

# **The International Pacific Health Conference 2014**

## **Abstracts and Presenter Profiles**



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# Posters



# Is there a link between accreditation and mortality?

**Presenter: Mohammed Almasabi**

*Mohammed is currently a PhD student at Monash University. His topic examines the impact of accreditation on quality of care. He completed his Master's in 2009 on Health Services Management. Mohammed also holds a Bachelor's degree in Hospital Management. He was appointed by the Ministry of Health in Saudi Arabia as a health centre director since 2004. He has researched and published in a variety of areas related to safety and quality in health care.*

Co-authors: Dr Hui Yang, Professor Shane Thomas

## **Abstract**

### **Background**

The use of accreditation processes in health care improvement programs has been important in Saudi Arabia in recent years. In 2005, the Central Board of Accreditation for Health care Institutions (CBAHI) was established following the recommendations of the Council of Health Services (Saudi Arabia). The CBAHI was formed to develop and implement quality standards in all health organisations in Saudi Arabia to improve health services (CBAHI). However, while accreditation standards have been implemented more widely over the past 40 years, and the probability of receiving safe and high quality health care has increased for patients worldwide (Pomey et al., 2010), it is not clear whether accreditation programs truly improve health service organisations, services or clinical care (Greenfield et al., 2012).

### **Purpose**

The impact of accreditation on the quality of care in accredited public hospitals in Saudi Arabia is not clear. Mirroring the position in other countries, there have been no studies conducted in hospitals in Saudi Arabia to understand the relationship between accreditation and quality of care. This study aims to investigate the relationship between accreditation and mortality.

What is/are the question/s?

- To what extent does accreditation affect mortality?
- design (multiple case study)
- method of data collection (secondary data analysis) (Mortality data between 2009 and 2013 were collected from three accredited hospitals in Saudi Arabia to compare the mortality before and after accreditation)

### **Key findings**

This result indicates that the odds of mortality were almost the same before and after accreditation for the three hospitals. The result was not statistically significant.

### **Key references**

- Greenfield, D., Pawsey, M., & Braithwaite, J. (2012). The role and impact of accreditation on the health care revolution/O papel eo impacto da acreditação na revolução da atenção à saúde. *Acreditação*, 1, 1-14.
- Pomey, M., Lemieux-Charles, L., Champagne, F., Angus, D., Shabah, A., & Contandriopoulos, A. P. (2010). Does accreditation stimulate change? A study of the impact of the accreditation process on Canadian health care organizations. *Implementation Science*, 5, 1-14.



## Mana is our legacy! Maui Ola is our destiny!

### **Presenter: Ms Kealoha Fox**

*As Ka Pou Kāko'o Nui of the Office of Hawaiian Affairs (OHA), a semi-autonomous state agency in Hawai'i, Kealoha is responsible for the executive management of OHA's initiatives for Maui Ola (Health and Well-being) of Native Hawaiians. Kealoha fulfills her current role by providing resources, advocating for Native Hawaiians, and facilitating collaboration for OHA to fulfill its vision to raise a beloved nation as kānaka 'ōiwi.*

*With an educational and professional background in clinical health and research, Kealoha's skill set is multi-theoretical and interdisciplinary. She holds a Master's degree in Clinical Psychology and is currently completing her doctoral degree in Clinical Research and Biomedical Science at the University of Hawai'i John A. Burns School of Medicine.*

*Kealoha has a passion for traditional Hawaiian healing and supports cultural integration of those ancient practices and beliefs to build the resilience of our community, families, and individuals. She is a proud mother to her 10 month old son, La'ikū Kahiluonālani. Kealoha is of Native Hawaiian ancestry. Her family is from Waikapū, Maui, Hawai'i.*

### **Abstract**

#### **Background**

To ensure that the organization meets the needs of its beneficiaries, the Office of Hawaiian Affairs (OHA) provides an in-depth, multi-pronged strategy to address the current conditions of Native Hawaiians. While generating a series of activities, the objective of each result is expressed as a quantifiable measurement that can be monitored over time and linked back to these key issues facing Native Hawaiians.

We will share our comprehensive strategy that participants may find useful for planning diversified organizational actions and activities focused on achieving their strategic goals in the health field. These strategies involve specific paia: research, resource management, community engagement, and advocacy through coordinated efforts. OHA's own internal measures of success are rooted in our ability to collaborate to transform attitudes and stereotypes about Native Hawaiian disparities; engage and build strengths-based knowledge via mid-range outcomes; to seek behavior change with skills built towards long-term impact; while culminating over time to accomplish systemic change and equity.

We will specifically highlight one of these institutional working groups that is focused on decreasing the chronic disease rates among Native Hawaiians. The Office of Hawaiian Affairs' Health Initiative seeks to improve information, recommendations, and a plan of action to guide OHA's efforts to decrease Native Hawaiian adult obesity rates to be equal to or less than the general population of Hawai'i. Our cross-collaborational initiative is guided by the Executive Offices to build capacity within our organization and partner with the community to address systemic issues like social determinants of health. We recommend ways to improve the health conditions of Native Hawaiians as indigenous peoples, their families and communities, and broader Native Hawaiian society or lāhui. This method features a traditional structure as a model through which Native Hawaiians can perform and apply local and national activities with global recommendations in a culturally appropriate context.



## Parent-focused weight management programme for Pacific children

### **Presenter: Dr Ofa Dewes**

*Dr Ofa Dewes is a Pacific Health Research Fellow in the School of Population Health, Faculty of Medical and Health Sciences at the University of Auckland. Her research work includes Pacific ethnic-specific studies in obesity prevention among Pacific people, families and communities in New Zealand. Ofa is Principal Investigator of her first HRC-funded implementation and evaluation study on a systems-based approach to obesity prevention and weight management in Pacific church communities, in collaboration with investigators from the University of Otago and University of Hawai'i at Mānoa. The study builds on her previous work in the Obesity Prevention in Communities (OPIC) project and its successor, a parent-focused randomized controlled trial on weight management in children. She continues to publish and present her work at international and national conferences including local community forums. Her contributions to the research environment also include science leadership to the National Science Challenge Healthier Lives Consortium, technical advisory panels, guest lectureships and speakerships, assessment of manuscripts and masters thesis, Pacific column in New Zealand Journal of Primary Health Care, student supervision, and media activities.*

Co-authors: Dr John Sluyter, Dr Teuila Percival, Professor Robert Scragg, Dr Yannan Jiang

### **Abstract**

#### **Background**

The high prevalence of overweight and obesity among Pacific children and adolescents remains suggesting that secondary prevention programmes have not been successful uniformly for all population groups. In New Zealand, approximately 27% of Pacific children and 68% Pacific adults are obese. Obesity is a major risk factor for preventable chronic diseases such as type 2 diabetes. Diabetes and obesity rate among the significant health disparities Pacific peoples face. Previous studies have found that programmes that focus on primary caregivers result in better outcomes with regard to childhood obesity.

#### **Purpose**

To compare the effectiveness of a parent-focused weight management programme for Pacific children aged 5–12 years and their primary caregivers with that of an existing child-focused programme in the community, Kids in Action.

#### **Methods**

In a two-arm parallel randomized controlled trial, overweight and obese children (n=168) were randomized in a 1:1 ratio to intervention, Fanau FAB (children, food, activity, behaviour strategies), or control, KIA (Kids in Action). Participants were recruited from the local community in South Auckland through schools, churches, health service providers and community notices including the local media network. The parent-focused intervention involved eight weeks of weight management FAB group treatment therapy for children and at least one of their primary caregivers. A period of 26 weeks maintenance immediately followed and involved direct contact with primary caregivers through weekly phone calls, and a home visit per family. The KIA control programme involved 10 weekly support activities on food choices and eating behaviours, as well as physical fitness and home visits. Data were collected at baseline and 26 weeks post-intervention with participants assessed for demographic factors, anthropometric measurements, diet, sedentary behaviour, quality of life, and percentage body fat (%BF) by bioimpedance analysis.



The primary outcome was change in child BMI z-score (WHO standards), with secondary outcomes being diet and sedentary behaviour, %BF, waist circumference and quality of life in child participants. Secondary outcomes for primary caregivers included BMI, waist circumference, knowledge on food and physical activity, sedentary behaviour, and quality of life.

## Results

Among children in the two groups, there were no differences in change in BMI z-score ( $P=0.81$ ), %BF ( $P=0.52$ ) waist circumference ( $P=0.98$ ), and quality of life. Similarly, for primary caregivers, there was no group effect in change in BMI ( $P=0.73$ ), %BF ( $P=0.96$ ), waist circumference ( $P=0.47$ ), and quality of life. Secondary outcomes did not differ across the groups at follow-up.

The parent-focused programme did not provide benefit over the child-focused programme with respect to primary and secondary outcomes for Pacific children and their primary caregivers.

Innovative approaches are urgently needed to reduce obesity and its consequences. How to develop and implement interventions that work for Pacific families requires further research designed in ways that meet their cultural realities and lived experiences. A collective approach precludes an individual randomisation design. As such, a potentially more effective way to reduce obesity prevalence in Pacific communities is through participant-guided research which the first author is now testing in a successor project to the randomised controlled trial.

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# **A community-based, culturally relevant physical activity and nutrition program to reduce Native Hawaiian cardiovascular health disparities: Youth baseline characteristics**

**Presenter: Ms May Vawer**

*May Vawer, RN is a Clinical Research Nurse at The Queen's Medical Center and the University of Hawai'i John A. Burns School of Medicine. A native of Canada, her nursing career started in 1985 in Critical Care Nursing and staff development. She took part in the implementation of the first Canadian thrombolytic trials in the 1980s. In 1994 she came to Hawai'i and has focused on clinical research with an emphasis on addressing health disparities in Native Hawaiian and Pacific peoples and improving access to care. During these years her research work included support of junior investigator career development, clinical and regulatory management of NIH, state, community and industry sponsored projects and sitting on the UH IRB committee. May's current focus is CBPR practices with an emphasis on acknowledging and addressing the 'front line challenges' of CBPR, applying innovative solutions through nurturing trusting partnerships that foster community members as co-researchers to build capacity that sustains long term health benefits for the community.*

Co authors: Todd Seto, Diane Paloma, Malia Young, May Vawer, Cynthia Damo, David Mena, Rick Rutiz, Mikala Minn

## **Abstract**

### **Background**

Native Hawaiians bear a disproportionate burden of cardiovascular disease and its risk factors. Compared with Caucasians and Asians, Native Hawaiians have higher rates of diabetes, hypertension and obesity, and experience more complications from myocardial infarction, heart failure and stroke. While often effective, traditional primary and secondary risk reduction programs do not always fully translate to rural communities, particularly those with predominantly indigenous populations. In particular, programs that include changes in diet and increased physical activity are often poorly attended by ethnic and racial minorities. The gap between the ideal and reality of these cardiovascular risk interventions is related to geographic and socio-economic barriers, as well as a lack of alignment with Native Hawaiian preferred modes of living and cultural values.

### **Purpose**

The overarching goal of this ongoing project is to improve the cardiovascular risk profile in a rural community with a predominantly (>50%) Native Hawaiian population, using a community-based participatory research approach. We will develop community infrastructure through partnerships, training and organization, and offering health and nutrition education and a range of physical activities that are linked to cultural practices and centered on community inclusiveness to address racial disparities in obesity. More specifically, we are facilitating and supporting community-driven efforts to build a healthy community, by implementing an activity and health education program with the goal to decrease obesity, improve blood pressure, and improve physical functioning and psychological well-being. In this study, we present an overview of the program, and the baseline characteristics of our youth participants (age <18 years).

### **Methods**

This study is part of an ongoing, 6+ year partnership between investigators at The Queen's Medical Center, a 500-bed tertiary care referral center in Honolulu, and an isolated, underserved, rural community on the island of Maui that has the largest concentration of Native Hawaiians in the state. We undertook this phase of the program based on feedback from



the community, to be more inclusive with a wider range of activities linked to traditional cultural practices and a more diverse range of community participants.

In January 2014, we identified community partners, who developed, and are now implementing, and directing culturally relevant physical activity and/or nutrition programs: (1) Ma Ka Hana Ka Ike “in working one learns” (non-profit): teaching cultural practice of net fishing, using locally grown produce for food preparation and cooking classes, youth mentorship, community ‘go-build’ projects (2) Kumu Hula Kau’i Kanaka’ole (hula teacher): hula classes for children, adults, and kupuna (elders) (3) Mahele Farm (community farm): Twice-weekly community harvest and sharing, education on caring for land and farm-to-table food preparation, and weekly deliveries to Senior Center and home-bound residents (4) Hana High School (Department of Education): Weekly class field trip to Mahele Farm for education on nutrition and sustainable farming (5) Hawai’i Department of Health: nutrition and health education classes, one-on-one home visits for health assessment, education, and physical activity (6) Maui Parks and Recreation: Community sports league (e.g. soccer, futsal, basketball), walks, and zumba classes. Community members are encouraged to attend any activity. Trained nurses assist with baseline and follow-up measurements.

### **Key findings**

Our study activities started in February 2014, with a total of 144 enrolled (58 adults age >18 years and 86 youth age 17 years and younger) as of May 2014. The majority of the adults participate in the community farm, hula and zumba activities, whereas the majority of the youth participate in the community sports league, hula and nutrition education sessions. Of the 86 youth, the average age was  $11.7 \pm 3.2$  years old, average body mass index (BMI)  $21.8 \pm 5.4$ , and average systolic blood pressure (SBP) was  $113 \pm 13.2$  mmHg, with 39.5% female and 95.3% Native Hawaiian. Using pediatric growth charts to assess BMI, 23% (n=20) of the 86 youths were obese (>95th percentile for age) and 20% (n=17) were overweight (85th–95th percentile for age). Consistent with recommendations for the assessment of blood pressure among the pediatric population, 15.1% (n=13) had stage 1 hypertension (SBP >95th percentile) and 16.3% (n=14) were pre-hypertensive (SBP 90th–95th percentile). None of these participants were being treated or monitored by a health care provider for their blood pressure.

Overall, the findings from our baseline assessment confirm the importance of our project. Over 40% of youths were obese or overweight, and nearly 1 in 6 had stage 1 hypertension. We believe that our success in recruiting participants with a broad range of ages is related to our decision to build the program using a community-based participatory research approach, and reflects both the strength and engagement of the community’s support and their desire to make a difference in their health and the health of their community.

### **Key references**

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## Composition of alkaloids in saliva during betel chewing in Guam for the identification of biomarkers

### **Presenter: Professor Adrian A. Franke**

*Adrian Franke is the director of the Analytical Biochemistry Shared Resource, a core unit of the University of Hawai'i Cancer Center (UHCC) where he applies his over 25 years of experience in the field of analytical biochemistry. His education includes a BA in Pharmacy (1976), a MS in Pharmacy (1979), and a PhD in Natural Products Chemistry (1985). After postdoctoral studies in Freiburg/Germany (1985-1987) in Wellington/New Zealand (1987-1989), he continued his postdoctoral studies in the Chemistry (1989) and Zoology (1989-1990) departments at the University of Hawai'i. In 1989 he accepted a junior researcher position at the University of Hawai'i Cancer Center managing the ABSR before being promoted to Assistant Professor/Specialist and director of the ABSR in 1993. In 1996 he was promoted to Associate Professor/Specialist, and in 2000 he advanced to his current position as full Professor/Specialist continuing to direct the Analytical Biochemistry Shared Resource and to perform independent research.*

Co-authors: Ana Joy Mendez, Jennifer F. Lai, Celine Arat-Cabading, Xingnan Li, Laurie J. Custer

### **Abstract**

#### **Background**

Betel nut (BN) chewing with or without tobacco has been found carcinogenic as confirmed by a thorough review of the International Agency for Research of Cancer. However, it remains a widely practiced habit in Asia and the Pacific rim including in Guam, where approximately 11% of the population chews BN on a regular basis and where the incidence of oral cancers is high compared to the rest of the US. BN is traditionally consumed alone, wrapped in betel leaves, or as a betel 'quid' (BQ) consisting of the BN, betel leaves, slacked lime, and sometimes tobacco. Areca and nicotine alkaloids occur uniquely in betel nut and tobacco products, respectively, while carcinogenic N-nitroso compounds such as the areca alkaloids N-nitrosoguvacoline and N-nitrosoguvacine have been found in the saliva of BN chewers in India. Unpublished data from pilot studies suggests that regional variations in BN alkaloids exist in betel preparations consumed in Guam.

#### **Purpose**

In support of cessation studies our aims were to: 1) identify compounds/phytochemicals that are specific for the three most common betel preparations consumed in Guam: red, mature nut only ('BN' group), red mature nut wrapped in betel leaf ('BL' group), and BQ consisting of the young white betel nut with betel leaf, lime, and tobacco ('BQ' group) and; 2) identify compounds/phytochemicals that get extracted into the saliva of habitual BN chewers while chewing these preparations.

#### **Methods**

Fifteen habitual betel chewing males (22–31 years) were recruited in Guam via flyers and word of mouth. Information regarding the participants' age, weight, ethnicity, health condition, betel allergies, and typical betel chewing habits (amount consumed, duration/frequency of chewing, reasons for chewing, etc) was obtained through interviews with study personnel. A visual mouth inspection was also conducted. The participants were randomized evenly to each of the three above-mentioned betel preparation groups (BN, BL, BQ). After up to a seven day washout, saliva was collected from each participant before (baseline) and during their betel chewing episode, which lasted 10–15 minutes. Saliva samples were immediately centrifuged and aliquoted then kept at -80°C prior to LCMS



analysis. Thawed saliva was centrifuged and a clear aliquot was mixed with internal standards then acetonitrile to precipitate the proteins. The solution was extracted with dichloromethane/isopropanol at pH 10 and the organic layer was dried under N<sub>2</sub>, redissolved in formic acid then injected into the HPLC system. Separation was performed using a Kinetex C18 column with a linear NH<sub>4</sub>OH/MeOH gradient. BNs were pulverized by mortar and pestle, betel leaves were cut into small pieces, and cigarette wrappers and filters were removed before extraction. The BN, betel leaf, and tobacco were extracted by a physiological saline solution, centrifuged, mixed with IS followed by adjustment to pH 10 before injection into the HPLC system.

The free carboxylic acid alkaloids arecaidine and guvacine did not get extracted with the applied method since an alkaline liquid-liquid extraction (LLE) was performed. For these compounds an acidic LLE method is currently being developed.

Arecoline and guvacoline were the predominant alkaloids in the betel materials while nicotine was as expected the main alkaloid of tobacco. N-nitroso compounds were not found in these materials, however, hydroxycotinine could be detected at trace levels in tobacco. N-nitrosoguvacoline was not found in any saliva samples and the nitroso nicotine compounds NNK, NNN, and NAT were not found in samples from the BN or BL group, but the latter were detected in the saliva samples of the BQ group (mean±stderr 5±1, 9±1, and 23±3 ng/mL, respectively).

## **Findings**

Significant mean increases ( $p < 0.05$  by paired t-test) from baseline were observed for guvacine in all three groups, for arecoline and (borderline guvacoline in the BN and BQ groups), and for the aforementioned plus nicotine, cotinine and the nitroso compounds NNK, NNN, and NAT in the BQ group. For guvacoline, median fold changes from baseline to chewing levels ranged from 90-1,550x (guvacoline), 222-632x (arecoline), 608x (nicotine, BQ group) and 7x (cotinine, BQ group).

Interestingly, baseline cotinine and hydroxycotinine levels in the BL and BN groups were significantly higher ( $p \leq 0.05$ ) than during chewing. This might be due to the dilution of these compounds during chewing as individuals in these groups were smokers and, therefore, had cotinine in their saliva due to the circulatory secretion.

In summary, arecoline and guvacoline but not nicotine are the most promising biomarkers to identify betel chewers of the BN and BL groups while arecoline and guvacoline in combination with nicotine, cotinine, NNK, NNN, and NAT are good candidates as biomarkers for the BQ group.



## Developing a stress and coping measure sensitive to experiences of low-income women in Hawai'i

### **Presenter: Dr May Okihiro**

*Dr May Okihiro is a pediatrician who grew up in Hawai'i. She received her undergraduate degree at the University of California – Santa Barbara and her medical degree from the University of Hawai'i John A. Burns School of Medicine. She completed her residency training in pediatrics at the University of Washington in Seattle. Following residency she worked abroad for several years in Pohnpei, Federated States of Micronesia and in Suva, at the Fiji School of Medicine. In 1999 she returned to Hawai'i to join the Waianae Coast Comprehensive Health Center where she continues as a pediatrician today. She is also an Assistant Professor, clinical researcher and community advocate in the area of childhood obesity and early chronic disease risk at the University of Hawai'i School of Medicine, Department of Pediatrics.*

Co-authors: L. Duke, D. Goebert, M. Antonio, J.K. Kaholokula, E. Hishinuma, L. Kagami, M. Opacic, M. Padilla, B. Salater, C. Wong, J. Onoye

### **Abstract**

#### **Background**

Chronic stress is associated with mental illness and chronic diseases including obesity, diabetes and cardiovascular disease. It is also a factor in family turmoil and parenting practices. While the vast majority of previous studies have demonstrated that rural, indigenous and economically disadvantaged women experience greater numbers of stressful life events, this has not translated in higher levels of perceived stress. This may indicate that women with frequent and multiple stressful life events do not perceive higher stress, or it may be that existing instruments do not adequately measure stress for these women. In addition, effective coping strategies for women may differ depending on age, race, ethnicity, socio-economic status, and situation. Existing scales of women's stress, and therefore standardized measures of coping, fail to capture daily stressors of low-income, minority rural women including those from Hawai'i.

#### **Purpose**

The long-range goal of Project PONO is to explore the mechanisms through which maternal stress and mental health impacts infant and child health in order to develop effective interventions. The objectives of this study are to (1) explore attitudes, beliefs and feelings regarding stressors and their perceived intensity among women from a low-income, rural, community of Native Hawaiians and Other Pacific Islanders (NHOPI) in order to develop a community-appropriate, perceived stress scale (2) explore current coping strategies and their perceived usefulness among women from a low-income, rural NHOPI community in order to develop a culturally relevant, coping scale.

#### **Methods**

Women, aged 18–35 years of age, were recruited from a large, rural community health center in Hawai'i that serves primarily NHOPI families for this mixed methods study. Six focus groups, with 36 women, were held to elicit information regarding stress and coping strategies. Focus groups were recorded and major themes identified. Narrative analyses was emergent and emphasized components for stress and coping. A new scale was developed and then administered to 165 women. Mean scores were calculated for surveys.



## **Results**

Participants were primarily Native Hawaiian and Other Pacific Islander and/or Asian (88%). Results presented highlight the themes of perceived stress. Seven stressor themes emerged, although there was considerable overlap in the topics. (1) Intimate Relationships, including concerns related to limited assistance, and gender stereotypes (2) Family and Home Life, including concerns about feeling like an outsider, and lack of respect (3) Childrearing, including concerns about lack of quality, affordable childcare, and different discipline styles (4) Time for Self, including concerns about never-ending duties, and being too tired to enjoy “me-time” (5) Neighborhood Environment, including safety concerns and not being a part of the community (6) Workplace, such as concerns related to workload and transportation difficulties, and (7) Finances, including concerns about making ends meet and arguments about money. Interpersonal relationships, finances, competing responsibilities, and health issues ranked the highest among stressors. Mean scores for interpersonal relationships ranged between 2.99–3.25, for finances between 3.11–3.68, for competing responsibilities between 3.07–3.27 and for health between 3.06–3.39. Coping strategies included: social support from partner, friends and family; support from therapists; outdoor activities; aggressive behavior; eating; drinking; alcohol; drug use; and religion. Listening to music, doing things with family and eating had the highest mean scores at 4.45, 4.06, and 3.99, respectively.

## **Conclusion**

In this study, indigenous and minority women from a rural, low-income community articulated a complex array of daily stressors. Stress related to relationships was a major topic in all focus groups. While some of the stressors are similar to those found in previously validated scales, many are not described in a way that local women in Hawai'i can relate to. While some of the stressors are similar to those previously described, we identified novel stressors, such as “being an outsider”, that are not commonly measured by existing stress assessment tools. The coping strategies identified may also augment community relevance of scales. Hence, a culturally relevant assessment of stressors and coping may be more appropriate for low-income, minority women. Implications of culturally relevant assessment may contribute to the development of interventions to reduce chronic stress and its negative health effects in communities disproportionately affected by health disparities.

## **Limitations**

The women's feedback and responses reflect their own personal experiences that may not be generalizable on a larger scale to other women in the community. A larger sample size is needed to examine a broader range of culturally specific stressors and elements of coping.

## **Future directions**

The findings of our study reinforce the need for further investigation of stressors specific to women, and the need to validate and refine a culturally attuned stress and coping scale that may be used with rural, low-income, minority and indigenous communities.







## **Session 1**

# **Innovation and Technology**



## Arterial waveform measures in the vitamin D assessment (ViDA) study: Relationships with Pacific ethnicity and modifiable factors

**Presenter: Dr John Sluyter**

*John is committed to improving Pacific health through research. He has published work in the fields of Pacific health, obesity and cardiovascular disease. Some of the studies he has been involved in are the Auckland High School Heart Survey, Pacific Obesity Prevention In Communities (OPIC) study and a randomised clinical trial of weight management in Pacific children (Fanau FAB study). He is currently a postdoctoral research fellow at the University of Auckland (Pacific Health section), investigating the utility of a new instrument to measure artery and cardiovascular health in a large clinical trial of vitamin D supplementation. In his presentation, John will share some findings from his postdoctoral research.*

Co-authors: Alun Hughes, Simon Thom, Kim Parker, Andrew Lowe, Robert Scragg

### **Abstract**

#### **Background**

Cardiovascular disease (CVD) is increased in Pacific communities compared with European people. This may be mediated by ethnic differences in arterial function and, if these are clinically important, interventions directed at improving arterial function might reduce ethnic CVD disparities. New methods have expanded the scope of measurable parameters such as aortic blood pressure (BP) and arterial wave reflections, but it is not known whether these vary across Pacific and European populations (1). These parameters are important to quantify because they have been shown to predict cardiovascular disease incidence independently of and more strongly than brachial BP (2, 3). In addition, identifying determinants of these waveform measures will help define suitable strategies for improving arterial function. However, there is a limited understanding of modifiable determinants of such waveform parameters.

#### **Purpose**

We aimed to provide a more comprehensive examination of ethnic differences in several arterial function measures (1-4) between Pacific and European people, which may reveal new ethnic variations. A second objective was to identify possible determinants of these measures.

#### **Method**

A quantitative method was used, which entailed a cross-sectional analysis of baseline data from a randomised clinical trial of the effect of vitamin D supplementation on cardiovascular events over 4 years. Participants were 4830 adults aged 50-84 years from Auckland, and men and women from multiple ethnic groups (including 3991 European and 322 Pacific people). Height, weight and cholesterol were measured. Demographic and lifestyle variables were collected from questionnaires. An automatic BP monitor was used to measure brachial systolic BP (SBP) and brachial pulse pressure (PP). All other measures (aortic) were made by a BP Plus device, which previously has been shown to yield central pressure measurements highly correlated with those from aortic catheterisation (4). To obtain potentially stronger predictors of CVD, BP was decomposed into forward-and backward-travelling arterial waves and reservoir wave analysis was applied to derive reservoir and excess pressures.



## **Key findings**

### *Relationships with Pacific ethnicity*

After adjustment for sex, age, heart rate and antihypertensive use, compared to Europeans, Pacific people had higher levels of several waveform parameters: brachial SBP, brachial PP, aortic SBP, aortic PP, peak reservoir pressure, excess pressure integral, forward pressure amplitude and backward pressure amplitude. To permit direct comparisons of the effect sizes across the various waveform parameters, each of these differences were then expressed as a percentage of the mean value in the European group. The resulting values showed that several of these differences were notable in size (>5%) and were larger for non-brachial (aortic) than brachial measures.

### *Relationships with modifiable factors*

Body mass index (BMI), total cholesterol, total: HDL cholesterol ratio and alcohol consumption were each positively associated with several waveform parameter levels in a dose-dependent manner. Smoking was associated with higher levels of various arterial function measures.

### *Implications/recommendations*

New differences in arterial function between European and Pacific people were identified, including measures of wave reflection and pressure associated with excess ventricular work. These varied in line with recognised differences in CVD prevalence between these populations. As the variations were numerous and several were notable in size, they are potentially important mediators of ethnic CVD disparities. Ethnic differences in brachial BP may underestimate ethnic variations in central BP; the BP Plus measurements may provide a better assessment of ethnic differences in arterial function. Longitudinal analyses will establish the contribution of these waveform variations to ethnic differences in CVD incidence.

In the light of successful intervention studies based on brachial BP, our findings support the view that BMI, smoking, cholesterol and alcohol consumption contribute to higher central BP, elevated wave reflections and increased pressure related to excess ventricular work. This supports implementing interventions that reduce these four factors as a strategy to improve arterial function.

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## The impact of the cultural dance of hula on hypertension: Ola Hou I Ka Hula study

### **Presenter: Ms Mele A. Look**

*Mele Look is Director of Community Engagement in the Department of Native Hawaiian Health at the University of Hawaii's School of Medicine. She facilitates collaboration for research, capacity-building training, and program development with the Ulu Network, a coalition of 30 community-based organizations with over 70 sites that serve Native Hawaiians and other Pacific peoples across Hawai'i and the continental USA. She has been involved in Native Hawaiian health research for over 35 years, pioneering studies in the area of Native Hawaiian mortality and recently has been focusing on initiatives that merge cultural practices and health objectives. She is a cultural practitioner in the Native Hawaiian dance form of hula and has completed the 'uniki 'ai lolo graduation as an 'olapa (accomplished dancer) with Hālau Mōhala 'Ilima in Ka'ohao O'ahu. She resides in Waimānalo, Hawai'i with her husband Scott Rowland and their son Kaimalieomanana.*

Co-authors: T. Usagawa, G. Zhang, M. de Silva, S. Yoshimura, A. Dillard, T. Seto, J. K. Kaholokula

### **Abstract**

#### **Background and purpose**

Hypertension (HTN), an important modifiable risk factor for cardiovascular disease (CVD), is 70% higher in Native Hawaiians than Whites in the United States. In fact, Native Hawaiians are 3 to 4 times more likely to develop CVD conditions, such as stroke and coronary heart disease, and at a younger age. In addition to prescribed medication, it is well established that improvements in HTN can be achieved through increased physical activity (PA) and self-management education (e.g. stress management, reduced sodium intake, weight-loss, and smoking cessation). Yet, many commonly prescribed PA, such as jogging and use of treadmills, are difficult for Native Hawaiians to initiate and maintain because of socio-economic barriers and lack of alignment with Native Hawaiian preferred modes of living and cultural values (i.e. familial interdependence, group-based PA, cultural PA).

Hula is the traditional dance of the Native Hawaiians performed by men and women of all ages. Although it is sometimes misconceived solely as an entertainment for tourists it is a traditional practice that goes back perhaps a thousand years. Originally performed to convey history and one's connection to the natural world, hula is now practiced as a form of cultural and creative expression. The dance form is comprised of controlled rhythmic upper and lower body movements that illustrate and interpret the poetry of the accompanying songs or chants. Kumu hula, defined as hula educators and experts, are the guardians of the hula tradition and are widely respected for their cultural knowledge. Education and training in hula is popular not only Hawai'i, but worldwide through over a thousand hālau hula (hula schools) and dance academies in more than 22 countries.

Our second-arm randomized control clinical trial named Ola Hou I ka Hula (Renew Health through Hula) evaluated if a 12 week culturally relevant cardiovascular disease prevention program based on hula could improve blood pressure management in Native Hawaiians and Pacific Islanders (NHPI) diagnosed with HTN. Using a community-based participatory research (CBPR) framework, a hula-based CVD health intervention was strongly endorsed by kumu hula, NHPI individuals, and communities. Our foundational studies determined the energy expenditure of hula yields metabolic equivalents (METs) of 5.7 (range 3.2–9.8)



and 7.6 (range 4.4–12.0) which meets the definition for moderate and high intensity PA, respectively. Further evaluation found a 60 minute community-based hula class for older adults meets the parameters for cardiac rehabilitation assessed through average heart rate and maximum predicted heart rate. These assessments confirm that hula has the vigor to meet well accepted physical activity guidelines.

Investigators from the University of Hawai'i, School of Medicine's Department of Native Hawaiian Health in partnership with kumu hula, a community primary care clinic serving NHPI and a community social and activity center in a Native Hawaiians residential homestead area enrolled 55 adults under physician care for HTN. Only individuals with systolic blood pressure > 140 mmHg or > 130 mmHg if diabetic; and independently ambulatory were included. Participants were randomized to either an intervention group, or a wait-list control group that would receive the intervention after the testing period. The 12 week community-based intervention consisted of 3 hours of culturally tailored HTN classroom education delivered by peer educators, and twice-a-week 60 minute hula training classes led by a kumu hula. Clinical and psychosocial testing measurement sessions were conducted at baseline, 3 months.

### **Key findings**

Baseline characteristics were comparable across the two study arms. Mean age was 55 years, half were Native Hawaiians, majority were female (85%), 55% were diabetic, and 67% had no hula experience. Of the 55, 87% completed the 3-month post-intervention follow-up, with no significant difference ( $p=.42$ ) in attrition between intervention (7%) and control (18%). The intervention was superior (-18.3 mmHg) in reducing systolic blood pressure compared to control (-7.6 mmHg) in the intent-to-treat analysis and similar outcomes in the complete case analysis. It also led to more participants with  $\geq 10$  mmHg reduction in systolic blood pressure at 3-month compared to control [72% vs. 39%,  $c2(1, N = 48) = 5.26, p = .02$ ]. Other important findings for the intervention group were greater improvements in bodily pain ( $p = .03$ ) and social functioning ( $p = .02$ ) based on the SF-12 Health Survey; and to a decrease in perceived racism ( $p = .03$ ). For both groups, changes in bodily pain and social functioning were significantly associated with SBP decrease from baseline to 3-month follow-up [body pain,  $r = -0.32, p = .03$ ; social functioning,  $r = -0.50, p < .001$ ].

The strong improvement found confirms the validity of utilizing a cultural practice, such as hula, as a basis for a health intervention. It is possible the integrated approach of the cultural practice with physical, emotional, cognitive and spiritual aspects had synergistic effects that impacted the results. As kumu hula, Hawaiian elders, and classical Hawaiian literature has long relayed; building on the strengths and preferences of Native Hawaiians can lead to important insights and improvements.



## Pacific youth leaders providing their health solutions

### **Presenter: Ms Losi Sa'uLilo**

*Talofa Lava Losi Sa'uLilo is Samoan and currently completing her Master's in public health at AUT University. Her work and academic experience is diverse; having graduated with a Bachelor of Sport and Recreation in 2011 and a Postgraduate Diploma in Public Health in 2013. She has a sound knowledge of the sport, recreation and health sector as she has been fortunate to work with communities nationally and internationally as a researcher and community liaison. In New Zealand at the Human Potential Centre her work involves engaging with youth in projects such as PLAY and BEANZ. In 2013 she gratefully accepted the AUT internz scholarship at Play Rugby USA (based in New York City) as an intern. Essentially her role was to develop youth through rugby mentally, physically and spiritually in order to excel in life. Based on these experiences, Losi, Dr Cath Conn, Dr Sari Andajani, Laurent Antonczak alongside fellow staff members believe the youth leadership and technology project would be an effective means to develop and empower youth, especially Pacific youth.*

Co-authors: Dr Cath Conn, Dr Sari Andajani, Laurent Antonczak

### **Abstract**

#### **Background**

This paper presents the stories of two groups of Pacific youth leaders in South Auckland who, with resourcefulness and creativity, have used mobile phone film-making to recount their experiences and strategies of promoting health. This participatory, empowerment-based approach reflects talanoa methodology (Vaioliti, 2006) which elicits from Pacific youth their solutions for alarming public health issues situated in their lived realities.

#### **Purpose**

The study asked: What experiences and strategies do Pacific youth leaders use in promoting health in the community? A participatory action research engaged two Pacific youth groups from South Auckland as co-researchers; creating a space for them to represent the ways in which they work on projects relating to such public health challenges as obesity, mental illness, and violence. The methodology draws on empowerment principles of participatory research and talanoa. The method used was short film-making on mobile phones. Mobile technology is familiar to youth and it provides a wide range of possibilities for creative expression. A vital feature of empowerment methodology is that participants as co-researchers lead on the processes of data collection, analysis and dissemination of findings. As such, the short films provided a basis for capturing youth leaders' stories and strategies, with youth then deciding which key themes from the short films should be represented and disseminated. Rigour in this methodology was well reflected through the authenticity and credibility of youth voices as they have the authoritative knowledge of their lived experiences.

The research began with a number of workshops on the use of mobile technologies for film-making. The brainstorming discussions were held about youth leadership in health. The second stage involved the making of short films by individual youth leaders. Finally, youth were active in suggesting ways for building youth networks, and presenting and sharing their mobile stories with other youth groups such as two local colleges, and other venues. This latter stage also involved youth co-researchers in working with their peers asking their opinions and perceptions on further strategies for promoting positive health.



**Key findings and implications**

This research supports previous studies of the potential of new technologies to engage young people in online civic life and civic engagement. Pacific youth showed that they are comfortable digital technology users and that this method has a great potential in empowerment research.

Results of this study argue for the place of youth as ‘motors’ and ‘catalysts’ in promoting solutions for positive health and well-being relevant to their lived context in Aotearoa. The use of talanoa and mobile technologies, empowering and participatory research were supportive and relevant in providing a safe space for youth to discuss their concerns, prioritise issues, exchange ideas, present aspirations, and develop solutions such as the importance of positive symbols of youth and the role of adult champions in enabling them to have a voice. This work demonstrates the potential for capacity building and a collective learning environment for positive health with Pacific youth as leaders.

**Key reference**

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# Traditional medicine in Papua New Guinea and evaluation of radical scavenging, cytotoxic effect and antimicrobial activity of AgNPs from medicinal plant *Pittosporum f. Dryand*

**Presenter: Dr Subramaniyam Gopalakrishnan**

*Dr Subramaniyam Gopalakrishnan received his BSc in Chemistry, MSc in Organic Chemistry and MPhil in Organic Chemistry from the University of Madras, Chennai, India. He completed his Doctorate (PhD) in Organic – Medicinal Chemistry, September 2000 at the University of Madras. He worked as Assistant Professor and Head of the Department of Natural Sciences in Orotta University of Health Sciences from October 2000 to June 2011 at Asmara, Eritrea, North East Africa. He established the Basic and Behavioral Sciences Department and Natural Sciences Department in Orotta University of Health Sciences. Since January 2012 he has been working as Senior Lecturer in the Department of Applied Sciences, PNG University of Technology, Papua New Guinea; he is the Principal Supervisor for doctorate research on anti-malarial activities of silver nanoparticles and for MPhil research on anti-tuberculosis activities of silver nanoparticles from Papua New Guinea medicinal plants using nano technology.*

## **Abstract**

### **Background**

In a developing country like Papua New Guinea (PNG), the benefits of modern medicine and health care reach only a small percentage of the population living in rural areas. More so, in villages and communities where per capita income is low, it is difficult for many to afford the cost of modern medicine. An infectious dermatological environment is common in rural areas and among the tribal population. Application of herbal remedies with traditional medicines are usual practices and providing health care to large populations. The information presented here is to support and incorporate the knowledge of traditional medicine practitioners. Medicinal plants are the main ingredients of local medicines and this innovative work covers only a small proportion of the immense knowledge on traditional medicine, the plant species from which they are derived, the diseases they can treat, and the parts of the plants to be used. In this study, biosynthesis of silver nanoparticles was carried out using aqueous leaf extract of *Pittosporum f. Dryand* and characterised using UV-visible spectra, SEM, TEM and XRD techniques. The antimicrobial activity, nanotoxicity properties on MCF7 liver cell lines, and anti-cancer activity using DPPH assay have been investigated in order to prove traditional medicines are efficient.

### **Materials and methods**

The 10g of fresh and healthy leaves were collected and washed with sterile distilled water. They were then ground by using a mortar and pestle and adding 50ml of sterile distilled water. The mixture was centrifuged at 5000rpm for 15 minutes and the supernatant was collected by filtering and kept for further use.

### *Synthesis of silver nanoparticles*

10 ml of 1mM AgNO<sub>3</sub> solution and leaf extract (3ml) was mixed with constant stirring and exposed under sunlight radiation. The bioreduction of silver ions was observed using UV-vis spectra then the mixture was incubated at room temperature for 48 hours. The colour change indicated the AgNPs were synthesised. The content was centrifuged at 7000 rpm for 15 minutes. The suspension was used for the characterisation of the AgNPs.

### *Characterisation*

UV-Vis spectral analysis has been done by using an Elico spectrophotometer at a resolution of 1nm from 300 to 900 nm using a 1cm quartz cuvette. The purified AgNPs was analysed



using FTIR spectroscopy in the range 4000–400cm<sup>-1</sup> at a resolution of 4cm<sup>-1</sup> in KBr pellet. The size and shape of AgNPs was characterised by SEM on a ZEISS EVO 40 EP and TEM in JEOL JEM 100SX at an accelerating voltage of 80kv. The presence of crystalline AgNPs was observed by an XRD at a voltage of 40kv and a current of 30mA with Cu K $\alpha$  radiation.

#### *Antimicrobial activity*

The antibacterial activity of AgNPs (3mM) was carried out on Gram +ve and Gram -ve bacteria. Chloramphenicol 10 $\mu$ g and Tetracycline 10 $\mu$ g were used as standard.

#### *Radical scavenging activity using DPPH assay*

The ability of the AgNPs to annihilate the DPPH radical (1,1-diphenyl-2-picrylhydrazyl) was investigated by the method described by Harbone. The sample was prepared to the concentration of 1mg/ml. 50 $\mu$ g, 100 $\mu$ g and 150 $\mu$ g of each and added to 100 $\mu$ l of metabolic solution of DPPH (0.1%) and incubated for 30 minutes at room temperature and the absorbance (A) was recorded at 517nm. BHT (Butylated hydroxytoluene) was used as standard. The annihilation activity of free radicals was calculated as:

$$\% \text{ radical scavenging activity (\%RSA)} = [(A \text{ of control} - A \text{ of sample}) / (A \text{ of control})] \times 100$$

Radical scavenging activity was found to vary between 9% and 54%. The data was considered significant when compared with the standard used. The IC<sub>50</sub> value was calculated as 180 $\mu$ g/ml.

#### *Cytotoxic activity*

The cytotoxic effect was determined against MCF7 liver cell line. The MCF7 cells treated with AgNPs had changes in cell shape and morphology, but control cells not. The lowest mortality rate and the highest mortality rate was obtained. The sample demonstrated a considerable cytotoxicity against MCF-7 liver cell lines. Cyclophosphamide was used as standard. The percentage toxicity increases with increase in concentration of the silver nanoparticles, which suggests that bio-synthesised silver nanoparticles could be of immense use in the medical field as an anti-cancer agent.

### **Key findings**

The development of a reliable process for the synthesis of AgNPs from medicinal plants is of great importance to prove that the traditional medicines are trustworthy. Here we have reported a simple reproducible and stable AgNPs by using aqueous extract of *P. ferrugineum*. The derivative of leaf extract have significant antibacterial activity, radical scavenging and cytotoxic effects, and have proven to be potential candidates for medical applications where anti-cancer, anti-microbial, and cytotoxic activities are highly essential. Hence the synthesised AgNPs from the medicinal plant *Pittosporum f. Dryand* are more efficient in treating certain diseases.

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## Tapuaki: Pacific pregnancy and parenting innovation tools

### **Presenter: Ms Amio Ikihele and Ms Mary Roberts**

*Amio Ikihele is of Niuean (Mother/Avatele) and Māori (Father/Te Whānau ā Apanui) descent and is currently the Innovations Lead for TAHA Well Pacific Mother and Infant Service based at the University of Auckland. Amio is a registered nurse who has held roles in primary health care, BreastScreen Counties Manukau (Practice Team Liaison), and Manukau Institute of Technology (Lecturer on Bachelor of Nursing Pacific and Bachelor of Nursing programmes). Amio has a Masters of Health Science (First Class Honours), is married to Jacob, and is a mother to two young girls Azrielle and Cahrys.*

*Mary Roberts is currently the Clinical Manager for TAHA Well Pacific Mother and Infant Service, based with the Pacific Health team, at the University of Auckland. Mary Roberts is a registered nurse who specialises in child health. Having worked in primary health care for many years, she has worked for Plunket, South Seas Health care, Mangere Family Doctors, Bader Drive Health care and at Alliance Health + Primary Health Care Organisation as the Nurse Educator. She has a Bachelor of Health Science (Nursing), Postgraduate Diploma in Health Science and has also achieved her Master's of Nursing. Mary is married to Michael, and mother to four children: Hereine, Michaela, Joseph and Sasha.*

Co-author: Jacinta Fa'alili-Fidow

### **Abstract**

#### **Background**

About two-thirds of pregnant Pacific mothers do not seek out a midwife during their pregnancy and only one per cent of all Pacific people participate in childbirth education programmes. Two studies conducted in Counties Manukau District Health Board found that factors associated with late initiation of pregnancy care were related to difficulties finding a lead maternity carer in their area, not understanding the maternity system, high parity, first pregnancy and unemployment prior to pregnancy.

The latest Perinatal and Maternal Mortality Review (PMMRC) report found that women who are of Pacific ethnicity, smoke during pregnancy, live in high areas of socio-economic deprivation, are overweight and obese, in addition to having their first baby, have significantly higher rates of stillbirth and neonatal death compared with New Zealand European, Indian and Asian mothers. These findings support the need to find alternative ways of engaging with Pacific pregnant women (including their families) early and the importance of pregnancy care.

A recent New Zealand technology review highlighted that within the past five years, mobile devices have transitioned from being used primarily for voice and text to more sophisticated multi-functional usage based on their mobile media capabilities. With smartphones now accessible to the masses, it is the most common web access device worldwide. By 2018, it is estimated that 90 per cent of New Zealanders will own a smartphone. Consumers are also frequently engaging in health information via the internet. While access at home is still an issue for Pacific peoples compared with other groups, access anywhere (e.g. schools and libraries) shows Pacific people are accessing more than we think. Statistics New Zealand data is showing that while Pacific people's access is lower than European, it is approximately 65 per cent, which shows that there is still a significant number of Pacific families with access to the internet at home.



Consequently, it is clear that health communication concepts need to be able to use these innovative platforms when disseminating health information.

The Tapuaki smartphone application and website is a prevention-focused Pacific maternal and infant health intervention designed to engage with Pacific mothers, fathers and their families through social innovation. Specific elements integral to this process are the development of evidence-based, engaging tools and resources, and an increase in understanding/health literacy of pregnancy and parenting health, that could help raise family and community awareness, including the potential to trigger action within the family setting.

