of our members, one of our members became the mayor and then city manager. So, they actually got onto the importance of policy. And they ran for office successfully.

#### **Slide**–Pacific Healthy Community Indicators

And then, you know, to wrap it up, doing evaluation in the Pacific is very important. Not just to look at outcomes, and they look at our process, to look at overall, what is a healthy Pacific Islander, you know, a Pacific health community?

So, we have our own indicator. So, what they say is we want to have healthy Pacific people as they define it, a healthy environment. And not just a physical environment, but also our social environment, and then a healthy culture.

The way that we measure that is the way that we incorporate our culture into the activities that we're doing, our narrative. And every, and everything that we do in our community.

So, let's just take our plan for an example. The name of our plan was called the DIAK Plan. So, DIAK is actually shifting the sail. And, you know, you change the sail to maximize the wind. And that's actually the gist of what that coalition was doing. Is that they were actually mastering their environment, you know, and taking whatever was available to them. That whatever winds that we have, master that and move forward.

That is a narrative of hope. Something that -- what -- Pacific people would really, really, really want to embrace. And we want to take that over and then move forward.

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So, you know, I'm just a messenger. These are the people who actually did the work. That I was going to acknowledge, you know, the staff AAPCHO, the staff at the Ebeye's Community Health Center (Dr. Trinidad was their coordinator and their leader there); the Kwajalein DIAK Coalition, you know, the chair Romeo Alfred and all of the members; and then all of our partners.

We started out with zero partners. Our only partner was the community health center. At the end of five years, we actually got about \$300,000.00 worth of grants and resources to build our environment, you know, like the pathway and gardens, and everything else. So, on behalf of the Kwajalein DIAK Coalition I would like to say "Kommol tata."

#### **Slide**–Acknowledgements

#### **Slide**–Visit CDC's NDEP's New Website...

Judith McDivitt: Great, well, thank you to Happy, Ho, Angela, and Nia for these really interesting presentations. This is Jude again. And I just wanted to – before we go to the questions and answers -- ask you or suggest that you visit CDC's new NDEP website.

The big arrow to the side points to some of the resources that we have.

#### **Slide**–Healthy Eating Tips

One example is some healthy eating tips that we have tailored for specific groups: Filipino Americans, Korean Americans, South Asian Americans, South East Asian Americas, and Chinese Americans, that are written in plain language.

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And we have another group of resources that is for people with diabetes called *Four Steps To Manage Your Diabetes*; which will be coming out in a number of Asian languages. But we're still in the process of translating those.

#### Slide–Q&A

So, we can start on some of the questions. And I think what we'll start with is, before we had the webinar, as people were signing up, they asked some questions. And one of the most common questions was related to: “Are there resources and educational tools relevant to AANHPI populations and culturally appropriate in Asian languages?”

And I think a number of people who presented can provide some answers about that. Ho, do you want to start?

Ho Luong Tran: Yes, I believe that Angela and Happy also had information. But one of the resources that we have, you know, we promote is (if you look at the Joslin AADI Center), they have, you know, many information or resources in language as far as ways to cook the Asian diet for diabetes.

So, that's one. Second that if you look at [www.Screenat23.org](http://www.Screenat23.org), we are putting together a link, you know, of the resources that might be beneficial for your information.

So, that was two links, enough to say that the information from NDEP like, Jude was introducing, they are excellent. And that it is very, to the point of being culturally and appropriately – appropriate to the culture, the diet of different populations.

Judith McDivitt: Nia or Angela, do you want to say anything?

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Angela Sun: Yes. So in addition to what Ho just mentioned, if you Google Charles B. Wang Community Health Center, they also have some materials that are listed in various Asian languages. And Joslin Diabetes Center again is another good resource; and the National Medical Library.

And the CCHRHealth.org. You can find mostly Chinese, bilingual Chinese and English. And Asiansforhealth.org, you can also find some materials that are in other Asian languages.

Nia Aitaoto: This is Nia. For Pacific Island materials, they're available at, we have a Pacific Diabetes Education Program. It's at PDEP.org. Sometimes the site is up or down. (You know, people are not concerned about the sites). But if you can e-mail me directly, we have materials actually from like 15 Pacific Island languages that was developed by Pacific Islanders for Pacific Islanders, and in their language.