The new Tapuaki smartphone app and Tapuaki website is a first of its kind in New Zealand, and will allow Pacific mothers and other members of the family to find information leading up to, during and post pregnancy. The app provides a convenient way of learning about oneself and the development of baby through the duration of pregnancy. It also provides a 'Find a midwife' (by suburb) feature for Auckland midwives only. The website is designed to be user-friendly with the main point of difference being that it specifically caters to the Pacific communities by having translated terms in four different Pacific languages (Samoan, Tongan, Cook Island and Niuean). More Pacific languages will follow later in the year (Fijian, Tuvalu, Tokelau, Kiribati). While we accept that not all Pacific mothers and families will have access to a smartphone or the internet, these tools are part of a more comprehensive programme which includes face-to-face pregnancy and parenting education workshops.

During this presentation, the new Tapuaki website ([www.tapuaki.org.nz](http://www.tapuaki.org.nz)) and Tapuaki smart phone app will be introduced, and key features demonstrated. Both success factors and challenges during both the development process and launch of this intervention will be shared.

### **Key findings**

Despite the tools, resources, clinical systems and capacity, this will not make a difference to Pacific health outcomes without a focus first on engaging with Pacific families. We also acknowledge that there is no single approach for engaging with Pacific families. Consideration needs to be given to several strategies required to reach all Pacific families.

The Tapuaki smartphone application and website is the only known programme of its kind for Pacific peoples in New Zealand. It has the potential to improve Pacific women's access to, and use of, maternity services and antenatal education. Through the use of evidence-based and culturally relevant content and materials, Pacific engagement, health literacy, empowerment and participation in antenatal and maternity care can be achieved.

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Sessions 2–6

**Partnership and Capacity Building  
and  
Plenary Session**



## The Tongan system model: A health promotion/community development model for Tongans living in urban areas in New Zealand

### **Presenter: Dr Malakai Ofanoa**

*Dr Malakai Ofanoa is Deputy Director, Pacific Health at the School of Population Health, the University of Auckland. He has a PhD in Behavioural Sciences from the University of Auckland. He has served as a church and community leader and is on the Board of Trustees of Marcellin College in Auckland, as well as Chair of its Parent Teacher Association. He is also a member of the Pacific Alliance Health Plus (AH+) primary health organisation in Auckland.*

### **Abstract**

#### **Background/purpose**

This paper discusses a participatory action research project conducted with Tongans living in Mangere, a suburb of Auckland, New Zealand.

The primary aim of the research was to develop and test a community development/health promotion model to guide Tongans living in urban areas on how best to address the health and well-being issues affecting them. Information gathered in this study showed that Tongans in Mangere felt disorganised and disoriented in the face of the kinds of social, cultural, economic, health and environment issues arising in this 'new' cultural and societal milieu. It was also clear that these factors directly affected their health and well-being.

The primary researcher was especially interested to determine whether a model of community health and well-being action called the PEOPLE System successfully used in a non-Tongan New Zealand environment to organise community development projects, could be adapted for Tongans in Mangere, and in the wider New Zealand society.

This adaptation was to be called the 'TONGAN System Model', with the letters TONGAN standing for: Talking, Organisation, Needs Assessment, Goal Setting, Action and Negotiated Evaluation (Each of these can be represented by an equivalent Tongan word). These designate steps in an operational systems approach to setting up and running empowerment-based community projects, where the community itself is in control.

The possibility that this model might work with Tongans was especially interesting since its philosophy of empowerment and self-determination was different from the Tongan background from which many had come.

Assessing the acceptability of this model was part of a wider qualitative study of assessing the need for a Tongan health and well-being community project in Mangere, including what were seen as the priorities for action.

This was done with 19 key stakeholders from the Mangere Tongan community, selected by a unique 'grid' method. This process is described in this paper, together with the results relating to the development of the TONGAN System Model.

This is followed by a fuller description of the TONGAN System Model that arose from this process. It was clear from this research that the stakeholders were strongly in favour of this approach, and provided excellent information for its development and direction.



**Key findings**

Overall, the research showed strong support for the TONGAN System Model approach, and the final form of the model presented here reflects fully the cultural and community requirements and views expressed by the participants. It is felt that this model is not only applicable to Tongans in Mangere, but is also potentially useful for Tongans in other parts of New Zealand, and perhaps also for other Pacific and migrant groups both in New Zealand and elsewhere.



## **Vege-cation: A Pacific vegetable garden in your backyard with no smoking allowed**

### **Presenter: Sanalio (Sana) Daunauda**

*Sana was born in the main island of Tonga, the youngest of six children with three brothers and two sisters. His parents hailed from the island of Vava'u to the north of Tongatapu. His father was a fisherman and a minister of the Free Wesleyan of Tonga. Sana is married to Dawn from Nelson and he has two boys, Josiah and Michael. He has worked in Blenheim as the Pacific Health Development Manager for Kimi Hauora Wairau-Marlborough Primary Health Organisation (KHW-MPHO) since 2010. His current roles include: Board member of Child Youth Mortality Committee, Nelson Marlborough District Health Board; Board of Trustee for the South Island Pacific Providers Collective; Co-Chair of the newly formed Marlborough Pacific Trust; member of the Immunisation Governance Group for the Nelson Marlborough Health Alliance; and Justice of the Peace.*

### **Abstract**

#### **Background**

The cost of accessing health and other services is the major contributor to health inequalities among the Pacific population in Marlborough.

#### **Purpose**

The purposes were to develop a sustainable, effective and low-cost Pacific community programme which allows the service providers to (a) have a foot at the door and build sustainable effective relationships (b) provide services closer to where Pacific people live (c) encourage Pacific families to be healthy by leading a healthy lifestyle through growing vegetables in their backyard and exercising (d) develop effective and supportive networks through sharing information, seeds, knowledge and gardening skills.

#### **Methods/action**

In 2011 Kimi Hauora Wairau-Marlborough Primary Health Organisation funded a Pacific health needs analysis to ascertain any gap or barrier to access in services for the Pacific population in Marlborough. The main findings from the research project can be summarised into four main categories: cost, leadership, communication, and information about accessing services.

In response to the findings and its recommendations, an overarching strategic model framework was developed called 'Talanoa Mo'ui' (Talking Health/Well-being). Talanoa Mo'ui is a medium or 'vaka' (vessel) for individuals, families, community, health professionals, and other service providers to meet each other to 'Talanoa' or talk about health or other concerns. Talanoa is synonymous in the Pacific languages and it simply means to converse or dialogue. Applying the Talanoa Mo'ui (TM) Model in health and social context focuses on the needs of the individual while on their journey to well-being. It recognises the role and strength of working with an individual's natural community and family support structures (such as fānau,/whānau community and peers) to achieve better health outcomes. The TM recognises that each individual is unique, as is their journey towards well-being. Supports that may work for one person are not necessary the same for the next.

In order to ameliorate these issues of cost, leadership, communication and information about accessing services, a three year pilot programme called vege-cation was developed to provide free vegetable seedlings to the Pacific community.



The vegetable seedlings act as a bartering tool and a bridge to gain access to Pacific homes and for them to plant the seedlings for themselves and thereby develop and build sustainable relationships. A full-time Pacific Fānau Advocate was employed to provide leadership, manage the vege-cation programme and be the key linkages between the Pacific community and service providers. The project is based in Marlborough, within the Kimi Hauora Wairau-Marlborough Primary Health Organisation boundaries. This is inclusive of Havelock, Picton, and Seddon communities. TM project vege-cation is unique in the sense that most of the project focuses on addressing the symptoms (for example in the smoking cessation programme the use of NRT and pharmacotherapy) while Talanoa Mo'ui actively facilitates an environment that is conducive to engaging the individual in their pathway decision-making process to well-being.

Vege-cation is also the main avenue for public health, primary health, schools justice, dental and other sectors to deliver and promote their services. For example: immunisations, cervical screening, school programmes e.g. Polyfest, Diabetes programme. The main eligibility criteria for the vege-cation project are that you must register with a genuine address and contact phone number. They were also provided with a list of 20 vegetables to choose from and these were delivered to their home free of charge!

### **Results/achievements**

In the first season of vege-cation (2011–2012), 85 families were registered, and 125 in the second seasons of (2012–2013) (40) and 185 (60) in (2013–2014). Eleven people quit smoking, improved enrolment numbers with GP services, improved engagement with service providers across the board, and a noticeable reduction in the food bill on the table; share the excess vegetables with friends, relatives and neighbours over the fence. The vegetable seedlings help build strong and cohesive social relations and capital.

### **Conclusion**

The collaboration between the service providers and Marlborough Pacific community through vege-cation has been an overwhelming success and provided an environment conducive to build sustainable relationships which will drive change and growth naturally in the future. And above all, it's affordable!

### **Implication**

Good qualitative research based on local knowledge and experiences proved to be invaluable when developing a low-cost programme such as 'vege-cation', which can be transferable to fit other contexts and geography.

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## Novel methods for community assessments during traditional cultural events

**Presenter: Dr Pearl Anna McElfish**

*Pearl McElfish, MBA, MS, PMP, PhD has a Master's of Business Administration and Master's of Community Development. She is currently defending her dissertation for a PhD in Public Policy. After 15 years of leading community health and community development efforts and working for private foundations, she was hired as the Director of Community-Based Research for the University of Arkansas for Medical Sciences, where she has worked with the Marshallese community living in rural Arkansas to address health disparities using a community-based participatory research approach.*

Co-author: Emily Hallgren

### **Abstract**

#### **Background/purpose**

This abstract describes how a community coalition joined with a hometown health coalition, a state health department, and a university to conduct a special population health survey of Marshallese, a Pacific Islander community, living in Arkansas. The results of the study will be described in a separate article. For this abstract, we will describe how this community collaboration engaged in a community-based participatory research (CBPR) process to select and refine validated questionnaires and then used a novel method to recruit and survey participants during a traditional, cultural event.

Pacific Islanders are a rapidly growing population in the United States. However, Pacific Islanders remain underrepresented in health research. Specific health information on Pacific Islanders is often obscured in aggregated data on Asian Americans, Native Hawaiians and Pacific Islanders. While there is little data on the entire population of Pacific Islanders living in the United States, there is even less health information on Marshallese specifically, and no published data on the health status of Marshallese living in Arkansas. The Marshallese community began to build a significant presence in Arkansas in the late 1980s. In 2010, Arkansas had the largest population of Marshallese living in the continental United States.

The agreed purpose of the Marshallese Health Survey was: "to assist the success of established public health programs in achieving identified objectives within this specific population". The week of May 19–26, 2009 was selected as the target date for the survey because the Marshallese Constitution Day event draws thousands of Marshallese to participate in the celebration and team competitions. Because of a delay in grant funding, there was only five weeks between the grant award and survey implementation.

The subcommittee then established and prioritized categories of questions that were most important using a consensus model of decision-making. These categories included: demographics; health status; access to health care; barriers to health care; body weight; physical activity; health history; current health condition; reproductive health; oral health; alcohol consumption; tobacco use; knowledge about AIDS; sexually transmitted diseases; tuberculosis; physical check-up for cancer; domestic violence; spouse refusal to have sex; and community health problems. Then the subcommittee reviewed validated instruments for inclusion in the final survey. The final survey included 64 questions that were taken from five validated survey instruments. These included: Behavior Risk Factor Surveillance System; Siloam Springs Rural Health Corporative Survey; Jones Family Institute Homeless



Survey; Kaiser Permanente Health Survey; and the 2007 Republic of the Marshall Islands' Health Survey.

### **Findings**

The survey was conducted over a one week period during the Marshallese Constitution Day celebration. The survey was administered through computer-assisted self-administered questionnaires in both English and Marshallese. Five Marshallese individuals, who were bilingual in English and Marshallese and highly computer literate, were hired as study recruiters and to assist people with questions during the survey process. Event organizers estimated that 4,000 people attended the Marshallese Constitution Day event. The target number of respondents was 600. There were a total of 1,289 respondents to the survey.

The Arkansas Department of Health printed 100 copies of the 2009 Marshallese Health Survey summary data for distribution. Dissemination events were held with local non-profits and health care provider, and Marshallese were invited to attend a luncheon where they were invited to learn about the results, participate in focus groups to interpret the findings, and prioritize issues to be collaboratively addressed.

While random population-based samples will continue to be the gold standard of health surveillance research, special populations with significant health disparities are often underrepresented in these types of studies, or aggregated with other populations in a way that provides information that is of little value to community, health care providers, and non-profit organizations. Without health data, new minority communities do not have the information required to advocate for the programs and services needed. Additional methods of sampling are needed to provide practical, inexpensive, and methodologically sound sampling strategies to access low density minority communities that are not represented in traditional population-based studies.

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# Community engagement in a research project to investigate pregnancy intention and contraceptive use among Native Hawaiians

**Presenter: Ms Jennifer Elia**

*Jennifer Elia, MPH, is a Junior Researcher in the Department of Obstetrics, Gynecology, and Women's Health at the University of Hawai'i John A. Burns School of Medicine. Born in Honolulu and raised in Puna on the Big Island of Hawai'i, Jennifer graduated from Kamehameha Schools Kapālama and received her BA and MPH from Yale University. She is completing her dissertation in pursuit of her DrPH in Community-Based and Translational Research at the University of Hawai'i at Mānoa. Her current research focuses on pregnancy intention, contraceptive use, and health disparities among Native Hawaiians and other disadvantaged populations. Jennifer is an advocate for reproductive justice and also serves on the Board of Directors for Planned Parenthood of Hawai'i.*

Co-authors: Dr Reni Soon, Nina Beckwith, Rachelle Enos, Dr Timothy Dye

## **Abstract**

### **Background**

By the best current evidence, Native Hawaiians appear to have the highest unintended pregnancy rate among Hawai'i's major ethnic groups. (1) Research has shown that unintended pregnancy is associated with medical and social problems for mother and child. (2) Little is known about how Native Hawaiians make decisions about pregnancy, pregnancy planning, and contraception. With the ultimate goal of improving health equity, we employed a community-engaged research process that explored these concepts while respecting and incorporating community values. Some recognized benefits of community engagement include: improvement of study design and delivery, enhanced potential for implementation and change resulting from research, establishment of long-term partnerships, and increased capacity of community organizations.

### **Purpose**

Questions: (1) How do the multiple levels of factors (cultural, societal, familial, and community) affect knowledge, attitudes, social norms and self-efficacy regarding pregnancy, pregnancy intention, and contraceptive use among Native Hawaiians? (2) How will community engagement impact this project?

### **Methods**

This research project represents a collaboration between the Wai'anae Coast Comprehensive Health Center (WCCHC) and the University of Hawai'i Department of OB/GYN. Community partners at WCCHC were organized through the Research Coordinator (RE) and included the WCCHC Community Advisory Group and Research Committee/Institutional Review Board. Over the course of 15 months, academic partners met with community partners to discuss the significance, rationale, and approach of this project, which included: (1) key informant interviews with leaders in diverse areas (2) interviews with Native Hawaiian women of reproductive age and (3) focus groups with Native Hawaiian men and women. Community feedback was solicited and used to improve the project throughout its design (as the funding application was being written), data collection, and data analysis phases. Study materials and results were reviewed and finalized in collaboration with community members.



### **Key findings/implications/recommendations**

Ongoing community engagement facilitated the research project in several ways. First, the community's positive response to our approach – to learn more about the context of unintended pregnancy, rather than design an intervention to 'fix the problem' – solidified our decision and encouraged their support of the project. In converting our scientific proposal into the actual study, community members advised against using words like 'unintended' and 'unwanted,' as they better understood how participants would interpret them.

Second, community members' feedback on study materials (consent forms, questions/ guides, flyer) helped ensure they were understandable and acceptable in the community. They suggested we provide a behavioral health resource sheet to all participants, adding another safeguard against potential risk.

Third, community engagement was a critical asset in recruiting participants. Originally planned recruitment methods (flyers) and scheduling logistics were not yielding results; with the help of clinic staff and their existing relationships, we transitioned to in-clinic/ word-of-mouth recruitment and pre-set data collection dates, increasing enrollment significantly. Fourth, because community partners supported the project, they helped us make connections with other community organizations willing to help with recruitment (e.g., through a Hawaiian civic club) and space for focus groups (e.g., at a school and community learning center).

Engaging the community and incorporating community partners' mana'o (thoughts, opinions) throughout this project enhanced its acceptability and ensured that it was aligned with community values and needs. Participants benefitted from improved materials and methods, potential problems were avoided, and the research process was enriched. As academic and community partners share a long-term commitment to improving Native Hawaiian health and reducing health disparities, these relationships will also benefit future community-engaged research efforts.

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## Puataunofo come home safely – Pacific solutions for Pacific issues

### **Presenter: Ms Natia Tucker**

*Natia is an injury prevention advisor at Auckland Council. She has international experience in language and culture education. She is an executive member of Pasifika Injury Prevention Aukilana Incorporated and on the steering group of Puataunofo Come Home Safely. She is a New Zealand-born Samoan and mother of two.*

Co-authors: Moni Hogg, Hans Key

### **Abstract**

#### **Background**

Alcohol harm disproportionately affects Pacific peoples in New Zealand. While a significant proportion of Pacific peoples are non-drinkers, those who drink often binge drink. The resulting harm is significantly greater than in the general population, particularly for Pacific men.

Puataunofo Come Home Safely (Puataunofo) engages and empowers employers and workers to enhance their understanding and commitment to Pacific people's health, safety and well-being.

Puataunofo members are representatives from government, the private sector, non-government organisations and community groups who work together to ensure Pacific workers come home safely.

#### **Purpose**

The project aimed to:

- increase Pacific workers' awareness of binge drinking and alcohol-related harm so that it becomes visible and constructively talked about
- increase Pacific workers' understanding of alcohol-related harm and its many impacts
- create a climate for Pacific workers that supports behavioural change that encourages the moderate use of alcohol
- evaluate the above

The target groups were Pacific men aged 25–45 years and 24 years and under.

#### **Methods/actions**

Between August 2013 and May 2014, 26 workshops were delivered to at least 400 participants in six workplaces, with the majority from the Pacific workforce. Evaluations were completed by participants of each workshop, and on the completion of the project.

#### **Key findings/implications/recommendations**

Over 26 workshops, there were 490 participants, 75% male, 64% Pacific and 20% Māori. Results showed participants had an increased awareness and understanding about binge drinking and alcohol-related harm, and that the workshops had created a climate where participants could acknowledge a desire to reduce consumption and identify ways to do so.



Pacific issues require Pacific solutions. Puataunofo workshops achieve more than just pitching a health and safety message at people, they reinforce and honour cultural values by using a holistic approach that acknowledges the importance of the spiritual, emotional, social, financial and physical. A major factor to the success of Puataunofo workshops was the way participants embraced the presenters and their messages, actively participated in the workshops, and took the messages home.



## Breaking the walls

### **Presenter: Puipui Dellaquilla Joshua Sua**

*Puipui Dellaquilla Rasovo Su'a is commonly known as Josh. He identifies as Samoan but also acknowledges his Niuean, Cook Islands and Chinese heritage. Josh was born and raised in the heart of Polynesia, Western Samoa, and moved to New Zealand in 2011 on a government scholarship to pursue studies in medicine. He is currently in his fourth year of medicine at the University of Otago and due to graduate in 2016. Josh had never been exposed to research to this degree prior to his Summer Studentship. He has greatly treasured the learning experience with his supervisors and hopes to delve further into the field of professional research in the coming years. This is in the hope of gaining research skills as an upcoming Pacific clinician looking to improve his practice now and in the future to better the wider community: both Pacific and beyond.*

### **Abstract**

#### **Background**

The World Health Organization (2014) has identified access to health care services as an important determinant in the health outcomes of a community i.e., the more access a community has to its health care services, the better the health outcome. Access to various forms of health care services (be it primary or secondary health care) by Pacific peoples is significantly lower than among the general population within New Zealand. Pacific communities also have a poorer health status in terms of lower life expectancy, higher rates of chronic disease and premature disability compared to the rest of New Zealand (Southwick, Kenealy & Ryan, 2012). Pacific people now make up seven per cent of New Zealand's population and as this percentage grows, so does the urgency to improve the health outcomes of Pacific people.

#### **Purpose**

The main objective of this study looked at identifying the barriers or themes to accessing health care services in the Dunedin Pacific population, primarily looking at the Samoan, Cook Island and Tongan groups as they make up the majority of Pacific peoples in New Zealand. Pacific people are the third largest group in Dunedin after the New Zealand European and Māori groups (QuickStats about Dunedin City, 2006). A study by Sopoaga (2012) with regards to the use of health care services by Pacific people in Dunedin revealed that approximately one-quarter did not have a regular doctor or health service, and at least fifty per cent used emergency services for non-urgent illnesses. There is a need to address the issue as to why a quarter of the Pacific population in Dunedin lack regular access to health care services and furthermore what could be done to address this issue. Therefore, a secondary objective was implemented to identify the potential Pacific solution to addressing these barriers from the point of view of the participants.

The 30 to 50 year old group was chosen as they are seen as the 'bread winners' of Pacific families who also have to cope with everyday stresses such as bill payments, work and other commitments. The selection of this age group was so that if a change were to be implemented at a family and/or individual level to increase health-care access, this change would be implemented with much less difficulty. This study also hopes to provide more information on how community practices and health care services can further improve their approach towards Pacific peoples in order to break the wall of barriers preventing Pacific access to health care services and ultimately improving Pacific health outcomes.



## **Methodology**

Qualitative research methods were used to draw out stories from the participants about what the barriers to accessing health care services are and to comment on the appropriate approach to addressing these barriers. Participants were recruited under the following criteria:

- adults of Tongan, Samoan or Cook Islands heritage based in Dunedin. ([n=2-5] from each group)
- come into regular contact with the middle-aged portion (30-50 years) of their respective communities on a regular basis
- seen as leaders in their local Dunedin community i.e., health care provider/promoter, pastor, sports team captain, researchers and so on

The snowball/chain sampling method (Patton, 2002) was used to recruit suitable participants by contacting key informants (Pacific Islands Centre, Pacific Island Research Student Support Unit and Pacific Trust Otago). There were 11 participants whose names were recurrent from all three key informants for which they were included in the study. The data was collected via recorded one-on-one interviews with each participant using the Talanoa method of interviewing. Each interview was then transcribed and a thematic analysis of the data was carried out with the recurrent themes being recorded and categorised onto an indexed copy of themes. A second reading was carried out while labelling the themes in the text and counted to identify which themes were most common.

## **Key findings**

A total of 11 participants took part in the study from the Tongan (n=5), Samoan (n=3) and the Cook Islands (n=3) communities respectively.

### *Primary objective*

The thematic analysis revealed five main themes pertaining to the lack of access; themes relating to both Pacific people as users of the health care services and the health care service providers:

- lack of finances and transport
- level of awareness, knowledge and confidence
- communication and language
- prioritising health and availability of the health care service provider

### *Secondary objective*

There were two main themes in response to the question of how could these barriers be addressed. These themes addressed the importance of having a holistic approach to these barriers at both a communal as well as an individualistic level. These themes were community approach and personalised approach.

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## Nā Limahana o Lonopūhā: Innovative public-private partnership for Native Hawaiian health equity

**Presenter: Dr Robin E.S. Miyamoto, Ms Kealoha Fox and Dr Diane Paloma**

*Dr Robin Miyamoto is a Clinical Psychologist who earned her PsyD from Argosy University and completed her clinical training at Tripler Army Medical Center with a specialty in Health Psychology/Behavioral Medicine. For the last 13 years she has been active in promoting training opportunities in primary care psychology, particularly in rural and underserved communities within the state of Hawai'i. Her areas of interest include diabetes, renal disease, and cancer. She is a past President of the Hawai'i Psychological Association and Chair of the Legislative Committee. She recently joined the faculty at the University of Hawai'i at Mānoa John A. Burns School of Medicine with the Departments of Native Hawaiian Health and Family Medicine and Community Health. She is a member of Nā Limahana O Lonopūhā Native Hawaiian Health Consortium.*

*As Ka Pou Kāko'o Nui of the Office of Hawaiian Affairs (OHA) a semi-autonomous state agency in Hawai'i, Kealoha Fox is responsible for the executive management of OHA's initiatives for Maui Ola (Health and Well-being) of Native Hawaiians. Kealoha fulfills her current role by providing resources, advocating for Native Hawaiians, and facilitating collaboration, for OHA to fulfill its vision to raise a beloved nation as kānaka 'ōiwi. With an educational and professional background in clinical health and research, Kealoha's skill set is multi-theoretical and interdisciplinary. She holds a Master's degree in Clinical Psychology and is currently completing her doctoral degree in Clinical Research and Biomedical Science at the University of Hawai'i John A. Burns School of Medicine. Kealoha has a passion for traditional Hawaiian healing and supports cultural integration of those ancient practices and beliefs to build the resilience of our community, families, and individuals. Kealoha is a proud mother to her 10 month old son, La'ikū Kahiluonālani. She is of Native Hawaiian ancestry. Her family is from Waikapū, Maui, Hawai'i.*

*Dr Diane Paloma is the Director of the Native Hawaiian Health Program at The Queen's Health Systems: the corporate organization that includes four acute care hospitals on three islands. Her role includes managing clinical initiatives, health care training, research, and community with a special focus on Native Hawaiians. She received her BS in Physiological Science from UCLA, MBA from the University of Hawai'i at Mānoa, and PhD in Health care Administration from Capella University. Since 1995, she was able to combine her passion for Native Hawaiian culture with the health and medical fields. She has worked for a private physician, HMSA (Blue Cross/Blue Shield Affiliate), and the John A. Burns School of Medicine. She serves on the boards of the Bishop Museum Association Council, the Friends of 'Iolani Palace, and the Asian-Pacific Islander American Health Forum. Her Hawaiian ancestry originates from Ke'anae, Maui.*

### **Abstract**

#### **Background**

Nā Limahana o Lonopūhā (NLOL), the Native Hawaiian Health Consortium, is an integrated network of leading senior executives and health care providers committed to addressing the status of Native Hawaiian health throughout the State of Hawai'i. This consortium proposes progressive models of culture and research-based methods in implementing prevention and treatment programs focused on systemic outcomes among the various levels of Native Hawaiian health and wellness. The consortium comprises private, non-profit, state, academic, community health centers and community-based providers with direct and indirect services throughout Native Hawaiian communities.



This collaborative network is established to exemplify a multi-level approach to improving Native Hawaiian health outcomes in the 21st century, specifically as those outcomes relate to chronic diseases.

Creating a Native Hawaiian health network of partners is our chosen strategy to generate sustainable solutions to development challenges and address gaps by combining the distinct interests and resources of different organizations. The public-private partnership seeks to continue our work with major federal health agencies under the U.S. Department of Health and Human Services (HHS), to include the Centers for Disease Control and Prevention (CDC), Health Resources and Services Administration (HRSA), National Institutes of Health (NIH), the Office of Minority Health (OMH) and other divisions as applicable to maximize improved health opportunities and benefits for Native Hawaiians.

Our cornerstones to support rebuilding Native Hawaiian health are: Ke Ao 'Ōiwi (creating and maintaining a Native Hawaiian space); Ka Mālama 'Āina (creating and maintaining healthy environments for Native Hawaiians); Ka 'Ai Pono (Native Hawaiians accessing healthier lifestyles); and Ka Wai Ola (Native Hawaiians accessing the institutions and benefits of society). The subsequent logic model developed by NLOL addresses the multi-faceted nature of health disparities and develops a plan to address these disparities in a coordinated, state-wide effort. This multi-tiered approach seeks to create systemic change addressing prevention, management, and treatment. Our consortium will specifically utilize our knowledge and expertise in the integration of substance use, prenatal care, mental and behavioral health influences to impact chronic disease based on these model methods.

The first example of the consortium's work is a focus on Native Hawaiian chronic disease, specifically obesity. Obesity was selected as a target indicator for the consortium as obesity further exacerbates or contributes to other related chronic diseases. We acknowledge the obesity prevalence rates within our Native Hawaiian community and will relate obesity research and services to addressing other chronic diseases: cardiovascular disease, cancer, asthma, and diabetes as we move forward.

Finally, we will discuss the next steps for the consortium, including continued building of strategic partnerships at the community, state, and federal levels; modifying a public health advocacy curriculum; leveraging programmatic opportunities; and public policy successes we have accomplished to date.



## Rheumatic fever: Pacific engagement strategy

### **Presenter: Ms Gayle Lafaiali'i**

*Gayle has been Programme Manager across three Ministry of Health-funded rheumatic fever prevention contracts which rolled out under urgency from September 2013. Gayle previously worked in the tertiary education sector for a combined 20 years working at the New Zealand Qualifications Authority and with Pacific tertiary providers. She transitioned into the health sector when the opportunity arose to deliver an Auckland-wide education strategy to high-risk Pasifika communities. Gayle is married to Toleafoa Sefa Lafaiali'i (Falealupo and Vaiala) and they have a 9 year-old daughter.*

### **Abstract**

#### **Background**

Under the Government's *Better Public Services: Supporting vulnerable children* (Result 3: reducing the incidence of rheumatic fever), the key objective is the reduction in the incidence of rheumatic fever by two-thirds (to 1.4 per 100,000 people) by 2017. Alliance Health Plus (AH+) has been contracted to deliver education to improve health literacy around sore throat management, and rheumatic fever prevention in at-risk Pacific Communities. Rheumatic fever (RhF) and its sequela, rheumatic heart disease, are complex phenomena, with numerous stages in the disease pathway. Throat infections caused by Group A streptococcus (GAS), if left untreated, can progress to acute rheumatic fever, with repeated ongoing infections leading to long term complications associated with rheumatic heart disease. Rheumatic fever hospitalisation data over the last decade has been on the rise despite Government health interventions. Pacific families are over represented in the statistics, with significantly higher incidence rates among Pacific communities. Incidence rates of rheumatic fever for children aged 5 to 14 years were 40 times higher for Pacific and 20 times higher for Māori children compared to non-Māori, non-Pacific children from 2000 to 2009 (Milne et al, 2012). Research carried out in 2013 for the Health Promotion Agency to concept test the key messages for rheumatic fever prevention in Māori and Pacific communities, which noted low levels of knowledge and understanding about rheumatic fever in Pacific communities. Similarly, Alliance Health Plus facilitated a Pasifika community consultation held in April 2014 on behalf of the Health Promotion Agency, with surprising results indicating families who had rheumatic fever (RhF) in their family (including those diagnosed within the past 6 months) had very little understanding about RhF, how to avoid other children in their care getting RhF, and indeed, the link between RhF and Strep A sore throats.

Even though families had been through the hospital system (those diagnosed with RhF) they were either not comprehending the information presented at the time of the consultation, or not receiving information. They indicated an understanding of the link to poor housing, but RhF as a consequence of a sore throat was misunderstood. Early feedback reiterated that many families felt out of control of their living circumstances. The overall response to children complaining of a sore throat, was to give them Pamol or a hot lemon drink with honey. Taking children to see a health professional to screen for Strep A was not understood as a priority. Certainly, taking them every time they had a sore throat was not even a consideration.

Delivering key health messages in a forum and mode that would engage the families was the key factor in our Pacific Engagement Strategy, which included delivering awareness-raising activities through Mama's House™ at both the Pasifika festival and Polyfest, and



developing our education delivery tools around the Katoa Family experience with rheumatic fever. As part of the strategy, we were able to develop a positive and strong relationship with the Katoa family, whom the Tongan Health Society had been working with during their twins' diagnoses with RhF and Strep A. Having a Pacific family whom other Pacific people could identify with was a contributing factor to the success of the concept. They were a regular Pacific family, in a typical home (visualised in Mama's House™) and told their story of twin boys who experienced rheumatic fever very differently – one requiring heart valve replacement at the age of 12, and the other avoiding RhD by having Strep A picked up through a school-based swabbing programme. The literature was clear – families respond more positively to an event/story, rather than a promotional leaflet (multimodal) (Sudore & Schillinger, 2009). Kuli Katoa (father) had already made a commitment that he would work tirelessly to get the message out to the Pacific community about the importance of acting early to avoid recurrent Strep A infections. The Pacific Engagement Strategy enabled a mechanism for him to do this, and for our families to engage in a new way that promoted behaviour change. Out of the Katoa Family story (captured as a 3.5 minute video) we further developed written materials for use in group education sessions (flipcharts and power points).

Feedback from our providers reiterated that starting with the video story opened up a level of engagement not previously seen when delivering a health literacy service. The engagement was powerful, because a father who had been on the journey was sharing his story, rather than a community health worker talking through a list of government-developed key health messages. These same messages were embedded in his story, but the delivery mode came from someone who communities could relate to – they said 'this could happen to my family, because it happened to his; and he's just like me'. Overwhelming feedback was received stating that the next time their children had sore throats, families would take them to get their sore throats checked – every time.

Consequently, education focuses on how to manage sore throats, the links to rheumatic fever and promoting antibiotic adherence. Key messages that RhF is preventable and getting every sore throat checked is the focus, however, the personalised delivery of key messages (particularly through the development of the Katoa family experience with rheumatic fever first hand as a 3 minute video) has transformed the way that we capture the hearts and minds of our at-risk families.

Collectively, eight Pacific providers have been able to mobilise our communities by employing key Pacific engagement strategy activities (e.g. health promotion, health education, community engagement and health-literacy raising activities). Additionally the providers have demonstrated prioritising and strategically aligning existing services to include rheumatic fever prevention. The target of engaging 60,000 families over four years is dependent on the providers' ability to meaningfully engage Pacific communities in face-to-face sessions in settings where our communities gather, and in languages and modes that they understand. Working collaboratively to achieve the goals of one contract has shown our Pacific heart towards contributing both our individual and collective strengths. Contract targets, funding and input have been collaborative across the collective, with transparency a key enabler.

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## Native Hawaiian and indigenous health public health degree: Innovation, social justice and responding to the needs

### **Presenters: Dr Maile Tauali'i and Kamuela Werner**

*Dr Maile Tauali'i received her PhD in Health Services, with an emphasis in Public Health Informatics and Public Health Genetics from the University of Washington, where she also completed her Master's degree in Public Health. A primary research focus for Dr Tauali'i is the utility and validity of health information for racial minorities. Her current research is related to perceptions of bio-banking for research among Native Hawaiians.*

*Kamuela Werner is a graduate research assistant in the Community Engagement Division of the Department of Native Hawaiian Health at the University of Hawai'i's John A. Burns School of Medicine. He develops, implements, and disseminates scientific and medical information to allied health professionals within the Ulu Network, a coalition of 30 health organizations with over 50 sites that serve Native Hawaiians and other Pacific peoples across Hawai'i and continental US. Currently, he is a second year graduate student in the Department of Public Health specializing in Native Hawaiian and Indigenous Health. His practicum and capstone focuses on re-establishing a Native Hawaiian Epidemiology Center. He is from the Waianae Coast of Oahu, Hawai'i.*

Co-authors: Dr Treena Delormier, Dr Kelly Gonzales, Dr Maddock

### **Abstract**

#### **Background/purpose**

There are approximately 370 million indigenous peoples worldwide, making up six per cent of the world's population. Indigenous people experience grave disparities, such as worse health outcomes, higher representation amongst the poor and disadvantaged, lower life expectancies, and limited success in improving disparities. Many of the current inequalities are the result of historical, national, and local policies designed to eliminate and/or assimilate indigenous people. Hawai'i's indigenous people suffer some of the worst health disparities and socio-economic status compared to other populations residing in the state. In an effort to address the disparities faced by Native Hawaiians and other indigenous peoples, the University of Hawai'i, Office of Public Health Studies launched a specialization in Native Hawaiian and Indigenous Health (NHIH) within the Master of Public Health (MPH) degree. This MPH degree was the first in the world to have an international focus, with leadership and guidance from Australia, Canada, Hawai'i, New Zealand and the United States.

#### **Key findings**

International indigenous health leaders developed competencies essential for the practice of indigenous public health. They agreed by consensus that developing a core competency model for indigenous public health would be their focus and named the project CIPHER, which stands for Competencies for Indigenous Public Health, Evaluation and Research. The core competency model promotes cultural safety practices and influence indigenous health policy, public health education, health service mandates, research methodology, and program evaluation. The CIPHER group created a working list of competencies that would (a) define the discipline of indigenous public health (b) provide a framework for indigenous public health training and career development; and (c) entwine traditional knowledge – including relationship-based and indigenous value-driven ideologies and protocols – with current public health acumen, to include indigenous viewpoints, community-level involvement, and systems-wide change management. The Core Competencies for Public Health Professionals were developed to help strengthen the public



health workforce. The core competencies represent a set of skills, knowledge, and attitudes necessary for the broad practice of public health in the United States. They transcend the boundaries of specific disciplines within public health and help to unify the profession. Because the historical and political context for indigenous people differs substantially from the mainstream population in which they are domestically dependent, public health professionals serving indigenous peoples may require an additional layer of skills and competencies. As an emerging field, there is no consensus on the knowledge, skills, and abilities of indigenous public health professionals. Professional competencies have been identified by various disciplines serving indigenous people, such as the First Nations, Inuit, Métis Health Core Competencies. These competencies were developed to provide undergraduate medical education guidance on health knowledge, skills and attitudes to engage both patient and community-centered approaches to health care delivery for First Nations, Inuit, Métis (FN/I/M) peoples.

Like the FN/I/M health core competencies, the development of indigenous public health competencies was critical to support all levels of public health professionals serving indigenous people. Proficiency in these competencies enable today's public health professionals to leverage the history of indigenous people, combined with knowledge of the law, policy, health provision, culture and traditions as they relate to improving the health and wellness of indigenous people. The Indigenous Public Health Competencies are the following:

- describe indigenous people's health in a historical context and analyze the impact of colonial processes on health outcomes
- analyze key comparative health indicators and social determinants of health for indigenous peoples
- critically evaluate indigenous public health policy and programs
- apply the principles of economic evaluation to indigenous programs with a particular focus on the allocation of resources relative to need
- demonstrate a reflexive public health practice for indigenous people's health contexts
- demonstrate a disease prevention strategy which values and incorporates indigenous people's traditional knowledge

These Indigenous Public Health Competencies were central to the development of the University of Hawai'i's MPH NHIH specialization. Students enrolled in the NHIH specialization are required to take advanced level training in indigenous health policy, ethics and research design. In addition, students participate in ongoing research programs with indigenous communities through a practicum assignment.

### **Recommendations**

The Native Hawaiian and Indigenous Health MPH curriculum integrates Indigenous Public Health Competencies with standard public health competencies to help build a stronger, more effective public health workforce in Native Hawaiian and indigenous communities. The Native Hawaiian and Indigenous Health specialization prepares students for leadership roles in indigenous health policy and culturally safe health services. Graduates will better meet the social and cultural needs of indigenous people, thereby enhancing the quality and effectiveness of those health services and policies. The improved quality and effectiveness of indigenous health services will contribute to the reduction of indigenous health disparities and the improvement of indigenous people's health.

### **Key reference**

Tauali'i, M., Delormier T., & Maddock, J. (2013). A New and Innovative Public Health Specialization Founded on Traditional Knowledge and Social Justice: Native Hawaiian and Indigenous Health. *Hawai'i Journal of Medicine & Public Health*, 72.



# Catching the waves of wellness: A traditional approach at health from the ocean that unites us

**Presenter: Joey Cadiz**

*Joseph Kahana Cadiz received his BA in Hawaiian Studies, with an emphasis in Malama 'Aina (Caring for the Land) and is currently seeking his Master's degree in Public Health with an emphasis on Native Hawaiian and indigenous health at the University of Hawai'i, Mānoa. Mr Cadiz's primary area of focus is on shifting the gaze of health interventions to prioritizing work led and directed by the Native Hawaiian community. Mr Cadiz's work focuses on the implementation of He'e Nalu (surfing) as a form of healing. His work demonstrates that embracing traditions improves confidence, sense of identity, and overall physical and mental health.*

Co-authors: Dr Maile Taulii, Dr Isaiah Walker, Rebekah Walker

## **Abstract**

### **Background**

Community-driven programs are essential to ensure success and sustainability of interventions aimed to reduce health disparities experienced by indigenous peoples. Academic researchers, fueled by institutional pressure, may overlook the existing strengths of the community and focus on preconceived research projects without community involvement. The Native Hawaiian and Indigenous Health Master of Public Health degree specialization differs because it emphasizes the importance of community service, recognition of community wisdom and expertise, and the importance of a foundation on established relationships. All Master of Public Health students at the University of Hawai'i are required to complete a 240 hour practicum. An example of this practicum opportunity is an assessment of Halau Nalu.

### **Purpose**

Halau Nalu is a Native Hawaiian immersion community group which focuses on Hawaiian language to promote water safety and physical fitness through the traditional Hawaiian art of surfing. A community-academic partnership was founded on active membership of academic leadership in the community. Strong community-academic partnerships are successful when the partners are invested members of each other's communities. Mutual trust and understanding of program goals supported the formation of a memorandum of agreement between community group, Halau Nalu, and the NHIH MPH specialization. Practicum placement for a NHIH MPH student supported the creation of seven deliverables and corresponding learning objectives, which were designed to help further the goals of Halau Nalu.

### **Methods**

The foundation of community academic partnership includes the development of mutual goals to assist the community in improving health and wellness. A causal model was designed to outline the pathway between health and wellness and surfing as an intervention for public health. Literature review and analysis was performed to determine if existing models of indigenous physical fitness and activity could serve as a comparison model for this intervention. The outcomes of the intervention were to understand the relationship between community and academia. Outcomes included building an infrastructure to support a community's goals within the context of public health. Successful strategies were created to describe and demonstrate the effectiveness of community-led research supported and augmented by academic scholarship.



Imperative results include the recognition of the importance and value of He'e Nalu (surfing) as a traditional art form and an effective public health intervention.

### **Key findings**

He'e Nalu, or surfing, is revered by Native Hawaiians as a connection with ancestral knowledge and the demonstration of wellness and confidence. In spite of the recent adoption and adaptation of the traditional art to a commercial industry and professional sport, many young Native Hawaiians still connect to a lifestyle of health and wellness through their love of the ocean and surfing. The Halau Nalu program aims to teach young Native Hawaiians how to engage respectfully and safely with the ocean and how to maintain their physical ability to surf throughout their lives. Participants and families that participate in Halau Nalu express the value of their children learning to surf safely, to revere the ancestral connections, and to experience confidence both in the water and in other aspects of their lives.

### **Public health impact**

The partnership between Halau Nalu and the University of Hawai'i, Master of Public Health, Native Hawaiian and Indigenous Health specialization was formed as a mechanism to implement public health experience for a student whose interests were in physical fitness, surfing, and improving health and wellness for Native Hawaiian youth. In addition, this practicum experience provided an opportunity for a public health student to serve in an indigenous community while sharing a love for the ocean and a profound respect for the tradition of surfing.

The Native Hawaiian and Indigenous Health program enrolls individuals who are passionate and sincere in using and creating knowledge and skills to improve the conditions in which the lives and well-being of indigenous people are influenced. The partnership between Halau Nalu and the Native Hawaiian and Indigenous Health Master of Public Health program is an example of how community and academy can collaborate in preparing students for leadership roles in indigenous health policy and culturally safe health services. Graduates of the Native Hawaiian and Indigenous Health Master of Public Health program better meet the social and cultural needs of indigenous people, thereby enhancing the quality and effectiveness of health services and policies. The improved quality and effectiveness of indigenous health services contributes to the reduction of indigenous health disparities and the improvement of indigenous people's health.

### **Key reference**

Taualii, M., Delormier T., & Maddock, J. (2013). A New and Innovative Public Health Specialization Founded on Traditional Knowledge and Social Justice: Native Hawaiian and Indigenous Health. *Hawai'i Journal of Medicine & Public Health*, 72.



## Kiko'u Ko'olau and indigenous public health: Cultivating wellness for the community

### **Presenter: Ms Mālia Purdy**

*Chanley Mālia Purdy is a Master's of Public Health candidate at the University of Hawai'i at Mānoa specializing in Native Hawaiian and Indigenous Health (NHIH). Mālia hails from the island of Maui and is a native speaker of her language. Her experience in attending Kula Kaiapuni, the Native Hawaiian culture and language immersion education program, demonstrates the investment students from these programs have to their community. Mālia's primary area of interests is community driven programs as a mechanism to ensure and sustain interventions that are aimed to reduce health disparities experienced by indigenous communities. Her practicum work with Kīko'u Ko'olau, exemplifies the successful partnership between the students and the community in addressing the needs of the community.*

Co-authors: Dr Maile Tauali'i, Treena Delormier, Kihei Nahale-a, Ilima Long

### **Abstract**

#### **Background**

Community-driven programs are essential to ensure success and sustainability of interventions aimed to reduce health disparities experienced by indigenous communities. Academic researchers, fueled by institutional pressure, many times overlook the existing strengths of the community and focus on preconceived research projects without community involvement. The Native Hawaiian and Indigenous Health Master of Public Health degree specialization differs because it emphasizes the importance of community service, recognition of community wisdom and expertise, and the importance of a foundation on established relationships. All Masters of Public Health students at the University of Hawai'i are required to complete a 240 hour practicum. An example of this practicum opportunity is an assessment of Kīko'u Ko'olau.

#### **Purpose**

Kīko'u Ko'olau is pilot program of Ka Papahana Kuaola, a Native Hawaiian non-profit organization that is dedicated to creating quality educational programs focused on environmental restoration and economic sustainability fully integrated with Hawaiian knowledge. Kīko'u Ko'olau is an 'āina-based after-school program for students grades one to eight, and is an innovative project that promotes sustainability in their food resources, food security, and health, while also strengthening identity as Kānaka Maoli. The Kīko'u Ko'olau program strengthens individual identity, the health of participating individuals, the facilitators, the organization, and the community as a whole, and is driven by the engagement and investment of the community.

#### **Methods**

A series of focus groups were conducted to assess the impact of the program on parent's relationships with their children and the dynamics in their families. Pre-program initiation and post-program discussions were held to help identify change in family dynamics, specifically related to expectations of the children and their abilities in the lo'i. Other areas assessed pre- and post-program, including frequency of children and families accessing the land and factors affecting home life and basic demographics, including social determinants of health. Key informant interviews were performed with Ka Papahana Kuaola directors and staff. Focus groups and key informant interviews were transcribed and a qualitative analysis was performed using NVivo 10. In reaching agreement on the final themes, key words were identified or phrases that were repeated across the transcripts.



Emerging ideas about the theoretical constructs and their relationships were ‘memoed,’ and emerging insights caused us to listen in new ways to subsequent groups.