I also have a lot of the newer materials, because I am a technical reviewer for a lot of the Pacific Islanders educational materials. So, I have a really good, nice library of materials that's available here.

So, a lot of people know who I am. And they just e-mail me directly. And I'll just send them material. Now, I'll just send them a flash drive with materials on it. So, thank you.

Judith McDivitt: Happy, there are some questions about gestational diabetes. One question is: "Are there large increases in GDM in AANHPI people?"

And also: "What is the timeline from gestational diabetes to a diagnosis of type 2 diabetes?"

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Maria Rosario Araneta: OK, I'll be happy to respond to that. At Kaiser, which also has a very rich data set of information on gestational diabetes, published a paper by Dr. Hedderson back in 2010 which compared the prevalence of gestational diabetes among over 200,000 births.

And what they found was Asian Indians had the highest diabetes prevalence in California at 11 percent, which was almost – which was more than twice the prevalence of Latinos at 5 percent, or African-Americans at 4 percent.

Following Asian Indians, Filipinas had a GDM prevalence of 10 percent. And then Southeast Asians, which includes Cambodians, Vietnamese, Laos, their GDM prevalence was 9 percent, twice that of Latinos, blacks, and whites.

Data from Hawaii has shown similar trends, also. This was published by Tsai (T-s-a-i), et al. at BMC. I'm sorry, I forgot the name of the journal. But data from Hawaii showed that Filipinos and Native Hawaiians have the highest GDM prevalence at 13 percent, twice that of white mothers at 7 percent. And other Asians is somewhere in between at about 11 percent. So, what we're seeing is this elevated prevalence of gestational diabetes in non-obese pregnant women.

And the second question is, what is the average time from GDM to manifestation of type 2 diabetes?

There was a study by Kim et al, which looked at international studies, and said the time is quite broad. It could range from 3 percent to 70 percent.

But there were also other studies that showed that half of all women with GDM might develop type 2 diabetes within five years. The good news is that data from the Diabetes Prevention Program, which included 27 sites across the U.S. (this was a paper by Vinita Aroda last year in Diabetes Care); it showed

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that gestational diabetes increased the risk of type 2 diabetes by 48 percent, much higher than mothers who didn't have gestational diabetes, after a 10-year period.

But the good news is that moms with GDM were able to reduce their risk of developing type 2 diabetes through lifestyle interventions. And that was losing 7 percent of their weight.

And that was a reduction of 35 percent compared to placebo. Similarly, women with gestational diabetes who took metformin were able to reduce their risk of developing diabetes by 40 percent compared to placebo. Whereas women without GDM found no benefit in the metformin group in reducing their risk for diabetes.

Judith McDivitt: OK, thank you Happy. Nia, I think there's a question that's just for you; which is, there seems to be a cultural roadblock in trying to bring about change in Pacific Islanders with diabetes, in that they understand and intend to do things to improve their health; but don't follow through. They don't show up for appointments, or don't attend some of their appointments, you know, “someone stole my meter,” etcetera.

And this person is wondering about “How can you, how can you address some of the cultural issues, the feasting habits, in addressing diabetes in some of these populations?”

Nia Aitaoto: Well, I think the short answer to that, you know, with cultural issues, and they need to be involved with a group of people, and I think as a culture, as a group of people, we're not engaged.

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So, one of my slides, I talk about engaging the Pacific. Because a lot of times we see that agenda as, even though we know that controlling diabetes... “You know, I’m a Pacific Islander, yes, I need to control my diabetes.”

But a lot of time, I noticed that, in this whole narrative of diabetes management anywhere is that all of the agenda setting, and rhythm, and things like that is from the provider. You know, you tell us when to come in, I have to follow in. And we're not really that engaged. We're not really that involved in that whole process of doing that. So, engaging the community. And I think that's why it was very wise for KDC, the Kwajalein Diabetes Coalition, to actually set this day for Marshallese in the Marshall Islands, in Ebeye, to say that “We have a Diabetes Day. It's our turn to take charge of it.” Because a lot of times we see diabetes management as something that goes on in a hospital. We have no control over it.