### **Key findings**

Pre-program discussion highlighted the importance of children knowing how to behave in the lo‘i, learning about responsibilities with growing food and learning the knowledge of cultivating kalo lost through colonization and assimilation. Post-program discussion focused on transformation of children and family dynamics. The desire to continue programs that provide regular access to the land was highlighted. Participants also discussed barriers and challenges associated with the program and how the program could be improved to better support family participation. Funding for expanded programs was a priority concern. Community-driven programs allow research to respond to the community’s needs. Providing the opportunity for the students to engage with fellow participants, volunteers, and instructors will increase the amount of interactions they have outside of school, the home, and family. From these relationships a productive and industrious community will emerge. All of these aspects are so important to the health of a Kānaka Maoli. Programs, such as Kiko‘u Ko‘olau feed the social, occupational, spiritual, physical, intellectual, and emotional health of the youth. Introducing participants to programs such as these will overall increase their mauiola, and lessen health disparities in the future.

### **Public health impact**

The assessment of the Kiko‘u Ko‘olau program was the result of a community-academic partnership between Papahana Kuaola and the University of Hawai‘i, Master of Public Health, Native Hawaiian and Indigenous Health specialization. This practicum experience provided an opportunity for a public health student to serve in an indigenous community.

The Native Hawaiian and Indigenous Health program enrolls individuals who are passionate and sincere in using and creating knowledge and skills to improve the conditions in which the lives and well-being of indigenous people are influenced. The partnership between Papahana Kuaola and the Native Hawaiian and Indigenous Health Master of Public Health program is an example of how community and academy can collaborate in preparing students for leadership roles in indigenous health policy and culturally safe health services. Graduates of the Native Hawaiian and Indigenous Health Master of Public Health program better meet the social and cultural needs of indigenous people, thereby enhancing the quality and effectiveness of health services and policies. The improved quality and effectiveness of indigenous health services contributes to the reduction of indigenous health disparities and the improvement of indigenous people’s health.

### **Key reference**

Tauali‘i, M., Delormier T., & Maddock, J. (2013). A New and Innovative Public Health Specialization Founded on Traditional Knowledge and Social Justice: Native Hawaiian and Indigenous Health. *Hawai‘i Journal of Medicine & Public Health*, 72.



## Great research: Native Hawaiian views on bio-banking

### **Presenter: Dr Maile Tauali'i**

*Dr Maile Tauali'i received her PhD in Health Services, with an emphasis in Public Health Informatics and Public Health Genetics from the University of Washington, where she also completed her Master's degree in Public Health. A primary research focus for Dr Tauali'i is the utility and validity of health information for racial minorities. Her current research is related to perceptions of bio-banking for research among Native Hawaiians. Dr Tauali'i is an Assistant Professor and Chair of Native Hawaiian and Indigenous Health at the University of Hawai'i where she brings cultural, ethical, and community-oriented perspectives to the instruction of public health. Dr Tauali'i's federal commitments include serving as a member of the National Advisory Committee on Racial, Ethnic, and Other Populations, US Census Bureau and Co-Chairing the Regional Health Equity Council, Department of Health and Human Service, Office of Minority Health.*

### **Abstract**

#### **Background**

Genomic science represents a new frontier for health research and will provide important tools for personalizing health care. Biorepositories are facilities that collect and store specimens – for example, blood, cord blood, placentas, and cancer tissue – for future research. Governments and commercial interests are supporting expansion of these resources to increase genomic research capacity. These efforts are not without controversy, especially among indigenous peoples. As small, relatively isolated populations, they have greater genetic homogeneity than more commonly studied populations and may have rare and uniquely informative gene variants. These qualities, combined with disproportional rates of disease, have made indigenous peoples the target of many genetic research studies and bio-banking efforts. Historical and contemporary violations of standards for research with human participants on the part of the research community have resulted in avid debates around research ethics involving indigenous peoples.

Globally, genetic research touches the lives of many indigenous peoples. However, responses to these efforts have differed by community. In Native Hawaiian communities, efforts to patent and genetically modify taro, the staple food of indigenous Hawaiians that figures predominantly in this people's creation, led to a legislated moratorium on this research. An effort to map the Native Hawaiian genome was met with protests from the community and a call for education in genetics and ethical issues surrounding genetic studies that impact Native Hawaiians. These events underscore the importance of incorporating indigenous people's perceptions and expectations of culturally appropriate and ethical research behavior as bio-banking protocols, including informed consent procedures and related educational programs, are developed. While recent studies provide valuable insight into the perspectives on bio-banking of other indigenous populations, few focus on the perspectives of Native Hawaiians, the indigenous peoples of the Hawaiian archipelago.

#### **Purpose**

Biospecimen-based research is an important mechanism for expanding the genomic research capacity, and indigenous peoples are a target of biospecimen-based research due to their relative isolation and the potential to discover rare or unique genotypes. This study explored Native Hawaiian perceptions of and expectations for bio-banking.



## Methods

Ten focus groups were conducted with Native Hawaiians (N=92), who first heard a presentation on bio-banking. Focus groups were conducted in English throughout the state of Hawai'i and analyzed using grounded theory methodology. A Native Hawaiian researcher trained in facilitation led each focus group with the support of Native Hawaiian staff. All participants were consented and completed a short demographic questionnaire. Focus groups were audio recorded, and notes and recordings were transcribed and analyzed. Discussion questions were developed based on a review of the literature, cognitive testing, and consultation with 10 community advisors and six experts in the field. The core questions were further modified after the first focus group to improve the flow of discussion.

The final questions were as follows: (1) What do you think are some possible benefits of contributing your tissue or blood to a biobank for research? (2) What are some of your concerns about doing this? (3) How and when would you like to be asked to contribute your blood or tissue to a biobank? (4) What kinds of information, if any, would you want about the research study in which your blood or tissue is used? and (5) What would you think if several different researchers wanted to use you blood or tissue for several different kinds of research? The facilitator did not participate in the discussion but served to help all participants voice their thoughts and opinions by clarifying focus group questions if asked.

## Key findings

Six themes emerged: (1) biobank governance by the Native Hawaiian community, (2) research transparency (3) priority of Native Hawaiian health concerns (4) leadership by Native Hawaiian scientists accountable to community (5) re-consent each time specimen is used, and (6) education of Native Hawaiian communities. These recommendations are being shared with bio-banking facilities in Hawai'i as they develop protocols for bio-banking participation, governance, and education.

*Public health impact:* Advances in genomic science and the resulting health improvements will result when trust and mutual understanding occur between researcher and participant. Findings from our focus groups clearly demonstrated that members of the Native Hawaiian community are committed to health improvements and view research as a mechanism to discover new ways to improve health. After being informed about bio-banking, participants outlined guidelines that could help to build trust and increase participation. These guidelines can be remembered most easily by the acronym, GREAT (Governance, Reconsent, Education, Accountability, Transparency) Research. As biobanks consider the best ways to conduct quality processes, they can remember that GREAT Research involves the target populations in the governance, participants have the option to be re-consented with each specimen use, education is ongoing and informative, accountable researchers come from the population of focus, the process is transparent and open, and the research reflects the priorities of the people.

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## Community engaged research: Recommendations from Pacific Islander communities

### **Presenter: Dr Jane Chung-Do and Ms Mele Look**

*Dr Jane Chung-Do is currently an Assistant Professor with the University of Hawai'i Department of Public Health Sciences. She obtained her Master's in Public Health in Social and Behavioral Health Sciences and DrPH in Community and Translational Research from the University of Hawai'i Department of Public Health Sciences. Jane currently teaches and advises public health graduate students at the University of Hawai'i. Her research interests include positive youth development, youth and minority mental health, rural health disparities, community-based participatory research, and culturally based programming. She loves to spend time in the ocean with her family.*

*Mele Look is Director of Community Engagement in the Department of Native Hawaiian Health at the University of Hawai'i's School of Medicine. She facilitates collaboration for research, capacity-building training, and program development with the Ulu Network, a coalition of 30 community-based organizations with over 70 sites that serve Native Hawaiians and other Pacific peoples across Hawai'i and the continental United States. She has been involved in Native Hawaiian health research for over 35 years, pioneering studies in the area of Native Hawaiian mortality and recently has been focusing on initiatives that merge cultural practices and health objectives. She is a cultural practitioner in the Native Hawaiian dance form of hula and has completed the 'uniki 'ai lolo graduation as an 'olapa (accomplished dancer) with Hālau Mōhala 'Ilima in Ka'ohao O'ahu. She resides in Waimānalo, Hawai'i with her husband Scott Rowland and their son Kaimalieomanana.*

Co-author: Katherine Burke

### **Abstract**

#### **Background/purpose**

In response to health disparities that persist among minority communities, there has been a growing recognition that conventional research approaches are not adequate to make effective and sustainable impact in diverse cultures and minority communities. As a result, new models of community-engaged research have emerged in the last few decades that have guided communities and researchers in conducting culturally grounded and responsive research. This has led to a growing number of community-academic research collaborations in Hawai'i, specifically with Pacific communities. One such example is the Ulu Network, a community coalition formed in 2003 by The Center for Native and Pacific Health Disparities Research at the University of Hawai'i, John A. Burns School of Medicine's Department of Native Hawaiian Health. The Ulu Network is made up of 30 community-based organizations dedicated to improving the health and well-being of Native Hawaiian and Pacific Islanders. This study sought to understand the perspectives and priorities related to research engagement of these Ulu Network health leaders and the communities they serve.

#### **Methods**

Interviews were conducted with 50 individuals in leadership positions from 24 organizations. The key informant and small group interviews, which lasted 60 to 90 minutes, were conducted by staff of the University of Hawai'i Center for Native and Pacific Health Disparities Research. In order to demonstrate respect for these community leaders' time, service, and responsibilities, 19 (79%) interviews were conducted in-person and on-site at the organization's headquarters.



The remaining interviews were conducted as individual telephone conference calls because of logistics constraints or preference of participants. Using a semi-structured interview guide, the interviews centered on what researchers should know before engaging with communities. The interviews were not audio-taped because of community preference, and two note-takers attended all interviews. The notes from the individual note takers were checked for completeness and then combined into a single document that was reviewed for clarity and accuracy. Notes were then imported into NVivo 10 to determine frequency and identify thematic analysis. The thematic analyses were independently coded by two individuals and compared for inter-rater agreement. If there was disagreement by the two independent coders, a third individual would review the theme and serve as a tie-breaker. The number of organizations that address each theme was counted to assess the concurrence of a theme across organizations.

### **Key findings/implications/recommendations**

Five themes emerged from the interviews (1) investing time and commitment to build authentic relationships (2) understanding the diversity and unique differences that exist across Pacific and geographic communities (3) ensuring that communities receive direct and meaningful benefits from the research initiative (4) understanding the organizational capacity, and (5) initiating the dialog early to ensure that community perspectives and resources are integrated in every stage of research. The insights shared by the community leaders reinforce the viewpoint that there are no shortcuts in community-engaged research and researchers must be able and willing to invest time to develop relationships and their understanding of the community. In Pacific Islander cultures, the lines between personal and professional roles are not always defined as it is the Western context. Being accepted into the community in a professional capacity often translates into a personal connection where trusted people are welcomed into homes and family gatherings. This may be reflective of the island culture where limited resources encourage neighbors and community members to rely more heavily on one another. Researchers who wish to work with Pacific communities must be prepared and capable to build authentic and reciprocal relationships and transform the conventional top-down approach of research where the researchers are seen as the main source of expertise.

Burke et al. developed the Ripple Model to describe the transformation of both researchers and communities by the research process from a Pacific community's perspective and provide a framework for researchers to build authentic community relationships and trust. For community-placed research to advance into community-based and community-driven research, individual and institutional capacities need to be built, both at the university and the community. In addition to providing training and mentoring opportunities for graduate students and faculty, continuous and strategic efforts must be offered to build community-based capacity as effective partners and investigators. This should not be limited to scientific process skills but include infrastructure capacity in handling awards, and receiving indirect administrative costs, which can help build towards a more equitable and meaningful partnership to enhance community wellness. This study was made possible by the U.S. National Institute on Minority Health and Health Disparities P20MD00173 and U54MD007584. The content is solely the responsibility of the authors.

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## University of Guam/University of Hawai'i Cancer Center Partnership: Building research capacity to reduce cancer health disparities in the Western Pacific

### **Presenter: Ms Hali R. Robinett**

*Ms Hali Robinett, MPH, is Program Manager of the National Cancer Institute-sponsored University of Guam/University of Hawai'i Cancer Center Partnership at the University of Hawai'i Cancer Center where she has provided administrative support to cancer research and capacity building grants and contracts since 1995. A graduate of the University of Hawai'i School of Public Health, Ms Robinett has committed the past 27 years to addressing health equity and health disparities in Hawaii and the US-associated Pacific Islands, starting with a Peace Corps assignment in the Republic of the Marshall Islands. She has brought leadership and expertise to various non-profit boards and associations, having served as chair and governor-appointed member of Hawai'i's Tobacco Prevention and Control Trust Fund and chair of the Hawai'i Public Health Association's 2012 Pacific Global Health Conference – the premiere public health conference in the Hawai'i-Pacific region. For these and other contributions to the field of public health, Ms Robinett was inducted into the Delta Omega Honorary Society in Public Health in 2013.*

Co-authors: Rachael T. Leon Guerrero, Robert A. Underwood, Neal A. Palafox, David C. Ward, Carl-Wilhelm Vogel

### **Abstract**

#### **Background**

Cancer is the first or second leading cause of death for Pacific Islanders in Guam, Hawai'i, and the US-associated Pacific Island jurisdictions (USAPI). The USAPI have significant health, resource and capacity disparities, including cancer disparities, compared to the US (Palafox & Tsark, 2004 and Pacific Cancer Programs website). Critical to reducing cancer health disparities in the Western Pacific is research designed and conducted by, for, and with Pacific Islanders. Similarly, dedicated efforts are required to provide education and training opportunities for Pacific Islanders to prepare them for future careers in cancer health disparities (CHD) research, especially as Pacific Islanders are highly underrepresented within the cancer research community.

#### **Purpose**

Through a partnership between the University of Guam (UOG) and the University of Hawai'i Cancer Center (UHCC), our NCI-funded program aims to build capacity to reduce CHD in Guam, Hawai'i and the USAPI through cancer research, training and outreach. The partnership provides graduate level training and education in cancer research at the partnering institutions, mentorship of faculty at UOG, and funding to support cancer research relevant and unique to the Pacific region. In addition, outreach activities build capacity in cancer prevention and cancer health policy.

#### **Methods**

Since 2003, the UOG/UHCC partnership has provided scholarships and training in CHD research to a growing number of Pacific Islander graduate students at UOG and UHCC. Over the past four years, the partnership has supported CHD curriculum at UOG addressing issues unique to Guam and the USAPI. UHCC investigators provide mentorship to early stage investigators (ESI) at UOG through annual meetings and workshops, monthly video teleconferences, electronic communications, and summer fellowships at UHCC. A system has been established to review, award and evaluate new and ongoing pre-pilot, pilot and full research projects.



Outreach activities draw upon the principles of community-based participatory research to increase tobacco cessation, reduce cancer risk and strengthen tobacco control policy.

### **Findings**

Since fall semester 2009, 14 master's degree students at UOG have received fellowship support, and two UOG graduates are enrolled in doctoral programs at US mainland institutions. Two PhD students at UHCC are currently receiving fellowship support, and two master's degree students have graduated from UH. One scholar is now in a tenure track faculty position at UOG and participating in the partnership. Over the past four years, UOG has developed a cancer health disparities curriculum unique to the Pacific region, now a permanently sustained track in UOG's Micronesian Studies Program. In addition, mentorship and career development is provided to ESI at UOG: UHCC investigators have mentored 10 UOG ESI since 2009. Four faculty received summer fellowships at UHCC; two subsequently secured seed grant awards. Research of regional relevance and global importance is jointly conducted by investigators at UOG and UHCC, including six betel nut related pilot projects that are exploring the associations of betel nut use and health-related conditions and behaviors among users in Micronesia; socio-cultural factors affecting betel nut chewing in Guam; the influence of betel nut use on the oral microbiome; the identification of alkaloids present in the varieties of betel nut on Guam; identification of salivary biomarkers in betel nut consumption; and the functional assessment of molecular components of betel nut involved in pro-inflammatory mechanisms of immune cells. Other research projects are addressing CHD-related research questions around cancer risk and risk perception: health information trends and needs in the Pacific among adults and youth; feasibility of electrical breast densitometry in assessing breast cancer risk; and breast cancer risk factors for Pacific Islander women. Outreach projects are exploring community-based participatory approaches to youth tobacco use prevention and cessation in Guam, and the effectiveness of a social network-based approach to reducing tobacco-related cancer risk. Outreach activities have also contributed to the introduction and passage of significant cancer control legislation in Guam, resulting in decreased tobacco use and increased tobacco taxes, a percentage of which supports patient services in Guam as well as the Guam Cancer Registry. Almost 50 papers have been published, and several grants have been received as outcomes of the partnership.

### **Implications/recommendations**

The unique ethnic, socio-cultural and geographic characteristics of the UOG/UHCC partnership provide for many unique and important cancer research, training and outreach opportunities with regional and global relevance. The partnership has significantly increased research capacity at UOG and cultivated interest in cancer research among minority students attending the partner institutions. Outreach has resulted in model tobacco control policy in Guam, including tobacco tax revenue that supports the Guam Cancer Registry and Guam Cancer Trust Fund. A regional research infrastructure has been established and resources have been leveraged to address Pacific Islander cancer health disparities in Guam, Hawai'i, and the US-Associated Pacific Islands. Supported by the National Cancer Institute of the National Institutes of Health under award numbers U54CA143727 and U54 CA143728.

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# Clinical exercise physiology in New Zealand – An innovative approach to the global health challenge

## **Presenter: Associate Professor Lukas Dreyer**

*Lukas is an Associate Professor and the course leader for the postgraduate diploma in Clinical Exercise Physiology at the Universal College of Learning (UCOL). He has 30 years of experience as an academic and practitioner in the field of clinical exercise physiology. This work has involved supervising practical work (testing and designing exercise programmes for medical-referred cardiac, respiratory, orthopaedic and diabetic patients) at academic rehabilitation clinics, as well as being study leader and promoter for Master's and PhD students. He has published in various peer-reviewed international scientific journals. In addition to this, he has been part of leadership panel committees working towards the development and promotion of clinical exercise physiology since 1995 in both South Africa and New Zealand. This work has contributed to the establishment of the exciting and innovative U-Kinetics programme at UCOL in 2012.*

Co-authors: Dean Rankin, Sonja Dreyer, Shohn Wormgoor

## **Abstract**

### **Background**

The global burden of chronic disease is large and growing. Given the proven cardiovascular and well-being benefits of regular physical exercise, it is advisable that patients with cardiopulmonary disease engage in structured supervised exercise programmes. Clinical exercise physiology is a discipline which collaborates closely with other health professionals and utilises supervised physical exercise to improve the health of patients with diagnosed chronic disease. This service is largely non-existent in New Zealand and its feasibility and effect has not been tested on any section of the New Zealand population.

### **Aims**

1. Examine the role of, and referrer support for, a specialised clinical exercise physiology service in community health in Palmerston North.
2. Study the effect of a 12-week supervised clinical exercise physiology programme on physical exercise patterns and perceived barriers to physical exercise in a group of cardiopulmonary clients in New Zealand.
3. Determine the effect of a 12-week supervised clinical exercise physiology programme on client outcomes related to some cardiovascular, morphological and psychological variables of cardiopulmonary patients.

### **Methods**

UCOL established a specialised clinical exercise physiology U-Kinetics Te Huinga Waiora clinic in collaboration with MidCentral DHB, Central PHO, and TBI Health (private physiotherapy company) in 2012. Clients referred to the programme are fully funded through MidCentral DHB. Individualised clinical exercise programmes, based on comprehensive prior exercise screening and testing, were provided to each and every client. Clients exercised three times per week under supervision for 12 to 24 weeks. Client education was integrated with exercises sessions.

### **Conclusions**

As of the end of 2013, the UCOL U-Kinetics Centre has received 770 client referrals from MidCentral DHB and GPs who fall under the funding criteria, with over 220 having already



fully completed their 12-week exercise interventions, and 40 per cent of these clients also completing a second 12-week referral. Very few of the clients engaged in physical activity prior to referral to the U-Kinetics programme. Clients report the major barriers to exercise as financial constraints, fear, and lack of knowledge on how to start – with exercise seen as a significant health risk. The programme has had a significant impact on exercise behaviour, ability to exercise, knowledge on how to exercise, commitment towards exercise, weight loss, cardiovascular fitness, and psychological health. Findings to date relating to client outcomes (physiological and psychological), and industry feedback, led to UCOL U-Kinetics being a recipient of the 2013 MidCentral DHB Peoples' Choice Health Award.

### **Implications**

This project emphasises the importance of supervised exercise in the management of clients with multiple health issues in a safe and supportive way. The general view of both clients and referring medical practitioners/clinics/institutions is that this clinical exercise physiology service, with a 98 per cent client compliance and completion rate, should be rolled-out across larger New Zealand.



## Pasefika well-being: Our uniqueness, our connections

### **Presenter: Ms Maiava Carmel Peteru**

*Maiava has familial connections through her father to the villages of Faleasi'u and Saleimoa, and to the villages of Safotu and Falealupo on her mother's side. In 1995, she graduated with an MA degree in (Applied) Social Science Research at Victoria University of Wellington. Between 1995 and 2007, Maiava worked in a range of roles in district health boards in Pacific health in Wellington and Auckland. She has also worked in research projects on mental health, O le Taeao Afua (1997), prevention of sexual violence, o 'Āiga o le 'anofale o afio'aga ma le fatu o le aganu'u (2010), and prevention of violence in Samoan families, O le tōfā mamao (2012). She was a part of the Samoan Advisory and Core groups which developed and piloted the Nga vaka o kāiga tapu: POU course programme (2013–2014). Maiava is a member of the Pasefika Proud Research Komiti to the Pacific Advisory Group.*

### **Abstract**

#### **Background**

This presentation describes the development of a Samoan conceptual framework to address violence in Samoan families and communities, and its relationship to six other Pasefika conceptual frameworks. It focuses on two questions: What is it to achieve depth? and What is it to connect? I address these questions by explaining the 'peeling' process taken to achieve depth in the Samoan conceptual framework: O le tofa mamao. I then explore the natural synergies and the complexities that have significant bearing on the connections between the seven conceptual frameworks.

The past 25 years has seen increasing incidences of violence in Pasefika families and communities living in New Zealand. In 2010, Pasefika participants at the *Champions of Change* fono met to discuss ongoing strategies. Two recommendations from the fono set a pathway for action in the three years to follow:

- that the community take primary responsibility for leading the development of a programme of action to prevent and ultimately stop family violence
- that there is a need to explore how service provision could incorporate culture as the basis for constructing new and more robust programme approaches

Two important ideas highlighted in the recommendations were that Pasefika communities were ready to take leadership roles to bring about change; and that Pasefika cultures were central to the development of 'new and robust programmes'. In 2011, Honourable Tariana Turia, Associate Minister of Social Development and Minister responsible for Family Violence, secured Government funding to develop a training programme to support capability and capacity growth of Pasefika practitioners and providers. Between 2011 to date, four major projects were achieved:

1. The Pasefika Proud Campaign promotes and supports Pasefika community ownership and action to address family violence.
2. Seven ethnic-specific *Nga vaka o kāiga tapu Conceptual Frameworks* were developed. The Frameworks are underpinned by foundational core values and principles of Samoa, Cook Islands, Tonga, Fiji, Niue, Tokelau, and Tuvalu cultures.
3. Seven course programmes informed by the Conceptual Frameworks were developed and piloted. The course programmes are a critical component for building ethnic-specific Pasefika workforce capacity and capability.



4. Launch of the Nga vaka o kāiga tapu: Pasefika Proud Family Violence Research Plan 2013–2018.

### **The participants**

The Nga vaka o kāiga tapu programme is led and driven by Pasefika communities in partnership with the Ministry of Social Development. Pasefika communities include social services and health practitioners and providers, individuals and families affected by family/domestic violence, ministers of religion, education professionals, youth, researchers, academics, clinicians, community workers, and agency officials.

### **Implications**

The inclusion of critically defined Pasefika core values and principles as the basis for developing new and more robust community-based programmes urges Government policy, research programmes and religious theologies to rethink their interpretations of the lived realities of Pasefika families and communities, and to create an authentic space for their voices.

Pasefika peoples need to reconceive of their cultures as dynamic and transformative philosophical frameworks that point to the protection of, and respect for the sacredness of human life.

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# If it bleeds, it leads: The portrayal of indigenous health issues in the media

**Presenter: Dr Melissa Stoneham**

*Dr Melissa Stoneham is the Deputy Director with the Public Health Advocacy Institute Western Australia – a unique and independent advocacy body. She has over 25 years' experience in the fields of public and environmental health, with particular skills in the area of local government management practices, health promotion and public policy. She has worked with and for local, state and commonwealth government agencies, universities, professional associations and international aid organisations in a range of fields including environmental health, occupational health, health promotion, health policy and advocacy. She says her career highlights to date have been working with the World Health Organization in Mozambique and the Secretariat of the Pacific Community, where she was based in Noumea. Melissa also runs a public health consulting business, has two crazy children, a lovely husband and a miniature schnauzer.*

Co-author: Mike Daube

## **Abstract**

### **Background**

Aboriginal and Torres Strait Islanders (herein referred to as Indigenous Australians) comprise 3% of the Australian population. It is commonly acknowledged that health outcomes for this group are lower than those of non-Indigenous Australians. Yet, no one would argue it is difficult to generate negative stories about Australian Aboriginal communities when we have reports stating that the estimated gap between indigenous and non-indigenous people's life expectancy in Australia is greater than in New Zealand, Canada and the United States of America, or the fact that Indigenous Australian mortality rates are 4 to 5 times higher than non-indigenous rates for people aged 25–54 years, that Indigenous Australian employment rates fell from 48% in 2006 to 46.2% in 2011, and more than 26% of Australia's adult prisoners are Indigenous Australians, even though they represent just 2.5% of the country's total population.

One of the factors impacting on the relationship of Indigenous Australians to mainstream society is the way in which the media portray indigenous people and issues. There is growing research that suggests that negative media in relation to Indigenous Australians perpetuates racist stereotypes among the wider population and that this type of racism has a major impact on the health of Indigenous Australians.

### **Methods**

To ascertain how the media portrayed Aboriginal health issues in the Australian media, the Public Health Advocacy Institute of Western Australia (PHAIWA) collected and analysed all articles relating to Aboriginal health from print media in *The West Australian*, *The Australian* and *The Sunday Times* and from the *ABC Online* news service during 2012. Where permissible, Boolean or proximity searching within terms was used, allowing the combination of search terms to enable enhanced targeting of more specific areas. Following coding and allowing for some exclusions, a total of 335 articles were analysed.

### **Results/discussions**

We found that overwhelmingly, the articles were negative in their portrayal of Aboriginal health with 75% negative, 15% positive and 11% neutral coverage. The most common negative topics were alcohol, child abuse, petrol sniffing, violence, suicide, deaths in



custody, and crime. The four most common positive subject descriptors included education, role modelling for health, sport and employment. This predominantly negative stereotypical portrayal of Indigenous Australian communities has devastating effects, as the more that the dominant culture reports negative stories about Indigenous Australian people, the more that Indigenous Australian people feel bad about being Aboriginal.

### **Conclusions/implications**

The intent of this presentation is not to criticise media for their portrayals, but to point to the opportunities for positive stories and to encourage health and other advocates to provide these to the media. As an advocacy organisation, PHAIWA is interested in generating solutions to problems.

This paper will briefly discuss the implications of this negative portrayal of Aboriginal health but will focus on strategies for public health practitioners, journalists and media practitioners to enable them to positively influence the way in which Australian Aboriginal people are portrayed in the media. Strategies to be discussed will include media and advocacy training for Indigenous Australian people, ethical reporting protocols for journalists, seeking and promoting good news stories in many formats, and including site visits to Aboriginal communities as a core component of journalism university courses or cadetships. The West Australian Indigenous Storybook, which is one ongoing avenue for Indigenous Australian people to tell positive stories, will be showcased as a tangible example of how to promote good news stories and events occurring in Aboriginal communities.

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## Promises broken and health disparities within Marshallese living in the US

### **Presenter: Dr Pearl Anna McElfish**

*Pearl McElfish, MBA, MS, PMP, PhD has a Master's of Business Administration and Master's of Community Development. She is currently defending her dissertation for a PhD in Public Policy. After 15 years of leading community health and community development efforts and working for private foundations, she was hired as the Director of Community Based Research for the University of Arkansas for Medical Sciences, where she has worked with the Marshallese community living in rural Arkansas to address health disparities using a community-based participatory research approach.*

Co-author: Emily Hallgren

### **Purpose**

The purpose of this abstract is to describe the impact of US health policies on Marshallese Compact of Free Association (COFA) migrants living in Arkansas.

### **Background**

Between 1946 and 1958, the United States military tested nuclear weapons in the Marshall Islands, causing long-term health effects for the Marshallese. In 1986, the Compact of Free Association (COFA) between the Republic of the Marshall Islands (RMI) and the United States was signed. The COFA allows Marshallese to freely enter and lawfully reside in the US to live, work, and study. The COFA with the RMI provides the United States with exclusive military use and control of two million square miles of ocean and land. The United States maintains a military installation on Kwajalein Atoll in the RMI, the Ronald Reagan Ballistic Missile Defense Test Site, and leases 11 of the 97 islands of the atoll for military activity.

A poor economy, limited education and health care infrastructure, the effects of climate change on low-lying atolls, and the ability to freely enter the US without a visa or permanent resident card are increasing Marshallese migration to the US. Unlike other lawfully present immigrant groups, Marshallese and other COFA migrants cannot access federally-funded health care programs such as Medicaid because they are excluded from the category of 'qualified immigrants' for purposes of eligibility for federal public benefits under the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA).

### **Method**

As part of a policy analysis project, researchers met with Marshallese migrants living in Arkansas to better understand how these policies affect their health. The goal was to give VOICE to the inequalities Marshallese experience as a result of these policies. The research team utilized qualitative methods. A snowball sample of 32 participants was recruited. Focus groups and interviews were conducted with a semi-structure interview guide, and recorded and transcribed verbatim. Transcripts were then analyzed for emergent themes.

### **Key findings**

- Even after the Affordable Care Act, many Marshallese do not have access to affordable health care coverage.
- Marshallese are not eligible for safety-nets such as Medicaid and the Children Health Insurance Program.



- Marshallese encounter many language and cultural barriers at health care providers.
- Marshallese believed that COFA would provide them with access to health care benefits and that the policies that preclude their access to these programs is evidence that the US has not fulfilled its promise.
- Limited access to care has perpetuated health inequalities for the Marshallese.

### **Implications/recommendations**

The RMI and the Marshallese people have contributed and continue to contribute much to the health and national security of the US. The Marshallese made significant sacrifices during the US nuclear testing program and Project 4.1, the US continues to have exclusive military control of the region. Marshallese serve in the US military at rates higher than US citizens, and Marshallese working in the US pay all US federal, state, and local taxes, including Medicare and Social Security taxes deducted through payroll. When the COFA was signed in 1986, Marshallese had access to federally funded health programs; however, after PRWORA, Marshallese and other COFA migrants were excluded from federally funded health care programs. It is imperative that federal and state health policies be amended to improve health access for Marshallese and all COFA migrants in the US.

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# Suicide prevention for Tongan youth in New Zealand

## **Presenter: Dr Jemaima Tiatia-Seath**

*Jemaima Tiatia-Seath is a Research Fellow based at the University of Auckland's Pacific Studies – Te Wananga o Te Waipapa, with research interests that include Pacific suicide research and prevention and Pacific youth health and well-being. She completed an HRC Pacific Postdoctoral Fellowship earlier this year – Suicide and Samoans: The journey towards prevention' and is principal investigator for a HRC and Ministry of Health funded project – 'Suicide prevention for Tongan youth in New Zealand'. Both studies seek to determine the most salient issues regarding suicide and ways of responding to suicide prevention that are relevant for these populations; advancing ethnic-specific approaches for Pacific suicide prevention; addressing gaps in the field of suicidology and mental health in general; and raising awareness of youth suicide amongst Pacific communities.*

## **Abstract**

### **Background**

In 2011, there were 24 suicides among Pacific peoples (15 males and 9 females) in New Zealand. In the same year, there were 96 intentional self-harm hospitalisations. There is growing concern that suicide is increasing among Pacific communities.

Although it appears suicides for Pacific peoples in New Zealand occur at a lower rate in comparison to the population as whole, evidence shows that Pacific peoples have higher rates of suicidal thought, suicide plans and suicide attempts than all other ethnic groups in this country. Pacific peoples have reported a 12-month prevalence of suicide attempts that is three times the rate of the general New Zealand population.

Recent patterns of youth suicide emerging amongst Tongans in New Zealand require analyses which account for socio-cultural and contextual factors. It is thus vital to engage Tongan communities in the advancement of suicide prevention to understand the issue and to develop models, approaches and solutions that are appropriate for our Tongan youth. It is important to recognise that reporting of suicidal behaviours may be affected by the complex, and often conflicting, cultural attitudes towards suicide. Usually it is often under-reported more than any other cause of death due to stigma, cultural issues, legal prohibitions and insufficiencies in official data recording systems. Thus cultural attitudes pose a more serious challenge to the development of targeted suicide prevention activities. This project is an opportunity to help destigmatise cultural attitudes and shame that surrounds suicide.

### **Purpose**

This study is part of a HRC and Ministry of Health-funded Pacific Health Research Partnership award, with a vision of contributing to better mental health outcomes for Tongan communities, and to inform future service delivery with the goal of reducing suicidal behaviours for Tongan as well as Pacific youth in New Zealand. This research produces new theories and contributes to: the formulation of Pacific models with a Tongan youth suicide prevention focus and informing Tongan families and the mental health sector of ways to appropriately respond to the issue. It helps to build community knowledge around suicide, enhance understandings, destigmatise, and empower Tongan families and communities by engaging in the research.

The primary aim of this research is to engage the Tongan community by developing an



ethnically specific way of understanding and addressing suicide prevention for Tongan youth in this country.

In order to achieve the aims of this project, two fundamental questions need to be addressed:

- what contributes to Tongan youth suicide?
- what solutions can our Tongan families offer towards the advancement of suicide prevention strategies that are appropriate and effective for Tongan and potentially Pacific communities?

It is important then, that by addressing these aims, the study unravels salient issues regarding Tongan youth suicide in New Zealand and advancing knowledge in the field of suicidology and public health.

Interviews have been undertaken with parents/caregivers and siblings of young Tongans lost to suicide. Interviews have elucidated factors families perceive to have contributed to the suicide, the characteristics and behaviours of the young person prior to the event, as well as exploring the determinants of suicide and possible strategies for suicide prevention.

### **Key findings/implications/recommendations**

We are currently in the early stages of analysing our preliminary findings.

### **Key references**

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# Diabetes, obesity and the church (DOC): Implementing the New Zealand weight management guidelines for Pacific children, young people and adults

## **Presenter: Dr Ofa Dewes**

*Dr Ofa Dewes is a Pacific Health Research Fellow in the School of Population Health, Faculty of Medical and Health Sciences at the University of Auckland. Her research work includes Pacific ethnic-specific studies in obesity prevention among Pacific people, families and communities in New Zealand. Ofa is Principal Investigator of her first HRC-funded implementation and evaluation study on a systems-based approach to obesity prevention and weight management in Pacific church communities, in collaboration with investigators from the University of Otago and University of Hawai'i at Mānoa. The study builds on her previous work in the Obesity Prevention in Communities (OPIC) project and its successor, a parent-focused randomised controlled trial on weight management in children. She continues to publish and present her work at international and national conferences including local community fonos. Her contributions to the research environment also include science leadership to the National Science Challenge Healthier Lives Consortium, technical advisory panels, guest lectureships and speakerships, assessment of manuscripts and master's thesis, Pacific column in the New Zealand Journal of Primary Health Care, student supervision, and media activities.*

Co-authors: Dr Kirsten Coppel, Professor Boyd Swinburn, Professor Jim Mann, Professor Keawe'aimoku Kaholokula, Dr Teuila Percival, Professor Robert Scragg

## **Abstract**

### **Background**

Diabetes and obesity rates are especially high among Pacific peoples. Among Pacific in New Zealand, 27% children and 68% adults are obese, and 15% adults have diabetes, yet attempts to reduce the prevalence of obesity have been unsuccessful. The 2009 New Zealand evidence-based guidelines for weight management articulate the combined application of food, activity, and behaviour support as the most effective approach to weight loss. Implementation and uptake of these guidelines is critical if weight loss is to be achieved. We aim to implement the guidelines in churches because many Pacific people are affiliated with a Christian religion.

### **Purpose**

How do you implement the clinical guidelines for weight management in New Zealand children, young people and adults in the Pacific community? Our objectives are to:

- create a culturally centred approach to weight management based on the guidelines, Pacific socio-cultural research and Pacific people's experiences
- identify how church systems can embed the Pacific weight management approach, and incorporate this approach into three Methodist churches in Auckland city, New Zealand
- identify what is working (or not working), for whom and why, during implementation
- measure changes in weight and waist circumference of participating church members after one year

### **Methods**

The research design is a formative, process, and impact evaluation of a Pacific and culturally centred adoption of the guidelines. A baseline survey was conducted in September–October 2013 at three churches (Samoa, Tonga, Fiji) where 100 people aged 5



years and over at each church were invited to participate. Interviewer-administered questionnaires gathered information, including demography, sedentary behaviour, diet, physical activity, and medical history. Blood pressure and anthropometry (weight, height, waist circumference) were measured. Four focus groups and one-on-one semi-structured interviews until saturation or maximum of 36 will be conducted during 12 months of implementation in 2014.

## Results

The response rate was 100% with 312 agreeing to participate (about one-third from each of the three ethnic groups). Among children aged 5–15 years ( $n=92$ ), mean BMI z-score (World Health Organization) was 1.8, and among adults aged >15 years mean BMI was 35.8 kg/m<sup>2</sup> (SD 7.4), 10% had diagnosed diabetes and 43% reported having family members with diabetes. In both groups, only half had eaten breakfast daily, the mean number of fruit portions eaten per day was 1 and the mean number of vegetable portions eaten per day was also 1. Daily soft drink and fruit drink consumption was reportedly low (<1 drink per day), but eating takeaways or fast-foods was common (children 42%, adults 27%). More than half of both the children and adults spent two or more hours a day watching television. The level of daily physical activity varied widely.

## Conclusion

The baseline survey confirmed the high level of lifestyle-related risk factors and disease among Pacific peoples. Churches could benefit from participant-guided research and culturally centred interventions to help reduce the prevalence of obesity and its consequences.

## Application

Churches are potentially the best place to reinforce positive lifestyle behaviours in collaboration with the research community. The partnership has implications for public health policy and other community groups as it is likely to demonstrate a community model of health that could be replicated more systematically throughout high-needs areas.

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## Reflections from the 'Chewing the facts on fat: What does that say about me!' study

### **Presenter: Dr Tupa'ilevaililigi Ridvan Tupa'i-Firestone**

*Dr Tupa'i-Firestone is a Researcher Officer at the Centre for Public Health Research, Massey University. She completed her PhD in Sleep Science (Massey University) in 2006 with a HRC Pacific PhD Scholarship. She was awarded a HRC Pacific Postdoctoral Fellowship (2006) where she established an internet-based birth cohort study ([www.elfs.org.nz](http://www.elfs.org.nz)) examining risk factors for a range of non-communicable diseases in over 1,000 New Zealand infants. Dr Tupa'i-Firestone led the Pacific arm of a national case-control study examining early life factors and breast cancer risk among Pacific women. Recently, she was awarded a HRC/Ministry of Health Partnership grant to investigate social-cultural-historical factors of obesity among 16–24 year old Pacific young adults. She was also awarded a Lotteries Health grant (2013) to develop normal lung function predictive values in Pacific children (5–12 years), to allow for more accurate respiratory diagnosis. When she is not researching, Ridvan is teaching research methods in Epidemiology and Pacific Health.*

Co-authors: Ms Hana Tuisano, Professor Keawe Kaholokula, Associate Professor Te Kani Kingi, Associate Professor Rozanne Kruger, Professor Bernard Breier, Associate Professor Barry Borman, Dr Lis Ellison-Loschmann

### **Abstract**

#### **Background**

Obesity is common among Pacific peoples in New Zealand, and the prevalence is significantly higher (57.9%) than for the general adult population (15+ years; 27.8%). While previous work has focused on older Pacific peoples (with established medical conditions such as cardiovascular disease and type 2 diabetes), in infants, children and adolescents/youth (aged 13–17 years), much less is known about young Pacific peoples aged 16–24 years old. This age group has the capacity to understand their own and family social-health realities, and they have the capability to make a unique contribution in addressing the social-health issues relating to the prevention of obesity, if given the opportunity.

Our project prioritises the unique voice of Pacific peoples and brings focus to young persons who make up a significant proportion of the Pacific population and yet, for which we have currently limited information available on obesity and pre-metabolic risk factors. The research integrates knowledge drawn from social, cultural and historical data as a means for understanding and addressing obesity related behaviours and patterns among young Pacific people. Additionally, the study has established an archive of historical information on the social and contextual relationships of food and its role across generations of families that can be developed into 'actionable knowledge'.

#### **Study objectives**

The overall objective of the study was to develop a comprehensive knowledge base informed by data gathered through social, cultural and historical contexts, including obtaining information across generations, in obesity related behaviours. The aim of the study is to conduct in-depth interviews with young Pacific people on the cultural-social realities related to pathways of obesity (Phase 1), and then train them to conduct similar interviews with their parents and grandparents (Phase 2), to explore familial and cross-generational ideas about the historical-cultural contexts of food and understanding of the socialisation patterns relating to food and body size.



### **Research design and methods**

The study comprises three phases. In-depth interviews were conducted in two phases:

- Phase 1: Interviews with 30 participants, who are enrolled with a Pacific primary health organisation, and a youth health organisation to explore young Pacific people's perceptions of the value of food, its role in how people socialise and the importance attached to these social occasions and their social-cultural meanings, including weekly food spending patterns.
- Phase 2: Involved training the same 30 participants as peer researchers who conducted analogous interviews with their parents (n=30) and grandparents (n=30) (one parent and one grandparent per family) with additional information being sought on historical and migration themes as relevant to those interviewed.
- Phase 3: Exploration and development of future preventative strategies and new research ideas that will build on the current proposal, using the peer researchers.

### **Main outcomes**

As this work evolves, it offers new insights into the cultural, social, and historical meanings of food and diet which could be further developed in creative and innovative ways to promote health and well-being not only in Pacific peoples, but in other population groups as well. We plan to use the findings from this project to develop appropriate resources, as proposed in the study, aimed at a comprehensive health and well-being programme for Pacific young people, including preventive- and intervention-based strategies targeted at obesity.



## Kelston beverages pilot study

### **Presenter: Dr Gerhard Sundborn**

*Dr Gerhard Sundborn is a public health researcher and is Research and Development Lead at Le Va where he works primarily on FLO: Pasifika For Life – the National Pasifika Suicide Prevention Programme. Recently Gerhard completed a HRC Pacific Postdoctoral Fellowship that focused on policy interventions to reduce sugar-sweetened beverage intake. During this time Gerhard carried out the Kelston beverages study that piloted a social marketing type intervention to encourage youth to reduce their sugary drink intake. Prior to undertaking the HRC Postdoctoral Fellowship, Gerhard was co-director of the Pacific Islands Families Study from 2008 to 2013 at AUT University. Gerhard is of Tongan heritage and is married to Meliame and has three young children, Sola (5), Wayne (3) and Chloe (2).*

Co-authors: Cliona Ni Mhurchu, Helen Latu, Che Ness, Rod Jackson

### **Abstract**

#### **Background**

Sugar-sweetened beverages are the leading contributor of added sugar to the diets of both New Zealand adults and children. Sugar-sweetened beverages are not a necessary part of a healthy diet and sugar-sweetened soft drinks, in particular fizzy drinks, contain no goodness. The Kelston beverages pilot study aimed to reduce the sugary drink intake of students from a small west Auckland suburb.

To gauge interest of local schools within the designated pilot intervention community, a presentation of the research proposal was made to a network of the local school principals. This consisted of all six school principals from the suburb, and took place on 18 June 2012. From this presentation five principals indicated their support and willingness to be part of this study. These schools included: one high school (age 13–17 years), one intermediate school (age 11–12 years), and three primary schools (age 5–10 years).

#### **Introduction**

The harm that sugar-sweetened beverages (SSBs) or sugary drinks have on health is well established. In the absence of strong local body or national policy/regulation designed to limit consumption, there is a need to develop and trial solution focussed interventions to reduce the intake of sugary drinks, particularly in children. Internationally many studies have addressed this successfully. These studies have used varied approaches to bring about a reduction in the consumption of sugary drinks. Interventions have included reducing the availability of SSBs in school canteens, and school vending machines, as well as providing ‘in-school’ educational programmes for students to discourage children from drinking soft drinks. Results from these studies have demonstrated a significant reduction in consumption of SSBs as well as body mass index (BMI) levels.

In New Zealand, the ‘Beverage Guidelines Project’ led by a local district health board was trialled in a number of West Auckland schools in 2005. Guidelines were developed that encouraged schools to stock healthier drinks, particularly in their canteens. In one school the outcome saw more than 125 kg of sugar being removed from consumption per week. Unfortunately, this programme has ceased to exist and was not formally evaluated.

This presentation describes the rationale, background and methods employed in the Kelston beverages study, which aimed to raise youth awareness of the harmful effects of



sugary drinks as well as reduce their consumption within the intervention community.

### **Purpose**

The purpose of this paper is to describe and present results from the Kelston beverages pilot study. The Kelston beverages pilot study was designed to trial a multi-component community partnered intervention of quasi experimental design to (i) raise awareness of the sugar content of SSBs (ii) raise awareness into the harmful effects that sugary drinks have on health (iii) promote strategies to reduce intake of SSBs, and finally (iv) to reduce the overall intake of SSBs at a community level and particularly in youth.

### **Research design and methods**

While this research project encompassed three settings, the major focus was on schools. The three intervention settings were schools, community organisations and the retail sector. The initial goal of the community organisation and retail sector initiatives was to increase community awareness of the school initiatives and to encourage the community to support it.

### **Key findings/implications/recommendations**

The Kelston beverages study was designed to increase awareness of the sugar content of sugary drinks, the poor health consequences that high intake of these drinks have, and inform on ways to reduce the students' intake. The aims of this pilot study were to refine interventions and processes designed to raise awareness of the harms that sugar-sweetened beverages (SSBs) have on health, and to reduce their consumption among the youth of a small west Auckland suburb. There were three arms to this interventional study, one in schools, another in community organisations (churches, sports clubs and community groups), and the final arm is in the local retail sector.

The school arm was the most extensive component and initially involved a survey of children's knowledge and consumption of sugar-sweetened beverages (SSBs) using a brief questionnaire. The study evaluated any SSB policies in schools and for schools that did not have policies, opportunities were scoped to develop and implement them; a canteen AUDIT focused particularly on beverages was carried out; and finally a student-partnered social marketing exercise was undertaken that comprised two competitions: one to design a poster, and another to write and perform a rap. Children were re-surveyed at the completion of the intervention (7 months later) to determine change in knowledge and self-reported consumption of SSBs. Both the community organisations and retail arms of this study focused on raising awareness into the harmful effects of SSBs and establishing healthy beverage policy in the respective organisations. Promising results with regards to acceptability, feasibility, and recruitment as well as valuable learnings with regard to Process, support the development of a proposal to conduct a cluster randomised trial of the interventions successfully tested in this pilot study.







## Session 7

# **Behavioural Health**



# Resilience factors for substance use among adolescents in Hawai'i: Effects of parental support and adolescent self-regulation

**Presenter: Dr Thomas A. Wills**

*Dr Thomas A. Wills is a health psychologist who is interim Director for the Cancer Prevention and Control program at the University of Hawai'i Cancer Center. He earned his doctoral degree at the University of Oregon and did a postdoctorate in epidemiology at Columbia University School of Public Health. Before coming to the University of Hawai'i he was a faculty member at Cornell University Medical College and Albert Einstein College of Medicine, both in New York. His research is focused on the etiology and prevention of adolescent smoking and other substance use. He is currently conducting two longitudinal studies of substance use among adolescents in Hawai'i. Specific topics in these studies include the role of parental support and self-control in resilience effects, the impact of mass media (movies and advertising) on adolescent substance use, and the impact of racial/ethnic discrimination on adolescent substance use.*

Co-authors: Ms Emilee Turner, Mr Russel Fisher, Ms Rebecca Knight

## **Abstract**

### **Background**

Resilience is defined as relatively successful functioning despite adversity; a resilience factor is a variable that reduces the impact of adverse circumstances on a health-relevant outcome (Fergus & Zimmerman, 2005). Our research program is investigating factors that moderate the impact of stressful life events on early-onset substance use, a behavior that has prognostic significance for health problems at later ages. Prior research with North American, primarily Caucasian, samples has suggested good self-regulation of behavior and emotion as a moderating factor (Masten & Powell, 2003). Emotional and instrumental support from parents has also been found to moderate the impact of negative events on health risk behavior (Wills, Forbes, & Gibbons, 2014). In the present research we tested whether individual-level and family-level factors serve as resilience factors in a Pacific Island sample that included several diverse ethnic groups.

### **Purpose**

We tested whether regulation variables and family variables would reduce the effect of adversity on adolescent substance use. A total score for negative life events during the past year was the index of adversity and involvement in substance use was the outcome. We anticipated that negative events would be a risk factor for substance use and hypothesized buffering effects (i.e., variable reduces the impact of life events) for supportive relationships with parents and adolescent self-control. We also tested whether dysregulation, based on poor behavioral and emotional control, would act as a vulnerability factor.

### **Sample**

A sample of 3,561 adolescents (M age 12.5 years, 52% were female) was recruited from 10 public middle schools on Oahu, Hawai'i. Primary self-identified ethnicity was 34% Asian-American (Chinese, Japanese, Korean), 8% Caucasian, 29% Filipino, 29% Native Hawaiian, and 6% other. Regarding family structure, 20% of participants were with single parents, 8% with a stepparent, 56% with two biological parents, and 16% in an extended family (two parents + relatives). The mean parental education on a 6-point scale was 3.9 (SD 1.2), just above high school graduate.



## Methods

Data were obtained through a self-report questionnaire administered in classrooms by trained research staff using a standardized protocol. Parental consent was obtained prior to survey and participant assent obtained from eligible students at the time of survey administration. Participants were assured that all information they reported was strictly confidential. A 20-item checklist with a Yes/No response scale assessed exposure to negative life events that occurred to self or family members during the past year. A 60-item inventory assessed four domains of regulation (behavioral self-control, emotional self-control, behavioral dysregulation, and emotional dysregulation). An 11-item inventory assessed two aspects of the parent-child relationship: emotional support and instrumental support. Substance use (tobacco, alcohol, and marijuana) was assessed with 7-point frequency scales ranging from 'Never Tried' to 'Every Day' (e.g. Which of the following is most true for you about smoking cigarettes?).

## Results

Prevalence rates for the sample indicated that 9% smoked, 27% drank, 6% used marijuana, and 5% reported heavy drinking during the past month. A total score for substance use involvement was based on the sum of these indices. With this substance use score as the criterion, the hypotheses were tested with multiple regression analyses that entered main-effect terms for life events and a moderating factor together with their cross-product (e.g. emotional support, negative life events, support x events). In this analytic model a significant effect for the cross-product term indicates the impact of negative events on substance use differs for persons low vs high on the moderator. Tests for family variables showed significant buffering effects for emotional support ( $t=-4.48$ ) and instrumental support ( $t=-2.74$ ) (both  $p<.0001$ ); the impact of negative events on substance use was reduced for adolescents with higher support. There also were significant buffering effects for behavioral ( $t=-7.89$ ) and emotional ( $t=-3.19$ ) self-control (both  $p < .0001$ ); the impact of negative events on substance use was reduced among persons scoring higher on self-control. However, vulnerability effects were found for behavioral dysregulation ( $t=4.43$ ;  $p < .0001$ ) and emotional dysregulation ( $t=3.76$ ,  $p < .0002$ ); here, the impact of negative events was increased for adolescents scoring higher on dysregulation.

## Implications

Our results from a Pacific Island population are consistent with previous research in mainland samples and indicate that both individual and family variables contribute to resilience effects. The results show the importance of strengthening families so they can provide adequate emotional support for children. Our research has also indicated that having good parental support contributes to better self-control (Wills et al., 2014). Further research is needed to better understand the dynamics of parent-child relationships and how they affect health-related outcomes such as substance use/misuse. We suggest further research with other Pacific populations to extend our understanding of how family dynamics contribute to better health for children. Lastly, it is important to investigate differences in family support effects for rural and urban communities.

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## Current research with the Pacific identity and well-being scale

### **Presenter: Sam Manuela**

*Sam Manuela is 28 years-old, of Cook Island and New Zealand European descent, and born in New Zealand. He is currently a PhD candidate in the School of Psychology at the University of Auckland. His area of research focuses on the identity and well-being of Pacific peoples in New Zealand. More specifically, he uses quantitative methods to statistically model the relationship between different aspects of Pacific ethnic identity and well-being outcomes. Sam does this by using the Pacific Identity and Well-being Scale; a culturally appropriate self-report questionnaire that assess different aspects of identity and well-being specifically for Pacific peoples. Sam has a strong background in statistical methods such as confirmatory factor analysis and structural equation modelling. His other areas of interest include discrimination, prejudice, the protective effects of identity, and psychological factors associated with positive health outcomes.*

### **Abstract**

#### **Purpose**

This paper outlines a series of studies using the Pacific Identity and Well-being Scale (PIWBS) – a psychometric tool developed specifically for Pacific peoples in New Zealand that can be used to conduct culturally relevant and appropriate quantitative psychological research. All data for these studies was collected via online and paper surveys. All studies presented here employ quantitative methods.

Study 1 describes how the PIWBS was developed using Exploratory (N = 143) and Confirmatory Factor Analysis (N = 443). The five factors of the PIWBS-R are defined (Perceived Familial Well-being, Perceived Societal Well-being, Group Membership Evaluation, Pacific Connectedness & Belonging, Religious Centrality & Embeddedness).

Study 2 describes a top-down factor analytic technique used to explore the hierarchical organisation of Pacific identity and well-being (N = 586). Analyses indicated that identity experiences were organised in two broad dimensions of Identity Engagement and Cultural Well-being. Critically, analyses showed that Religious Centrality & Embeddedness emerged jointly from these two broad domains. These analyses suggest that religious identification provides a bridging link between identity and well-being for Pacific peoples. Identifying relationships of identity and well-being factors in this way provides valuable information in how the Pacific self may be cognitively organised and may assist in future research in this area.

Study 3 describes a revision to the PIWBS to include an additional subscale of Cultural Efficacy (N = 919). This subscale assesses the extent to which Pacific individuals feel they have the personal and cultural resources to participate within a cultural-social context.

Study 4 employs Multigroup Confirmatory Factor Analysis (N = 684) to show that the PIWBS exhibits similar psychometric properties across the four largest Pacific groups in New Zealand (Samoa, Cook Islands, Tonga, Niue). Means of the PIWBS factors across the four Pacific groups are compared whilst adjusting for demographic covariates of gender, age, place of birth and religious status. Results indicate that the PIWBS is performing equally well across the Pacific groups and provides evidence that it can be used for research with specific Pacific ethnic groups.



Study 5 describes an identity-tension effect for individuals with both Pacific and European heritage (N = 586). We show that at a group level, those that identify as Pacific/non-Pacific report lower Familial Well-being relative to those that identify as solely Pacific or with multiple Pacific backgrounds. This effect is replicated in a national probability sample using a measure of self-esteem (N = 276). Furthermore, we model a potential mechanism driving this effect and show that group differences in negative affect toward Pacific peoples fully mediated the effect of ethnic group affiliation on self-esteem. Population projections indicate that individuals identifying as Pacific/non-Pacific will increase in subsequent generations (upwards of 3.3% of the population by 2026).

Study 6 outlines a relationship between cultural efficacy, well-being and perceived discrimination (N = 521). Results indicate that perceived discrimination against the self mediates the relationship between cultural efficacy and societal well-being. Perceived discrimination against one's group also mediates the relationship between cultural efficacy and societal well-being, and cultural efficacy and familial well-being. Overall, these results suggest that subjective experiences of cultural expression predict greater psychological well-being through reduced perceptions of discrimination.

Study 7 outlines some simple regression analyses that highlight the potential of the PIWBS in various domains of research. We outline analyses that show how the various factors of the PIWBS are associated with confidence in speaking languages, frequency of church attendance and the likelihood of international travel. Critically, we also show how the PIWBS factors are associated with self-reported satisfaction with health and show how Societal Well-being and Pacific Connectedness and Belonging are both associated with a lower likelihood of diabetes diagnosis. The applications of the PIWBS to longitudinal research regarding health outcomes are discussed.

### **Key findings/implications/recommendations**

The Pacific Identity and Well-being Scale is a unique psychometric tool that provides a way to incorporate Pacific worldviews into quantitative psychological research. Studies 1–4 provide evidence that the PIWBS is a psychometrically valid and reliable tool that can be used for research with Pacific peoples in general or with specific Pacific ethnic groups. Studies 5–8 show applications of the PIWBS. The studies highlight the positive relationship between facets of Pacific ethnic identity and well-being which show how the PIWBS can be used to statistically model these relationships and perhaps predict positive outcomes over time. Critically, the PIWBS can be applied to research concerning behaviours and physical health outcomes, highlighting the PIWBS as a potential tool to investigate the psychosocial determinants of positive health outcomes for Pacific peoples.

### **Key reference**

Manuela, S., & Sibley, C. G. (2013). The Pacific Identity and Well-being Scale (PIWBS): A culturally-appropriate self-report measure for Pacific peoples in New Zealand. *Social Indicators Research*, 112, 83–103.



## Prevalence of obesity and obesity-related diseases among Samoan and Tongan adults in California

### **Presenter: Dr Sela Panapasa**

*Dr Sela Panapasa is an Assistant Research Scientist at the University of Michigan's Institute for Social Research. Her work includes research on family support and intergenerational exchanges, population dynamics, racial/ethnic health disparities and population-based survey research. She conducts both quantitative and qualitative research and recently completed a representative study on US Pacific Islander health and health care utilization. Dr Panapasa also played a visible leadership role in raising awareness on health disparities among Native Hawaiian and Pacific Islanders. She formerly chaired the Census Advisory Committee on Native Hawaiian and Pacific Islanders and currently serves on the US Census Bureau National Advisory Committee on Racial, Ethnic and Other Populations and the US Department on Health and Human Services Advisory Committee on Minority Health. Dr Panapasa completed an NIA postdoctoral fellowship at the University of Michigan and received her PhD in Sociology/Demography from Brown University. Originally from Fiji, she is proud of her Rotuman, Tongan and Tuvaluan heritage.*

Co-authors: Dr James McNally, Dr Steven Heeringa, Edmundo Melipillan, Professor David Williams, Dr Cleopatra Caldwell, Christopher Krenz, Dr James Jackson

### **Abstract**

#### **Background**

Epidemiological studies on disease prevalence among US Pacific Islanders (PI) adults (ages 18+) remain sparse despite the growing emphasis placed upon health research and the collection of health outcomes in the United States (US) to reduce overall health disparities. Due to the cost and challenges associated with the collection of survey data among small populations, the sample sizes for disaggregated data on PI populations in US national health surveys are insufficient for stable analysis of how PI health compares to the nation as a whole. Similarly, a persistent lack of randomized sample design, low rates of response and the problems associated with selection bias often make information emerging from smaller neighborhood studies either inadequate or unable to be generalized to the broader population. Collectively, these factors have made the systematic study of PI health largely impossible despite high rates of non-communicable diseases (NCD) among these groups.

In 2012 the Pacific Islander Health Study (PIHS), the first representative study to establish baseline epidemiological information on Samoan and Tongan adults and adolescents living in California, was conducted by researchers at the University of Michigan's Institute for Social Research and Harvard University School of Public Health (Panapasa et al, 2012). Modelled after the National Health Interview Survey (NHIS), California Health Interview Survey (CHIS), National Survey on American Lives (NSAL) and Chicago Community Health Survey (CCHS), the PIHS collected a random sample of 240 adults and 124 adolescents. The sample was post-stratified to the California population to develop a population weight for robust data analyses (Heeringa et al, 2014). The PIHS is timely as national statistics on PI obesity is inadequate. According to a recent national study, more than one-third of adults in the US were obese (Ogden et al, 2013). Due to the increased health risks associated with obesity and the potential cost in chronic diseases and long term health care, reducing the prevalence of obesity in the US has become a top priority.



## Objective

To assess the prevalence of obesity and chronic obesity related diseases among US Pacific Islanders and compare outcomes to the US and California populations.

## Methods

Obesity in adults is defined as having a Body Mass Index (BMI) greater than or equal to 30. We calculate BMI for Samoan and Tongan adults, controlling for age and gender and then compare these outcomes to current averages for the US as a whole and for the state of California. We also compare obesity rates among Samoans and Tongan adults to Whites and Black/African Americans of the same ages to determine how these PI populations compare to other groups commonly studied as part of the US efforts to decrease the national growth in obesity. Multivariate analysis using odds ratios is used to determine the association of overweight and obesity on select chronic diseases such as diabetes, hypertension, depression and self-reported health.

## Results

The prevalence of obesity is extremely high among Samoans and Tongans in comparison to the United States as a whole. There are also marked variations in the pattern and prevalence of obesity when controlling for gender and PI ethnicity. Each group faces severe challenges in terms of the high levels of overall obesity and the long term negative health outcomes associated with obesity. The observed differences in the patterns of obesity between Samoans and Tongans also reflect the clear heterogeneity that exists among PI populations.

## Conclusion

Overall the prevalence of obesity is highest among middle-aged adults and females, but the analysis finds no age difference where there is a high proportion of the population in a healthy weight range. As obesity is strongly associated with multiple co-morbidities, these levels represent a major health concern for both Tongans and Samoans in the United States.

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## Using strategic health communication in evidence-based and sustainable behaviour change programming in Tonga

**Presenter: Ms Moala Netina Latu**

*Moala Netina Latu is the National Coordinator of the Australian Sports Outreach Program in Tonga – Kau Mai Tonga Ke Tau Netipolo (KMT). The KMT program is an initiative between the Government of Australia, Government of Tonga and Netball Australia which aims to increase the level of physical activity of women between the ages of 15 and 45 by playing netball. The program is delivered through Tonga's Ministry of Internal Affairs in partnership with the Ministry of Health in close collaboration with Tonga Netball Association and managed through the Australian Sports Commission. Ms Latu joined the Sports Division of the Ministry of Internal Affairs in 2010. Before joining the KMT program Ms. Latu was a Sport Development Officer for Disability Sports with the Tonga Sports Association and National Olympic Committee promoting the social inclusion of persons with disabilities through sports for several years.*

Co-authors: Onetoto Ainisi, Dr'Ofa Tukia

### **Abstract**

#### **Purpose**

To describe the effectiveness of using Strategic Health Communication (SHC) to advocate behaviour change in limited resource settings such as Tonga. With 92.1% of adults being overweight and obese, Tonga is ranked as the highest overweight population in the world. With increasing waistlines and BMIs Tongan women in particular are most at risk of non-communicable diseases due to high prevalence of obesity at 76.3% compared to men at only 60.7%. Low levels of physical activity amongst women is mainly attributed to cultural and social restrictions on girls and women that prevent them from engaging in any form of physical activity, especially after leaving school and/or marriage.

Strategic Health Communication combines mass media communication with grassroots community activities to deliver a population-based intervention towards Tongan women. Mass media communications increase knowledge and awareness increasing demand for the physical activity supplied by multiple grassroots activities at district level. The program uses a four-staged approach model to design and deliver on the activities.

A quantitative probability proportionate to size (PPS) district based household survey was conducted on 1200 women in both Phase 1 (Ph1) and Phase 2 (Ph2) of the mass media campaigns in order to identify its impact on the target group. The quantitative survey was supported with a subsequent qualitative research to further explore areas drawn out through the quantitative study.

This paper aims to share key findings from this campaign evaluations and its reported effectiveness in changing knowledge attitudes and behaviour amongst Tongan women and girls aged 15 to 45 using the four-staged approach model.

#### **Key findings/implications/recommendations**

The KMT Phase 1 research achieved very high levels of cut-through on key health messages. Over 90% of Tongan women reported being aware of the campaign although evaluation was carried out almost three months later. A similar effect was achieved on the Phase 2 campaign, with 89.5% of respondents recalling the campaign.



As a result of increased awareness and campaign recall up to 86% of women in Phase 1 felt concerned about the effect of physical activity on their health for both campaigns. In both campaigns this led to about 90% of women reporting that they wanted to undertake regular physical activity. The campaign has shown through both quantitative and qualitative data that the program has positively impacted community attitudes. Husbands, family members and the church all expressed their support for women of all ages participating in sport and physical activity.

Results indicated that in Phase 1 40% of girls and women in the target group took part in physical activity on three or more days of the week. Girls and women in Phase 2 indicated 57.6% participated in 30 or more minutes of physical activity per week. Both Phase 1 and 2 have been able to engage close to 4,000 girls and women playing netball in the Kau Mai Tonga tournaments in all four island groups. Prior to the Kau Mai Tonga campaign there were approximately only 200 women playing netball in Tongatapu.

Through qualitative evaluative study the program has also been able to demonstrate an increase in both the communities' sense of unity and the leadership amongst Tongan women and girls. The program is closely monitored through a continuous improvement program using quarterly monitoring and evaluative tools.

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# Pacific men's health and well-being: A case study of Niuean and Cook Islands men

## **Presenter: Dr Vili Nosa**

*Dr Vili Nosa is of Niuean descent. He is currently a Senior Lecturer in Pacific Health, School of Population Health, Faculty of Medical and Health Sciences, at the University of Auckland. Dr Vili Nosa has a BA in Education and Sociology, MA (Hons) in Sociology, and a PhD in Behavioural Science at the University of Auckland. The Health Research Council of New Zealand funded Dr Nosa's PhD through a Pacific Health Research Postgraduate award and he is the first person from Niue to have graduated with a PhD. He teaches on the School of Population Health's certificate, undergraduate, postgraduate programmes and medical programmes. He is known in New Zealand for supervising Pacific summer studentships, Bachelor of Health Science (Hons), master's, PhD and postdoctoral Pacific students. His academic and scholarly interests are Pacific health issues in New Zealand and the Pacific region. His specialist research areas are addictions, alcohol, tobacco, drugs, substance abuse and Pacific men's health.*

Co-authors: Dr Teuila Percival, Dr Malakai Ofanoa, Seini Taufua

## **Abstract**

### **Background**

There are many Pacific people in New Zealand, contributing to our communities, lifestyles and economy. But Pacific people often suffer inequalities in health and well-being without fully understanding why. Pacific men in particular have poorer health and higher rates of mortality and disability than non-Pacific people and compared to Pacific women. This is apparent in New Zealand and in the Pacific Islands countries. Currently there is no detailed research which examines the health and well-being for Pacific men.

### **Purpose**

The aim and objectives of this presentation is to examine what is known about Pacific men's health and well-being status using Niue and the Cook Islands as case studies.

### **Methods**

The research design includes a literature review about Pacific men's health, Niue men's health and Cook Islands men's health in their homeland and in New Zealand. Qualitative interviews will include 20 Niue men and 20 Cook Islands men in New Zealand (part 1) and 20 Niue men in Niue and 20 Cook Islands men in the Cook Islands (part 2).

### **Key findings**

The literature review found that cardiovascular diseases, poor diet, lack of physical activity, obesity, gout, tobacco, alcohol, cancer, and diabetes were a major health problem for Pacific men. The socio-cultural factors which affected Pacific men's health include migration changes into a westernised lifestyle, cultural attitudes towards health and the low socio-economic status. Furthermore, health care services need to be culturally appropriate. The barriers to accessing services for Pacific men include a lack of education and cultural barriers. The qualitative interviews identified a number of key factors for not accessing primary health care service such as financial costs, delayed visits to the doctor, communication and language barriers, transport, a "wait and see" approach, and masculinity issues.



## **Recommendations**

There is a need to have more awareness and education programmes targeting Pacific men. Niuean men and Cook Islands men need to identify and discuss the health-related risk factors associated with their poor health. Health information must be culturally appropriate and tailor-made to suit that particular ethnic group. Health information must be simple, easy to read and understandable. The use of media technology and radio needs to be incorporated as part of the awareness campaign. The discussion of increasing the Pacific health workforce also needs to be further developed to suit the growing Pacific population.

## **Conclusions**

There has been a lack of research for identifying Pacific men's health needs. More research is needed to identify the reasons for their poor health disparities. The Pacific communities need to be aware of and informed about why our Pacific men are dying at a younger age than non-Pacific men. Pacific men need to be aware of maintaining a healthy balanced lifestyle so they can contribute towards their families, wives, children and grandchildren.

Niuean and Cook Islands men have been the backbone of their families both in New Zealand, Niue, and the Cook Islands. They have been here in New Zealand for a number of years and have contributed significantly in the health sector, education sector and the social services sector. Niue and Cook Islands men are classified as New Zealand citizens so therefore are entitled to a number of social services. These services must be cost effective, culturally appropriate and accessible in order to improve the existing poor health inequalities. In conclusion, this study will help develop policies and programmes to improve the health and well-being for Pacific men in New Zealand and the Pacific, making our communities stronger and healthier and making good use of resources.

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## 30 day use of cigarettes/tobacco

### **Presenter: Glenn H. Manglona**

*Glenn H. Manglona is currently the chairperson for the state epidemiological workgroup (SEW) and statistics specialist for the community guidance center, Commonwealth Health care Corporation, which is funded by a SPF-SIG grant from Substance Abuse and Mental Health Administration (SAMSHA), US Department of Health and Human Services. Glenn consults regularly with sub grantee recipients of a federal grant with respect to data collection in order to be in compliance with federal grant requirements. Raised in the beautiful island of Rota, Commonwealth of the Northern Mariana Islands, Glenn now lives with his common law wife Marcy and their two full-blooded Doberman in Dan Dan, Saipan. Glenn is also a radio talk show host on the infamous Marianas Agupa Talkshow every Saturday between 9am to 11am, which streams on the internet via [www.magic100radio.com](http://www.magic100radio.com).*

Co-author: Wil Maui

### **Abstract**

#### **Background/purpose**

What is the use of and attitudes toward the use of alcohol, tobacco, and other drugs and mental health and stigma of the adult population in the Commonwealth of the Northern Mariana Islands?

The 2013 Commonwealth of the Northern Mariana Islands Behavioral Health Survey (CBHS) is the second round of the same behavioral health survey first conducted in the Commonwealth in 2011. Like the first round, the purpose of the 2013 CBHS was to collect cross-sectional data to produce statistical descriptions of behavioral health topics – the use of and attitudes toward the use of alcohol, tobacco, and other drugs (ATOD) and mental health and stigma – of the adult population in the Commonwealth. The dataset from this 6457 Survey will be used by the Community Guidance Center (CGC), and other health officials, to produce the 2013 behavioral health National Outcomes Measures (NOMS) for the Commonwealth. The target population of the 2013 CBHS, like in the 2011, included the entire CNMI adult population. Specifically, it included all 18 years and older persons in the islands of Saipan, Tinian and Rota. However, the survey excluded persons living in company provided housing quarters with 10 or more persons and those who were in mental institutions or in jail. Like the 2011 CBHS, the 2013 CBHS did not cover the Northern Islands. In addition, the Survey also aimed to profile possible differences among village groups within each of the three islands. The data collection for the 2013 CBHS was completed in a three and half-month's period, starting in July 19, 2013 and ending in October 31, 2013. Preliminary data processing and tabulation began on November 18, 2013; the final tabulation was completed on December 9, 2013.

The 2013 CBHS used the same sample design as the 2011 CBHS: a stratified random sampling with proportion to size and with minimum technique with Island being the first strata and Village Group, the second strata. The goal of the sampling for the Survey was to produce the best statistical estimates on the behavioral health-related topics for the entire household population in the CNMI, by Island, and by Village Group. A total of 1,268 housing units were selected from Saipan, 202 from Tinian, and 210 from Rota. In addition, five additional housing units were randomly selected from each of the AAs in the sample and used as substitutes for situations where a housing unit was no longer occupied, demolished, converted into a business establishment, a householder refused to complete the survey, or for other reasons.



### **The survey instrument**

The 2013 used the 2011 CHBS questionnaire which asked questions on the 30 day use of cigarettes, other tobacco, betelnut with tobacco, alcoholic beverage, marijuana and hashish, heroin, crack, cocaine or meth, hallucinogens, inhalants or sniffed substances and prescription drugs with two additional new questions: one on suicide and the other on military. The individual questions on each of the major topics covered in the survey were grouped into 15 major categories with 53 questions three of which had two sub-questions for a total of 53 questions. After completing the survey from the respondents, the following procedures were taken: Once a form passed the review stage, it was filed appropriately in a filing cabinet ready for coding. Three weeks into the start of the survey coding began. A code book from the 2011 CBHS was updated and used for coding the 2013 survey. Throughout each day, the clerks would review incoming forms, assisted field workers, and coded-competed forms. A copy of the code book is available at CSD. Codes can also be obtained from the code tables in the MS Access database that house the survey data.

### **Data cleaning and processing**

As the forms were entered into the database, frequencies and crosstabs were produced and used to look for possible errors and/or anomalies in the database records. Queries were created in MS Access to show what appeared to be possible errors and isolate, appropriately, these set of records. After all the questionnaires were entered into the database, Maui, CSD staff, and the clerks printed out the records that looked like they could be errors and validate each of the individual values against the appropriate hard copy questionnaires. The resulting clean dataset for the CBHS was exported from MS Access into SPSS (Statistical Package for the Social Sciences) where summary statistics for each variable was produced which are shown in the many tables under the results section of this report.

### **The results of the survey**

Number of households selected and the number of respondents interviewed:  
Of the 1,680 households selected for the 2013 CBHS, 1,284 of them were completed, a response rate of about 76%. These households contained 3,925 individual persons with an average household size of 3.03 persons. Of the 3,925 persons in households, 2,492 of them were 18 years and older. The 1,680 households in the sample were just over 10% of all occupied housing units in the CNMI. The actual number of households surveyed was 1,284 or 8% of all occupied housing units in the CNMI. By island, the 987 households surveyed was about 7% of total occupied housing units in Saipan, Tinian's 147 surveyed units was about 22% of all occupied units, and Rota's 150 surveyed units was about 21% of all occupied units. By age group, 46 to 50 are the highest in terms of participation. By gender, 51% of male to 48.5% female or 51:48. Question 1 asked about the 30 day use of cigarettes. The results showed that 23% of all respondents used cigarettes in the last 30 days. Other results of the survey will be presented in the 20 minutes allocated during the conference.

### **Recommendations**

To increase the sin tax on cigarettes by as much as \$5.00 per ever pack in the Commonwealth. Currently the tax for every cigarette pack is \$2.00; As of May 28, 2014, the CNMI Senate passed a sin tax of .75 cents per pack in addition to the current rate of \$2.00. This revenue is projected to generate almost \$900,000 in revenue that could be used for intervention programs and public awareness campaigns to reduce the consumption of cigarette smoking in the Commonwealth of the Northern Mariana Islands.

### **Reference**

Epi Profile of the Commonwealth of the Northern Mariana Islands, CBHS report of 2011, and CHCC's Annual report to the Governor.







Session 8

**Mental Health**



# Ua tafea le tau'ofe: Examining the psychological and emotional cost of sustaining Samoan funeral culture and traditional customs in modern times

**Presenter: Byron Seiuli**

*Byron Malaela Sotiata Seiuli is Samoan and lectures in the School of Psychology at the University of Waikato. He has recently completed his PhD research on Samoan death and grief experiences and the impact of current practices on Samoan men in particular. Byron is also a pastor and a trained counsellor in Hamilton. Byron returned to Samoa on numerous occasions to provide counselling support to many of the victims, school children, and families impacted by the tsunami. Byron's presentation discusses some of his doctoral research findings and recommendations for health clinicians and researchers interested in trauma recovery.*

## **Abstract**

*Auē, ua māliliu toa, ua maumau ai āupegā o le taua  
Oh, how the mighty have fallen, the weapons of victory now lie abandoned*

## **Background**

Death is a complex topic for most people, one that is rarely discussed. Similarly, Samoan people have consigned this topic to the domain of tapu and sa. Yet death regularly disrupts the normal routines of many people. Death is always accompanied by emotional stress, and in many Samoan communities, specific rituals and cultural performances are expected. Samoan funeral rituals provide opportunities for grieving families to farewell their beloved member while honouring their supporting communities at the same time. Such vital mourning practices help to maintain cultural mores and to foster communal relationships.

Although death itself is an unpredictable event, its associated rituals are generally routine and familiar for many Samoans in mourning. Yet it is within these moments of unpredictable disruption that lives are punctuated by familiar rituals that also provide meaningful connections. The attempt to maintain connections through important rituals can provide a significant platform for a space to care, by recognising the importance of Samoan cultural rituals and of its adhering values in facilitating avenues of healing for those in grief.

Research shows that rituals for death can have many uses for life. In fact, rituals relating to death can function in significant ways to help the living in many ways, especially in transitioning them back to normal life routines. Even today, few attempts have been made by Samoan researchers to understand the cultural context in which death is ritualised, celebrated, and memorialised. Through critically engaging with relevant scholarly literature, my research examines and presents the responses of Samoan people, and men in particular, to death and grieving experiences. What seems to be missing from the literature I reviewed is the way in which grief is addressed collectively. How people draw together in order to support one another in the form of material resourcing required during such times, as well as helping each other to cope emotionally with such adversity. Much of the psychological approaches to grief recovery are predominantly western in orientation and practice despite wider acknowledgment that death and mourning is a culturally embedded process.

In the New Zealand context, grief work must consider cultural and community-based knowledge that is helpful to Samoan men and their families, when dealing with



losing a family member to death, in culturally sensitive ways. Over many years of observing and participating in death and funeral culture, it would seem that Samoan people have mastered the art of addressing death's presence with poise and elegance that elevates such occasions publicly to honour their ancestors, the deceased person, and their living relatives in the same occasion.

However, underneath this public exterior and performance is the concern of its 'actual' cost, financially and emotionally, to those who are left behind. In past times, customs and traditional practices associated with funerals were meant to provide relief (financially and emotionally), and do justice to the family and person deceased in terms of dignifying the memory and legacy of the deceased. However, current Samoan funerals practices have become elaborate, expensive and stressful, and as a result, families are often left with financial debts associated with funeral expenses. Worse, residual feelings of resentment after funeral-related fa'alavelave (disruptions) can lead to a state of mental and spiritual exhaustion. The approach to traditional funeral culture must be reappraised.

In many instances, the death of a loved one is experienced as a 'double-blow' to the bereaved due to the emotional turmoil involved with the loss, and the added burden of generating sufficient resources to respond generously. Experiencing this double-blow dichotomy led some to question whether fa'asamoa funeral practices really do provide assistance to griever in their recovery journey. Seeing their parents and extended relatives become stressed by financial commitments, or struggle to supply material resources to enact cultural requirements, has left them questioning the meaning and purpose for maintaining such traditions in the current environment. Such questions are particularly aimed at the financial cost involved with maintaining some of the cultural traditions such as fa'aaloaloga fa'asamoa (traditional Samoan reciprocal exchange).

The continuation of prevailing expectations to front up financially and materially led to some voicing their desire for relief, together with the need to reconsider current situations amongst the many that now live outside of Samoa. This is an urgent situation that needs attention, not only within the family structure, but the church, the village and the country as a whole. This presentation examines and discusses some of the findings from my doctoral research on this topic, raising vital concerns about the way death and mourning culture is enacted and maintained in the current environment.



# Comorbidity of depression with heart disease among adults seen in emergency departments in a large Asian-American and Pacific Islander sample, 2000–2010

**Presenter: Dr Joy K. L. Andrade**

*Dr Joy Andrade MD serves as an Assistant Clinical Professor for the Department of Psychiatry at the John A. Burns School of Medicine, University of Hawai'i. She was born and raised in Kona on Hawai'i island. She has a bachelorette of science in Biology from the University of Hawai'i at Hilo. She earned her medical degree from the John A. Burns School of Medicine, University of Hawai'i and completed her adult and child and adolescent psychiatry training from the University of Hawai'i, Department of Psychiatry. Dr Andrade cares for patients and teaches students and residents on the adult inpatient, emergency room, telepsychiatry and outpatient services at the Queen's Medical Center. Her interests include emergency psychiatry, culture, leadership empowerment, increasing access to mental health for families on the neighbor islands, mental health issues for Hawaiians, and mixed-ethnicity community.*

Co-authors: Vinogiri K. S. Kunasegaran, Professor Eric Hurwitz, Dr Dongmei Li, Professor Deborah A. Goebert, Professor Junji Takeshita

## **Abstract**

### **Background**

Coronary heart disease (CHD) is the leading cause of death in the United States with approximately 450,000 people dying each year from CHD (American Heart Association, 2010). As many as one in two patients with cardiovascular disease suffer from a mental illness. Recent studies suggest mood disorders are the most common (e.g., Katon & Ciechanowski, 2002; Kendall & Watson, 1989). However, relatively minimal research has been done in this area, especially regarding ethnically diverse populations such as Asian Americans, Native Hawaiians, and Pacific Islanders. There are important implications for such research given the potential human toll of the comorbidity of heart disease and depression, and given that the population of Asian Americans, Native Hawaiians, and Pacific Islanders is the fastest-growing in the United States (Census 1990, 2000, 2010).

### **Purpose**

What is/are the questions?

1. Is there an association between depression and heart disease for our ethnically diverse Native Hawaiian, Pacific Islander, and Asian American sample?
2. Is the association stronger for certain ethnic groups compared to other ethnic groups?

What methods were used? This study used a quantitative, epidemiologic methodology that utilized secondary data from virtually all emergency department admissions (N = 562,703) of adult patients in Hawai'i. The emergency room data were obtained from the Hawai'i Health Information Corporation (HHIC) Emergency Department Database. Emergency Department records from January 1, 2000 to December 31, 2010 were utilized for adults (18 years of age and above) with a diagnosis of specific types of heart disease (i.e. heart failure, cardiac arrest, complications of heart, cardiomyopathy, coronary atherosclerosis, acute myocardial infarction, and other ischemic heart diseases) and depression (i.e., major depression, single episode and major depression, recurrent episode, manic depressive episode). Mental health and heart disease diagnoses were coded according to the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). Ethnicity was based on self-report of a single identity. Logistic regression analyses were used to analyze the data.



**Key findings/implications/recommendations**

Heart disease was comorbid with depression among adults admitted to emergency rooms for Hawai'i's ethnically diverse population. The estimated adjusted odds ratio of any heart disease diagnosis with depression for adults under 65 was 2.68 (95% confidence interval = 2.54 to 2.83) and for adults 65 years and over was 4.31 (confidence interval = 3.70 to 5.02). In both age groups, association of heart disease with depression was greatest among Pacific Islanders. Although the temporal relation between the cardiac diseases and depression is unclear, the findings are consistent with recent research showing that heart disease may be predictive of depressive disorders. Limitations of the study include: (1) The hospital data were accessed through the HHIC database, which included 21 of 22 possible health centers, excluding a military hospital. Additionally, one larger urban hospital only provided data for the later years. These exclusions may account for over- or under-reporting of the diagnostic groups as well as in the other socio-demographic characteristic of emergency-room utilization. (2) Ethnicity measures have not been standardized across hospitals only until recently when there was increasing attention to ethno-cultural health disparities. However, categories generally reflect primary ethnic identity and likely represent classifications from the multi-ethnic state of Hawai'i.

In conclusion, there are important prevention, intervention, and policy implications for this overall finding. In addition, special consideration should be given to such efforts regarding Pacific Islanders, given our finding of a stronger association between heart disease and depression for this ethnic group compared to the other ethnic groups included in this investigation.

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# Comorbidity of bipolar disorder and heart disease among adults in Hawai'i

## **Presenter: Dr Gretchen Gavero**

*Dr Gretchen Gavero, DO, serves as an Assistant Clinical Professor and Associate Director of Medical Student Education for the Department of Psychiatry at the John A. Burns School of Medicine, University of Hawai'i. She was born and raised in the Philippines and immigrated to the US as a teenager. She studied Molecular and Cell Biology at the University of California, Berkeley where she also developed passion for community service and activism. She completed her medical training at Touro University College of Osteopathic Medicine in California and her psychiatric residency training at UCSF-Fresno. As an Osteopath, she practices medicine with an integrative philosophy on health and wellness. Dr Gavero cares for patients and teaches students and residents on the adult inpatient and outpatient services at the Queen's Medical Center. Her interests include psychotherapy, self-care and wellness, mindfulness practice, culture, leadership empowerment, minority education, and mental health issues among Filipinos/Asian and Pacific Islander community.*

Co-authors: K. Vinogiri, S. Kunasegaran, Professor Deborah Goebert, Professor Earl Hishinuma, Dr Junji Takeshita, Associate Professor Eric Hurwitz, Dr Dongmei Li

## **Abstract**

### **Background**

The diverse population of Hawai'i provides a unique opportunity to investigate the relationship between heart disease and mental illnesses such as bipolar disorder in various ethnic groups, and develop interventions to address the increasing rates of cardiovascular disease and mental illness in the US and the Pacific Islands as:

- as many as one in two patients with cardiovascular disease suffer from mental illness
- mortality in patients with bipolar disorder is greater compared to the general population
- studies have shown that this may be related to increased prevalence of cardiovascular risk factors in this population, particularly in New Zealand and North America

### **Purpose**

Questions: (1) What are the associations between heart disease and bipolar disorder in the population of Hawai'i? and (2) What are the effects of ethnicity in these comorbidities?

### **Methods**

A quantitative, secondary data analysis was conducted using retrospective emergency room data with cardiac disease from January 1, 2000 to December 31, 2010. These include medical records for adults 18 years of age and above with a diagnosis of specific types of heart disease (heart failure, cardiac arrest, complications of heart, cardiomyopathy, coronary atherosclerosis, acute myocardial infarction, and other ischemic heart diseases) and bipolar disorder. The emergency room data were obtained from Hawai'i Health Information Corporation (HHIC) Emergency Department Database from 21 of 22 acute care hospitals across the state of Hawai'i excluding a military hospital in Oahu. 790,934 total number of patient records were reviewed. Of this population, 562,703 are between the ages 18–64, and 228,231 are 65 years old and above. Measures in the study included: diagnosis of heart disease and bipolar disorder/depression/anxiety, ethnicity, age group, and insurance type. Descriptive analyses and logistic regression were performed using SPSS/PASW v20 and SAS v9.2.



## **Key findings/implications/recommendations**

### *Heart disease with bipolar disorder in various age groups*

In this study, adults age 26–34 years have the highest rate of bipolar disorder (113.6 per 10,000 cases). Adults 55–64 years have the highest rate for cardiac arrest, complications for heart disease, coronary atherosclerosis, acute MI, and other ischemic issues. It is typical for bipolar disorder to be diagnosed in younger populations and heart disease in older populations. As more evidence links these two conditions together, one can posit that some patients diagnosed with bipolar disorder in early adulthood may develop factors that can cause heart disease at a later age. This causality calls for thorough screening for heart disease/risk factors in younger populations with bipolar disorder. In addition, screening should include use of medications that cause co-morbid conditions that predispose to heart disease.

### *Heart disease with bipolar disorder compared to heart disease with depression/anxiety*

The odds ratio of patients with heart disease *and* bipolar disorder are significantly higher than those with depression or anxiety (95% confidence intervals). Among adults below 65 years-old, the odds of having cardiac arrest/heart complications/coronary atherosclerosis *and* bipolar disorder are higher than those with depression or anxiety. Among adults above 65 years old with bipolar disorder, the odds of having heart failure are higher compared to those with depression/anxiety. The nature of bipolar disorder as a disease (i.e., treatment, sequelae of illness) may be unique from other mental illness (i.e., unipolar depression or anxiety). For example, it is common for patients with bipolar disorder to be treated with second-generation antipsychotics to control manic episodes, manage associated psychotic features, or augment antidepressant medications in depressed episodes. These medications are known to cause metabolic syndrome and other related conditions (overweight, dyslipidemia, diabetes mellitus) that increase the risk for heart disease. This calls attention to the importance of regular medical monitoring (i.e., lipids, glucose), encouraging healthy lifestyle, and psychoeducation to minimize the risk for these metabolic side effects.

## **Effects of ethnicity in patients with bipolar disorder and heart disease**

Regardless of the type of heart disease and age group, persons of European descent in Hawai'i were more likely to have bipolar disorder. Given the ethnic diversity in Hawai'i, one may wonder if psychiatric illness such as bipolar disorder is under/mis-diagnosed. Stigma on mental health in non-European population, somatization of psychiatric symptoms (such as those presenting as cardiac symptoms), and barriers on access to health care are among many issues that may contribute to diagnosis and treatment of psychiatric illness and comorbid medical conditions. It remains important to understand cultural factors that may influence attitudes towards mental illness in all ethnic groups in Hawai'i, including: Native Hawaiians, Japanese, Filipinos, Asians, Pacific Islanders. Collaboration between health care providers and community organizations that cater to specific ethnic groups may enhance prevention efforts and awareness on mental health and cardiovascular disease (i.e., health fairs, screenings, physical recreational activities to prevent sedentary lifestyle).

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## Deliberate self-harm and Pacific peoples in New Zealand: Perspectives of key informants

### **Presenter: Mrs Synthia Mairikura Dash**

*Synthia is currently working towards completing a Master in Public Health at the University of Auckland. Her research thesis explores Pacific Island peoples in New Zealand's perception and understanding of deliberate self-harm through key informant interviews. Synthia holds a Postgraduate Diploma and Certificate in Public Health and a Bachelor of Arts in Psychology and Sociology. Since graduating from the University of Auckland in 2007, she has worked on various mental health and alcohol and drugs research projects for a number of health research centres and university institutes including: the Clinical Research and Resource Centre within the Waitemata District Health Board; Massey University – The Illicit Drug Monitoring System Survey; The Clinical Trials Research Unit – the University of Auckland's ADAPT/Memo and Growing up in New Zealand studies. She has more recently held research assistant and project support specialist roles with Te Pou and Le Va. Synthia is of Samoan/European decent, born in Samoa and hails from the villages of Saleaula in Savaii and Vaimoso in Apia. She is a mother of two delightful children, living in Auckland with her husband of Atiuen/Cook Island and European decent.*

### **Abstract**

#### **Background**

Deliberate self-harm (DSH) is a major public health concern in New Zealand because it is associated with suicide and places a significant burden on health care services (Hatcher, Sharon, Collins, 2009; Hawton & Weatherall, 2003). A history of DSH is widely cited in the literature as the strongest and most important predictor for future suicidal behaviours, including both attempted and completed suicide (Beautrais, 2000; Hatcher et al, 2009; Fortune, Seymour, Lambie, 2005; Sornberger et al, 2012).

In New Zealand DSH of young people is reaching epidemic levels (The Health and Well-being of New Zealand Secondary School Students in 2012 Survey). While the findings of this study for Pacific young people is not yet made available, the prevalence of DSH among Pacific adolescent base on the Youth'07 survey, was found to be relatively common with 29% of females and 17% of male students, reported having deliberately harmed themselves in 12 months before the survey was conducted (Helu et al, 2009).

The current research on DSH behaviours of Pacific people (PI) in New Zealand utilises understandings and definitions that are based on Western perspectives. However, evidence suggests that there are “cultural differences in what constitute suicidal behaviour, as well as cultural differences in attitudes toward suicide” (De Leo et al, 2006 cited in Farrelly & Francis, 2009, p182). The literature also indicates that Pacific Island understandings of suicide and mental illness are often different to that of Western views (Beautrais, 2005). The literature indicates that the use of ambiguous and conflicting operational definitions and conceptualisations of DSH among researchers and clinicians has led to profound difficulties in determining accurate DSH prevalence regionally, nationally, and internationally (Lundh, Karim, Quilisch, 2007; De Leo et al, 2006). It has also prevented useful comparison of studies (De Leo et al, 2006) as well as the formulation of effective intervention and prevention strategies (Mc Allister, 2003; Allen, 2007).

#### **Purpose**

Overarching research question: How is deliberate self-harm (DSH) defined, understood and perceived by Pacific Island peoples in New Zealand?



### **Study aims**

This study aimed to explore PI people's understandings and perceptions of DSH behaviours as it occurs within a Pacific Island context among Pacific peoples in New Zealand.

### **Research methods/design**

This exploratory and interpretive qualitative study was guided by the Pacific Indigenous Research Methodological approach, talanoa (Vaiolleti, 2006; Halapua, 2000, 2004, 2005). Sampling approach and data collection: A purposive sampling approach (Creswell, 2007) was used alongside the snowball sampling strategy (Strauss & Corbin, 1998). A total of twenty Pacific mental health professionals/stakeholders in Auckland were invited to take part in the study as key informants, of whom 18 accepted the invitation and subsequently engaged in one-to-one, face-to-face semi-structured talanoa with the researcher at time and location that suited the participant.