There's a lot of cultural narrative and ideology of that. So, we need to turn that around. So, to me, it is a culture issue. That we really need to go into the community, and then figure it out with them.

And then with that even, it's not an overnight thing. You know, it's going to take a long time. But it's worth it. It's worth it for us to engage Pacific people in their healing, and, of course, managing diabetes.

Judith McDivitt: Great, thanks Nia. There are a couple of questions related to the Screening at 23. And one is “Does insurance coverage play a role in not screening Asian patients at the BMI of 23 despite recommendations? Or, is it that healthcare providers are not up to date with the screening guidelines?”

Ho Luong Tran: It's Ho Tran here. I will take these questions first. And possibly that I mean, Happy will chime in. But for the health plan, the insurance company, it is not

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the issue of the increase of Screening at 23 for the Asian population and for Asian patients.

But it is more of the unawareness, you know, up from the new cut point as Happy was talking about for Asians. So, the intention of the campaign is to increase the awareness and to have physicians recognize that, when they see their patients, you know, at their practices.

At the same time that for the Asian population, we have been speaking to both our perspectives. And they are very very interested to know about the information and to also be proactive.

So, the message of the campaign is very simple for the population. It is that just two questions to ask your physicians. “Doctor can you calculate my BMI?”

And if it is between, from 23 and higher, “Can you test me for diabetes?” A very simple two questions and they like it. They accept it. And they are doing it.

Judith McDivitt: The other question about Screen at 23 is: “What are the reactions from the Asian community at being screened at a lower BMI?”

Ho Luong Tran: Like I said, you know, the reaction up to now that we have started the campaign, it's very positive. They appreciate that they are being recognized, you know, Asians.

It is an issue of that they are different when they are responding to disease. So, yes, it's very positively accepted, from the Asian community.

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Maria Rosario Araneta: This is Happy. And I would like to add to that the initial reaction was  
“I'm not overweight.”

And we just wanted to clarify that a BMI of 23 in this context does not necessarily mean we are suggesting that you're overweight. But you are at higher risk for diabetes.

Ho Luong Tran: Yes.

Judith McDivitt: Yes. There are a number of questions also about prediabetes. And one of them is: “Is there any work being done about raising awareness of prediabetes in lifestyle change programs to address prediabetes in Asian, Native Hawaiian, and Pacific Islander communities?”

Maria Rosario Araneta: We're looking at that. This is Happy Araneta. We're looking at that in this same population. And the goal is to identify if there was, what the prevalence of prediabetes was in this population.

We're presenting that at the scientific sessions at the American Diabetes Association in New Orleans in June. And the second goal was to identify if there is another optimal cut point to screen Asian Americans for prediabetes.

And I'll give you one answer. It's the same cut point; 23 for prediabetes or diabetes.

Judith McDivitt: Right.–

Maria Rosario Araneta: I think establishing the prevalence and the cut points is the first step. And then defining the needs or establishing that there is an excess prevalence. That it's also at a low cut point is a necessarily first step from which to establish intervention programs.

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Ho Luong Tran: It's Ho Tran here. And I want to add to Happy about prediabetes. That it is a very important know about this issue.

Because for prediabetes that if you know, you'll catch the... That you'll know about your condition. And with the changes of your lifestyle, you can either prevent, you can either prevent a disease from becoming diabetes, or, also, you can also reverse it.

So, the message is that it is very important for the message to be heard and to be disseminated and be shared with our population.

That it can be preventive, you know, to go to a disease full blown. Or, it could even be reversed. It's very important.

Judith McDivitt: So, we also have a number of questions related to nutrition and education, and food. One of them is about: "How can we use the data that Happy presented and apply them to practical patient care?"

So, for nutrition and education, and a number of the questions ask about rice. "Are there acceptable alternatives to rice? What is the role that white rice plays?"

"What kinds of food modifications are recommended for Asian Americans, Native Hawaiians, and Pacific Islanders?"

Ho Luong Tran: I will try to answer because I see kind of a silence here.

I would share the rice story from my own family. And that yes, rice does have consequences on the outcome of, you know, diabetes management and treatment in terms of nutrition.