Participants were chosen on the premise that they were of Pacific Island decent, held a specialised role in the mental health sector or related sector, are between 18 years to 60 years and over, and are presently residing in Auckland.

### **Key findings/implications/recommendations**

As this study is expected to be completed in December 2014, the researcher will present preliminary findings at the conference. On the whole, it is envisaged that the findings from this study will fill a present and past void in the body of literature on suicidal behaviour of Pacific peoples by providing an understanding and conceptualisation of DSH based on perspectives of Pacific mental health professionals and stakeholders in Auckland. It will also make a contribution in enhancing future research, clinical practice, intervention and prevention strategies to effectively tackle the issue of deliberate self-harm and suicidal behaviours of Pacific populations in New Zealand.

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## Key messages for Pacific suicide prevention

### **Presenters: Dr Jemaima Tiatia-Seath and Ms Eliza Puna**

*Dr Jemaima Tiatia-Seath is a Research Fellow based at the University of Auckland's Pacific Studies – Te Wananga o Te Waipapa, with research interests that include Pacific suicide research and prevention and Pacific youth health and well-being. She completed a HRC Pacific Postdoctoral Fellowship earlier this year – 'Suicide and Samoans: The journey towards prevention' – and is principal investigator for a HRC and Ministry of Health-funded project – 'Suicide prevention for Tongan youth in New Zealand'. Both studies seek to determine the most salient issues regarding suicide and ways of responding to suicide prevention that are relevant for these populations; advancing ethnic-specific approaches for Pacific suicide prevention; addressing gaps in the field of suicidology and mental health in general; and raising awareness of youth suicide amongst Pacific communities.*

*Ms Eliza Puna is a Cook Islander based at the University of Auckland's Pacific Studies – Te Wananga o Te Waipapa. Before commencing doctoral studies she completed a Master's of Public Health with the School of Population Health, Faculty of Medical and Health Sciences within the University of Auckland. Eliza's Master's thesis examined New Zealand-born Cook Island young people's views towards positive mental well-being and suicide prevention. Her doctoral study will be looking to build on her thesis by undertaking a comparative study with Cook Islands-born Cook Islands young people. This study aims to progressively contribute to the long-term goal of improving mental well-being and suicidal behaviours amongst young Cook Islands people using a strengths-based approach.*

### **Abstract**

#### **Background**

Almost one million people worldwide, and approximately 500 New Zealanders, die by suicide each year. (Ministry of Health, 2013). In 2011, there were 24 suicides among Pacific peoples (15 males and 9 females) in New Zealand. In the same year, there were 96 intentional self-harm hospitalisations. There is growing concern that suicide is increasing among Pacific communities.

Although it appears suicides for Pacific peoples in New Zealand occur at a lower rate in comparison to the population as whole, evidence shows that Pacific peoples have higher rates of suicidal thought, suicide plans and suicide attempts than all other ethnic groups in this country. Pacific peoples in fact reported a 12 month prevalence of suicide attempts that is three times the rate of the general New Zealand population (Oakley Browne M, Wells JE, & Scott KM, 2006).

Suicide is a cultural occurrence, yet there continues to be a lack of research and suicide prevention strategies with any Pacific cultural relevancy. Mainstream approaches to suicide prevention for Pacific communities are ineffective on their own (Ministry of Health, 2013). What we do know about Pacific youth suicide derives from the majority culture with theoretical assumptions that understandings are universal. Thus, despite a plethora of New Zealand and international suicide research, there continues to be deficiencies in Pacific focused evidence (Associate Minister of Health, 2006).

#### **Purpose**

Recently, two qualitative studies have been completed endeavouring to build an evidence base for Pacific suicide prevention. Both studies examined risk and protective factors



identified by Samoan and Cook Islands study participants. Their voices form the basis in ways forward to establishing effective, relevant and appropriate suicide prevention for Pacific communities.

Study A was funded by the Health Research Council of New Zealand as part of a Pacific Health Postdoctoral Fellowship – ‘Samoan suicide: The journey towards prevention’ – and examined the views of Samoans enrolled in a mental health service (18+ years) who had attempted suicide and/or had thought about suicide (n=22). Study A recruitment involved the assistance of mental health services (CMDHB’s Faleola, The Cottage and the Intensive Clinical Team and ADHB’s Lotofale) who identified Samoans who had attempted suicide or thought about it. Participants were initially approached by service providers, who then invited them to participate and to seek their consent to be contacted by the principal investigator. Once consent had been obtained, contact was made by the principal investigator who, explained the study aims, and obtained full written consent to participate.

Study B was a Master of Public Health research project and involved the examination of New Zealand-born Cook Islands youth (n=21 ) with the objective of building a knowledge base to improving mental well-being and suicidal behaviours amongst Cook Islands youth in New Zealand, particularly by promoting positive aspects in their lives. Recruitment was made initially through the principal investigator’s personal and professional networks. All New Zealand-born Cook Islands youth were recruited through churches, social networking sites, Cook Islands health networks, and the University of Auckland Cook Islands group.

Advertisements were distributed to youth leaders in churches with a high concentration of Cook Islands youth. The churches targeted were mainly those within the South Auckland area, notably Mangere and Otara. The principal investigator created a Facebook research group page that was open to the public and added friends to the group, who in turn added their friends, thus creating a snowballing effect. Twitter was also used to assist with recruitment.

Both studies involved a one off in-depth interview either by telephone or face-to-face by the principal investigators.

### **Key findings/implications/recommendations**

Both studies suggest that identity, culture, family and spirituality, play a vital part in promoting positive mental well-being and suicide prevention for Samoan and Cook Islands communities. Study B results indicate that effective suicide prevention catering to the Cook Islands community, particularly the youth, needs supportive environments (family, school and social settings). Both studies also found that there needs to be ways in which stigma associated to mental illness is reduced and more development of educational resources promoting positive mental health and specific suicide prevention strategies that are Pacific focused. Both studies recommend that both Samoan and Cook Islands specific initiatives should aim at finding ways to strengthen supportive family relationships, to encourage and affirm parenting and to build strong communication within families.

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## Pasifika suicide prevention programme

### **Presenter: Abba Fidow**

*Abba joined the Le Va team in 2013, and worked in the disability (Faiva Ora implementation) and public health (Pacific public health plan) areas. Abba was born in Christchurch and he has degrees in Commerce and Arts (Honours in Political Science). Abba worked for the Ministry of Pacific Island Affairs and the Ministry of Social Development, but moved to Auckland in 2007 to manage strategy, policy and engagement teams within Auckland City Council, and then Auckland Council. At the council, he authored a chapter in The Auckland Plan, developed community and cultural strategies and policies, and led the establishment, and ongoing strategic management of a number of strategic advisory panels, including the council's Pacific People's Advisory Panel. Abba is Samoan, from the villages of Gagaifoolevao and Togafuafua in Upolu. He is married to Jacinta, and have three young boys that keep him busy but extremely happy.*

Co-authors: Dr Monique Faleafa, Pauline Taufua, Jay Williams, Dr Gerhard Sundborn

### **Abstract**

#### **Background**

Every year approximately 500 New Zealanders take their own lives by suicide. Pasifika peoples are disproportionately represented in these statistics. There is also growing concern that suicidal behaviour is increasing in Pasifika communities in New Zealand. Pasifika peoples have higher rates of suicidal ideation, suicide plans and suicide attempts than all other ethnic groups in New Zealand. In fact, Pasifika peoples have a 12-month prevalence of suicide attempts that is three times the rate of the general population. The Ministry of Health's New Zealand Suicide Prevention Strategy 2006–2016 guides cross-government suicide prevention efforts, and recognises that suicide deaths and instances of intentional self-harm are preventable. In January 2014, Te Rau Matatini and Le Va entered into a strategic relationship to deliver Waka Hourua: National Suicide Prevention Programme for Māori and Pasifika Communities on behalf of the Ministry of Health.

#### **Purpose/context**

The purpose of this paper is to describe the first Pasifika Suicide Prevention Programme for our Pasifika families and communities.

The goal of Waka Hourua is to ensure that families, whānau, hapū, iwi and communities have the capacity, capability and support to prevent suicide, and reduce the impact of suicide by:

- building the capacity and capability of Māori whānau, hapū, iwi, Pacific families and communities, to prevent suicide and to respond safely and effectively when and if suicide occurs
- ensuring that culturally relevant education and training are available to Māori whānau, hapū, iwi, Pacific families and communities that focus on building resilience and leadership
- building the evidence base of what works for Māori whānau, hapū, iwi, Pacific families and communities to prevent suicide, through research carried out by, with and for these groups



- building the leadership for suicide prevention.

Te Rau Matatini and Le Va are approaching this through:

- a national voice for Māori and Pacific suicide prevention through the formation of a National Leadership Group
- a national coordination centre for Pacific Community Suicide Prevention

This centre will lead the development and implementation of effective, culturally appropriate, prevention and postvention resources and training to Pacific provider networks and their communities, and will develop targeted initiatives for identified at-risk groups.

A national coordination centre for Māori Community Suicide Prevention. This programme will foster local leadership, and build their capacity and capability to lead the development and implementation of whole-of-community suicide prevention plans:

- a Strategic Research Agenda and one-off funding pool to build an evidence base of effective practices for Māori and Pacific communities, and
- a \$2 million community fund to support communities to design their own suicide prevention and postvention approaches

### **Pasifika suicide prevention programme**

Le Va leads the Pacific community programme, manages Pacific funding stream of the community fund (\$475k), collaborates and supports the Research Fund (monitoring Pacific research), and has strategic oversight and partnership with the national leadership programme.

### **Key findings/implications/recommendations**

Le Va's national suicide prevention centre (hub) for Pasifika communities links in with communities, families and organisations so that multiple groups are contributing to building resilient and flourishing families at multiple levels across New Zealand in a coordinated way. The Pacific programme consists of four streams that are interconnected and interdependent:

1. **ENGAGE:** Community engagement and awareness raising to enhance understanding of suicide and suicide prevention and build the capacity and capability of Pacific families and communities, to prevent suicide and to respond safely and effectively when and if suicide occurs.
2. **INFORM:** Undertaking analysis and supporting research to build knowledge and evidence base for Pasifika suicide prevention and inform the Pasifika programme development.
3. **EQUIP:** Developing appropriate resources and effective training for those people working with or connected to Pacific communities in New Zealand that focuses on building resilience and leadership in suicide prevention.
4. **LEAD:** A national suicide prevention centre (Hub) for Pasifika communities that will provide a clearinghouse of Pacific resources, information and tools and grow and promote leadership for Pasifika suicide prevention.

In this presentation some of the more novel initiatives that comprise the Pasifika Suicide Prevention Programme will be described and presented in more detail.







## Session 9

# **Non-Communicable Diseases**



## Community health worker behavioral intervention to improve diabetes management in American Samoa

**Presenter: Professor Stephen T. McGarvey**

*Stephen McGarvey is the Director of the International Health Institute and Professor of Epidemiology in the School of Public Health, and Professor of Anthropology at Brown University. Professor McGarvey earned a PhD in Anthropology from Pennsylvania State University in 1980, and a MPH in Epidemiology from Yale University in 1984. He is concerned with issues of human population biology and global health, specifically modernization-related induced socio-economic and behavioral changes, genetic and environmental influences on obesity and cardiovascular disease risk factor, tropical parasitology and child nutritional status and health, and environmental issues. His research involves developing-world countries such as Samoa, American Samoa, South Africa, Kenya and the Philippines. He is an elected Fellow of the American Association for the Advancement of Science, and on the editorial board of the American Journal of Human Biology.*

Co-authors: Professor Judith DePue, Dr John Tuitele, Dr Rochelle Rosen, Dr Shira Dunsiger

### **Abstract**

#### **Purpose**

What is/are the question/s? Does a community health worker intervention improve diabetes control and management among American Samoans with type 2 diabetes? Does it affect health system utilization in ways that are desirable? The purpose of this paper is to present the process and outcome evaluations of a randomized trial of a behavioral intervention delivered by community health workers (CHWs) to evaluate the effectiveness of a culturally adapted, primary-care based intervention to support diabetes self-management on diabetes control.

#### **Methods**

We conducted qualitative research with diabetes patients and providers to understand their experiences with diabetes, used key themes and approaches to develop a CHW behavioral intervention and received more feedback on the intervention before finalizing it. We then recruited 268 Samoan participants with type 2 diabetes from a community health center in American Samoa and randomly assigned the participants by village clusters to the nurse-CHW team intervention, or to a wait-list control group that received usual care. The intervention was for one year. Home visits were done by the CHWs. We measured HbA1c, glycosolated hemoglobin, blood pressure and assessed diet and physical activity with standardized questionnaires at baseline and the one-year follow-up. We abstracted medical charts for the participants and recorded all health care episodes in the year prior to the intervention and the year during the intervention.

#### **Key findings/implications/recommendations**

The participants averaged 55 years of age, 62% were female, average education was 12.5 years and 41% were employed. Mean glycosolated hemoglobin (HbA1c) was 9.8% at baseline. One year after the baseline mean HbA1c was significantly lower among the CHW group after adjusting for confounders ( $p = 0.03$ ). The odds of making a clinically significant improvement in HbA1c, of at least 0.5%, in CHW group was twice the odds in the usual care group, after controlling for confounders ( $p=0.05$ ). Over 90% of all participants were studied at baseline and follow-up. In the intervention group ( $n=104$ ), 74% of planned intervention visits occurred, guided by an algorithm-based protocol. Higher risk participants had a significantly lower dose of their weekly assigned visits (66%), than those



at moderate (74%) and lower risk (90%). Twenty-eight percent of participants moved to a lower risk group over the year. Health care utilization changed during the intervention year, characterized by a significant increase in primary care visits in the CHW group compared to the usual care group, and a decrease in emergency department (ED) visits among the CHW group among those who had high ED use in the prior year.

Cost-effectiveness estimates indicate the intervention was highly cost-effective and suggests such outreach worker or CHW programs should be more widely adopted. Mediation analysis of the behavior changes made by the CHW group strongly indicates that improving adherence to diabetes medications, and reducing the proportion of calories from dietary fat were significant contributors to the reduced HbA1c levels.

In conclusion, a culturally adapted nurse-CHW team intervention was able to significantly improve diabetes control in the American Samoa. This represents an important translation of an evidence-based model to a high risk population and a resource-poor setting. A nurse/CHW team can deliver a culturally adapted diabetes self-management support intervention with excellent fidelity to the algorithm-based protocols. The team accommodated participants' needs by meeting them whenever and wherever they could. This study provides an example of adaptation of an evidence-based model to the Samoan cultural context and its resource-poor setting.



## **“Mate ni kawa – Our parents have it, so will we!” Using participatory approach to examine diabetes of Pasifika women**

**Presenters: Ms Heena Akbar, Ms Wynn Te Kani, Ms Salome Swan and Ms Malotuto'atasi Vaimoso Semaia**

*Pasifika Women's Alliance Incorporated (PWA) is a culturally diverse community group consisting of women who have migrated to Australia from the Pacific Islands. PWA was formed in April 2013 and has over 300 members in Queensland. Aims of PWA include providing a voice on women's issues to the government for Pacific Island women in Queensland; supporting women to be better leaders in the wider community; promoting healthier and stronger families and maintaining the diverse cultural heritage of Pacific Islanders for future generations. PWA has collaborated with the Queensland University of Technology (QUT) through a PWA member and PhD student, Heena Akbar, to promote awareness of diabetes and its management. Heena's research topic is 'Social and cultural context of managing type 2 diabetes of Pacific Islander women living in Queensland, Australia'. She hopes that her research will help Pacific Islander women to be better informed about diabetes management. The conference topic “Mate ni kawa -our parents have it, so will we !” Using participatory approach to examine diabetes of Pasifika women, is presented by Heena Akbar, Aunty Wynn Te Kani, Salome Swan and Malotuto'atasi Vaimoso Semaia.*

Co-author: Pasifika Women's Alliance (PWA) Incorporated

### **Abstract Background**

Type 2 diabetes is an important public health priority for Pacific Islander communities in Queensland (Queensland Health, 2011). Disparities exist in diabetes prevalence and health outcomes of Pacific Islander (PI) migrants, particularly for women who are three to four times more likely to die from type 2 diabetes (AIHW, 2012). Despite growing evidence that Pacific Islanders face a higher burden of mortality and morbidity in Queensland (Queensland Health, 2011), data on diabetes prevention and management are not readily available. Very little is understood about diabetes and other chronic conditions and its impact on people from Pacific Island communities. This has significant implications for health care costs and resources to provide culturally appropriate diabetes care.

This paper describes the participatory action research (PAR) and community engagement processes used with the Pacific Women's Alliance (PWA) to identify issues surrounding diabetes for Pacific Island women living in Queensland. A Pacific Women's Diabetes Health Community Forum was hosted by PWA and Queensland University of Technology in a collaborative effort to address the concerns and needs of type 2 diabetes of PI women and their communities.

The forum had two purposes (1) to undertake research within a community setting, and (2) to promote diabetes awareness in the community. The research component included a diabetes health survey and focus group discussions. To ensure research was in-line with community aspirations, the aim of the community forum was to provide information in a culturally safe environment on 'diabetes prevention and management, nutrition and history of Pacific women'; provide 'space' for women to share their stories; and undertake health checks to promote awareness on screening for diabetes.



## **Purpose**

What is the question?

What social and cultural factors influence self-management of type 2 diabetes of Pacific Island women living in Queensland?

What methods were used?

This case study uses a PAR and mixed methods approach to (1) inform community engagement processes of building an ongoing relationship with Pacific Island communities and (2) to explore social and cultural context of diabetes self-care behaviours of PI women with diabetes.

The community participatory methods included key stakeholder interviews with community and religious leaders, health providers and government representatives working with Pacific Islander communities to identify key issues related to support and barriers to diabetes prevention and management for women from the Pacific Island communities. A PWA working steering committee was established to liaise with community members, develop and implement the initiative.

The 25 item health survey collected information on demographics, diet, physical activity and diabetes management to examine health and diabetes needs of Pacific Island women. Focus group discussions aimed at eliciting community perceptions about diabetes, beliefs surrounding diabetes and its management practices and facilitators and barriers to self-management for women with type 2 diabetes in their communities. The key informant interviews and literature review provided basis for developing focus group schedule (facilitator's guide) reviewed by the steering committee members.

## **Key findings/implications/recommendations**

Between the period January–August 2013, 21 key stakeholder interviews were undertaken and total of 50 women from various Pacific Island communities resident in Queensland attended the forum. The findings of PAR analysis indicated that there were major issues of diet, nutrition, self-management principles, women's and carers' roles, confidence with the health system and self-seeking behaviour for Pacific Islander women. Diabetes were attributed to being overweight, poor diet and nutrition, lifestyle habits and limited health knowledge. A number of social, cultural, language and economic barriers prevented women from accessing appropriate diabetes self-care support and diabetes management programmes. In addition, a need to develop culturally translated diabetes and health promotion resources for specific Pacific Islander community groups and more systematic research and community-based approaches to develop strategies to improve the health of Pacific Islander women in Queensland were recommended.

The participatory nature of this forum contributes to community ownership of research, raises community awareness and promotes a commitment to better prevention and management of chronic diseases aimed at improving care and quality of life for Pacific Islander communities. The findings will be used to develop culturally tailored support health promotion materials/programmes and a validated culturally relevant questionnaire to measure diabetes self-management behaviours for Pacific Islander women in Queensland.

## **Key references**

- Australian Institute of Health and Welfare. (2012). Australia's Health no. 13. Cat. Number Aus 156. Australian Institute of Health and Welfare, Canberra.
- Queensland Health. (2011). Queensland Health's Response to Pacific Islander and Māori health needs assessment. Brisbane: State of Queensland, Queensland Health.



## Promising solutions for non-communicable diseases affecting Pacific women and families

**Presenter: Kay A. Strawder**

*Kay A. Strawder is the Regional Women's Health Coordinator for the Region IX Office on Women's Health (OWH), U.S. Department of Health and Human Services. This region covers Arizona, California, Hawai'i, Nevada, and six Pacific Island jurisdictions: American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Republic of the Marshall Islands and Republic of Palau. A native of Oakland, California, she holds an undergraduate degree in English from California Lutheran College, a master's degree in Social Welfare from the State University of New York at Stony Brook, a certificate in Advanced Health Care Administration from George Washington University and a Doctor of Jurisprudence from the University of California Hastings College of the Law. Kay has studied international law at the University of Exeter in England. For more than 25 years, she has worked in diverse federal public health programs such as community and migrant health centers, the National Health Service Corps, medical education, emergency medical services, international health, and health services research.*

Co-authors: Captain John Walmsley, Christina Perez

### **Abstract**

#### **Background**

In 2010, the Pacific Island Health Officers Association (PIHOA) declared a Regional State of Health Emergency due to the epidemic of non-communicable diseases (NCDs) in the US-Affiliated Pacific Islands (USAPI). This project describes an aspect of the USAPI public health response to this crisis.

As part of the US Department of Health and Human Services 'Agency Plan for the White House Initiative on Asian Americans and Pacific Islanders' (January 2011), the purpose of this project was to catalog promising practices addressing NCD risk factors that were being implemented in the USAPI. Promising practices include activities, initiatives, campaigns, programs, policies and legislation that address the major risk factors: tobacco use, binge drinking, physical inactivity, and unhealthy eating.

We engaged in a labor-intensive environmental scan including web searches, 'cold' calls and literature searches, referrals from regional programs and partners, and email correspondence from the summer of 2011 through early 2012. Sources of information included USAPI public health departments/ministries of health, substance abuse and mental health departments, non-governmental organizations, coalitions, community organizations, women's groups, jurisdictional offices of minority health, grant management entities, etc. Respondents included public health officials, health providers such as nurses, doctors, nutritionists, and physical therapists, community organizers, program managers, community leaders, and researchers. Challenges to catalog compilation process include cultural and time zone differences as well as USAPI communications infrastructure.

Main promising practice themes include combining policy interventions with individual behavioral interventions to have a greater impact on NCD outcomes; formation of coalitions and partnerships to maximize resources and impact; thoughtful adaptation of best practices and evidence-based models to cultural and geographic context; and imaginative solutions to improving health education and awareness outreach.



This non-traditional research project reveals new information about 308 innovative promising practices and how they have been adopted, adapted, and implemented in ways which promote cultural values, gender roles and expectations, etc. in the USAPI. The catalogue can help inform strategic plans, policy, advocacy efforts, and program implementation.



## How do Pacific patients with acute coronary syndrome in New Zealand compare with other patients?

### **Presenter: Dr Corina Grey**

*Dr Corina Grey is of Samoan descent. She is a public health physician and recipient of a HRC Pacific Health Research Fellowship. Corina is currently working towards a PhD at the School of Population Health, the University of Auckland. Her doctoral research forms part of the Vascular Informatics using Epidemiology and the Web (VIEW) programme, a HRC-funded programme which aims, among other things, to investigate and reduce inequalities in the burden of cardiovascular disease. Corina's research is focused on acute coronary syndromes (ACS), which include heart attacks and unstable angina. In particular, she is interested in whether there are differences in the incidence, mortality and treatment of ACS by ethnicity and/or socio-economic status. Today she will present some of these findings in relation to the Pacific population in New Zealand.*

Co-author: Professor Rod Jackson, Dr Sue Wells, Dr Dan Exeter, Dr Andrew Kerr

### **Abstract**

#### **Purpose**

Cardiovascular disease is the leading cause of death in New Zealand, and Pacific and Māori people are disproportionately affected. Acute coronary syndrome (ACS) describes a spectrum of potentially life-threatening cardiovascular conditions that include unstable angina and myocardial infarction (heart attacks). To date, no studies have systematically examined the epidemiology of ACS, nor focused on differences in outcome by ethnicity, in New Zealand.

Using linkage of national health and mortality data, our aim was to compare the comorbidity profiles, management and outcomes of Pacific, Māori and Other patients with ACS. Specifically, our objectives were:

1. to assess the level of comorbidity among ACS patients
2. to calculate 28-day and one-year case fatality following an ACS
3. to examine the adequacy of statin use up to three years after an ACS

#### **Key findings**

Each year there are between 14,000 and 15,000 ACS hospitalisations in New Zealand. Of these hospitalisations, approximately four per cent are among Pacific people and 11 per cent among Māori. Pacific and Māori patients are, on average, seven years younger than patients from other ethnic groups, and Pacific patients are more likely to be diagnosed with a myocardial infarction, rather than unstable angina, which is considered to be at the more severe end of the ACS spectrum.

In terms of health status at the time of admission, Pacific and Māori patients tend to have a greater number and/or more severe comorbid conditions (diseases that exist in addition to ACS) than patients from other ethnic groups. Using the Charlson Comorbidity Index, a widely-used and well-validated comorbidity measure, 33% of Pacific patients, 30% of Māori patients and 19% of non-Māori non-Pacific patients are classified as having a 'very severe' comorbidity burden. In particular, Pacific and Māori patients with ACS have higher rates of previous hospitalisation for conditions such as congestive heart failure, chronic lung disease, diabetes with end-organ damage and renal failure.

In spite of these higher health needs, Pacific and Māori patients are less likely to be on



long-term drug therapy after an ACS. According to national Cardiovascular Management Guidelines, statin (cholesterol-lowering) therapy should be given to all people following an ACS. However, according to an analysis of New Zealand's pharmaceutical dispensing database, only five in ten Pacific and Māori patients, compared to seven in ten non-Māori non-Pacific patients, are receiving statins up to three years after an ACS hospitalisation. After adjusting for factors such as age, gender, diagnosis and cardiovascular history, Pacific people are 18%, and Māori 12%, less likely to be using statins after an ACS.

Following an ACS hospitalisation, Pacific and Māori patients are at increased risk of death in both the short- (28-day) and long- (one-year) term. After adjusting for age, gender, deprivation, diagnosis and cardiovascular history, Pacific people are 30%, and Māori 60%, more likely than other patients to die within 28 days of hospitalisation. After one year, both Pacific and Māori patients have twice the risk of non-Māori non-Pacific patients of dying after an ACS hospitalisation.

### **Implications/recommendations**

Our findings indicate that there are significant ethnic differences in the profile of ACS patients in New Zealand. Compared to non-Māori non-Pacific patients with ACS, Pacific and Māori patients are more likely to already be suffering from other serious medical conditions; they are less likely to receive evidence-based treatment in the long term; and they are more likely to die following hospitalisation.

Concerted efforts and targeted approaches are needed to reduce the prevalence of risk factors such as smoking and obesity in Pacific and Māori populations, as these not only increase the risk of ACS, but contribute to the development of other conditions, such as chronic lung disease and diabetes, which will also increase the risk of a poor outcome following an ACS. Interventions to increase the use of evidence-based treatments, such as statins, among Pacific and Māori patients are also needed. Such interventions will need to be multi-pronged, and include raising awareness among health professionals to increase prescribing of medications, culturally appropriate strategies to increase patients' understanding of the importance of treatment, and reducing or removing prescription dispensing fees for those with chronic illness.

### **Key references**

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## Kūkulu Ola: Native Hawaiian health and traditional Hawaiian healing

### **Presenters: Ms Kealoha Fox and Mr Keola Chan**

*As Ka Pou Kāko'o Nui of the Office of Hawaiian Affairs (OHA) a semi-autonomous state agency in Hawai'i, Kealoha is responsible for the executive management of OHA's initiatives for Maui Ola (Health and Well-being) of Native Hawaiians. Kealoha fulfills her current role by providing resources, advocating for Native Hawaiians, and facilitating collaboration for OHA to fulfill its vision to raise a beloved nation as kānaka 'ōiwi. With an educational and professional background in clinical health and research, Kealoha's skill set is multi-theoretical and interdisciplinary. She holds a master's degree in Clinical Psychology and is currently completing her doctoral degree in Clinical Research and Biomedical Science at the University of Hawai'i John A. Burns School of Medicine. Kealoha has a passion for traditional Hawaiian healing and supports cultural integration of those ancient practices and beliefs to build the resilience of our community, families, and individuals. She is a proud mother to her 10 month-old son, La'ikū Kahiluonālani. Kealoha is of Native Hawaiian ancestry. Her family is from Waikapū, Maui, Hawai'i*

*As the Ka Pou Nui of 'Aha Kāne: Foundation for the Advancement of Native Hawaiian Males, Keola Kawai'ula'ilihai Chan is in charge of the executive direction of this statewide non-profit organization in Hawai'i. He is responsible for providing wellness conferences, program services, and leadership training to empower kāne (males) to connect with culture, traditional practices, and kuleana. In 2002 Keola envisioned and founded Hui Maui Ola as an avenue to address the health and wellness of the Native Hawaiian people. As Executive Director from 2002 to 2013, his approach was unique and unforeseen in addressing the self-determination of a marginalized people through the means of traditional healing. Studying for years under expert traditional Hawaiian healers, Keola has built his knowledge in lomilomi, ho'oponopono, lā'au lapa'au, lā'au kahea, hula, 'oli, and 'ai pono. He began teaching on his own and has since graduated two cohorts of students in the past several years. Keola is of Native Hawaiian ancestry from Papakōlea, O'ahu, Hawai'i. He is the proud father to four young children. His community involvement includes serving as a leader for Hale Mua o Kualii.*

### **Abstract**

#### **Background**

In 2002, the growing threat identified in developing countries throughout the world was that 46% of all deaths resulted from chronic disease. It's estimated that by 2030 that figure will increase to 59% equivalent to more than 37 million lives a year. These statistics reach into all regions of the world and are the major killers in low-income countries (Stuckler, 2008). Among Native Hawaiians/Pacific Islanders the leading causes of death include: cancer, heart disease, unintentional injuries (accidents), stroke and diabetes. Research shows that Native Hawaiians are among the highest ranking ethnic groups in relation to obesity (44%); diabetes (13%); and cardiovascular disease (4.6%). This indicates that the prevalence of obesity and diabetes is 17% and 6%, respectively, in the general Hawai'i population; 11% and 5%, respectively, in Japanese-Americans; and 18% and 5%, respectively, in Whites (Balabis et al., 2007). According to the Office of Minority Health, in Hawai'i, Native Hawaiians are more than 5.7 times more likely than Whites to die from diabetes. "The leading underlying cause for deaths with diabetes listed as the contributing cause is cardiovascular disease" (2004, p. 91). In addition Native Hawaiians/Pacific Islanders also have higher rates of smoking, alcohol consumption, and obesity contributing to CVD (Office of Minority Health and Health Disparities, 2010). The State of Hawai'i has one of the lowest obesity rates (21.2%) in the United States, but 39.8% of



Native Hawaiian adults are obese. This is higher than the rate for any other ethnic group in Hawai'i (HBRFSS, 2011). The physical health of a population can influence its ability to learn, develop skills, and make informed choices (Kana'iaupuni, Malone, & Ishibashi, 2005). In a national survey, 11% of Native Hawaiians/Pacific Islander adults rate their health as fair or poor (The Henry J. Kaiser Family Foundation, 2008). To address chronic disease, its associated risk factors, and the health needs of our Native Hawaiians, innovative and broad solutions are necessary at all levels of interaction.

### **Purpose**

The purpose of this presentation is to provide a comprehensive cultural review and analysis of specific data pertaining to Native Hawaiians accessing health opportunities through three pathways: conventional, traditional, and integrated. In particular, improving acculturation and enhancing cultural exchanges across the Pacific are incorporated as part of our processes. In addition to including international, national, and state-level research on the contemporary profile of Native Hawaiians and chronic disease rates, specifically disproportionate rates in kāne (males), this oral presentation explores traditional cultural strengths that historically contributed to the vitality of a thriving kānaka 'ōiwi (Native Hawaiian) nation and also examines chronological challenges that have negatively affected Native Hawaiian well-being.

In order to build a collaborative system that addresses Native Hawaiian health in ways that allow individuals to maintain wellness and succeed, health must be conceptualized as a function of the family and community. While acknowledging the need to build supportive practices in communities, there is a need to integrate quality health opportunities state-wide, nationally, and internationally. Current data exhibits that contemporary care practices do not adequately address the health concerns of all populations, as indicated by rising chronic disease rates and poor health maintenance among Native Hawaiians. The current condition of Native Hawaiian wellness with respect to chronic disease prevalence suggests a need for greater availability of programs, as well as culturally appropriate program content regarding prevention and maintenance oriented program content.

This session will provide the audience with traditional health solutions documented through research and practice with kānaka 'ōiwi in Ka Pae 'Āina Hawai'i. This session provides the Office of Hawaiian Affairs & 'Aha Kāne with a significant opportunity to provide recommendations for various stakeholders at multiple levels: advocates, policy makers, philanthropic leaders, researchers, and students who are interested in exploring traditional Hawaiian healing strengths to develop strategies for culturally founded interventions of promising practice to address the health challenges of Pacific communities globally. The Kūkulu Ola: Native Hawaiian Health and Traditional Hawaiian Healing presentation concludes with a discussion of current initiatives and promising practices, as well as general and specific recommendations that the conference participants may consider for policy, programmatic, and partnership implementation.

### **Key references**

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# Differences in leisure, transportation, and total walking by gender and educational attainment among Pacific Islanders and non-Pacific Islanders

**Presenter: Ms N. Kau'i Baumhofer**

*Kau'i Baumhofer is currently a third-year doctoral student in the Department of Social and Behavioral Sciences at the Harvard School of Public Health in Boston, Massachusetts. Her research has primarily focused on the social, environmental, and behavioral determinants of obesity among Native Hawaiians and other Pacific Islanders. Most recently, she has worked on research projects assessing the cost-effectiveness of childhood obesity prevention interventions and addressing American Indian infant mortality in Michigan by addressing policies and practices of the Michigan Department of Community Health. Driven by a Master's of Arts in Pacific Islands Studies from the University of Hawai'i and a Master's of Public Health in Health Behavior and Health Education, she is committed to reducing disparities in Pacific Islander obesity disparities through social justice, community change, and environmental modification.*

Co-author: Professor David R. Williams

## **Abstract**

### **Background**

Pacific Islanders (PI) in the United States are 1.24 times more likely to have not met both aerobic and muscle-strengthening guidelines compared to non-Hispanic whites and are 1.4 times more likely to be overweight and 1.3 times more likely to be obese than non-Hispanic whites (Centers for Disease Control, 2012). While 30.2% of non-Hispanic whites report being physically inactive, 53.8% of PIs report being inactive (CDC, 2012). In national data for the US, women are more likely to be physically inactive compared to men and individuals with a high school diploma, GED, or less education are more likely to be inactive compared to those with some college education or more (Centers for Disease Control, 2012). Currently, we do not know if these patterns apply to PIs. Previous literature suggests that walking, especially for transportation, significantly contributes to overall physical activity (Audrey, Procter, Cooper; 2014). Adequate physical activity is associated with multiple positive health outcomes: healthy BMI, decreased cardiovascular disease, decreased diabetes, decreased cancer, among many others. Encouraging PIs to engage in more physical activity would improve health. However, there is little literature describing how physical activity levels for PIs are changing over time or how gender and educational attainment affect patterns of physical activity within this population.

### **Purpose**

This analysis explores differences in leisure, transportation, and total walking among Pacific Islanders and non-Pacific Islanders residing in California. Differences in walking by gender and education among Pacific Islanders was also assessed. A secondary data analysis was performed using observations from a total of 175,613 individuals from the 2003, 2005, 2009, and 2011 California Health Interview Survey (CHIS). CHIS is a biennial cross-sectional survey of approximately 50,000 California adults contacted via random landline and cellphone digit dialing (UCLA; no date).

### **Key findings/implications/recommendations**

The total population included 767 (0.42%) Pacific Islanders and 174,846 (99.58%) non-Pacific Islanders. The mean age of Pacific Islanders was 42.96 (S.D. 16.91) years with 43.02% males, and 22.88% (S.D. 0.42) current smokers. 41.98% had obtained a high school diploma, GED, or less, 34.29% received an associate's degree, attended vocational school, or



some college, and 23.73% received a bachelor's degree or higher.

The mean age of non-Pacific Islanders was 52.72 (S.D. 17.66) years with 41.12% males, and 13.24% (S.D. 0.33) current smokers. 34.20% had obtained a high school diploma, GED, or less, 27.42% received an associate's degree, attended vocational school, or some college, and 38.38% received a bachelor's degree or higher. Educational attainment, age, and current smoking status were significantly different between the two groups at the  $\alpha=0.05$  level. Age and current smoking status were included as control variables in all models to avoid confounding. Pacific Islanders walked more per week ( $p<0.0001$ ) overall compared to non-Pacific Islanders and walked significantly more each year ( $p<0.0001$ ). Among Pacific Islanders, men walked more than women ( $p=0.049$ ), but there were no differences between individuals of different educational attainment categories in overall walking ( $p=0.801$ ). No significant differences in leisure walking were observed between Pacific Islanders and non-Pacific Islanders ( $p=0.668$ ), but walking for leisure did increase every year ( $p<0.0001$ ). Among Pacific Islanders, no differences in leisure walking were observed between genders ( $p=0.804$ ) or by educational attainment ( $p=0.126$ ). Walking for transportation was significantly higher among Pacific Islanders ( $p=0.007$ ) and increased significantly every year ( $p=0.043$ ). Pacific Islander men walked more for transportation each week ( $p=0.024$ ) compared to Pacific Islander women, but no differences in transportation walking were observed between individuals with different education levels ( $p=0.260$ ).

It is encouraging that Pacific Islanders are walking more than non-Pacific Islanders and that walking has increased over time. However, leisure walking should be encouraged among both men and women and individuals of all educational attainment levels. Walking for transportation should also be encouraged as a financially advantageous method of commuting.

### **Key references**

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## Session 10

# **Behavioural and Mental Health**



# An indigenous framework for Māori and Pacific men recovering from childhood sexual abuse in New Zealand

## **Presenter: Alexander Windsor Stevens**

*Alexander Stevens is a Counsellor and Addictions clinician specialising in addictions and mental wellness. He received his first Master's in Indigenous Studies from the University of Otago (2011), while earning his second Master's in Health Practice: (Māori Health) from AUT University (2014). With over 16 years working in health and social services, Alexander's clinical experiences include: queer community; mental health; crisis; suicide prevention; addictions (including gambling, alcohol, tobacco, methamphetamine); and recovery from sexual abuse. Alexander has been a Lecturer in Social Work and currently works in Tobacco Control and Public Health. He actively volunteers in the community including free counselling services for Māori and Pacific men. He received a New Zealander of the Year Award 2011 for services to the community (Local Hero Category). Alexander currently resides in Auckland working with private business, non-government and government agencies to improve the wellness of Māori and Pacific community groups.*

## **Abstract**

### **Questions for the research project**

1. How effective are Māori and Pacific health frameworks when working with indigenous males affected by sexual abuse?
2. From the information given, can a new indigenous framework meet the gaps identified?

## **Background**

Sexual abuse is a threat to the well-being of all people in New Zealand. The costs of sexual violence have been estimated by Treasury in 2006 to be over a billion dollars a year. Current statistics suggest that females are more likely to be sexually abused than males. However research has indicated that men have separate challenges coming forward to discussing being sexually abused. For Māori and Pacific males the challenges are even more demanding. Despite ethnicity male experiences of being sexually abused in general are under reported in New Zealand. This can create men that can have ongoing physiological problems that can damage them physically, mentally, emotionally and spiritually. When indigenous men seek solutions Māori and Pacific frameworks are often used in health services to assist in their recovery. This can include Te Whare Tapa Wha, Te Wheke, and Fonofale. However, there are limitations to these indigenous frameworks when sexual abuse is factored in.

Given this, a new approach is needed to understand the complexities of being sexually abused and to find a culturally appropriate ways forward using indigenous knowledge that enhances the well-being of Māori and Pacific men. Effectively finding solutions that deal with prevention and recovery from sexual abuse will greatly reduce the mental health and addiction burden in New Zealand. This project suggests a way forward and discusses a new indigenous framework for Māori and Pacific men.

## **Purpose**

The purposes of this paper are to report a research project in 2014 that created and evaluated a new indigenous framework for Māori and Pacific men who have experienced sexual trauma. The tool is based on indigenous values and practices that aim to provide a resource for clients to assess the internal and external factors that contribute towards their well-being. Using a mixed method approach supported by Kaupapa Māori, the research



project had three parts. The first part consisted of drawing on national and international literature, media and academic resources to identify gaps in our current Māori and Pacific health frameworks regarding the topic. The second part of the research project involved meeting those gaps and creating a new indigenous framework. The third part of the project involved one-off interviews with professional persons in the areas of medicine, social work and counselling.

The interviewees consisted of Māori, Pacific and Asian ethnicities. The purpose of having different ethnic groups was to identify whether they would be able to understand the indigenous tool proposed. The participants took part in individual one hour interviews with the purpose of providing expert feedback and input.

Participants for this research were drawn from their expert credentials working with Māori/Pacific people in the areas of sexual abuse and trauma. Findings from the project have identified that current Māori and Pacific frameworks do not allow the complications of sexual abuse to be outlined fully. This has serious implications on recovery from sexual abuse and trauma. The new indigenous framework has received positive reviews that suggest a positive way forward for recovery from sexual abuse.

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## **“It’s not gambling – that’s a Western definition”: Increasing understanding of Pacific gambling behaviours in New Zealand**

**Presenter: Dr Maria Bellringer**

*Dr Maria Bellringer is a Senior Research Fellow and Associate Director of the Gambling and Addictions Research Centre (GARC) at AUT University. She has also trained as a person-centred counsellor and has previous experience as a youth counsellor. Dr Bellringer has been at GARC since 2003 apart from an 18-month period in 2009–2011 when she was appointed as Chief Executive of the national Gambling Helpline. In her role at GARC, Dr Bellringer is responsible for managing centre staff and projects, writing grant applications, leading research projects and supervising students. Prior to joining AUT, Dr Bellringer held research roles at the University of Auckland’s Centre for Gambling Studies and at the Problem Gambling Foundation of New Zealand. Dr Bellringer has over 25 years’ experience in research project management and conducting research, including 12 years in the New Zealand gambling context.*

Co-authors: Steve Taylor, Bridget Fa’amatuaunu

### **Abstract**

#### **Purpose and methods**

Pacific people living in New Zealand, along with Māori, are the most at risk of the ethnic groups for developing problem gambling. Over the past two decades, Pacific people have consistently been shown to be four to six times more likely to develop problem gambling than Palagi/Europeans despite proportionally less Pacific people gambling overall. Notwithstanding this knowledge, there has been a lack of research investigating this topic with most studies focusing on the generic ‘Pacific’ population with no account taken of the different ethnicities that comprises this group of people. In general, the difficulty has been obtaining a sample of sufficient size to allow for Pacific ethnic subgroup analyses to be conducted. Therefore, this presentation will discuss a study aimed to improve understanding of the impact of gambling on the health and well-being of Pacific families and communities in New Zealand, to understand why some Pacific people are more likely to develop problem gambling than others, and to discover what could protect Pacific people from developing problem gambling.

The study was conducted using a mixed methods approach. The first phase involved secondary data analysis of three studies: two nationally representative studies and a longitudinal birth cohort study. The focus of this data analysis was an in-depth examination of Samoan, Tongan, Cook Islands and Niuean data. The second phase involved face-to-face contact with Samoan, Tongan and Cook Islands participants via focus groups and in-depth semi-structured interviews. Twelve focus groups with 97 participants, and 15 interviews were conducted. The participants were general community gamblers and non-gamblers, problem gamblers, people affected by someone else’s gambling, church leaders, gambling treatment providers and gambling venue staff.

#### **Key findings**

Findings that will be presented show there are a multitude of factors involved in why some Pacific people gamble or do not gamble and why Pacific people are more at risk of developing gambling problems. Migration issues were shown to play an important part in gambling behaviours and related to availability and accessibility of gambling opportunities in New Zealand compared with the Pacific Islands. Cultural, religious and church obligations were shown to have a substantial impact on Pacific gambling behaviours, for



example gambling in order to raise funds for shared community, church or family obligations; these have led Pacific people to define gambling in a different way from Palagi/Europeans and to impact on their gambling behaviours. Changes in life circumstances were also found to impact on gambling behaviour.

These changes included altered marital status (moving from single to partnered or vice versa) as well as changes in co-existing behaviours such as starting or giving up drinking alcohol or smoking tobacco, and becoming depressed. Positive and negative impacts of gambling were also identified in this study. Positive impacts often related to the benefits of community or church gambling for fund raising purposes. Negative impacts appeared to be more individual or family oriented with financial problems featuring heavily and more extreme impacts such as relationship breakdown noted.

Help-seeking behaviours were investigated and identified limited awareness and knowledge of the signs of problem gambling, the impacts of excessive gambling, and the availability of free gambling help services including Pacific-specific services. Some ethnic and gender differences in relation to gambling behaviours and impacts were also noted indicating that a 'one size fits all' approach to understanding Pacific people's gambling is not ideal; this strengthens the case for more ethnic-specific research to understand why Pacific people are at greater risk of developing problem gambling so that tailored public health and intervention approaches can be developed and implemented.

### **Implications**

Implications and solutions to increasing community resilience and modifying gambling behaviours for Pacific people living in New Zealand will be suggested. These relate to increasing support and resilience for migrant families with a focus on the Pacific collective perspective rather than an individualistic Western approach; raising awareness of problem gambling and its wider impacts amongst church leaders and in particular the implications of using gambling as a means of fundraising and the potential for this to lead to harmful gambling on commercial products; and increasing resilience within Pacific communities by raising awareness of the issues of harmful gambling, how to identify the signs and providing resources and information on how to minimise or reduce harmful gambling. Taken together, these initiatives could help to reduce the high-risk status of the Pacific population in regard to problem gambling.



## A Tongan talanoa about mental illness

### **Presenter: Dr Sione Vaka**

*Massey University lecturer and nursing graduate Sione Vaka has completed his PhD research, which shows that Tongan people's understanding of mental illness is very different from that of New Zealand's mainstream hospital system. These differences could affect future mental health treatment options for New Zealand's Tongan community. Sione's research, which was funded by a HRC Pacific Health Research PhD Scholarship, has focused on understanding Tongan cultural attitudes towards mental health.*

### **Abstract**

#### **Background**

The New Zealand Mental Health Survey, Te Rau Hinengaro (Oakley-Browne, Wells, & Scott, 2006), reported that Tongan people have high prevalence rates of mental illness, do not utilise mental health services, and the risks of mental illnesses were different between Tongan people born in Tonga and those who were born in New Zealand. The risks were higher for those who were born in New Zealand. This research explores the meanings of mental illness amongst Tongan people in Aotearoa New Zealand, and asks how they perceive, interpret, construct, define, and conceptualise mental illness.

#### **Methods**

The Tongan cultural framework talanoa was used as a conceptual framework to inform this research and also as a method for collecting the data. Using talanoa engaged this research in the circular and collective ideologies of Tongan people. Talanoa has been used in previous studies (M. Latu, 2009; Toluta'u, 2008) and has been reported to be effective for Tongan and Pacific peoples (Otsuka, 2006; Robinson & Robinson, 2005). The Tongan academic Dr Mo'ale 'Otunuku writes about the circular and collective characteristics of talanoa which suit Tongan ways of thinking ('Otunuku, 2011). Talanoa aims to keep an open discussion with participants to explore all possible meanings, explanations, and definitions, in this case, related to mental illness. Talanoa is a traditional and conventional way of developing and revisiting knowledge within Pacific cultures, as everything was and is told (Fonua, 2005). Tongan history is passed on orally from generation to generation through talanoa (Fonua, 2005), and occurs within groups where stories are constructed to gain consensus about an idea, and to explore meanings and associations of any given topic.

Although the core meaning of talanoa is talking, its practice is dependent on factors such as social status, customs and rituals, language, personality, and professionalism ('Otunuku, 2011). These factors largely determine the topic of the conversation and the depths to which it will go. For example, a group of Tongan people working in health areas can talanoa in-depth around health issues using health language and terminologies and these talanoa will be inappropriate in a community context with people who do not work in the health professions.

Tongan cultural contexts were used in this research to strengthen this engagement and the collection of data, and Tongan concepts are used to discuss the findings. The participants chose the venues for the talanoa groups and these were church halls, family homes, health services, community halls, and kava clubs.

The study had seven groups and a range of Tongan people were interviewed. The groups were: community leaders, women, men, youth, mental health service users, families with



mental health service users, and families without mental health service users. The number of participants in each group varied from 5 to 12 participants and they are also referred to in this presentation as talanoa groups. Thematic analysis was utilised to analyse the data. This research found that Tongans in New Zealand perceive and interpret mental illness in three ways: through traditional Tongan interpretations, through Western and biomedical influences, and also through an intersection of Tongan interpretations and Western/biomedical influences. These interpretations are presented as themes. These themes were tufunga faka-Tonga (Tongan constructions of mental distress); tufunga faka-paiōsaikosōsiolo (biopsychosocial constructions of mental distress), and the tufunga fepaki mo e fetaulaki he vaha'a 'o e tufunga faka-paiōsaikosōsiolo mo e tufunga faka-Tonga (intersections between biopsychosocial and Tongan constructions of mental distress).

## Findings

The research findings, therefore, highlight challenges associated with applying a biomedical linear, individually focused Western mental health system to a traditional Tongan, circular, and collective community in Aotearoa New Zealand. This presentation will briefly discuss the findings of this study and focus on the tufunga faka-Tonga (Tongan constructions of mental distress) theme, tufunga faka-Tonga (Tongan constructions), and its four subthemes – reality (fa'unga), directionality (hu'unga), temporality (tā'anga), and positionality (tu'unga). Findings are illustrated by quotes from the participants presented in Tongan with English translations where they were spoken in Tongan, or in English where they were spoken in English. It should be noted that because some Tongan concepts and terms do not translate easily or exactly into English, the researcher has presented these translations in a form that is faithful to the participants' meaning.

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Sessions 11–12

**Non-Communicable Diseases  
and  
Plenary Session**



## The role of alcohol in four-wheel motor vehicle crashes in Fiji

**Presenter: Dr Josephine Herman**

*Dr Josephine Herman is of Cook Islands descent. She is a Health Research Council of New Zealand postdoctoral award recipient and undertaking studies on injury and disability among Pacific people in the Cook Islands and New Zealand at the University of Auckland. Today she will speak on some of the findings of the Traffic Related Injuries and Prevention in the Pacific (TRIP) project. TRIP was an epidemiological study conducted in Fiji involving researchers from the Fiji National University and the University of Auckland, and funded by an international collaborative award from the Wellcome Trust (UK) and the HRC.*

Co-authors: Dr Iris Wainiqolo, Dr Berlin Kafoa, Eddie McCaig, Professor Shanthi Ameratunga

### **Abstract**

#### **Background**

Alcohol is an important contributor to the global burden of disease and in particular road traffic injuries (RTI), with significant harm and costs borne by society and other road users (Rehm et al., 2009). Published estimates of the role odds of alcohol-related crash injuries and deaths from high-income countries range from 29 to 125, with population attributable risks as high as 36% (Connor, Norton, Ameratunga, & Jackson, 2004). Previous studies published over 15 years ago suggest that alcohol is a significant contributor to the burden of road traffic crashes in Pacific Island countries and territories, but the association has not been reliably quantified (Herman, Ameratunga, & Jackson, 2012).

#### **Objective**

To investigate the contribution of alcohol to four-wheel motor vehicle crash injuries in Viti Levu, Fiji as part of the Traffic Related Injuries in the Pacific (TRIP) research project.

#### **Methods**

From July 2005 to December 2006, we conducted a prospective population-based case control study of motor vehicles involved in serious crashes where at least one person (driver, passenger, or pedestrian) died or was hospitalised for 12 hours or more (cases, n=140), and motor vehicles recruited in roadside surveys (controls, n=752).

Employing a two-stage cluster sampling design we used motor vehicle 'driving-time' on public roads in Viti Levu as the study base, defining eligible vehicles as motorised four-wheel vehicles, therefore including vehicles such as; private, government, or commercially owned cars, minibuses or vans, open-back (ute) and heavy trucks. We excluded buses, two-wheel vehicles (motorcycles) and those used by emergency response services. We invited drivers of eligible motor vehicles (or their proxies for deceased or seriously injured drivers) to complete interviewer-administered questionnaires which sought data on a range of driver, vehicle, and environmental characteristics, including information on driver's use of alcohol in the preceding 12 hours and their usual patterns of alcohol use. Due largely to time and resource constraints we did not include objective measures (blood or breath) for alcohol use. Analysis was conducted using STATA® Version 12 statistical software. A weighting for each control site was assigned to account for correlation within sites. We used unconditional logistic regression to calculate the odds ratios (OR) and 95% confidence intervals (95% CI). The association of various alcohol use measures with crash-related injury was investigated in multivariable models.



## Results

After adjusting for potential confounders, there was a three-fold increase in the odds of injury-involved crashes for motor vehicles driven by people who reported alcohol use 12 hours prior (OR 3.2, 1.1-9.4), while estimates for alcohol use six hours prior were highly imprecise (OR 36.1, 4.7-280.0). In general, current alcohol users (cases 49%, controls 46%) reported drinking patterns suggestive of hazardous and problem drinking behaviour, however this was not significantly associated with four-wheel motor vehicle injury-related crashes. Cases and controls also reported differences in patterns of alcohol use, with 7% of cases reporting drinking at least two or more times a week, compared to 15% of controls, while a larger proportion of cases (15%) reported usually drinking seven or more standard drinks on an average day compared to controls (8%). Problem drinking using the CAGE screening questionnaire (score of two or more) was reported by 22% of cases and 20% of controls. Beer was the most commonly consumed alcoholic beverage (76%), followed by spirits (21%) and the remaining, wine.

## Conclusions

Based on this population-based study, the first of its kind to the best of our knowledge, it is evident that driving while under the influence of alcohol is an important contributor to the burden of four-wheel motor vehicle crash injuries in Fiji. The findings also suggest the need to investigate related dose-response effects in larger studies. The relative frequency of hazardous drinking among the study population highlights the need to design and implement a range of strategies including addressing societal and cultural norms that influence alcohol use and drink driving. Community-based interventions that raise awareness regarding vulnerable populations at risk of road injury and enforcing established alcohol-related road safety legislation are strategies that require particular consideration.

## Implications

As in most other Pacific Island countries and territories, Fiji has established legislative instruments for drink driving control. However, it is likely that the strengthening and enforcement of these laws require greater attention, particularly given low margins for driving error accommodated by relatively unforgiving road systems.

This study highlights the need to strengthen existing legislation as part of a broader framework which incorporates a comprehensive community-based alcohol road safety control programme, education/health promotion campaigns, and road and vehicle engineering in this rapidly motorising country. Improving the quality of primary (epidemiological studies) and secondary data sources from hospital and police surveillance systems are essential for monitoring and evaluating road safety strategies and informing policy and research priorities. Larger epidemiological studies using validated objective measures to examine alcohol-related dose response effects in the Pacific context is required.

## References

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# Association of kava with motor vehicle crashes and other injuries: A systematic review

## Presenter: Dr Iris Wainiqolo

*Dr Iris Wainiqolo is of Fijian descent and a graduate of the Fiji School of Medicine. She is currently a PhD candidate at the Section of Epidemiology and Biostatistics, the University of Auckland. A recipient of the HRC Clinical Research Training Fellowship, Iris is undertaking a study on 'Road traffic injuries in Fiji: Disability, costs, and health systems indicators'. She is one of the former research managers of the Traffic Related Injury in the Pacific (TRIP) study. This project was funded by an international collaborative research award from the Wellcome Trust (UK) and the HRC that involved the Fiji School of Medicine and the University of Auckland. She will speak on the findings of a systematic review which examines the literature relating to the association between kava and motor vehicle crashes and injuries as well as driving performance.*

Co-authors: Bridget Kool, Dr Vili Nosa, Professor Shanthi Ameratunga

## Abstract

### Background

The burden of road crashes and injuries are disproportionately borne by low- and middle-income countries. The World Health Organization (WHO) has identified speed, alcohol, car restraints, helmets and visibility as five key risk factors for road crashes in 'developing countries'. The need to address key risk factors for road crashes in Pacific Island countries and territories is self-evident given increasing levels of motorisation in the region. However, the specific aetiological factors that may influence the risks of crashes in these countries (over and beyond those identified by the WHO) have been subjected to limited scrutiny. One issue of increasing concern – but unknown significance – is the potential contribution of kava.

Kava is a commonly consumed substance in the Pacific (Polynesia, Micronesia and Melanesia) used for ceremonial, therapeutic, and recreational purposes. The beverage is prepared from the green or dried roots of the perennial shrub *Piper methysticum*. The lipid-soluble kavalactones have well-recognised biological effects that include muscle relaxation, mild analgesia, sedation and anxiolysis. (Cairney, Maruff, & Clough, 2002; LaPorte, Sarris, Stough, & Scholey, 2011; Singh, 1992) Several international pharmaceutical companies manufacture and market kava herbal products and its use as a non-synthetic treatment option for anxiety disorders has gained popularity in several Western countries. Although the doses in these pharmacological preparations are substantially lower than those seen in recreational use in many indigenous Pacific communities, some regulatory agencies in the West have published advisories regarding the potential risks of driving or operation of heavy machinery after using these substances.

### Objective

We systematically reviewed the published literature to assess the effects of kava use on motor vehicle crashes or trauma-related injuries more generally.

### Methods

Using a systematic strategy, MEDLINE, EMBASE, PsycINFO, CINAHL, Scopus, AMED, Australian Medical Index, Australian Transport Index, and trials registries were searched up to 1 March 2014. Databases were searched using a combination of medical subject heading (MeSH) and text word terms. Keywords used included: kava; kava extract; *Piper methysticum*; accident, traffic accident; motor traffic accidents; injuries; wounds and



injuries; automobile driving; driving performance; driving ability. In addition, electronic and hand searching of journals likely to publish research in this field were undertaken.

These included key Pacific journals (*Papua New Guinea Medical Journal*, *Fiji Medical Journal*, *Pacific Health Dialogue*, *Fiji General Practitioner*) and those with a focus on injury (*Injury*, *Injury Prevention*, *Journal of Injury Control and Safety Promotion*, *Journal of Safety Research*, *Traffic Injury Prevention*, and *Accident Analysis and Prevention*). Clinical trials registers in the US (ClinicalTrials.gov), Australia and New Zealand (anzctr.org.au), the European Union (clinicaltrialsregister.eu), and the Cochrane CENTRAL register were also searched using the terms 'kava' and 'kavalactones'. The search was not restricted by length of follow-up, type of participants, language or region. Studies were eligible if they described the effects of kava on driving performance or ability, motor vehicle crashes or injuries more generally.

## Results

Of the 105 studies identified from the search strategy focusing on kava use and outcomes of interest, only three fulfilled the review inclusion criteria. One study was from Australia and two were from Germany (the full texts of which were retrieved and translated). All three comprised experimental studies (20 to 40 participants each) that examined the effects of pharmacological doses of kavalactones (180mg to 300mg daily for 7 to 15 days) on cognitive and visuomotor performance on driving simulators. No statistically significant adverse changes attributable to kava were observed but there was weak evidence of slowed reaction times. We found no studies examining the effects of recreational doses of kava.

## Conclusions

While the use of kava in the Pacific is widespread, its contribution to road crashes and other injuries is unknown. The available evidence is limited to three experimental trials investigating the effect of pharmacological doses of kava ( $\leq 300\text{mg/day}$ ) on driving performance using driving simulators. No significant adverse effects were identified in these studies but the studies were relatively small and may have had inadequate statistical power to identify modest effects that could be important in natural settings such as roads. More particularly, the administered doses (used for anxiety alleviation) were substantially lower (possibly 50 to 100 times less potent) than those commonly consumed in recreational settings. Consequently, the question of whether kava is an important risk factor for injuries in general, and motor vehicle crashes in particular, is unknown.

## Implications

Undertaking appropriate epidemiological studies to investigate the contribution of kava use to road crashes and injury risk more generally, should be a research priority, especially in settings where kava use is common. The need for such research – with due care and attention to local contexts and socio-cultural norms – also highlights the importance of undertaking studies that focus on issues relevant to Pacific communities that are often missed in global research initiatives focusing on countries with large populations.

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## Increased incidence of traumatic brain injury in Pasifika: A profile of those people at risk

### **Presenter: Wesley Lagolago**

*Wesley Lagolago is Samoan, and grew up in Porirua, Wellington, New Zealand. He is currently a student at AUT University, completing his final year of a Bachelor of Health Science, majoring in Physiotherapy. Wesley is actively involved in peer mentoring with AUT's Pasifika Learning Village. As a peer mentor he assists Pasifika students studying physiotherapy with their academic studies. His interests lie within neurophysiotherapy and also how physiotherapists may impact on Pasifika health.*

Co-authors: Dr Alice Theadom, Professor Valery Feigin

### **Abstract**

#### **Background**

There is limited research looking at the frequency and profile of traumatic brain injury (TBI) in the Pasifika population of New Zealand. It is also unclear if ethnic disparities exist in health care access post-TBI. This study analysed TBI in Pasifika people identified from a recently completed Brain Injury Outcome New Zealand In the Community (BIONIC) population-based incidence study (Feigin et al., 2013).

#### **Aims**

1. To describe the cause of injury, and age and gender for Pasifika people who sustained a TBI in the Hamilton and Waikato region over a one-year period.
2. To compare the cause of injury, and age and gender for Pasifika people in comparison to Māori and New Zealand Europeans.
3. To identify any ethnic disparities in health care access for Pasifika people in comparison to Māori and New Zealand Europeans.

#### **Methods**

This study is a secondary analysis of the BIONIC incidence dataset. All TBI cases were identified from Hamilton city and the surrounding Waikato region between 1 March 2010 and 28 February 2011. Demographic and injury data from people who self-identified as Pasifika (Samoan, Tongan, Cook Island, Niuean, Fijian and Kiribati) were extracted from the BIONIC incidence dataset and compared to Māori and New Zealand Europeans. The study included 69 Pasifika, 409 Māori and 794 New Zealand European TBI cases. Statistical tests (Kruskal-Wallis and Chi-squared) were conducted to test for significant differences between the three ethnic groups for age, gender, severity of TBI, mechanism of injury, mortality and health care seeking behaviour and services received.

#### **Results**

The total incidence of TBI in Pasifika was 1128 cases per 100,000 person-years. Pasifika were 1.8 times more likely to sustain a TBI than New Zealand Europeans. Peaks in incidence were observed between 0.5 and 15 to 25 years of age. Falls were the most common cause of TBI (35%), with 32% of all injuries sustained during a sports-related activity. There were no significant differences between the ethnic groups on demographic variables although there was a trend that TBI occurred at a younger age for Pasifika (median age 18 years) than Māori (median age 20 years) and New Zealand Europeans (median age 22 years)  $p = 0.06$ . The rate of health care seeking following injury was high in Pasifika people (92.1%) compared to Māori (83.6%) and New Zealand Europeans (81.2%).



**Conclusion**

Pasifika are at a higher risk of experiencing a TBI than New Zealand Europeans and targeted prevention efforts are needed. Higher levels of health care seeking suggest that there is good awareness of the need to seek medical attention following a TBI in the Pasifika population. More research is needed to explore receipt of longer-term rehabilitation services and the cultural appropriateness of health care services received.

**Reference**

Feigin, V. L., Theadom, A., Barker-Collo, S., Starkey, N. J., McPherson, K., Kahan, M., Dowell, A., Brown, P., Parag, V., Kydd, R., Jones, K., Jones, A., & Ameratunga, S. (2013). Incidence of traumatic brain injury in New Zealand: A population-based study. *The Lancet Neurology*. 12, 53–64.



## Information needs and cultural issues of importance for Pasifika peoples following a spinal cord injury

### **Presenter: Tainafi Lefono**

*Tainafi Lefono is a fourth year Samoan physiotherapy student studying at AUT University. He is presenting his research as part of a HRC-funded Summer Studentship scholarship. He has a keen interest in neurological rehabilitation and public health, mainly in the Pacific population.*

Co-authors: Dr Joanna Fadyl, Dr Alice Theadom, Professor Kathryn McPherson

### **Background**

Pasifika culture may influence how Pasifika people perceive health care services and recover following illness and injury. However the influence of culture on recovery following spinal cord injury (SCI) has not been explored and it is currently unclear if informational resources address the issues that are important for recovery for Pasifika following SCI.

### **Purpose**

Questions: 1) To determine issues of importance in the recovery from a SCI for Pasifika people and; 2) Identify gaps in patient informational materials in relation to the important issues for Pasifika people following SCI.

### **Methods**

Secondary analysis of four qualitative interviews from a larger qualitative study with people who experienced a SCI and self-identified as Pasifika was conducted. Transcripts were analysed using content analysis to identify important themes on how culture influenced recovery from SCI.

### **Key findings and recommendations**

The key findings that were important to recovery for Pasifika people following a SCI included: change in roles impacts on position and fit in the family and community; seeing disabled people as able; opportunities for work and study post injury; spirituality and mental well-being as 'core' to health; and family and peer support vital to recovery facilitated the recovery and adaptation process. Gaps identified after examining informational materials revealed the absence of a Pasifika model of health that incorporated the physical, mental and spiritual facets of a Pasifika person, and clear guidance of where to seek specific cultural support if required.

Culture is an important factor to consider in the recovery process for Pasifika following a SCI, however, current resources do not appear to adequately address the issue of spirituality for Pasifika people. Modifications to incorporate information for Pasifika people may help facilitate recovery following SCI.

### **Reference**

Fadyl, J., & McPherson, K. (2010). Understanding Decisions About Work After Spinal Cord Injury. *Journal of Occupational Rehabilitation*, 20, 69–80. doi:10.1007/s10926-009-9204-1







# Quantifying the burden of surgical conditions in the Pacific Islands: New estimates from the Global Burden of Disease Study 2010

**Presenter: Dr Andrew MacDonald**

*Dr Andrew MacDonald is a junior doctor, currently working as a house surgeon at North Shore Hospital in the Auckland region. Graduating from the University of Auckland in November 2012, he has had a longstanding interest in surgery as well as academic research. Since 2013 he has worked with the newly-established Global Surgery Group based at the University of Auckland's Department of Surgery – a collaborative group of surgeons and surgical trainees who have a strong interest in the developing field of global surgery with a particular focus on the availability of surgery in the Pacific Islands. This research group aims to expand the knowledge and awareness of the burden of treatable surgical diseases in the Pacific Islands as well as the scarcity of local surgical services, with the ultimate goal of ensuring that all residents of the Pacific Islands have adequate access to safe essential surgical care including obstetric surgery.*

Co-authors: Dr Will Perry, Dr Anna Dare, Steven Young, Professor John Windsor

## **Abstract**

### **Background**

Although traditionally thought to be an expensive form of health provision, there is growing recognition that surgery is an important but historically overlooked health care priority and that without universal access to essential surgical care, including the provision of obstetric surgery, it will not be possible to fully attain priority global health goals including those related to safe motherhood, child survival, injury, cancer and non-communicable diseases. Surgically-treatable conditions are estimated to account for 10% to 15% of global disease burden. Although traditionally considered an expensive form of health provision, recent studies demonstrate surgical care to be a cost-effective intervention to avert the immense, and often preventable, death and disability that result from such conditions. Much of this surgical disease burden is borne disproportionately by the world's poorest in low-and middle-income countries, where access to surgery is limited or non-existent. The richest third of the world receive nearly 75% of all operations whilst the poorest third receive only 3.5%.

A surge in published research has begun to document the inequitable burden of surgical conditions globally, however studies have so far mostly neglected the Pacific Islands. The Global Burden of Disease (GBD) collaborative, led by the Institute for Health Metrics and Evaluation has pioneered a standardised epidemiological approach to quantifying health loss from all major diseases and injuries. The GBD Study 2010, published in December 2012, provides estimates of the burden of 291 disease causes, expressed as rates of death and rates of disability-adjusted life years (DALYs), by country and region. The GBD collaborative have released the GBD Study 2010 data in freely available databases online.

### **Purpose**

This study extracted data from the GBD databases in order to quantitatively estimate the burden of specific surgical disease in the Pacific Islands as rates of mortality and disability (DALYs), using the standardised and current data from the GBD Study 2010. Comparative analysis of this with data from other world regions, in particular the neighbouring Australia and New Zealand, was performed in order to evaluate the relative burden surgical disease in the Pacific Islands at a global regional level.



## Methodology

Sixty-three disease causes from the GBD Study were identified as surgical conditions, (defined as requiring the expertise of a surgically-trained provider) under the broad categories of: general surgical conditions, trauma/injuries and solid-organ cancers. Estimates for rates of deaths per 100,000 and rates of DALYs per 100,000 were extracted from the Oceania (Pacific Island small island states), Australasia (Australia/New Zealand) and Global databases and compared. Data from sub-Saharan Africa regions were also extracted for reference in some instances.

## Key findings/implications/recommendations

Death and DALY rates were higher for most general surgical conditions in the Pacific Islands. Mortality per 100,000 for appendicitis was 35 times higher in the Pacific Islands (6.9 [95% CI 6.1–11.7]) than Australasia (0.2 [0.1–0.3]), with a global rate of 0.5 [0.3–0.7]. The point estimate for mortality from appendicitis in the Pacific Islands was the highest in the world, higher than both western sub-Saharan Africa (3.5 [2.0–5.4]) and central sub-Saharan Africa (1.5 [0.8–2.4]). Similar trends were observed for peptic ulcer disease, bowel obstruction/paralytic ileus, and skin diseases (abscesses, impetigo, other bacterial skin diseases). For obstetric conditions, DALYs per 100,000 for obstructed labour were 36 times higher in the Pacific Islands (36 [12.7–97.1]) than Australasia (1 [0.2–3.2]), with a rate of 26 [18.1–40.7] globally. Rates of death in the Pacific Islands from maternal haemorrhage (2.4 [1.3–4.9]) and abortion (1.6 [0.9–3.2]) were significantly higher than in Australasia, where mortality from both of these conditions is approximated as 0. Rates of deaths and DALYs were also significantly higher in the Pacific Islands compared to Australasia for road injuries, violence and liver and cervical cancer.

In conclusion, death and disability due to surgical conditions in the Pacific Islands occur at rates many times higher than their developed neighbours and global averages. A regional effort to strengthen surgical services and improve access to surgery in the Pacific Islands is mandated. Underpinning this is a need to first document the existing capacity of surgical services across the Pacific Islands, in order to systematically quantify the current challenges facing these populations and to provide a roadmap for local health care systems to develop their surgical services in the future. Effective and sustainable capacity-building initiatives in Pacific Island nations could then be developed so that access to safe and effective essential surgery can be provided and avoidable morbidity and mortality from treatable surgical conditions abated.

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# Cancer incidence rates among Native Hawaiians and Samoans in the United States, 2000–2010

## **Presenter: Dr Sela Panapasa**

*Dr Sela Panapasa is an Assistant Research Scientist at the University of Michigan's Institute for Social Research. Her work includes research on family support and intergenerational exchanges, population dynamics, racial/ethnic health disparities and population-based survey research. She conducts both quantitative and qualitative research and recently completed a representative study on US Pacific Islander health and health care utilization. Dr Panapasa also played a visible leadership role in raising awareness on health disparities among Native Hawaiian and Pacific Islanders. She formerly chaired the Census Advisory Committee on Native Hawaiian and Pacific Islanders and currently serves on the US Census Bureau National Advisory Committee on Racial, Ethnic and Other Populations and the US Department on Health and Human Services Advisory Committee on Minority Health. Dr Panapasa completed an NIA postdoctoral fellowship at the University of Michigan and received her PhD in Sociology/Demography from Brown University. Originally from Fiji, she is proud of her Rotuman, Tongan and Tuvaluan heritage.*

Co-authors: Dr James McNally, Professor David Williams, Dr Willie Underwood

## **Abstract**

### **Background**

Cancer remains the second leading cause of death among Native Hawaiian and Pacific Islanders (NHPI) in the United States, exceeded only by heart disease (ACS 2014). Among NHPs, cancer is also consistently one of the top five leading causes of mortality across time. The NHPI population represents a distinct racial category following the 1997 Office of Management and Budget revision to racial/ethnic categories for federal data collection (OMB, 1997) and the 2010 US Census enumerated a total of 1.2 million NHPI people, making them the second fastest growing population in the nation (US Census, 2012). Overall, NHPI represent 0.4% of the total US population (308,745,538 people). The two largest NHPI sub-populations are Native Hawaiians (43%) and Samoans (15%), with the highest proportion living in California and Hawai'i. Despite the growth of the NHPI population in recent years and their increased demands upon the national health infrastructure, they remain under examined and largely overlooked in the health literature. The current analysis offers new information regarding cancer incidence patterns of Native Hawaiians and Samoans in the United States.

### **Objective**

The primary objective is to present analysis of recent trends in cancer incidence among Native Hawaiians and Samoans living in the United States during a 10 year period. Our analysis focuses on Hawai'i and California between 2000 and 2010. We selected these two states as they represent the highest population densities of NHPs in the US and because both states maintain a complete accounting of all cancer diagnoses that occur within their borders. The second goal of this paper is to show that health outcomes for Pacific Islanders such as cancer can be accurately measured using the same techniques commonly applied to larger populations. In performing this analysis the paper also controls for ethnic sub-population among Pacific Islanders showing clear evidence of heterogeneity in health outcomes experienced by these largely understudied group of individuals.



## Methods

The incidence data are derived from the National Cancer Institute's (NCI) Surveillance, Epidemiology, and End Results (SEER) Program, premiere data source on patient demographics, primary tumor site, tumor morphology and stage at diagnosis, first course of treatment, and follow-up for vital status in the United States. Estimates for each group are calculated using intercensal estimation techniques of US Census data for Hawai'i and California from 2000 and 2010. Cancer incidence rates are derived from overall cancer for each group and for males and females. Age-adjusted statistics are presented, allowing for direct comparison between Native Hawaiians and Samoans.

## Results

Using the case of Native Hawaiian as a primary example, the paper shows that cancer incidence rates among Native Hawaiians living the state of Hawai'i are consistently higher than that seen for those residing in the state of California. While ethnically identical, we see very different outcomes in terms of both the incidence and the risk of cancer. Similar results are found for Samoans though the outcomes are not as marked. In both Hawai'i and California residential patterns among most NHPs tend to be composed of tight neighbourhood based communities but health, educational and economic resources can vary between the two states.

## Conclusion

The analysis emerging from this paper emphasizes the importance of controlling for place of residence as well as race when measuring health outcomes. When examined by specific sub-population (in this case Native Hawaiians and Samoans) it can be shown that NHPs experience markedly differing risks of cancer diagnosis when controlling for state of residence. The results of this paper clearly shows that the NHP population is made up of diverse elements with different health needs and outcomes. As a consequence we argue that the analysis of disaggregated NHP data is essential to understanding cancer disparities. Without a fuller and more detailed understanding of the mechanisms leading to health inequities the elimination of NHP cancer disparities will remain an elusive goal as will the desire that every person achieve their full health potential as an essential requirement to achieving health equity.

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## Navigating female cancers, illness experience and health-seeking behavior in Tonga: Indigenous articulations of health, culture and modernity

**Presenter: Ms Patricia Fifita**

*Patricia Fifita is a doctoral candidate in Medical Anthropology at the University of Hawai'i at Mānoa. Her research engages indigenous health and healing, political economy of health, gender studies, and health disparities within Tongan and Pacific Island populations. Her doctoral research is currently based in Tonga and focuses on female cancer experience, health-seeking behavior and medical pluralistic pathways taken to obtain health care services. Through a collection of individual narratives of cancer experience, she utilizes an ethnographic approach to explore indigenous articulations of health and disease among cancer patients, survivors, and their families. Her research will be used to inform the development of a culturally centered cancer patient navigation program aimed at increasing cancer education and improving access to appropriate cancer care in Tonga.*

### **Abstract**

#### **Purpose**

Drawing upon the intersections of gender, health, culture and modernity, this paper examines the ways that Tongan women, who have limited access to resources, navigate multiple medical systems in order to obtain treatment for cancer. The mortality rates for female cancers in Tonga are disproportionately high due to late presentations of the disease; therefore this research examines the role of gender and class in health-seeking behavior and health outcomes. For this paper, I outline an ethnography of female cancer experience conducted in relation to broader political and economic relations and resulting inequalities in access to resources, such as health knowledge and information and formal health care services.

#### **Methods**

A mixed method research approach and an exploratory research design were utilized to explore female cancer experience and health-seeking behavior in Tonga. The paper's research methodology is grounded in a Pacific health framework and incorporates the following research methods: ethnographic interviewing, a collection of illness narratives, participant observation, and surveying. Surveys were used to combine qualitative and quantitative research methods in order to examine disease experience and document health care decisions surrounding cancer treatment. The survey was also used in combination with ethnographic interviewing and participant observation to examine available treatments and current pathways to cancer in Tonga, including both Western biomedical and *faito'o fakatonga* (Tongan herbal medicine).

#### **Key findings/implications/recommendations**

Health-seeking behavior among women in Tonga is medically pluralistic and based on a wide range of socio-cultural, political and economic variables that ultimately influence health care outcomes. I argue that effective interventions for cancer in Tonga will require a multidisciplinary and holistic approach that incorporates indigenous articulations of illness, health and disease and also engages with the socio-cultural and political economic determinants of health and well-being. Data from this study is currently being used to help inform the development of a culturally appropriate screening program and cancer patient navigation program in Tonga.



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## The USO bike ride

### **Presenters: Chris Te'o and Talalelei Taufale**

*Chris Te'o was born in Lower Hutt, New Zealand. His parents were Te'o Fa'asau Te'o and Fa'alelei Te'o (nee Tuiavi'i). Having spent the earlier part of his working life employed by the Social Welfare department, in 2000 Chris became a Project Officer with the International Development Unit of the New Zealand Family Planning Association, managing a United Nations-funded men's pilot project in Fiji as well as providing secretariat support for the New Zealand parliamentary group on population and development. In 2007 Chris took up a role with the Secretariat of the Pacific Community based in Noumea as a project officer with the HIV/STI team. On his return to New Zealand, and with the loss of his father to cancer, Chris started the USO bike ride in honour of his memory. Chris is currently employed as a health promoter with the Cancer Society of New Zealand. He is married to Lesley and has two adult children.*

*Talalelei Taufale was born at Wellington hospital. His Samoan parents are Faatele Taufale (nee Mata-Luatuanuu/Iva) and the late Mulipola Tafa Uale Taufale (Mulivai/Falelatai). Talalelei attended Wellington College, and then went on to Victoria University. Talalelei played basketball for many years at a high level and worked for New Zealand Income Support. A shift in 1996 to play basketball in Hawke's Bay saw a change in his career path to education, firstly working at Hastings Boys' High School and then in middle-management at William Colenso College in Napier. Since 2011 Talalelei has worked as the Pacific health development manager for the Hawke's Bay District Health Board. He balances this with his work in consultation, family business and the USO bike ride. He is married to Meriama. Their daughter Analeah attends Saint Joseph's Māori College and his son Jeremiah will attend St Patrick's College, Silverstream, in 2015.*

### **Abstract**

#### **Purpose**

USO is innovative and aims to improve the health and well-being of Polynesian families through cycling. This is achieved through annual visits to the doctor, smoking cessation, improved nutrition and cycling.

USO is a gender-specific Samoan word that means brother. Males refer to each other as uso. Women can also refer to each other as uso, but the term cannot be used between a man and a woman.

USO is an acronym meaning: understanding, strengthening, and overcoming, and represents our way of moving forward. We create an understanding of existing information to identify and strengthen what needs to occur in order to develop actions to overcome poor health and improve the quality of life amongst Polynesian families.

Unfortunately men in Aotearoa New Zealand have higher rates of cancer and also live four years less than females (78.2% male, 82.2% female). Alarming, Māori men live 8.6 years less than non-Māori men while for Pacific men it's not that much better at 4.2 years less (73.2) than non-Pacific men. While much has been done in relation to addressing inequalities in health in Aotearoa, the picture for Māori and Pacific in terms of our overall health status is still very poor. Simply put, we are more likely to suffer from disease and die younger than our European counterparts.



In 2009 Chris's family lost their father to pancreatic cancer. In less than a month, from the time of diagnosis, Chris's father had passed away. Chris's father was one of those men that just didn't go to the doctor. It was only after the family discovered that his skin had a yellow discolouring that he went to the doctors.

In 2011, motivated by his father's passing, Chris and his brother-in-law Mark Lerwill completed the first USO bike ride from Auckland to Porirua (640 kms). Along the way they teamed up with old friend Talalelei Taufale and stopped at Pacific communities raising awareness and talking about our high rates of cancer and what can be done to reduce the risk of cancer in our lives. The ride was captured in the documentary *Riding for my father*.

Since the inaugural 2011 ride, the USO message has been spread through the following:

- 2012: Cape Reinga to Bluff (2000 kms over 13 days visiting churches and community groups throughout Aotearoa New Zealand).
- 2013: Samoa USO bike ride with the Samoan Cancer Society the Samoan Ministry of Health and the World Health Organization. USO visited 13 villages on the islands of Upolu and Savai'i cycling over 400 kms in five days.
- 2014: Samoa USO bike ride with the Samoan Cancer Society visiting 10 Apia-based schools to help promote key health messages.
- 2014: Hawai'i USO bike ride in partnership with PATH visiting churches and community groups on Oahu and Hawai'i
- 2013/2014: Delivered 'understanding cancer' fonos in churches and communities.

USO bike ride members have steadily grown to include 44 family leaders (39 men and 5 women). The ethnic breakdown includes Maori, Samoan, Tokelauan, Rarotongan and European. Across our families are health stories related to cancer, diabetes, heart disease, gout, mental health, and relationship breakdowns.

The USO presentation is a snapshot of how USO, through developing a better understanding, is shaping a pathway through action to overcome and improve the health, well-being and quality of life for families through cycling.

*Fa'afetai tele mo lo outou fa'atasi mai i lenei aso  
la soifua ma ia manuia i le alofa o le Atua*



# Stroke knowledge and management: Perspectives from New Zealand Samoans

## **Presenter: Ms Maree Ualesi**

*Marie Ualesi was born and bred in Otara and is currently living in Papatoetoe with her husband and their four children. She is the middle child of seven, and her father hails from Vavau, Lotofaga, and her mother from Puipa'a, Faleata; Upolu, Samoa. She holds a BA majoring in Linguistics. It took her eight years to complete this degree as she did it part-time and had four children along the way. She has a Master's of Speech Language Therapy Practice from the University of Auckland. Prior to this she was a secondary school teacher and taught at three different colleges in South Auckland over a period of 12 years. While completing the MSLTPrac, she became interested in adult rehabilitation and management after a stroke. During a work placement at Counties Manukau Health, she experienced first hand the difficulties that Pasefika and non-English speaking families have when dealing with systems and information they are not familiar with. Maree was very interested in the perspective of family members who were carers, regarding their loved ones' stroke, rehabilitation and the management of it, and this has been the focus of her research. She is currently a community speech language therapist for adults and older people at Home Health Care, Counties Manukau Health.*

Co-authors: Elaine Ballard, Clare McCann

## **Abstract**

### **Background**

Stroke is the third leading cause of death in New Zealand and is a significant health risk for populations of Pacific Island decent (Fink, 2006). Samoans form the largest Pacific ethnic group in New Zealand (Statistics New Zealand, 2007) but there has been little research on its impact in this population as current New Zealand research categorises all Pacific peoples as a single group under Māori and Pacific (Feigin, et al., 2006) or as Polynesians (Capstick, Norris, Sopoaga, & Tobata, 2009). The little that is known about stroke among Samoans comes from research undertaken in American Samoa (Isaki & Ainu'u, 2010). This study found that among Samoans knowledge of stroke risk factors and management is limited. They also highlighted the importance of family involvement during the recovery process.

### **Purpose**

Following on from the Isaki & Ainu'u (2010) study, the current project investigated three questions:

- Is the knowledge of stroke risk factors within the New Zealand Samoan community better than that found in American Samoa? Given New Zealand prevention and health literacy programmes linking stroke to specific risk factors (the FAST Campaign, the Down with Blood Pressure Campaign and the Reducing Salt Intake (Slash the Salt) Campaign) can we expect higher levels of knowledge and awareness?
- What do New Zealand Samoans know about the management of stroke?
- Is family involvement crucial in the recovery process for Samoans in New Zealand?

The current study is a qualitative study. Given that it is exploratory in design the decision was made to limit the study to New Zealand Samoans who were a family member carer of a loved one following stroke. Ten Samoans from the Auckland area (8 female, 2 male; mean age 43 years) participated in the study. All of the participants, with the exception of one, were born in New Zealand. Each participant took part in a semi-structured interview.



Interviews took 45 to 60 minutes and were conducted in either English or Samoan (chosen by the participant). Following the interview, participants completed a written questionnaire. This included a range of questions on participants' stroke knowledge and their experience of stroke management and rehabilitation. Thematic analysis was conducted on the interview and questionnaire responses.

### **Key findings**

Findings on stroke knowledge and awareness show that in spite of personal experience with stroke, participants still had difficulty identifying symptoms and risk factors. None of the participants were able to name all the symptoms of stroke although seven could name at least two. When questioned on risk factors only three were able to give appropriate factors such as high blood pressure, obesity and smoking.

Findings related to stroke management and care were mixed. On the positive side participants thought the care and services provided in the hospital-setting were generally satisfactory. Family members were particularly positive about rehabilitation services provided by physiotherapy and occupational therapy. On the negative side some participants expressed their dismay at instances of racial discrimination, cultural insensitivity and poor communication when interacting with hospital staff.

Findings in relation to family involvement demonstrate clearly that this is as important to the New Zealand participants as previous research. All 10 participants mentioned that as a family they had to come together and do what was best for their loved one. Each participant felt a responsibility to take on the care of their loved one according to their cultural upbringing and traditions.

### **Implications**

The findings for New Zealand Samoans are in some respects similar to those found in the Isaki & Ainu'u (2010) study. This is in spite of the fact that the New Zealand participants differed from the American Samoan sample in having first-hand experience of stroke through their family member. Unsurprisingly, our sample knew more about the actual management and rehabilitation of stroke than the American sample, but surprisingly they were no better at naming stroke symptoms and risk factors.

Another interesting finding was that all participants, regardless of whether or not they were raised and educated in New Zealand, felt strongly about the importance of family and upholding traditional practices. This would suggest that even Samoans raised in a more New Zealand-based context still expect their cultural background to be respected and acknowledged. This clearly demonstrates that there is room for current prevention programmes and management practices to be modified with a more culturally sensitive approach.

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# **Samoaan-English bilingual performance on the Boston Naming Test and its Samoaan adaptation**

**Presenter: Ms Sepelini Seuala**

*Talofa lava! Sepi Seuala is of Samoaan descent. In 2010 she completed her Bachelor of Science in Psychology and Statistics at the University of Auckland. In July 2014 she submitted her master's thesis titled 'Samoaan-English bilingual performance on the Boston Naming Test and its Samoaan adaptation' under the supervision of Dr Elaine Ballard. During this time she has worked as a coordinator of the Tuākana programme for the School of Psychology. Her research interests extend to a wide range of areas in psychology; her postgraduate diploma specialised in cognitive neuroscience while her master's thesis was in the area of speech science. Sepi is, however, most passionate about issues regarding Pacific peoples. In the future she hopes to continue on with research in psychology that will work towards advancing and benefitting Pacific peoples.*

Co-author: Dr Elaine Ballard

## **Abstract**

### **Background**

Relative to New Zealand Europeans, Pacific people suffer significantly higher stroke rates (Carter et al., 2006) and worse outcomes post-stroke (Barker-Collo, Feigin, Parag, Lawes & Senior, 2010). Approximately one-third of stroke survivors are estimated to suffer from aphasia (Aphasia Association of New Zealand, 2010), which suggests that overall there is likely to be a large number of Samoaan people suffering from stroke-induced language disabilities.

Best practice dictates that in assessing patients post-stroke for language disability, all languages known to a sufferer of aphasia should be assessed and treated. This is challenging for clinicians when treating Samoaan speaking patients in New Zealand as there are currently no assessments available in the Samoaan language. Furthermore, the norms from English language tools have been shown to be biased. As an example, the widely used Boston Naming Test (BNT; Kaplan, Goodglass, & Weintraub, 1983) shows a cultural and monolingual bias: healthy English monolinguals outside of North America (Barker-Collo, 2001; 2007) routinely perform more poorly than their American counterparts, and bilingual participants within America also score more poorly than their monolingual counterparts (Roberts, Garcia, Desrochers & Hernandez, 2002; Gollan, Fennema-Notestine, Montoya, and Jernigan, 2007).

### **Purpose**

The current research has three aims:

- Investigate the performance of healthy Samoaan–English bilingual participants on the original English BNT. It is hypothesised that they will perform significantly poorer than American samples (Zec et al., 2007) and New Zealand English monolinguals (Barker-Collo, 2001; 2007).
- Report the performance of healthy Samoaan–English bilingual participants on a newly developed Samoaan version of the Boston Naming Test (S-BNT).
- Determine how variables such as age, education, gender and language background influence performance on the BNT and S-BNT.

Following the methodology adopted in the Korean version of the BNT (Kim & Na, 1998), this study has a quantitative design. Eighty healthy Samoaan–English bilinguals (45 female,



35 male; mean age 34 years, age range 18–73 years) residing in the Auckland region took part in the study. A language background questionnaire was used to gather participant information on the acquisition, use and proficiency in both languages. The BNT and S-BNT were then administered to participants. Each session lasted 25 minutes. Independent samples t-test, Pearson's correlation coefficients and one-way ANOVA's were used to analyse the data.

### **Key findings**

Results show that Samoan–English bilinguals ( $M = 37.69$ ,  $SD = 9.36$ , range = 20–56) performed much worse on the original BNT compared to existing New Zealand norms ( $M = 52.5$ ,  $SD = 2.20$ , for younger New Zealanders, Barker-Collo, 2001;  $M = 57.95$ ,  $SD = 1.40$ , for older New Zealanders, Barker-Collo, 2007). No significant difference was found between mean performance in the S-BNT ( $M = 36.79$ ,  $SD = 10.00$ , range = 13–51) and the BNT.

New Zealand educated participants ( $M = 40.23$ ,  $SD = 7.36$ ) and English dominant participants ( $M = 40.78$ ,  $SD = 9.76$ ) performed significantly better than Samoa educated participants ( $M = 29.46$ ,  $SD = 7.38$ ,  $p < .01$ ) and Samoan dominant participants ( $M = 32.94$ ,  $SD = 8.39$ ,  $p < .01$ ) in the BNT. The opposite trend was found for performance in the S-BNT where Samoan educated ( $M = 43.14$ ,  $SD = 8.17$ ) and Samoan dominant participants ( $M = 44.61$ ,  $SD = 6.38$ ) significantly outperformed New Zealand educated ( $M = 32.89$ ,  $SD = 8.52$ ,  $p < .001$ ) and English dominant participants ( $M = 32.17$ ,  $SD = 9.66$ ,  $p < .001$ ).

No gender effect was found but an interesting age effect was found; younger bilinguals (18 to 29 year olds,  $M = 40.21$ ,  $SD = 8.20$ ,  $p < .001$ ) performed significantly better on the BNT while the older bilinguals (50 years and above,  $M = 48.06$ ,  $SD = 2.96$ ,  $p < .001$ ) performed better on the S-BNT.

### **Key implications**

These results demonstrate that the current English monolinguals norms should not be used to assess language function in Samoan–English bilinguals. A low score on the BNT may not necessarily be indicative of language impairment given our findings with the New Zealand Samoan–English population. This is especially true for those in the population aged 30 and above. The S-BNT however, is a valid and culturally appropriate assessment for use with Samoan-English New Zealand bilinguals. Scores on this assessment were comparable to those found for this sample's performance on the original BNT. When variables such as age, gender, education and language dominance were considered it was noted that gender had no effect but age, country of education and dominant language clearly impacted on participant performance in the BNT and S-BNT. This finding for healthy Samoan–English bilinguals clearly highlights how important it will be to collect detailed information on language dominance in clinical settings.

These findings are a step toward improving assessment and rehabilitation for Samoan–English bilinguals with aphasia. It is hoped that this research will also encourage others to consider similar research in other Pacific languages.