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It is very difficult for the Asian population – for Asians to accept that kind of change of the diet. But at the same time, it can be changed. If they – if we – if they are given some other alternatives.

And that fits with their – with their palate, you know, an Asian palate. So, an example, when I was changing the diet from rice eating. I could see that if we eat some of the noodles that they (the rice noodles) – that the glycemic index is almost half, of the rice itself for example. And I got the translucent, the Chinese noodles. So, that is an alternative that the dietitian, the nutritionist might want to look at.

So, instead of the rice, it could be some alternative of the rice being pounded as flour. And to eat with other vegetables.

But everything is pretty much in education and the message. That your patients want to change.

Maria Rosario Araneta: This is Happy Araneta. I'm going to respond to that. Because the person asking it was actually one of my students who is a dietitian. (I noticed here on the questions)

We asked about self-reported intake. And that tends to be a limitation when finding an association between rice consumption, for example, and diabetes.

However, there have been a lot of studies in Asia. And these are randomized control trials where they provide the food sources and found a lot of benefit when... for, in the case of gestational diabetes, they were providing rice but in controlled volumes to one group and unlimited rice to another group of mothers.

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So, that aside from – it is challenging to depart from a traditional food source such as rice, but volume and portion control is an important consideration.

There is also another study conducted in India where participants were randomized to brown rice, white rice, and a combination of rice with legumes. And so, that might be another creative alternative towards reducing the carbohydrate intake.

Judith McDivitt: Yes, and so in developing the holiday tip sheet, we pretty much had to follow the ADA's dietary recommendations of half your plate, non-starchy vegetables. Have a quarter of your plate starches, grains, and wheats, and so forth; and then the other of protein; and how well that's going to go over is another matter.

It's going to – it's difficult, I think, for everybody. But when you're used to a diet with a lot of white rice, I think it's – it will be hard as you said.

I don't know, Angela, if you can answer this or not. But since you talked about some of the different approaches to medications, do you have any perspective on people who are taking both Chinese herbal medicine and Western medications at the same time? Or, do any of the rest of you have any insight?

Angela Sun: I guess I'll try. So, I think this definitely is an issue right now. The issue is that a lot of our Western healthcare providers are not aware of the contents in the Eastern medicine, herbal medicine, or alternative medicine.

And so, but I think one thing is that it's – first of all we need to be aware. And we should ask patients. And what's some of the – if they are taking any of the herbal medicines. And perhaps they can bring in the herbal medicine.

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Some, a lot of those medicines, you know – they do have labels. And they're already in the pure format. And at least there are some ingredients and content that's listed on the bottle. And hopefully, they are in English.

And so, I think it's just at least to be aware. And there are – I know there are some pharmacists and also physicians and healthcare providers, and they are very knowledgeable in the – both Eastern and Western medicine approach.

And so I think we can – we can also reach out to those who are knowledgeable in the herbal medicine area. And perhaps we can provide some solutions to the – or advice to patients.

It's hard to just tell patients don't take it because they are going to take it anyway. But I think, not asking, not to be aware, it's not a good alternative.

So, at least to be aware of what they are taking. And there are some resources, out there.

And in San Francisco, we have a task force called TCM Task Force, a Traditional and Complementary Medicine Task Force, that's headed by Dr. Tung Nguyen. And the task force consists of the community leaders, and researchers, and people from the traditional medicine practitioners, and pharmacists. And so, together we are trying to come up with the way – How can we educate the community about the drug interactions?

At the same time how can we come up with the programs to – our training programs also – to educate our providers? And, because you know, some of the traditional medicines, they do have efficacy even though they have not been tested.

## **NDEP Webinar Series**

### **Innovations in diabetes screening and interventions**

And, we are working on some of the programs. And we actually are planning to have a webinar in part for the community in the areas sometime in December.

#### **Slide–Contact Information**

Judith McDivitt: OK. Thank you so much to our presenters; Happy, Ho, Angela, and Nia for another wonderful NDEP webinar.

#### **Slide–Thank you!**

So, thank you very much to the presenters. And also to all of you who attended and asked questions.

#### **Slide–Learn More from the National Diabetes Education Program**

#### **Slide–Continuing Education**

#### **Slide–Disclosure Statement**

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