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## Ngā Vaka o Kāiga Tapu navigating the waters: A government co-ordinated approach informed by Pacific community leadership to prevent family violence

**Presenters: Fa'amatuainu Pereira and Ms Everdina Fuli**

*Fa'amatuainu Tino Pereira MNZM is a leading and prominent Pacific consultant on public sector issues in government and the private sector. He is a key advisor and highly skilled facilitator and Chairs the Pacific Advisory Group (PAG) to the Taskforce for Action on Violence within Families at the Ministry of Social Development (MSD). He has driven the organisation's Pacific strategy for a number of years. In 2011 he led the development of Nga Vaka of Kāiga Tapu for PAG, which is aimed delivering innovative solutions to domestic violence, and he is involved in Pacific development initiatives in the areas of social service delivery, economic development and building communities. For more than two decades he has had significant community involvement and leadership responsibilities with extensive networks in Māoridom a result of his work in media and various connections to Iwi leadership. Fa'amatuainu Tino is a Samoan chiefly orator from the paramount village of Lufilufi in Samoa.*

*Ms Everdina Fuli is a Pacific Advisory Group (PAG) member and Chairs the Pasefika Proud Research Advisory Committee for PAG, MSD. She is the writer of the Tokelau Conceptual Framework: Kaiga Māopoopo (2012) assisting with Tokelau Cultural Pilot Programme: Te Kāiga Māopoopo (2014) and is an advocate for the ongoing advancement of Nga Vaka of Kāiga Tapu. Everdina has spent the last 15 years in senior management positions, on Government Advisory Committees, Directorships and as a Senior Faculty member. She is the Business Manager Research of Te Whare Kura, the University of Auckland and has published academic articles and government reports/policy. Everdina is committed to the social and economic sustainability of Pacific and Māori communities with leadership that enables this. She is proudly from Tokelau (Fakaofu); Cook Islands (Tongareva); and Tuvalu (Nanumea). She is also from Ngāti Porou (Te Whānau-A-Pokai), Ngāti Kahungunu (Rongomaiwahine), Te Whakatōhea (Ngāti Ngahere), and Ngā Puhi (Te Tao Māui) on her mother's side.*

Co-author: Ms Yvonne Crichton-Hill

### **Abstract**

#### **Background**

At the Pacific Advisory Group (PAG) Champions of Change Fono in 2010 participants called for the incorporation of 'culture' as the basis to formulating new and more robust programme approaches in service provision and, that Pasefika communities take primary responsibility for leading the development of a Government programme to prevent and stop violence in Pasefika families (Ministry of Social Development, 2014: 7). This call led to the establishment of the Pasefika Proud Campaign which is philosophically underpinned by Nga Vaka o Kāiga Tapu: A Pacific Conceptual Framework (Ministry of Social Development, 2012) to address family violence in New Zealand. The Pasefika Proud campaign is a strengths-based approach promoting well-being as a way of preventing violence in Pacific families and communities. The campaign encourages Pacific communities to take ownership of the issue of violence and promotes the key message: Pasefika Proud.

#### **Our families, our people, our responsibility.**

The foundation of this is Nga Vaka o Kāiga Tapu, which means "the sailing vessels of sacred families". It is a courageous approach to addressing family violence and it is the first framework of its kind in New Zealand. The framework was born out of a collaborative process of regional fono held with Pacific communities where participants collectively identified that 'culture must be the basis for constructing any solution to family violence' (Ministry of Social Development 2012).



Interwoven in Nga Vaka o Kāiga Tapu are the strands of culture and sacred knowledge from the seven Pacific nations of Tokelau, Tonga, Samoa, Fiji, Tuvalu, Cook Islands, and Niue. Each has its own sets of traditional values, ancestral wisdom, illuminating genealogies, and cultural strengths that demonstrate concepts and cultural perspectives on family well-being that contribute to models and initiatives of practice for Government (ibid).

### **Rationale/purpose**

Urgent action on family/domestic violence for Pasefika families was needed because: (1) anecdotally the past two decades have shown an increase in family violence throughout New Zealand particularly amongst Pasefika women and children (2) since 2010 successive Government responses to addressing family violence for Pasefika peoples have been not entirely been effective, and (3) research studies conducted have generated copious amount of literature yet there continues to be a significant gap of quality information to meaningfully inform Pasefika family violence initiatives and its people (ibid). While there appears to be no one single causal factor that can be attributed to family violence, there are three contributive factors that are unique to the experiences of Pasefika families living in New Zealand. These are social and economic inequalities; the impact of migration on families; and identity and culture. In relation to identity and culture, there is a need to understand ethnic specific perceptions, beliefs and practices with regard to relationships between family members, and the impact of violence on kinship and well-being. There is a significant paucity of information in this area (ibid). The aim of this presentation is to: explain the methodological approach used to develop Nga Vaka o Kaiga Tapu; explore the key tenants of Nga Vaka o Kaiga Tapu; demonstrate how Nga Vaka o Kaiga Tapu has reshaped the landscape of Government policy particularly in its operational environment regarding governance, policy and management including service delivery; explore how Nga Vaka o Kaiga Tapu has provided a renewed sense of hope for Pasefika peoples socially and economically; and to explore the potential benefits that an ethnic-specific Pasefika approach to family violence will have for New Zealand.

### **Methodology**

The methodological approach used to develop Nga Vaka o Kaiga Tapu was essentially qualitative in nature. The Pasefika Advisory Group sought to gather data about Pasefika solutions to family violence within Pasefika communities. A collaborative Pasefika approach was used to gather the views of Pasefika communities throughout 2010 and 2011. Initially regional fono were held across New Zealand culminating with a national fono in Auckland in 2011. Following the regional and national fono Pasefika leaders and family violence practitioners met to design and develop the ethnic-specific frameworks leading to the development of Nga Vaka o Kāiga Tapu: Pacific Conceptual Frameworks and Falevitu: A literature review on culture and family violence in seven Pacific communities in New Zealand in 2012. Subsequently a suite of publications has been developed including the Nga Vaka o Kāiga Tapu: Research Action Plan 2013–2018; and the Pasefika Proud Programme of Action: Addressing violence in Pasefika families and communities 2014–2017.

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A full reference list will be provided at the presentation.







**Session 13**

**Reproductive Health**



## Community leaders' attitudes toward male circumcision for HIV prevention in Papua New Guinea

### **Presenter: Lester Asugeni**

*Lester Asugeni has a Bachelor of Maternal Child Health, Graduate Diploma in Teaching Health, and a Diploma in Nursing Administration. Lester has more than 25 years' work experience in the areas of health services including, nursing services, health promotion, health education, and nursing education in the Solomon Islands and Papua New Guinea. He has served as a lecturer at the Pacific Adventist University since 2006, teaching student nurses as well as supervising clinical practicum. He is currently pursuing a Master of Philosophy at the Pacific Adventist University, where he is investigating leaders' attitudes toward male circumcision for HIV prevention in Papua New Guinea. This study is part of the 'Acceptability of male circumcision for HIV prevention in PNG' study' a collaborative study between James Cook University, Divine Word University, and the Pacific Adventist University.*

Co-authors: Dr Tracie Mafileo, Dr David MacLaren

### **Abstract**

#### **Background**

HIV and AIDS remain one of the major health problems in Papua New Guinea (PNG). Male circumcision (MC) is a potential new public health intervention being considered for HIV prevention in PNG. Public health programs are often conceived and designed by policy makers and health professionals. However, community leaders also have important insights into health issues for their communities and play an important role in determining the success of new public health initiatives. Little is known about community leaders' views about male circumcision and HIV prevention in PNG. This study aimed to understand community leaders' attitudes towards male circumcision as a potential intervention to reduce HIV rates in PNG.

#### **Purpose**

The main purpose of this study was to examine how social, cultural and religious understandings and practices of male circumcision (and other foreskin cutting) influence the acceptability of MC as a part of HIV reduction strategies. If accepted, MC scaled up programs combined with the existing preventative packages could make a lot of difference, thus reducing HIV in PNG. This study specifically aimed to gather important insights from community leaders on whether MC will be locally relevant as a method to reduce HIV transmission in their locations within PNG.

#### **Methods**

A qualitative methodology was used utilising an interpretive research paradigm as the foundational framework for the study. This engaged a phenomenological approach, to explore community leaders' views on male circumcision for HIV prevention in PNG. A total of 22 semi-structured interviews were completed. Qualitative thematic analysis of the transcripts and field notes were undertaken to analyse themes that emerged as being important to the description of the study.

#### **Key findings/implications/recommendations**

Leaders spoke for both the communities where they currently reside and their own local communities in home provinces. They identified circumcision practices that happened as cultural tradition in some areas, and modified practices in many other areas of PNG. Opinions expressed by leaders from areas of traditional circumcision



practices include: cultural values, religious practice, identity, manhood, removal of maternal blood and personal hygiene, while leaders from non-traditionally circumcising regions expressed: outside influences, peer pressure, social change, educational status, sexual pleasure, handsomeness, penile enlargement and HIV prevention in PNG. Some leaders who opposed male circumcision expressed that it is a new concept, a foreign practice and not part of culture; they also perceived a likely increase of sexual activity, decrease in condom use, and were fearful of complications after circumcision.

The results of this study suggest that the socio-cultural and linguistic diversity of PNG demands thorough consideration for any planned health program intervention. Any future scale up MC program requires understanding and the know-how to contextualise the way it should be delivered locally in cooperation with the community leaders and the members of the community as equal partners, whilst ensuring competence and quality. Provisional plans for future MC programs must be highly flexible to respond to changes in the needs and expectations of communities.

It is recommended that the design and implementation of any future MC programme should be based on meaningful collaborations with community leaders, which will assist in developing safe and culturally appropriate health programs. There must be great flexibility in MC policy development to reflect the variance in the different provinces of PNG because of the cultural difference related to MC. Participatory community engagement can be applied in the planning and implementation of any future MC programs. Community leaders have valued knowledge and considered opinions about male circumcision and should be included in planning, implementation and monitoring of any potential male circumcision for HIV prevention program in PNG.

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# Understanding pregnancy intention and contraceptive decision-making among Native Hawaiians: Key informant interviews

## **Presenter: Dr Reni Soon**

*Dr Reni Soon is an assistant professor in the Department of Obstetrics, Gynecology and Women's Health at the University of Hawai'i John A. Burns School of Medicine (JABSOM) and co-director of the Fellowship in Family Planning. She grew up on O'ahu and attended Kamehameha Schools. She obtained a bachelor's degree from Stanford University and a medical degree from JABSOM. After completing a residency in obstetrics and gynaecology at the University of Hawai'i, she joined the faculty and recently earned a Master's in Public Health from the University of Hawai'i and completed a Fellowship in Family Planning. Her research interests include: family planning, particularly reproductive justice; increasing HPV vaccination; and health disparities, particularly unintended pregnancies and other pregnancy outcomes among Native Hawaiians. She is the mother of two beautiful boys and currently resides in Honolulu, Hawai'i.*

Co-authors: Jennifer Elia, Nina Beckwith, Dr Bliss Kaneshiro, Dr Timothy Dye

## **Background**

Unintended pregnancies are either unwanted or mistimed at conception, and they are associated with adverse social and health outcomes. (1) Native Hawaiians are the indigenous people of Hawai'i and suffer from many health disparities (2). By current measures of unintended pregnancy, Native Hawaiians have the highest rate of unintended pregnancy in Hawai'i (3). While qualitative studies in other ethnic groups have shown that interpersonal, socio-economic, cultural, and political factors can affect pregnancy intention, pregnancy ambivalence, and ultimately use of contraception, no studies describe these concepts among Native Hawaiians.

## **Purpose**

The objectives of the study are to: 1) Describe attitudes and ideas about contraception, pregnancy, and pregnancy intention among Native Hawaiians; 2) Examine the perceived impact of unintended pregnancy and pregnancy ambivalence in the Native Hawaiian community; 3) Describe self-reported factors that influence contraception use or non-use among Native Hawaiians.

Applying community-engaged research principles, we partnered with a federally qualified health center that serves a large population of Native Hawaiians and conducted a qualitative study to explore concepts held by Native Hawaiians regarding pregnancy, pregnancy planning, and contraception. The first phase of the project involved 10 key informant interviews that were analyzed by identifying themes and patterns using content analysis. These results informed the second phase of the project, which included eight focus groups with Native Hawaiian men and women over 18 years old and 40 individual interviews with Native Hawaiian women 18 to 49 years old.

## **Key findings/implications/recommendations**

Presented here are key informant interview results. Native Hawaiians are a heterogeneous group, with diverse socio-economic and cultural backgrounds, and their experiences and opinions on family planning reflect this diversity. As they do in other groups, socio-economic factors affect knowledge of and access to family planning services and influence individual life goals, which consequently impact how Hawaiians view pregnancy, pregnancy planning, and contraception. However, other themes emerged that center around core



Hawaiian values of children and family. Pregnancy and children, whether planned or not, are highly valued: “Babies are a blessing however they come, is what our kūpuna (elders) say, the living ones and the ones that have passed”. ‘Unplanned pregnancy’ does not carry negative stigma and ‘unintended pregnancy’ is not a term that resonates in the community. Raising children is a critical role, having children is expected, and it is through children that the family and the Hawaiian race continue. The notion of ‘ohana, of family, is very important in our culture. A child is seen as a continuation of this process, of something that connects you to your ancestors and continues the line of your family. Speaking on family, ‘Ohana, you see it from our kalo (taro) plant, the names of our kalo plant, that in our culture and in our tradition, ‘ohana and family was an integral part of our community. ‘Ohana tend to be large, extend beyond the nuclear family, and are not limited to biological ties. Identity is defined by family, and in decisions about career, education, and pregnancy, the family’s needs and priorities may be more important than the individual’s. In this collectivist culture, ‘ohana members support one another, and this support is perceived to lessen the burden of an unintended pregnancy. Participants describe the expectation to continue an unplanned pregnancy due to each of these concepts.

The concepts of family and children serve as core values to Native Hawaiians and affect the context in which they view pregnancy and pregnancy planning. To optimize the effectiveness and cultural relevance of any family planning initiatives in this population, initiatives must consider how Native Hawaiians conceptualize and make decisions about pregnancy and pregnancy planning.

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## Family planning use among Itaukei Fijian women in New Zealand and Fiji

### **Presenter: Ms Radilaite Delaibatiki**

*Radilaite is of Fijian decent. She migrated to New Zealand with her family 18 years ago. She has a Bachelor of Science and a Diploma and Master's in Public Health from the University of Otago. Her research interests lie in reproductive and maternal health. Working with the Fiji Ministry of Health's emergency obstetric care and family planning study, her master's project looked at emergency obstetric care and family planning services in Fiji's health system and the barriers associated with its uptake and utilisation. She is a recipient of a Health Research Council of New Zealand PhD career development award and is currently working towards a PhD in Public Health. Radilaite is the third youngest of a family of eleven. Radilaite lives in Dunedin with her husband and 2 year-old toddler.*

### **Abstracts**

#### **Background**

The World Health Organization (WHO) recommends family planning as an integral service needed to improve the health of mothers and reduce maternal deaths (WHO 2004). However, family planning uptake amongst Pacific women in New Zealand is low (Paterson et al., 2004). Paterson and colleagues (2004) examined pregnancy planning among Pacific women who had given birth at an Auckland hospital, and found that out of the 70.8% of women who had not planned their pregnancy, 46% of mothers were not using contraception when they conceived (Paterson et al. 2004). This finding highlights issues not only with access but also with utilisation of family planning methods. In the Pacific, improvements in family planning utilisation are restricted by the lack of research into unmet need. The lack of research in this area, low utilisation rates and health implications provides basis for further investigation.

#### **Purpose**

This study focused on ethnic Itaukei Fijian women in New Zealand and Fiji, comparing influences on their family planning behaviour. Specifically, the study aimed to investigate how the following differ between Fijian women living in New Zealand and Fiji:

- the level of unmet need for family planning services
- the main barriers to adequate access to family planning services

#### **Methods**

A cross sectional survey of a sample of Itaukei Fijian women aged 18 years and over in New Zealand and Fiji was undertaken. In Fiji, multistage cluster sampling was used to identify and recruit participants while in New Zealand snowball sampling was used to identify and recruit participants. The questionnaire gathered information about women's knowledge, practice and unmet need for family planning. It also gathered information about women's access to health services. Questionnaires took between 20 to 30 minutes to complete. Overall, 352 women completed a survey questionnaire, 212 from Fiji and 140 from New Zealand. Chi squared tests were used to determine significant differences between samples in each country. Statistical analysis was carried out using Stata13 software.

#### **Key findings**

More Fijian women in New Zealand (38%) reported unplanned pregnancies compared with those in Fiji (26%)) ( $p=0.05$ ), however, the study found no significant difference in unmet need between women in New Zealand (27.2%) and women in Fiji (24.2%) ( $p=0.608$ ). Problems such as not having a facility nearby (NZ 22.03%, Fiji 39.29%,  $p=0.002$ ), concern



that there would not be a female provider (NZ 35.59%, Fiji 50.90%,  $p=0.010$ ) and talking to husbands or partners (NZ 16.10%, Fiji 30.95%,  $p=0.004$ ) were significantly different between the two countries. More women in Fiji reported problems with these factors compared with women in New Zealand. Additionally, over twice as many Fijian women in Fiji reported a need for more family planning information (144 (67.9%)) compared with those in New Zealand (47 (33.57)).

### **Implications/recommendations**

According to WHO recommendations, no unmet need for family planning should exist within populations. Although the difference in unmet need between countries was not statistically significant, both countries showed at least 20% unmet need. Given that more women in New Zealand reported more unplanned pregnancies compared with those in Fiji, issues around unmet need in New Zealand need to be addressed. Also, even though a higher proportion of women living in Fiji reported issues with distance to health facilities and concerns for lack of female providers, at least 20% of Fijian women in New Zealand reported problems with such barriers. Also, about one third of Fijian women in New Zealand reported a need for more family planning information, which raises questions about the availability and accessibility of family planning information in New Zealand.

Discussion with husbands or partners about seeking medical advice was reported to be problematic for women in both countries, however, even more so among women in Fiji. Investigating the differences in husband/partner relationships of Fijian women living in New Zealand and Fiji may improve our understanding of family relationship barriers that may affect the accessibility of services.

In summary, although more women in Fiji reported issues with access, the study found that women in New Zealand still experience unmet need and encounter the same barriers. Therefore, service delivery models that provide acceptable family planning services in closer proximity to Fijian women may improve uptake. Health promotion initiatives that deliver outreach programmes into Fijian communities could raise awareness of health providers, improve familiarity with health professionals, and encourage husband/partner involvement.

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# **Pregnancy planning and contraceptive use among first time Samoan mothers living in New Zealand: We just had unprotected sex, I'm pregnant, it was a big shock**

**Presenter: Ms Marianna Churchward**

*Marianna Churchward is a PhD candidate with Pacific Studies, Victoria University of Wellington. Both her parents are of Samoan descent, her late father from Faleasiu; and her mother from Lotofaga. Marianna recently submitted her doctoral thesis for examination. Her research explored factors that contributed to the health and well-being of Aotearoa/New Zealand-born Samoan women during their pregnancy, childbirth and motherhood. The research involved a two-phase interview process with each first time mother in her last trimester of pregnancy; and up to 12 months after they gave birth. Interviews were also undertaken with grandmothers, and maternity health providers. Marianna spent almost 18 years in the advertising industry in several roles. The past 14 years she has been based at Health Services Research Centre as a researcher on several health-related projects before embarking on fulltime PhD study. She is a recipient of a Health Research Council of New Zealand Pacific PhD Scholarship.*

## **Abstract**

### **Background**

What factors contribute to planned/unplanned pregnancies for Samoan women living in New Zealand?

An unplanned pregnancy may carry negative connotations for women, being seen as a 'mistake' due to a woman's lack of responsibility or negligence by not using contraceptives. To avoid becoming pregnant requires a certain level of commitment. If there is a lack of firm commitment contraceptives will not be used consistently or engagement in unprotected sex is more likely (Stevens-Simon, Beach et al. 2001).

Unplanned pregnancies have been linked to poor infant outcomes in part because women who have unplanned pregnancies that continue to term have fewer opportunities to benefit from pre-conceptual and early antenatal care (Bouchard 2005). Although unplanned pregnancies are focused on teenagers, it appears that unplanned pregnancies are on the increase among adults (Bouchard 2005; Morton, Atatoa Carr et al. 2010).

In New Zealand, Pacific mothers have a high rate of unplanned pregnancies with one study finding well over half (60%) of their mothers stating their pregnancies were unplanned (Paterson, Cowley et al. 2004), while another large study that found it was 40 per cent (Morton, Atatoa Carr et al. 2010). Unplanned pregnancies have serious implications as the unborn babies may be exposed to the health risks by the mother's drinking, unhealthy eating and smoking before she realises she is pregnant.

Eleven New Zealand-born, Samoan first-time mothers were interviewed as part of my PhD qualitative research. They were interviewed during their last trimester of pregnancy and then followed up with a second before their baby was 12 months old. Nine of the 11 pregnancies were unplanned. Several key factors related to their unplanned pregnancy: lack of consistent contraceptive use for a variety of reasons i.e. belief they were infertile therefore considered contraceptive use to be pointless; opportunistic sexual encounters; or taking a break from using oral contraceptives to give their bodies a rest. To have unprotected sex was a joint decision made by both the woman and her partner.



### **Preliminary findings**

The preliminary findings from my research on this topic will be discussed including what 'unplanned' really means in these circumstances and how that affects subsequent behaviours.

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# Knowledge and beliefs around nutrition and physical activity during pregnancy in women residing in a low-income area in Auckland, New Zealand

## **Presenter: Dr Karaponi Okesene-Gafa**

*Dr Karaponi Okesene Gafa is a senior lecturer in the Department of Obstetrics and Gynaecology, the University of Auckland, and also a consultant Obstetrician at Counties Manukau Health (CMH), South Auckland, New Zealand. She is of three Pacific Island Ethnicities: Niuean, Samoan and Cook Island. Kara graduated as a doctor from Otago University, and pursued a career in obstetrics and gynaecology by completing the Diploma in Obstetrics and Gynaecology at the University of Auckland, followed by specialist training at National Women's Hospital. In 2006–2007, she was appointed as Director of Health for Niue Island to support the establishment of their new hospital (funded by New Zealand), as the previous hospital was demolished by cyclone Heta in January 2005. Kara returned to Middlemore Hospital in January 2008 to continue her career as an obstetrician and gynaecologist. In 2012 she was appointed as the lead clinician for diabetes in pregnancy services at CMH. In January 2014 she was appointed as a full-time employee of the University of Auckland as a senior lecturer and continues to work part-time in clinical obstetrics at CMH. Her research interests focus on obesity and diabetes in pregnancy which are very common in Pacific women. She has enrolled to do her PhD, a randomised controlled demonstration trial of nutritional interventions in obese pregnant women, which aims to limit pregnancy weight gain, improve maternal glucose metabolism and optimise birth weight.*

Co-authors: Dr Carol Chelimo, Ms Shireen Chua, Dr Marcus Henning, Professor Lesley McCowan

## **Abstract**

### **Background**

The global epidemic of obesity and its consequences in pregnant women and their offspring are extremely concerning. The World Health Organization emphasised that the “growing rates of maternal overweight are leading to higher risks of pregnancy complications, and heavier birth weight and obesity in children”. In 2012, New Zealand was ranked the third most obese nation among Organisation for Economic Co-operation and Development (OECD) countries. Data from Counties Manukau District Health Board (CMDHB), a low socio-economic area in Auckland, showed in 2009 that 65% of all pregnant women were overweight or obese, with rates in Pacific, Māori and European/Other ethnicities being 86%, 69% and 50%, respectively (Jackson, 2011). Being overweight and obese increases the risks of complications to both mother and baby. There are increased maternal risks of gestational diabetes, pre-eclampsia, caesarean sections, and post-partum haemorrhage; neonatal risk of being born large for gestational age, resulting in increased risk of childhood obesity (Nuthalapaty & Rouse, 2013). In spite of obesity being a major public and individual health problem in pregnancy, there are little to no New Zealand data available about women's knowledge and beliefs around nutrition and physical activity during pregnancy.

### **Purpose/methods**

To assess views on nutrition and physical activity during pregnancy; factors influencing eating habits; measured versus perceived body weight; and enablers for participation in a future nutritional intervention study. In this quantitative study, a survey was administered to women in late pregnancy in the CMDHB region between September and December 2013. Stratified sampling was used to obtain an ethnically representative sample of at least 400 women. The participants were recruited by research assistants (midwife and community health worker) through: self-employed and community midwifery clinics, secondary care



clinics, and Middlemore Hospital's Women's Health assessment unit and maternity ward. Following verbal consent, participants completed the anonymous SurveyMonkey® questionnaire on an electronic tablet. Occasional paper questionnaires were completed if there were technical problems with the tablets. Completion of the self-administered questionnaire took 10 to 15 minutes. The success of the recruitment was the use of research assistants' that through their own interpersonal way, effectively recruited women who otherwise would not have participated in research.

## **Findings**

Participants (n=422) comprised of 24% Māori, 41% Pacific, 13% Asian, and 22% European/other women. The mean maternal age was 29 years and the mean gestational age was 29 weeks. About half (48%) of the participants were obese (BMI 30+), had 1 to 2 children (48%) and had an unplanned pregnancy (50%). Twenty-eight per cent had 7 or more people residing in their home. Most (95%) reported they had received information about healthy eating. Of women who reported eating more during pregnancy (n=187, 44%), the most common reasons were "cravings" (n=131, 70%) or "eating for two" (n=118, 63%). Almost two-thirds (61%) reported they ate healthy food frequently or very frequently. Logistic regression analysis showed that ethnicity was the factor most strongly associated with unhealthy eating in pregnancy. Being of Māori or Pacific ethnicity (odd ratios [OR] adjusted for gestation at recruitment) was most strongly associated with unhealthy eating (Māori: OR=17.7, 95% CI=8.5-36.8; Pacific: OR=14.5, 95% CI=7.3-28.9). Other factors associated with unhealthy eating (OR adjusted for gestation at recruitment and ethnicity) were: parity of ≥3 (OR=2.1, 95% CI=1.3-3.5); obesity (OR=2.8, 95% CI=1.4-6.0); unplanned pregnancy (OR=1.9, 95% CI=1.2-3.2); and eating takeaways ≥3 times/week (OR=4.5, 95% CI=1.9-10.6). Among women who had takeaway meals ≥once weekly (n=411), many reported takeaways were a family treat (83%) and more convenient than cooking (75%); over half believed takeaways were cheaper than home-cooked meals (61%) and tasted better (59%). About half reported that mild and moderate physical activity was acceptable during the first and second half of pregnancy respectively. Walking was the main form of reported exercise n=371 (88%). Most women agreed being overweight (85%) or underweight (80%) and gaining too much (86%) or too little weight (75%) during pregnancy were important health issues. In addition, gaining too much weight in pregnancy was largely viewed to increase the chances of problems for mother and baby (91% and 81%, respectively), as was gaining too little weight in pregnancy (79% and 76%, respectively). Overweight/obese women perceived themselves to be lighter based on the Figure Rating Scale (Stunkard, Sorensen, & Schulsinger, 1983). Eighty-three per cent of participants indicated they would likely participate in a nutritional intervention study aimed to "improve health for them and their babies". More women preferred one-to-one dietary advice (69%); clinic (41%) and then community hall (31%) were preferred settings; anytime during weekdays and not weekends.

## **Conclusions and recommendations**

This survey identified factors associated with unhealthy eating during pregnancy in a multicultural sample of women residing in an economically challenging area in Auckland, New Zealand. This information will aid the development of a collaborative, community focused, culturally appropriate and acceptable nutritional intervention for pregnant women that can be trialled in the region in the future.

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## Tapuaki: Pacific pregnancy and parenting programme

### **Presenters: Jacinta Fa'alili-Fidow and Mary Roberts**

*Jacinta Fa'alili-Fidow is Manager of TAHA Well Pacific Mother and Infant Service based at the University of Auckland. Jacinta was born in Samoa and was raised and still lives in South Auckland. She has held roles in primary care quality coordination (Pasifika Health care, now called West Fono Trust), research funding processes (Manager Pacific Health Research, Health Research Council of New Zealand) and public health services policy, funding and planning (Portfolio Manager, Ministry of Health). With a Master's of Public Health, married to Abba and now mother of three sons: Cisco, James and Peter, Jacinta is able to translate her passion for maternal and infant health into action through TAHA's focus on improving Pacific pregnancy and parenting.*

*Mary Roberts is currently the Clinical Manager for TAHA Well Pacific Mother and Infant Service, based with the Pacific Health team, the University of Auckland. Mary Roberts is a Registered Nurse who specialises in child health. Having worked in primary health care for many years, she has worked for Plunket, South Seas Health care, Mangere Family Doctors, Bader Drive Health care and at Alliance Health + Primary Health Care Organisation as the Nurse Educator. She has a Bachelor of Health Science (Nursing), Postgraduate Diploma in Health Science and has also achieved her Master's of Nursing. Married to Michael, and mother to four children: Hereine, Michaela, Joseph and Sasha.*

### **Abstract**

#### **Background**

A recent report from the Perinatal and Maternal Mortality Review Committee (PMMRC) found that Pacific women (including those who smoke during pregnancy, women living in poorer areas and women having their first babies) are at increased risk of neonatal death of babies born between 20 and 27 weeks (a baby born alive between 20 and 27 weeks' gestation who dies prior to 28 days of life); are three times more likely to die while pregnant or up to six weeks after birth than non-Māori, non-Pacific mothers; and have a higher incidence of neonatal encephalopathy, a condition usually resulting from lack of oxygen to the brain around the time of birth. Furthermore, Pacific women have the highest fertility and birth rates in New Zealand but represent a low uptake of antenatal education despite it being integral to successful pregnancy and birthing experiences. The limited research indicates that less than one per cent of participants attending childbirth education in 2009 were of Pacific ethnicity. The reasons for Pacific people's low engagement in antenatal education are not known as little research has been conducted in this area. What is known is that most antenatal education courses in New Zealand are delivered by non-Pacific peoples, with variable knowledge and understanding of Pacific cultural beliefs, which may help to explain this.

A study which looked at infant care practices among different ethnic groups in New Zealand found that support and advice during pregnancy and after baby was born were very important among the women interviewed. Mothers, mothers-in-law, sisters, aunts and female family members, provided significant practical, financial, and emotional support and advice, and had an important influence on infant care practices. This strong female involvement is a theme common for many Pacific women.

What is more, cultural differences towards beliefs and practices surrounding pregnancy care and parenting may exist for some Pacific women, which can have implications on key maternal and infant health messages. The Tapuaki pregnancy and parenting education



programme acknowledges this and recognises the need for antenatal education to be culturally engaging, supportive and inclusive of fathers and extended family in maternity care and infant care.

### **The programme**

Improving health outcomes for Pacific mothers and babies is the motivation behind the Tapuaki Pacific pregnancy and parenting programme. The purpose is also to assist with better engagement of Pacific pregnant women, fathers, their families and care providers and to improve access to and delivery of pregnancy and parenting education. By participating in this programme, it is hoped that Pacific pregnant women of all ages, and their families are empowered to talk about pregnancy and parenting, ask questions, seek advice, and make more informed choices about pregnancy and infant care.

The programme comprises a number of key features which sets it apart from prevailing antenatal education programmes. It is primarily designed for Pacific women, their partners and families. Strategies include:

- community-based pregnancy education and support services (which includes evidence-based and culturally relevant content and materials)
- partnerships with existing primary health care providers and other pregnancy support services
- web-based education and support e.g. website, social media sites
- phone-based education and support e.g. smart-phone application

During this presentation, findings will be discussed in relation to three pilots of the Tapuaki Pacific pregnancy and parenting education classes that were delivered in Auckland in partnership with Pacific providers during November and December 2013. Both success factors and challenges during both the development process and piloting of this programme will be shared.

### **Key findings**

There is little doubt that the piloted Tapuaki pregnancy and parenting programme has been successful in increasing pregnant Pacific women's knowledge and confidence about pregnancy and parenting. The Tapuaki pregnancy and parenting programme is not a stand-alone tool, but one intervention which can assist with better engagement of Pacific pregnant women, fathers, their families and care providers. The Tapuaki Pacific pregnancy and parenting education programme is the only known programme of its kind for Pacific peoples in New Zealand. It has the potential to improve Pacific women's access to, and use of, maternity services and antenatal education. Through the use of evidence-based and culturally relevant content and materials, Pacific engagement, health literacy, empowerment and participation in antenatal and maternity care can be achieved.

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## Building the health response to violence against women in Pacific Island countries

### **Presenter: Professor Jane Koziol-McLain**

*Professor Jane Koziol-McLain leads a family violence research programme at AUT University's Centre for Interdisciplinary Trauma Research. Her work focuses on improving the health system response to violence against women and children. As an implementing partner for UNFPA, she leads a team working to strengthen the health system response to violence against women in Pacific Island countries (includes Kiribati, Solomon Islands, Fiji, Vanuatu, Republic of Marshall Islands). Other projects include a randomised controlled trial testing the effectiveness of an interactive internet-based safety decision-aid for abused women and evaluation of the New Zealand Ministry of Health's Violence Intervention Programme in district health boards.*

### **Abstract**

#### **Background**

Violence against women (VAW) is recognised as a health and human rights issue of epidemic proportions. Significant gains have been made in documenting the prevalence and health effects of VAW globally (WHO, 2013a), and policy and clinical guidelines have been published to inform the health response to intimate partner violence and sexual violence against women (WHO, 2013b). The guidelines are consistent with the 57th Commission on the Status of Women (2013) call for action to: "Address all health consequences, including the physical, mental and sexual and reproductive health consequences, of violence against women and girls by providing accessible health-care services that are responsive to trauma". The 67th World Health Assembly appreciated the gap between international and regional commitments and what is actually implemented at the country level: "recognizing that health systems often are not adequately addressing the problem of violence and contributing to a comprehensive multisectoral response" (WHO, 2014).

#### **Purpose**

The purpose of this paper is threefold. (1) Summarise findings of recent VAW prevalence studies in seven Pacific Island countries (Family Health and Safety Studies in Samoa, Tonga, Solomon Islands, Kiribati, Vanuatu, Fiji and Cook Islands). (2) Describe capacity building and situation analysis methods for assessing the Pacific Island country context and health response programme activities. (3) Identify programme changes that have occurred over time (2009–2014) and recommendations for future health system development. Principles that guide programme activities include to promote health and human rights and to provide a woman-centred approach. This means that systems, processes and services are developed, implemented and evaluated based on the needs and desires of the woman receiving the care.

#### **Key findings**

(1) *VAW prevalence*. WHO Multi-country Study on Women's Health and Domestic Violence methodology (population-based household survey) was used across Pacific Island countries, providing the ability to compare VAW prevalence across the region. Countries modified the methods as appropriate to suit the country context (e.g. culture, language, goals). For example, Fiji surveyed women 18 to 64 years of age, rather than 14 to 49 years. While they provide disaggregated figures by age (i.e. 18 to 49), data are not available for 14 to 17 year olds in Fiji. Countries assessed child sexual abuse by asking "had anyone ever touched them sexually, or made them do something sexual that they didn't want to do, before they were 15 years old". Women responded verbally and using an anonymous card (happy or sad face placed in an envelope). Samoa, the first (2003) regional country to



participate in the WHO Multi-country Study, however, did not include the anonymous card method to measure childhood sexual abuse. The data demonstrate the high proportion of VAW experienced by girls and women in the region; among ever-partnered women, lifetime prevalence of partner sexual or physical abuse ranged from 31% (Cook Islands) to 68% (Kiribati). Some patterns emerge among Polynesian, Melanesian and Micronesian countries with regard to rates of partner versus non-partner abuse. In addition to prevalence, the individual country studies provide a wealth of information for understanding the health effects, and to a lesser extent, risk factors, of VAW.

(2) *Situation analysis.* A comprehensive systems approach is advised when building health capacity to respond to VAW in an effective, compassionate and sensitive manner. Annual consultation visits were conducted based on partnerships between Ministries of Health, United Nation Population Fund (funded through Australian Aid) and AUT University in five countries (Solomon Islands, Kiribati, Vanuatu, Fiji and Republic of Marshall Islands). During country visits, rapid situation analyses were conducted that included two components. The first component was an analysis of the legal, social and epidemiological situation. Questions were asked about the prevalence of VAW in the country; the existence of VAW government policy and who is responsible for monitoring its implementation; relevant legislation; presence of a coordinated interagency network; and availability of community services. The second component addressed key health programme elements using the WHO health system building blocks framework. The framework includes leadership and governance, financing (budget allocation to VAW services); workforce development (training, supervision and mentoring); medical products and facilities (commodity security and private health exam locations); and information (health information systems, monitoring and evaluation). These building blocks support the final building block: delivery of services (i.e., first line support, medical care, sexual assault exam and treatment, mental health assessment and management).

(3) *Assessment and Recommendations.* All Pacific Island countries are in the early stages of addressing VAW as a health and human right. Interagency networks and a dedicated VAW coordinator are in place in Kiribati and Solomon Islands. Interagency protocols (MOUs), health Standard Operating Procedures and training modules are now being developed. Recommendations include (1) aligning health system strengthening to country implementation of legislation, national ending VAW policy and community prevention initiatives, (2) working to support both senior health leaders (top down) and clinical health care workers (bottom up) in moving towards a system that supports quality service delivery, (3) integrating VAW with other forms of family violence (such as child abuse and neglect), social determinants of health (such as gender inequality and unemployment), co-occurrences (such as alcohol) and consequences (such as depression and infant illness), and (4) working towards sustainable solutions. Gender equality, healthy relationships, and healthy families and workplaces provide a platform for changing societal norms.

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**Session 14**

**Child and Youth Health**



# Infant feeding practices among American Samoan mothers: The American Samoa infant feeding study

## **Presenter: Dr Nicola Hawley**

*Nicole is an Assistant Professor of Epidemiology (Chronic Diseases) at the Yale School of Public Health, Connecticut, US. Dr Hawley earned her PhD in Human Biology from the Center for Global Health and Human Development at Loughborough University, UK. Dr Hawley's research focuses broadly on: (1) understanding how maternal and child health are impacted by rising levels of obesity and diabetes in developing countries, (2) determining how the delivery of health care impacts the identification and treatment of these diseases during the perinatal period, and (3) developing interventions focused on pregnancy and early infancy to prevent the intergenerational transmission of chronic disease. She has ongoing projects and collaborations in American Samoa, Samoa, South Africa, and the US.*

Co-authors: Inga Holmdahl, Joshua Freeman, Ashton Strait, Rochelle Rosen, Bethel Muasau-Howard, Stephen McGarvey

## **Abstract**

### **Background**

The high levels of overweight and obesity characteristic of the adult population of American Samoa are now also present in children as young as 15 months of age. Based upon having a weight-for-length greater than the 95<sup>th</sup> percentile of the sex-specific Centers for Disease Control (CDC) growth charts, 23.3% of boys and 16.6% of girls aged 15 months can be classified as obese. This is more than double the prevalence of obesity among infants in the general US population. As obesity in early life has both immediate and long-term consequences for morbidity and mortality, identifying and applying preventative strategies to reduce the early burden of obesity in American Samoa is critical.

In American Samoa, exclusive breastfeeding at four months of age has been shown to be protective against obesity at 15 months of age. While rates of breastfeeding initiation are high in American Samoa, clinical data suggests that exclusive breastfeeding declines sharply in the first month postpartum. Increasing the duration of breastfeeding among American Samoan women may, therefore, be a potential target to consider for obesity prevention. To better document patterns of infant feeding in American Samoa and to understand the barriers to exclusive breastfeeding we undertook a mixed-methods, prospective study following Samoan women, their partners, and their infants from late in their pregnancy until eight weeks postpartum. This paper describes the study design, the socio-demographic characteristics associated with pre-delivery feeding intentions, feeding patterns among the study sample, predictors of formula introduction in the first three weeks post-partum, and the most commonly reported problems with breastfeeding. Forty-four women, who averaged 28 years of age, enrolled in the study between 35 and 39 weeks gestation. Most were married or cohabiting and multiparous (average parity 2.1).

Most women (79.5%) indicated before delivery that they planned to exclusively breastfeed their baby for the first few weeks after birth. Seven women (20.5%) planned to introduce formula, with six women intending to combine breast- and formula-feeding (mixed feeding) and one planning to exclusively formula feed. Those with plans to introduce formula had significantly more years of education, were more likely to be multiparous, and enrolled in prenatal care approximately five weeks later than those who planned to exclusively breast-feed. At three weeks, 60.7% of the women who participated in a post-partum follow up had introduced formula into their infants diet. Among the women who had planned to exclusively



breastfeed but went on to introduce formula, most introduced formula to their infant before they were discharged from the hospital. The in-hospital experience was important for shaping women's feeding choices. Those who introduced formula to their infant in the three weeks after delivery were more likely to have had a caesarean section and no skin-to-skin contact with their child than women who were still exclusively breastfeeding. Those who introduced formula were also more likely to report that they were not given help with breastfeeding while in the hospital or information about support services available to them after their discharge. After hospital discharge, these women were also more likely to report experiencing pain during the first weeks of breastfeeding and less likely to have accessed breastfeeding support services in their community. Among women who were exclusively breastfeeding, the most common problems were breasts being overfull or leaking. Among women who had introduced formula and were mixed feeding, the most commonly reported problems with breastfeeding were not having enough milk, trouble with the milk flow, or sore and cracked nipples.

### **Findings**

This study confirmed the findings of our prior record-based study, showing that while American Samoan women are knowledgeable about the benefits of exclusive breastfeeding and intend to exclusively breastfeed before delivery of their infant, many face barriers to exclusive breastfeeding and choose to introduce formula. The study highlighted several opportunities for intervention around breastfeeding, including further prenatal education, more breastfeeding support before hospital discharge, and continued home-based post-partum care. These data lend support to the notion that certifying the Lyndon B Johnson Tropical Medical Center as baby friendly will be a positive step toward improving exclusive breastfeeding rates in American Samoa and potentially impacting infant obesity rates.



# Building a child BMI monitoring system for the US-affiliated Pacific region: A model from the Hawai'i Children's Healthy Living Program

## **Presenter: Dr Rachel Novotny**

*Dr Novotny is an internationally recognized scientist and leader in nutritional health of children in remote regions and among culturally diverse populations. Dr Novotny has focused on maternal, infant and child feeding patterns and indicators of health and has published over 110 scientific papers related to child nutrition and health among diverse populations. She has served as Department Chair for the Department of Human Nutrition, Food and Animal Sciences, and as Director of the Kaiser Permanente, Center for Health Research in Hawai'i. She has appointments at the University of Hawai'i's John A Burns School of Medicine and Cancer Center. Dr Novotny is currently Professor of Nutrition and Chair of the Intercollege PhD Program in Nutrition at the University of Hawai'i at Mānoa, and Principal Director of the Children's Healthy Living Program for Remote Underserved Minority Populations of the Pacific, a community-based multi-level intervention, training and outreach program.*

Co-authors: Marie K Fialkowski, Monica K Esquivel, Fenfang Li, Lynne R Wilkens

## **Abstract**

### **Background/purpose**

There is no child BMI monitoring system in the US-affiliated Pacific region (USAP) to guide program and policy planning for child health.

Our purpose is to describe the child BMI monitoring model being developed by the Children's Healthy Living (CHL) Program for remote underserved minority populations of the Pacific United States (US) Department of Agriculture program to monitor child BMI in partnership with government programs and agencies in the region.

## **Methods**

The CHL program targets 2 to 8 year-old children. CHL is a multi-component research, education and outreach program that encompasses the USAP jurisdictions of Alaska, American Samoa, Commonwealth of the Northern Marianas, Federated States of Micronesia, Guam and Hawai'i. The child BMI monitoring model targets 2 to 5 year-old children. The model entails partnership with Head Start (HS), the US government program for early childhood education (ECE) in Hawai'i. The HS program (also referred to by its replacement ECE programs in some jurisdictions) also extends to the other CHL jurisdictions. HS agencies are required to conduct assessments of an array of health and developmental factors, including growth, of children enrolled in their program twice each year. The USAP young child BMI monitoring system, modelled in Hawai'i, is composed of the following four components:

1. *Anthropometric standardization and training of agency staff.* Where multiple sites are involved, and a number of anthropometrists are needed, the degree of measurement error increases, particularly error associated with inter-observer variation. Standardization of measurement procedures are essential to obtain reliable data. For CHL, all trainees were compared against a single anthropometry team and criteria. Zervas criteria were used to evaluate measurement errors among trainees.
2. *Data validation of HS data with CHL data.* Guardians of children enrolled in HS from each of the CHL jurisdictions signed an agreement of data sharing. Consenting participants have their BMI data collected by HS validated against the BMI data collected at the same time by CHL.



3. *Established data management plan and structure.* CHL established a coordinated, centralized data management system that included data entry, data transfer, data validation and final data management. Data entry first occurred at each jurisdiction. Upon completion, data and data forms were transferred to the CHL Coordinating Center (CHL CC) through CHL's secure server. At the CHL CC, data validation began with a second data entry using uploaded data forms. A SAS program was used to validate data from the first and second data entry with any necessary corrections made on the second dataset. Unified protocols and procedures were developed for the data transfer process using the CHL secure server, the home for the final, all-jurisdiction-combined data sets. For remote jurisdictions where internet capacity was not able to handle the secure data uploading method through the CHL server, additional secure data transfer procedures were established where data and data forms could be mailed to CHL CC via encrypted electronic storage devices, registered, or certified mail. Similar centralized data management will be adopted for the USAP young child BMI monitoring system. Data from participating agencies will be transferred to each CHL jurisdiction share at the CHL server or use the alternate secured data transfer procedure. Data quality checking will be conducted for each agency, by randomly selecting a subset of child data forms to be double entered.
4. *Established data report templates and publication guidelines.* CHL established reporting and publication guidelines describe the process and principles for reporting, input, and publication of data. Community input and review of initial findings are a priority. With the assistance of Local Advisory Committees, CHL addressed the format, delivery and timeline for final reports to the communities. In addition, CHL will disseminate broadly through the CHL website.

#### **Key findings/implications/recommendations**

The existing structure of the US HS program provides a platform for developing a young child BMI monitoring system in the USAP region. With partnership, HS BMI measures can be standardized and managed to build a young child BMI monitoring system that can provide regular reports on BMI. In the absence of HS, this model can be adapted to establish similar partnerships with other programs that collect child BMI data, such as maternal-child health programs and school health programs.



# Rapid growth in early childhood predicts risk of increased adiposity and insulin resistance in Native Hawaiian and Samoan adolescents

**Presenter: Dr May Okihiro**

*Dr May Okihiro is a pediatrician who grew up in Hawai'i. She received her undergraduate degree at the University of California – Santa Barbara and her medical degree from the University of Hawai'i John A. Burns School of Medicine. She completed her residency training in pediatrics at the University of Washington in Seattle. Following residency she worked abroad for several years in Pohnpei, Federated States of Micronesia and in Suva, at the Fiji School of Medicine. In 1999 she returned to Hawai'i to join the Waianae Coast Comprehensive Health Center where she continues as a pediatrician today. She is also an Assistant Professor, clinical researcher and community advocate in the area of childhood obesity and early chronic disease risk at the University of Hawai'i School of Medicine, Department of Pediatrics.*

Co-authors: Dr James Davis, Dr David Easa

## **Abstract**

### **Background**

Insulin resistance is one of the most serious complications of childhood obesity. It increases for type 2 diabetes mellitus, metabolic syndrome, and cardiovascular disease. Native Hawaiian and Other Pacific Islanders (NHOPI) children and adults demonstrate a high prevalence of early obesity and obesity-related comorbidities, especially diabetes and cardiovascular disease. Research has shown that early life factors, including formula feeding and rapid growth in infancy and early childhood, are associated with obesity. However, few of these studies have focused on high-risk indigenous populations, such as NHOPI. Also, previous studies have not determined the specific developmental feeding periods in which early rapid growth that most impacts future risk for obesity-related complications. Prior studies have used varying lengths of time to assess growth, from just a few months in infancy to several years of life. This has made it difficult to translate the findings into clinical advice for parents. We sought to understand (1) what early life factors influence the development of chronic disease risk, such as early obesity and insulin resistance, in NHOPI adolescents (2) when these factors have their greatest impact on future chronic disease risk.

### **Objective**

The objective of this study was to examine the association between early life variables, during specific developmental feeding stages, and the development of obesity, insulin resistance and central adiposity in NHOPI adolescents.

### **Methods**

This was a quantitative study of a cohort of overweight and obese Native Hawaiian and Samoan children, 10 to 14 years of age, recruited from two community health centers in Hawai'i. At enrollment measurements included weight, height, and waist circumference at the ileum. Body mass index (BMI) was calculated based on weight and height. Laboratory studies were obtained after a 10-hour fast. Insulin resistance was based on HOMA2-IR, a calculation involving the product of fasting glucose and insulin. Adolescents were considered insulin resistant if HOMA2-IR was greater than or equal to four. Growth charts from the United States Center for Disease Control and Prevention (CDC) were used to assess growth. Rapid growth was defined as an increase in weight-for-height z-score of  $\geq 0.67$  SD, during specific age intervals in early childhood, on a standard growth chart. This is seen clinically as moving from one major displayed centile to the next, over time, on a standard weight-for-height growth



chart (Example: from 50th to 75th percentile or more). Data on pregnancy, birth and early childhood growth was obtained through medical record abstraction. Mothers completed questionnaires about diabetes, and weight gain during pregnancy. For the analysis we used linear regression models with BMI, waist circumference, and HOMA2 IR as the dependent variables and breastfeeding and rapid growth as the independent variables. Separate models were fit for the different associations shown.

## Results

Of the 196 youth enrolled, 49% were Native Hawaiian, 42% were Samoan and 8% were mixed Hawaiian and Samoan. Mean age was 12.4 years: 56% were male and 44% were female. Based on the standard CDC definitions, 22% were classified as overweight and 78% were obese. Mean weight was 78kg while the maximum was 147kg. Mean BMI was 29 while the maximum was 56. Any breastfeeding at 6 months of age was associated with lower BMI, smaller waist circumference and less insulin resistance. Growth data from birth to 4 years was available on 97 children. Adolescents who experienced rapid growth from 6 through 11 months and 24 through 48 months had higher BMI, larger waist circumference and more insulin resistance compared with those who did not.

Variable (n=147)		BMI (p-value)	HOMA2-IR (p-value)	Waist circumference (p-value)
Any BF ≤ 6 months		-2.53 (0.06)	-2.03 (<0.01)	-5.8 (0.04)
Rapid growth (n=97)	Developmental Feeding Periods			
1 day-5 months	Milk feeds	-0.14 (0.9)	-0.50 (0.58)	0.46 (0.87)
6-11 months	Transitional “baby foods”	3.90 (0.01)	2.08 (<0.01)	10.6 (<0.01)
12-23 months	Weaning	2.02 (0.23)	1.94 (0.03)	6.27 (0.12)
24-48 months	Toddler diet	4.45 (<0.01)	1.81 (0.02)	9.18 (<0.01)

## Conclusion

Defined periods of rapid growth in infancy and early childhood predicted higher BMI, insulin resistance and abdominal obesity in adolescent NHOPI. This supports the concept that cardiometabolic risk factors, such as adiposity and insulin resistance, have their origins early in life. The results suggest that certain intervals of growth, corresponding to specific developmental feeding periods, may be important in conferring long-term risk for obesity and obesity-related chronic disease. This study also supports the literature on the protective effects of breastfeeding. Understanding the factors underlying periods of rapid growth in early childhood, such as inappropriate feeding methods will aide clinicians as they advise parents on best nutritional strategies for young children, and help researchers to develop more appropriate interventions to prevent early risk for childhood obesity and its complications.



# Prevalence of health risk behaviours and mental health symptoms among Samoan and Tongan adolescents in California

## Presenter: Dr Sela Panapasa

*Dr Sela Panapasa is an Assistant Research Scientist at the University of Michigan's Institute for Social Research. Her work includes research on family support and intergenerational exchanges, population dynamics, racial/ethnic health disparities and population-based survey research. She conducts both quantitative and qualitative research and recently completed a representative study on US Pacific Islander health and health care utilization. Dr Panapasa also played a visible leadership role in raising awareness on health disparities among Native Hawaiian and Pacific Islanders. She formerly chaired the Census Advisory Committee on Native Hawaiian and Pacific Islanders and currently serves on the US Census Bureau National Advisory Committee on Racial, Ethnic and Other Populations and the US Department on Health and Human Services Advisory Committee on Minority Health. Dr Panapasa completed an NIA postdoctoral fellowship at the University of Michigan and received her PhD in Sociology/Demography from Brown University. Originally from Fiji, she is proud of her Rotuman, Tongan and Tuvaluan heritage.*

## Abstract

### Background

Adolescents establish patterns of behaviour and make lifestyle choices that affect both their current and future health as they transition from childhood to adulthood. Serious health and safety issues such as motor vehicle crashes, violence, substance use, and risky sexual behaviours can adversely affect adolescent and young adults. In the United States, 70% of all deaths among youth and young adults aged 10–24 years result from four causes: motor vehicle crashes (23%), other unintentional injuries (18%), homicide (15%), and suicide (15%) (CDC, 2013). Research on US Pacific Islander (PI) adolescent health are sparse despite the growing emphasis placed on the collection of data on health-risk behaviours among adolescents and adults in the United States (US). Due to the high cost associated with the collection of survey data among small populations, the systematic study of PI adolescent remain a persistent challenge. To address this data limitation, researchers at the University of Michigan's Institute for Social Research and Harvard University School of Public Health conducted a study on PI adolescent health as part of the Pacific Islander Health Study (Panapasa et al, 2012). Modelled after the National Health Interview Survey (NHIS), California Health Interview Survey (CHIS), and National Survey on American Lives (NSAL), the PI Adolescent Module collected key health behaviour information from a probability sample of Samoan and Tongan adolescents living in California. The sample was post stratified to the California population to develop population weights for robust data analyses (Heeringa et al, 2014). This study is also timely, as small area- and community-based studies have strongly suggested that PI adolescents face the same challenges of other youths and that the risks of alcohol abuse, experimentation with drugs, the use of cigarettes, and other high-risk health behaviours are disturbingly common. Similarly, the concerns over the growth of mental health disease have been reflected in the use of these high risk outlets, as well as the rise of suicide among PI adolescents have been raised, but little systematic evidence exists to either measure or evaluate the true level of mental distress among these little studied populations.

### Objective

To examine the patterns and prevalence of health risk behaviours and mental health symptoms among Samoan and Tongan adolescents in California.



## **Methods**

The Adolescent Module of the PIHS asked a series of questions regarding the recent and lifetime use of specific high risk behaviours including smoking, drinking, using drugs and engaging in dangerous behaviours. Mental health status is determined using the Kessler 6 (K6) instrument administered to all respondents in the adolescent survey. The K6 is a standardized and well validated measure of non-specific psychological distress commonly used in many national and state level health surveys. Intra and inter-group differences in outcome measures for Samoan and Tongan adolescents (age 13–17 years) will be achieved using the PIHS weighted data and comparable state and national results.

## **Results**

The most striking results were seen in the heterogeneous outcomes for PI adolescents. Outcomes for Samoan and Tongan youths were markedly different across a number of measures. Differences in gender outcomes were also quite marked with female PI adolescents often reporting higher levels of risk behaviours than male PIs. Results from the K6 array show that PI adolescents face high risks of distress compared to other racial and ethnic groups in the US and California. In general, PI adolescents reflected higher levels of behavioural risk at almost all measures compared to other racial groups.

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# The perceptions of Pacific adolescent girls who have a physical disability, on their participation in physical activity

**Presenter: Ms Caroline Dickson**

*Caroline is a senior lecturer at AUT University, for the School of Interprofessional Health Studies core paper, Lifespan Development and Communication. Her research area is adolescent girls and currently, she is working toward a PhD exploring Pacific girls with a physical disability, and their participation in physical activity. She has three grown children who are presently all at university.*

Co-authors: Professor Peggy Fairbairn-Dunlop, Associate Professor Erica Hinckson

## **Abstract**

### **Objective**

As is well documented, there is a positive relationship between health and well-being and participating in physical activity. However, the very little data available, suggest that Pacific girls generally are not participating in physical activity and there is even less data on the participation of girls who experience a physical disability. This presents a health and equity issue for these girls and a group at risk that needs to be prioritised. Furthermore, Pacific Island youth tend to have a higher rate of obesity (Ministry of Health, 2004). In New Zealand, the Ministry of Health (2002) has suggested that Pacific Island children and youth with a disability are an important group which need priority to promote healthier lifestyles.

The aims of my research were to explore participation of girls with a physical disability in physical activity. In particular, for this presentation today, to hear the voices of this group on the nature and extent of their participation in physical activity, and the factors influencing participation. For example, Taaloga & Lene (2003) have suggested that girls in Samoa with a disability have a low rate of participation in sports. In addition, their participation was impacted by a range of factors including the availability of facilities, economic factors and cultural norms about the participation of women in sports and physical activity in general, that experience a physical disability. This view is shared by Packer et al., 2006, who found not only does this group participate in fewer physical activities, but as a consequence, this increases their chance of long term poorer health.

### **Rationale**

There is a lack of research on the participation of physically disabled Pacific females in physical activity and this study aims to address this problem. The focus of this project is specifically on Pacific Island adolescent girls as this population is at risk of not participating in physical activity due to their gender, ethnic group, financial constraints, and physical disability. Furthermore, in comparison to other ethnic groups, Pacific youth were found to be the less active group (Ministry of Health, 2008). Pacific adolescents, who have a disability, may also experience discrimination at various levels and poorer health due to their disability (Stubbs & Tawake, 2009; Groce, 2004). This view is also shared by Taaloga & Lene (2003) who suggest in their report that young women with a physical disability, “maybe perceived as a burden” (p. 1).

### **Method**

My research is in two parts:

Part one: This study draws from a quantitative study utilizing data from the Auckland Adolescent Health Research Group survey. The study participants were the 1,201 Pacific adolescents who were randomly selected and participated in the survey. For study one, I have



been disaggregating the Pacific data from the data from their survey, and will be comparing the participation of Pacific adolescent boys and girls with and without a physical disability to quantify physical activity levels, the frequency of their participation, and health and well-being.

Part two: The second study, which is the focus of this presentation, comprised of seven interviews with Pacific adolescent girls and their mothers in a family setting. The focus of this talanoa was to explore their participation and factors influencing participation as well as what could be done to address the issues that were identified. The views of the service providers to Pacific girls with a physical disability were also part of study two, but they are not presented today.

The interviews with the girls and the mothers (or caregivers), were primarily home-based. I was accompanied by a Samoan research assistant who also assisted with the translation and interpretation of the data.

## **Results**

Findings were that these girls wanted to participate in physical activity and indicated keenly the physical activities they preferred. However, their participation was influenced by the interplay of a range of gender, cultural, age-related (adolescence) and socio-economic factors alongside policy and structural-related constraints. The main themes which were identified from the interviewees included health benefits; the family; restrictions, including financial and travel difficulties; and policy implications.



## How can we intervene? Understanding risk factors for smoking uptake among Pacific year 10 students in New Zealand

**Presenters: Ms Joanna White and Ms Metua Bates**

*Joanna is an intermediate researcher and the New Zealand Youth Tobacco Monitor (NZYTM) Project Manager, within the Research and Evaluation team at the Health Promotion Agency (HPA). The NZYTM is a national school-based monitor that comprises the ASH Year 10 Snapshot and HPA's Youth Insights Survey (YIS). It is used to gain smoking prevalence data for year 10 students and in-depth information on risk and protective factors for smoking and other health-related behaviours. Joanna has a First Class Honours degree in Psychology from Victoria University of Wellington. She is particularly interested in resilience and well-being among young people.*

*Metua currently works for the Health Promotion Agency (HPA) as Senior Advisor Pacific, within the Capacity Development team, which works across the HPA to connect and enhance its work (including alcohol, tobacco, gambling, rheumatic fever, immunisation, mental health and other health areas) with Youth, Māori and Pacific, in sport, workplaces, and education settings. Metua is committed to the HPA's mission to inspire all New Zealanders, especially Pacific peoples, to live healthier lives. Born in Amuri, Aitutaki, Cook Islands, Metua migrated to and was raised in New Zealand from 4 years of age. She is involved with and passionate about working with her Pacific, especially Cook Islands, people. Metua is proud of her Cook Islands-Tahitian-Papaa heritage and honours her parents Martha (Verotia) Bates (nee Turia) and the late Teinakore Bates. Her children, Merrilyn and Christopher, gifted her three young grandsons, Dartagnan, Aramis and Dante, and her little princess Annalangi-Gabriella.*

Co-authors: Rhiannon Newcombe, Darren Walton

### **Abstract**

#### **Background**

Tobacco kills up to half of its users, and tobacco use is one of the leading causes of premature death across the Pacific (World Health Organization, 2013). Of the six regions in the World Health Organization, the Western Pacific Region has the greatest number of smokers as well as the fastest growing rate of smoking among adolescents. In New Zealand, tobacco use is one of the biggest contributors to health inequalities. Taking up smoking in adolescence is of particular concern because earlier onset of smoking has been shown to increase nicotine dependence and lead to heavier use and likelihood of continued smoking into adulthood (U.S. Department of Health and Human Services, 1994). Although smoking rates among Pacific adolescents in New Zealand have been steadily decreasing over time, they are still twice as likely to be regular smokers as non-Pacific non-Māori adolescents (Action on Smoking and Health, 2013). Therefore, reducing smoking rates among Pacific adolescents is essential to reducing health inequalities, and it is important to better understand the risk factors for Pacific smoking uptake in order to design effective interventions to achieve this outcome.

#### **Purpose**

The present study investigated potential risk factors for being a current smoker (to smoke at least once a month) among year 10 students of Pacific ethnicity using data from the 2012 Youth Insights Survey (YIS). The YIS is a nationally representative biennial self-complete survey of 14 and 15-year-old students that collects information on tobacco-related knowledge, attitudes and behaviours, and monitors a wide variety of risk and protective factors that relate to smoking uptake.

A range of prominent modifiable risk factors for smoking uptake were analysed using



univariate logistic regression to compare current smokers (n = 52) and non-current smokers (those who had never smoked or smoked less often than once a month, n = 345) among students identifying with a Pacific ethnicity. Multiple logistic regression was used to examine the association of each risk factor with smoking uptake when the contribution of the other risk factors was adjusted for.

### **Key findings/implications/recommendations**

Thirteen percent of Pacific year 10 students indicated they were current smokers (smoked at least once a month). Preliminary analyses showed that of the risk factor variables included, the following were significantly positively associated with being a current smoker for Pacific students:

1. greater perceived ease of access to tobacco from friends, family and a shop
2. having friends and parents who smoked
3. being exposed to second-hand smoke in the home and in a vehicle
4. higher estimates of smoking prevalence among peers
5. belief that there is no harm in having a cigarette once in a while, that smoking helps people relax, and that smoking helps people forget their worries
6. disbelief that smoking makes your skin look worse
7. low agreement that family ask each other for help, that parents know what they spend their pocket money on, that parents know where they are when they are not at home, and that friends understand and accept them

Belief that there is no harm in having a cigarette once in a while remained significantly associated with being a current smoker for Pacific students when the risk factors were all adjusted for in the multiple regression model (aOR7.05, CI 1.77 to 27.99). Pacific students who were current smokers were almost four times more likely to agree with this statement than Pacific students who were not current smokers (54% compared with 15%, respectively).

Other factors that were not found to be statistically significantly associated with smoking uptake among Pacific students were interest in and attendance at Pacific cultural activities; frequency of visiting a place of worship; parental rules and attitudes towards smoking; parental knowledge about school life; likelihood of getting into trouble from their parents if they break important rules; and belief that smoking makes people look more grown up, helps people keep their weight down, and makes people look sexy. These preliminary results suggest that Pacific adolescents are not all equally at risk of taking up smoking. Further, the study identified a range of potentially modifiable risk factors for smoking uptake among Pacific adolescents that may be amenable to interventions, such as parenting engagement programmes or social marketing campaigns. In particular, the findings suggest that interventions to reduce smoking rates among Pacific adolescents could focus on dispelling the erroneous belief that there is no harm in having a cigarette once in a while.

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## Investing in our young people: Akaupokotuanga i tatou au mapu no te au tuatau ki mua

### **Presenter: Dr Neti Tamarua Herman**

*Dr Neti Tamarua Herman is a Cook Islander, and she graduated with her PhD from the Faculty of Medical and Health Science at the University of Auckland. She has a Bachelor in Health Administration and a Master's in Health Education from the University of New South Wales Sydney. Neti is a New Zealand Registered Nurse and Midwife and has practised nursing in Fiji, New Zealand, Australia, and the Cook Islands. She has held roles in Clinical Nursing, Nursing Education, Public Health and Management, and was the Chief Nursing Officer at the Ministry of Health in the Cook Islands, before pursuing her doctorate studies. With a particular interest in young people, her research focused on developing a Health Promotion Model in a Cook Islands Māori context to promote the health and well-being of young people in the Cook Islands utilizing positive and strength-based approaches.*

### **Abstract**

Although most young people engage in positive life activities and become healthy adults, some become involved in risky behaviours. This has long been a concern for families, health professionals, policy makers and academics. Despite considerable research and the construction of a range of theories and interventions, very little research has been done about young people in the Pacific, including in the Cook Islands where this thesis is based. The aim of this study is to address concerns about young people by developing a health promotion model in a Cook Islands context for young people in the Vaka Takitumu, a specific district of Rarotonga, and to contribute to scholarly debates on youth development.

As a key step in developing this model, my research examined the health and well-being experiences of young people in the Cook Islands within a socio-ecological framework. This was guided by community-based participatory research and participatory action research approaches. This investigation explored the health behaviours of young people and how cultural identity, spiritual and health beliefs and values, and social networks impact on these behaviours. A community assessment was conducted with 12 focus groups, 20 key stakeholders, and 20 key informant interviews, to examine concepts of health, the positive contributions by young people to themselves, their families and their communities; the issues and concerns faced by young people; and strategies for solving or minimising the impact of the issues and concerns identified by the participants.

From the interviews young people voiced their need to belong, and be connected to family and communities to thrive. They also need to be empowered, have a voice, and learn the competencies and leadership skills to prepare them for adulthood, so they can engage and participate in meaningful activities and decision-making, take responsibility for their Actions, and actively participate in civic discourse. Overall, young people voiced their need to be part of the big picture and to be part of the solution.

The results of this step suggested that a new paradigm using the Pu Ara model, which depicts a 'health promotion' and 'positive youth development' approach was powerful in the Cook Islands context. The Pu Ara model takes a health promotion and community-based partnership approach rather than a clinical intervention, which makes it more integrative, inclusive and relevant to the Vaka Takitumu community in the Cook Islands. Having an academic point of view is also important and I acknowledge the views of other theorists that give relevance to my thesis. But above all, having the Cook Islands traditional leadership concept of the Pu Ara o Takitumu as the metaphor gives it a special cultural and spiritual significance to my thesis.



This reflects a major shift in thinking in the Cook Islands, in that adults need to work in close partnership with young people in providing opportunities, learning experiences, and support.

The model emphasises strength-based positive intervention programs and social policies that promote healthy and desirable outcomes, which are measured according to increases in accomplishments and achievements, such as gaining qualifications, getting a job, or decreases in teen pregnancy, alcohol and drug abuse and recidivist behaviours. Ultimately, the implementation of the model needs a multi-sectoral collaborative effort by everyone, including young people in the community. Thus positive youth development is based on the belief that if young people develop the appropriate beliefs, behaviours, knowledge and skills they will accomplish goals and succeed in the future.







## **Session 15**

# **Child and Youth Health and Beyond the Pacific**



# Change pathways in indigenous and non-indigenous youth suicide

## **Presenter: Professor Deborah A. Goebert**

*Deborah A. Goebert, Dr.P.H., is a Professor and the Associate Director of Research at the Department of Psychiatry, John A. Burns School of Medicine, University of Hawai'i. She grew up on the windward side of O'ahu and, for the last 25 years, has worked towards reducing health disparities in Hawai'i. She is the Director of the National Center for Indigenous Hawaiian Behavioral Health and Hawai'i's Caring Community Initiative for Youth Suicide Prevention. Her interests include social epidemiology; youth suicide, violence and substance abuse prevention and early intervention; women's health; and culture.*

Co-authors: Fumiaki Hamagami; Earl Hishinuma; Jane Chung-Do; Jeanelle Sugimoto-Matsuda; Kristina Bifulco; Tasha Tydingco

## **Abstract**

### **Purpose**

Suicide is a serious, preventable public health problem that can have lasting harmful effects on individuals, families, and communities. Since the 1950s, the suicide rate has more than tripled among youth, with more American youth dying from suicide than from motor vehicle traffic-related injuries. Rates of attempted suicide and suicide death are highest among indigenous youth in the US – 70% higher than their Caucasian counterparts. Native Hawaiian adolescents are at the highest overall risk for suicide-related behaviors in the US, as compared to the other major ethnic groups in the nation. Suicide prevention efforts seek to reduce risk for suicidal thoughts and behaviors and increase factors that help strengthen, support, and protect individuals from suicide. The purpose of this study is to examine the relationship among suicide attempts, anxiety symptoms, depressive symptoms, hope and help-seeking across time in Native Hawaiian and non-Hawaiian adolescents.

### **Methods**

Participants were adolescents from the National Center on Indigenous Hawaiian Behavioral Health's high school health survey who were part of a five-year longitudinal cohort study (N = 7,317). Contemporary longitudinal dynamic structural equation models were used to analyze the multiple dynamical relationships among anxiety symptoms, depressive symptoms, help seeking, hope, and suicide attempts for non-Hawaiian and Native Hawaiian groups.

### **Key findings**

At time 1, 4.3% of adolescents reported having attempted suicide in the six months; decreasing to 3.2% at times 2 and 3, and 2.0% at time 4. The rate of decrease was significantly less among Native Hawaiian youth. Change in help seeking is negatively determined by the previous state of hope and optimism. This indicates that having hope counteracts against personal and interpersonal problems due to depression and anxiety. Change in hope is positively influenced by the previous suicide attempt. This indicates that suicidal attempts lead to an increase in optimism and hope. It seems that suicidal attempts might have some cathartic effect. Furthermore, change in hope is negatively influenced by the previous help-seeking behavior. When help-seeking and actual counseling do not resolve personal issues, hope and optimism might fade. While no significant ethnic differences were detected in the influence of previous suicide attempts on symptom change scores, there were differences in hope and help-seeking with Native Hawaiian youth increasing help-seeking and decreasing hope.



## **Implications**

Hilina'i: 'O ka hilina'i ka 'imi 'ana i kahi pohihihi a ka puka aku 'ana me ka 'ike. This translates into: 'To possess an undaunting hope: Believe that in the midst of confusion and bewilderment, one is capable of seeking and holding onto the way toward a future possessing insight and vision'. The cultural resonance of this mana'o within indigenous communities would foster its translation into a value or fundamental orienting philosophy, thereby creating an intervention that prevents suicide.

The vast majority of youth in our study do not report suicidality, even when they experienced symptoms of anxiety and/or depression. Furthermore, they were generally better able to cope as they progressed through adolescence. An increasing body of research, including research among indigenous youth, has documented that, despite exposure to multiple risks and adversity, most youth do not develop suicidality or other behavioral problems. The extent to which hope and help-seeking relate to suicide attempts provides support for more thoughtful and purposive inclusion of mental health infrastructure in suicide prevention and intervention strategies. Comprehension of local, traditional indigenous perspectives of suicide and well-being enhances the knowledge of existing evidence that suicide determinants are valid for indigenous youth. More collaborative and youth-centered approaches to suicide prevention in the cultural context of the community are essential in enhancing well-being in indigenous communities.



## A pilot survey on the mental health needs of Samoan and Tongan adolescents

### **Presenter: Ms Ulrike Krauss**

*Ulrike Krauss studied Social Pedagogic in Germany and is working in the field of Child and Youth Mental Health in Australia since 1998. Ulrike has a special interest in the transcultural sector and is an advocate for a transparent and culturally responsive provision of mental health assessment and treatment. While working in a community clinic with a significant Pacific Island population, Ulrike had been made aware of problems experienced by Pacific Island youth. In her service wide role as a Multicultural Mental Health Coordinator, Ulrike had been able to learn about the situation of the Pacific Island youth in Australia, to explore possible mental health needs and barriers for the Pacific Island communities to access Child and Youth Mental Health Services (CYMHS). Ulrike will present on the research 'A pilot project into mental health needs of Samoan and Tongan adolescents'.*

Co-authors: Helen Angus, Dr William Bor, Nancy Crichton

### **Abstract**

#### **Background**

The survey had been established on the background of anecdotal evidence of increasing representation within the youth justice and detention system, homelessness, depression, suicidal ideation, completed suicide and externalising problems in high schools. At the same time the Pacific Island community did not utilise the support services which are provided by CYMHS. The youth selectively attended the Emergency Department and Inpatient Unit, in times of severe illness. Early intervention and/or successive follow up for ongoing treatment by the respective community clinics was rare. The research focused on two Pacific Island cultures with the highest population within the Mater KIMS, CYMHS service district: Samoa and Tonga.

Research questions: for Samoan and Tongan parents, youth and individual community members, education and service providers to identify: (i) mental health problems experienced by Samoan and Tongan youth, (ii) perception of risk and strengths of Samoan and Tongan youth, (iii) cultural problem-solving, (iv) cultural explanation of mental health, (v) understanding of existing mental health model and services, (vi) barriers to access CYMHS.

The study involved 59 participants: 27 participants for individual interviews with local church leaders, Samoan and Tongan community leaders, individual members of the Samoan and Tongan communities, education providers and youth service providers, and 32 focus group participants (Samoan mothers group and fathers group, Tongan mother's group and father's group, adolescent group)

#### **Process**

Ethics approval was gained from the Mater Health Services Human Ethics Committee and the Department of Education, Training and the Arts DETA, for the survey within the state high schools. A research worker of Samoan cultural background was employed to gain and maintain a culturally appropriate process throughout the research, data collection evaluation and data analysis. We further employed bicultural support workers (Samoan and Tongan, female and male) for culturally and linguistically appropriate facilitation of respective focus groups.



In preparation for the focus groups the team underwent training: 'Conducting focus groups with CALD Communities'. A training and facilitator manual was developed for the focus group facilitators and training offered in basic research methods such as ethical conduct, confidentiality and informed consent, and facilitation of transcultural focus groups. Focus group participants were reimbursed for their contribution. Research information and consent and ascent forms were translated into the Samoan and Tongan language. The report was verified by community members prior translation into Samoan and Tongan.

The transcribed material from the individual interviews and focus groups had been analysed with the method of thematic coding.

### **Findings**

Several key themes were (1) Culture: the significance and benefit of cultural protocol and cultural support systems for the Samoan and Tongan communities and adolescents is communicated by community members and acknowledged by education and service providers. Samoan and Tongan culture is a pivotal point of reference for parents and offers resilience to adolescence. (2) Migration/accluturation: Parental guidance and traditional support systems are subject to changes in the context of migration, with most concern raised by parents. S/TY are presented with multiple and at times contradicting cultural expectations. (3) Mental health: mental health is culturally conceptualised by Samoan and Tongan community members, in inclusion of the community and spirituality. Mental illness is associated by parents and adolescents with a stigma of shame and guilt. (4) Problem behaviour: different trends emerge among community members, education and service providers in their perception and identification of behaviour of concern. (5) Education: the effect of low academic outcomes among the Samoan and Tongan children is of concern for community members, education and service providers; with education providers expressing highest concern. (6) Socio-economic situation: the short and long-term effects of a disadvantaged socio-economic environment is raised by community members and service providers, with most concern from education and service providers.



## Does quality of governance of NGOs contribute to quality of health service delivery in Bangladesh?

**Presenter: Mohammad Shafiqul Islam**

*Mohammad Shafiqul Islam is an Associate Professor in the Department of Public Administration at Shahjalal University of Science and Technology, Bangladesh. He has obtained his Bachelor of Social Science (BSS) and Master of Social Science (MSS) in Public Administration from University of Dhaka, Bangladesh and M.Phil in Public Administration from the University of Bergen, Norway. He also completed Master of Arts from Flinders University, Australia and is currently a PhD candidate at the same university. He has contributed a number of research articles in relation to public health, including public policy and management at national and international journals. He is also an author of two books.*

### **Abstract**

#### **Background**

Bangladesh has gained a glorious achievement in the quantitative reduction of its maternal and child mortality in the recent past (BFHS, 2012). For example, Maternal Mortality Ratio (MMR) declined from 322 per 100,000 live births in 2001 to 170 in 2013. Life expectancy at birth increased from 45 years in 1970 to 70 in 2013. Similarly, Infant Mortality Rate declined from 94 per 1,000 live births in 1990 to 33 in 2013 (World Bank, 2013). These achievements have been gained as a result of significant initiatives of multiple organisations such as government organisations, donor agencies, community organisations, including non-government organisations (NGO) (Sen, 2013). These studies show quantitative health indicators; however the quality of health care in the country still needs much improvement. One of the reasons for this stands on governance issues in health care organisations (WHO, 2010). The reasons for poor governance are poor management, resource constraints, lack of professionalism and inadequate policy initiatives (BDHS, 2012, World Bank, 2010). There are no studies dealing with governance of NGOs for understanding the quality of health care in Bangladesh.

To fill this gap in knowledge, this study endeavours to explore the following issues:

- How do duties and responsibilities of NGO health care providers contribute to governance and quality of health care?
- How do various communities contribute to NGO governance and health care?
- To what extent do various factors affect NGO governance and quality of health service delivery?

#### **Methodology**

In-depth understandings of social phenomena concerning the role and responsibility of health professionals of NGOs, role of various communities, and the factors of management, politics, and socio-economic conditions and how they contribute to accountability, transparency and participation can be gained through the use of interpretive qualitative research methods. A total of 69 in-depth interviews and two focus group discussions were conducted as case study in two areas of rural and urban in Bangladesh as part of PhD thesis. Therefore, the relevant information has assessed for this study for understanding the impact of governance of NGOs on quality of health care. The in-depth interviews were conducted from the national level respondents, health professionals, local elected representatives, and the local informants. In addition, two focus group discussions were conducted for collecting views of service users in order to assess their opinion for understanding the impact of governance of NGOs on quality of health care. Besides, secondary sources of data are used particularly for understanding the background of the study.



## **Key findings**

The structures of NGOs enable them to contribute to improved quality of health care. NGOs have limited resources for promoting health care but they use these resources appropriately and efficiently due to strong monitoring and supervision in delivering health care. Moreover, NGOs have good monitoring systems for patient care consequently, the tuberculosis (TB) program has achieved success. However, NGOs work is more lucrative because they have better accountability processes that assist them to receive foreign assistance.

NGO staff are sincere in performing their duties and responsibilities but often have very unclear ideas on management of finances, because they have had little experience of the budgeting process. Moreover, clients claim that NGOs quality of care has decreased and they also impose charges although the service should be free of cost. Alternatively, service providers of NGOs argue that NGO rules and regulations are strict to reduce corruption and promote quality of governance.

NGOs ensure accountability to their higher authorities and organisation as well as funding agencies for performing their job. Poor coordination, lack of policy, and the inadequate legal framework are the main causes of poor accountability of NGOs to government as well as elected representatives. In addition, the process of community participation is too limited to promote NGO accountability. People at the rural level have limited participation to health programs because rural people have superstition, lack of education and poor socio-economic condition. Alternatively, the urban population have awareness and employment that enable them to promote participation. Moreover, the role of women to family and society lessen their empowerment that affects participation in NGO health programs.

The scope of NGO health care is very limited because they usually work at urban-based locality, poor institutional facility, temporary-based health care project, and poor educational background of field workers. Field data also shows that government-NGO collaboration contributes to managerial efficiency, teamwork in the organisation, promotes resources which lead to quality of health care. However, such collaboration is very limited.

Service users claim that management of BRAC (biggest NGO in Bangladesh) is not responsible for poor quality of care, the main cause for this, a limited capacity of BRAC to deliver quality of services. Moreover, service users are satisfied with NGO health care because NGO services are more affordable, doctors prescribe limited items but quality of medicine than public health care. Additionally, the queue is not so long, behaviour is also improved, and no bribery is required for accessing NGO health care. Importantly, the insurance policy of Gonoshasta Kendra/people health centre contributes to affordable health care, and politics has not had a direct impact on NGO health care.

## **Policy recommendations**

The policy recommendations include increased government-NGO collaboration, improved public participation, and strengthening the legal framework.

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## Prevalence and risk factors of musculoskeletal discomfort in Thailand hospital orderlies

**Presenter: Withaya Chanchai**

*Withaya Chanchai is a doctoral student at the College of Public Health Sciences (CPHS), Chulalongkorn University. Before joining CPHS, he worked at the University of Phayao as a Lecturer. As a specialist in Occupational Health and Health Behavior, he has conducted several studies on occupational exposure to ergonomics and a variety of occupational health behaviors. He has about 6 years' experience performing research on occupational exposure and occupational health behaviors. Withaya holds a Master's in Public Health from the Faculty of Public Health, Mahidol University.*

Co-authors: Wattasit Siriwong, Wanpen Songkham, Pranom Ketsomporn, Punnarat Sappakitchanchai

### **Abstract**

#### **Background**

Work-related musculoskeletal disorders (WMSDs) of the neck, shoulder, lower back, upper limbs are a major source of pain, injury, illness and work absenteeism, all of which are prevalent in high-risk occupations and industries, including health care. In the hospital setting, MSDs among health care staff are caused by ergonomic risk factors such as physical and psychosocial factors, including: prolonged static postures, repetitive tasks, prolonged periods of exposure to a given task, stress, job satisfaction, time and work demands, organization cultures, and working in a work environment that has not been suitably adapted to these conditions.

Injuries to health care workers often result in lost work time or work restrictions, with resultant losses of productivity. Nationally, nursing aides and orderlies rank third among all occupations in number of lost days due to injuries, exceeded only by truck drivers and non-construction laborers.

Nursing-aides and orderlies, who are often injured during patient transfer activities, are at higher risk of injury than health care workers as a whole. The majority of hospital orderlies in the tertiary care setting were undertaking a wide range of tasks which include all risk factors for MSD described above. Patient care requires many lifting and transfer tasks which pose a demonstrated risk of injury to workers, and high rates of back injuries and other musculoskeletal disorders have been well documented among health care workers. Many studies have been reported in several countries, while studies are limited in Thailand.

The purpose of this cross-sectional study was to describe the self-reported period prevalence and risk factors of musculoskeletal discomfort in Thailand hospital orderlies. The study was conducted at tertiary care hospitals during October 2013 to December 2013. This hospital was selected because the historical data showed high rates of back, knee, and shoulder injuries associated with lifting, moving, and transporting patients throughout the hospital.



The inclusion criterion was that male full-time workers should be working at this hospital for at least one year. Participants' name, age, gender, literacy level, income, type of work, duration of employment, hours of work per day, and pain and discomfort status were obtained by self-reported questionnaire, a modified version of the Nordic musculoskeletal questionnaire (MNQ) (Kuorinka I. et al,1987).

The content validity of the questionnaire was established prior to the study by three experts in the field and point prevalence of pain and discomfort with respect to the body region was determined. There were 189 hospital orderlies who participated in this study. The total number of hospital orderlies in the study was 153 who met the inclusion criteria. Muscular discomfort experienced during the previous 12 months in 15 body regions was carried out by self-reported questionnaire. Data were analyzed using SPSS version 16. Descriptive statistics was used to summarize the data.

A total of 153 hospital orderlies' data were analyzed using SPSS version 16. Cross-tabulations were done to get the frequency and percentages of the subcategories. Chi-square test of association was used to find the association between age categories, educational status, and years of experience. Muscular discomfort prevalence was 84.31% (n = 129) reported pain for anybody region, whereas 15.69% (n = 24) of hospital orderlies did not report pain.

The highest number of workers ((n =96 ; 62.75%) complained of pain and discomfort in the lower back, followed by right leg (n = 93; 60.78%) and then left leg (n = 91;59.48%), (n = 89;58.17%) and then central back (n = 78; 50.98%). Other reported sites are hip (n = 72; 47.06%), right thigh (n = 69; 45.10%), right shoulder (n = 65; 42.48%), left shoulder (n = 64; 41.83%), left thigh (n = 60; 39.22%), upper right arm (n = 54; 35.29%), lower right arm (n = 53; 34.64%), upper left arm (n = 51; 33.33%) and lower left arm (n = 46; 30.07%). About 88.89% (n = 136) of the hospital orderlies who reported pain were lifting patients, followed by the moving patients (56.86%; n = 87). About 66.7% of the orderlies who reported pain had between 1 and 5 years' work experience. Factors of muscular discomfort involving lifting the patient all day (OR 3.51, 95% CI 0.93–13.81) were the significant risk factors of muscular discomfort among hospital orderlies.

These findings have implications for the health, lifestyle and retention rate of hospital orderlies.







**Session 16**

**Environmental Health**



## Using the law to support collaboration between central and local government and improve environmental health

### **Presenter: Dr Stephanie Mead**

*Dr Stephanie Mead is a barrister who completed her PhD in law at the Faculty of Law, the University of Auckland. In her PhD thesis Stephanie analysed the complex legal functions and public governance structures for the delivery of environmental health services within New Zealand, with a view to rationalisation and future reforms. Stephanie's core areas of teaching, legal practice and research interest include torts, legal method, resource management and planning law, local government law, environmental health law, environmental law and civil defence and emergency management law. As a barrister Stephanie undertakes dispute resolution, and provides advice on property, resource management, environmental and planning law matters. Stephanie's presentation focuses on using the law to support collaboration between central and local government, in order to improve environmental health management.*

### **Abstract**

#### **Background**

My PhD involved a critical analysis of the legal functions and practices of central and local government in New Zealand in respect to environmental health. This involved considering whether or not the law and governance relating to environmental health in New Zealand was appropriate for the 21st century, and considering what improvements or reforms to the law and governance in respect of environmental health are desirable for the future. The discussion of reforms included an examination of environmental health provisions relevant to central government and local government, with a view to determining the best allocation of functions.

A core theme throughout the thesis was a need for a principled collaborate approach which will bring the legislation together into an integrated environmental health framework. This theme of 'collaboration in effective environmental health management' will be the basis for this presentation.

#### **Purpose**

Environmental health combines public health and environmental planning, in a multidisciplinary approach that acknowledges the intrinsic link between human health and the environment. Recognising its multidisciplinary nature and mobilising a 'whole-of-government' approach is important in monitoring, promoting and improving environmental health. While this area is rich in literature from the medical and social sciences perspective, there is little focus on the legal perspective. Developing the legal perspective of environmental health is imperative to create a workable, integrated environmental health framework which is capable of addressing the many contemporary environmental health challenges faced today.

New Zealand's approach to environmental health has been complicated by historical factors. This ad hoc development has resulted in a fragmented system with a large number of interested parties. The separation of health and environmental law has resulted in a plethora of legislation being relevant to environmental health management in New Zealand. While most central and local government functions are contained in core statutes, including the *Resource Management Act 1976*, *Local Government Act 2002*, *New Zealand Public Health and Disability Act 2000* and *Health Act 1956*, there are currently over sixty different statutes which provide for some aspect of environmental health management in New Zealand.



In addition to statute is the vast array of bylaws, regulations and guidance provided at local government level. These factors all contribute to environmental health being difficult to collate into a complete and discernible framework. The fragmented development of this area has also highlighted other problems, being the under-utilising of some central government parties and a lack of lateral connection between local government parties. This lack of lateral connection between local government parties highlights the need for inter-sectorial coordination and adds to the collaboration theme. This lateral connection would provide benefit by ensuring consistency across environmental health planning areas. In analysing legislation, only minor connections can be made, aside from the general commitment of parties to work with other parties where necessary to fulfil their duties.

This presentation will highlight the complexity of the current legal framework by explaining how a plethora of legislation, involved in environmental health, combines to produce a fragmented environmental health framework. The presentation will then discuss the importance of the law in providing for effective environmental health management and the use of collaborative mechanisms in effective environmental health management.

Potential solutions to increase collaboration in environmental health include joint planning tools, health impact assessment, joint planning forums and collaborative bodies. These should be supported and underpinned by legislative requirements. The use and effectiveness of each of these options will be discussed during this presentation.

While current legislation will be discussed, proposed legislation and future government reform will also be considered to determine the likely direction of environmental health legislation in the future.

### **Key findings/implications/recommendations**

Essentially an integrated and coordinated system of environmental health governance involving all interested parties (central and local government agencies, Māori and the public) is needed. This collaborative framework must be set in a legal context of consistent policies, practices, and rules. Statutory mandatory rules (in the form of objects, principles and considerations) must underpin the system.

Accordingly, increasing the collaboration between central government and local government parties (including lateral collaboration at local government level) may hold the key to producing a clear and integrated framework which is capable of addressing contemporary environmental health issues.



# The prevalence of dental caries and the fluorosis status of rural Ni-Van children continuously exposed to different fluoride concentrations by venting volcanoes

**Presenter: Ms Elizabeth Webb**

*Elizabeth is a New Zealand-registered dental therapist practicing in North Waikato and South Auckland. She is currently enrolled in a doctorate of Clinical Research at Victoria University of Wellington. Elizabeth is researching the oral health in rural ni-Vanuatu considering the impact of excess ingested fluoride on oral and bone health of children living in close proximity to venting volcanoes. With the assistance of a New Zealand Agency for International Development Postgraduate Scholarship, Liz has completed field trips to rural villages on the islands of Malekula, Uliveo, Avock, Ambrym and Aneityum in Vanuatu. She seeks to empower Pacific communities to improve their oral and general health status and has twice led teams of oral health professionals to Vanuatu modeling an oral health care system while relieving oral pain and disease to children and adults in 2013 and 2014.*

## **Abstract**

### **Background**

This study considers the burden of dental caries and its determinants in a unique, rural Pacific population of children exposed to very high levels of fluoride concentration. Vanuatu is a tropical archipelago in Melanesia comprising more than 80 islands with a population of approximately 250,000 who are mostly rural dwellers. This country is the home of active volcanoes, which, on some of the islands, produce continuous ash clouds (Bani, 2012). These ash clouds are at times heavily filled with fluorine gases which wash down as acid rain polluting the vegetation and water supplies (Allibone et al, 2010). Fluoride concentration in soil, air, water and food can be measured and plays a key role in the prevention and control of dental caries. Fluoride is the most potent agent which influences de- and re-mineralising processes on developing and erupted tooth enamel. Some fluoride exposure is considered beneficial for dental health, but an excess may be detrimental.

Fluoride concentrations in drinking water in excess of 1.0–1.5 mg/l may lead to dental fluorosis in some children, and much higher concentrations may eventually result in skeletal damage in both children and adults. The reported safe fluoride level in water in a country which has a tropical climate are deemed to be 0.6 to 0.8 mg/l. Fluoride affects permanent teeth during the enamel development phase but continues to influence the enamel structure of erupted teeth during the life course having a topical effect on erupted enamel, further increasing its porosity and weakening its structure (Jha et al, 2013). In addition to the effect of fluoride on dental health, exposure to high fluoride concentrations is also associated with altered bone health. Typically high bone mineral density (BMD) is considered protective against fragility fracture. For many years, fluoride was used as a treatment for osteoporosis, as its use is associated with a strong rise in BMD. More recently it has been recognised that fluoride treatment may actually be associated with 'brittleness' of the bone and an increased fracture risk.

### **Purpose**

1. To determine the prevalence of dental caries/diseases of the rural Ni-Van children through oral examinations (including an assessment of dental fluorosis) where populations are exposed to different fluoride concentration through varying proximity to venting volcanoes.
2. To consider the determinants of dental caries in this population, specifically the importance of fluoride.



3. To consider the relationship between fluoride concentration and fracture history in four different populations.
4. To determine the ecological, social and cultural factors which influence dental caries in this population through qualitative research.

### **Methods:**

This study is a multiple methods design. Four locations in three provinces will be surveyed. Participants complete a questionnaire (in Bislama) with regards to history of smoking, medical and fracture history, diet and tooth brushing habits. A qualitative phase will enquire about local customs that might impact upon oral health and the impact that oral health has on the Ni Van people. Oral examinations provide quantitative data to inform fluorosis status using Dean's Index (DI) and DMFT/dmft (decayed, missing filled teeth both permanent and deciduous). On children over the age of 15, a periodontal measurement will be taken using a WHO/CPITN (World Health Organization/Community Periodontal Index of Treatment Needs) probe informing on severity of periodontal disease. This survey information will use the WHO form 97 format. Samples of water, soil, food and air will be collected for analysis of fluoride concentration.

Oral health status will be determined by DMFT/dmft and CPITN score. Severity of dental fluorosis levels as assessed by the Dean's Index will be correlated with pH and fluoride levels of the village's water, soils and food samples to show the prevalence of fluorosis relating to local water fluoride concentration. Stepwise, multiple, linear regression analyses, will include all children and show significant effects of fluorosis on oral health status and bone health.

### **Key findings/implications/recommendations to date**

In July 2013, 700 children were examined and their data collected along with food diaries for analyses in South East Malekula. A total of 225 children were examined in April 2014, on NW Ambrym Island. Samples of water, air, soil and food were collected for analysis at each location. All children examined presented with poor oral hygiene, and varying severity of fluorosis/dental diseases. Children examined did not have a culture of tooth-brushing and were regularly exposed to high cariogenic foods/beverages. Over 15% of children examined required urgent relief from pain treatments and a model of dental care was provided to these children (and adults) to relieve them from oral pain/disease. A powerful mode of oral hygiene education was provided by Ni-van RSE workers (trained in New Zealand). Regular oral health education and dental services are necessary to provide rural Ni-van children with an improved oral health status and therefore an enhanced quality of life.

### **Key references**

- Allibone, R., Cronin, S., Douglas, C., Oppenheimer, C., Neall, V., & Stewart, R. (2010). Dental Fluorosis linked to degassing on Ambrym volcano, Vanuatu: A novel exposure pathway. *Environmental Geochemistry and Health*, 34, 155–170.
- Bani, P. (2012). First estimate of volcanic SO<sub>2</sub> budget for Vanuatu island arc. *Journal of Volcanology and Geothermal Research*, 655–212, 36–46.
- Jha S, Singh R., Damodaran, T., Mishra, V., Sharma, D., Rai, D. (2013). Fluoride in groundwater: Toxicological exposure and remedies. *Journal of Toxicology and Environmental Health*, 9, 96–66.



## Notes