

## Abstracts

### ***Diabetic End Stage Renal Disease in the Indigenous Population of Guam***

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*Journal of American Society of Nephrology, 2001.*

End-stage renal disease (ESRD) attributable to diabetes is now a major problem in Pacific Islanders, but little has been done to ascertain the frequency and determinants of diabetes or its complications in most of these populations. We examined the frequency of ESRD attributable to diabetes in the Chamorros from Guam, U.S. Territory in Micronesia. Renal replacement therapy is provided by Guam Memorial Hospital, the only inpatient facility on the island, and by Guam Renal Care, which operates two dialysis clinics. All Chamorros to receive renal replacement therapy were identified. Accurate estimates of diabetes prevalence are not available, but a 2001 census reported 777,404 Chamorros living on Guam, of whom 1555 are known to have diabetes. Of 186 new cases of ESRD treated between January 1997 and December 2000, 142 (76%) were attributed to diabetes, 21 (11%) to hypertension, 9 (5%) to glomerulonephritis and 14 (8%) to other causes. One-hundred-thirty-nine of diabetic subject were reported to have type 2 diabetes and three to have type 1; 135 of the diabetic subjects received hemodialysis and seven received peritoneal dialysis at the onset of renal replacement therapy. None of the diabetic subjects received a kidney transplant. Mean age at onset of dialysis in the diabetic subjects was 58 years (range = 23-84). During the 4-year study period, 39 of the diabetic subjects receiving dialysis died. 1-year and 2-year unadjusted survival from 90 days after the onset of renal replacement therapy was 79% and 72% in the Chamorros, compared to 77% and 63% in diabetic ESRD patients in the U.S. in 1996. Diabetes is the major cause of ESRD in the indigenous population of Guam.

### **Changes in body fluid volume can affect the quality of phonation.**

Changes in body fluid volume can affect the quality of phonation. We have observed that some hemodialysis (HD) patients develop dysphonia during or immediately after HD treatments. We studied the frequency of dysphonia attributed to HD procedure among dialysis patients in Guam, a U.S. territory in Micronesia. All patients in the study were determined from Guam Dialysis Center, a free standing Dialysis Unit. We interviewed 100 HD patients regarding any changes in the quality of phonation during HD treatments. A dysphonia severity score was established from zero (normal phonation) to 4 (complete absence of voice). Twenty-three of patients reported some degree of dysphonia during HD. While 3 patients (3%) experienced complete loss of voice during HD treatment and up to 6 hours after treatment. Five patients (22%) with scores of 3-4 had laryngoscopic evaluation. None had obvious pathology of vocal folds. After adjusting the patients' estimated dry weight (EDW) to a higher level, 18 (78%) patients' reported complete resolution of their symptoms. The other 5 (22%) reported improvement of their dysphonia. We propose that the mechanisms intrinsic to the vocal folds water flux regulation would respond to changes in EDWs in hemodialysis patients.

### ***Mycobacterium Tuberculosis in ESRD population of Guam***

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*Journal of American Society of Nephrology, 2001.*

Infection with *Mycobacterium Tuberculosis* (TB) is a major health problem in Pacific Islanders, but little is known about its frequency, clinical characteristics, and course in patients with end-stage renal disease (ESRD). We examined the clinical presentation of TB infection among ESRD patients in Guam between January 1997 and December 2000. All data were obtained from Guam Memorial Hospital, the only inpatient facility on the island. Of 410 cases of ESRD, 12 (3%; 6 men, 6 women) had active TB; 4 of them (33%) had pulmonary TB and 8 (67%) had non-pulmonary TB (3 pleural, 2 lymphatic, 1 peritoneal, 1 bone, and 1 miliary). Of these 12 patients, 9 were Chamorro, 2 other Pacific Islander, and 1 Filipino. All but one of the patients had diabetes. Mean age at baseline examination was 65 years (range = 42-82 years). All patients had profound weight loss (>20lbs in 2 months), hypercalcemia (mean = 10.8 mg/dl, range = 8.9-13.5 mg/dl), and hypoalbuminemia (mean = 2.3 g/dl, range = 1.5-3.1 g/dl), and 6 (50%) had persistent low-grade fever (mean temp of 99.3 degrees F). Ten (83%) patients had URRs less than 65%. During the 4-year study, 2 (17%) of the patients died, both from complications of their TB. The incidence rate of TB in

### ***Dysphonia among Hemodialysis Patients in Guam***

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Guam has declined by 50% over the past 5 years (49/100,000 population in 1996 vs. 22/1000,000 population in 2000), but TB remains a serious complication in those with ESRD.

***Schistosoma infestation in a dialysis patient-prevalence in Guam and response to Praziquantel***

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*National Kidney Foundation, Singapore 2001*

A 59 year old Phillipino male with ESRD presumed secondary to diabetic nephropathy presented with increasing pigmentation, itchy, pigmented papular eruptions and abnormally elevated liver enzymes with icterus. Hepatitis C by RIBA II and PCR RNA were positive. hepatitis B serology was negative. Alpha Interferon therapy with conventional doses was started (3 doses) after liver biopsy, but had to be discontinued due to financial reasons. Rapidly progressive cholestatic hepatitis ensued with mildly elevated microsomal liver enzymes. Cholecystectomy and intraoperative cholangiogram for gall stones, skin biopsy to rule out scleroderma and vasculitis, negative anti-mitochondrial antibody screen, negative lupus screen and negative iron and copper overload screen were performed. Diagnostic liver biopsies done to evaluate the rapidly progressive cholestatic disease revealed ballooning degeneration, per-portal inflammation consistent with hepatitis C. *Schistosoma* eggs were identified in both the biopsies with little inflammatory response around them. Empiric therapy with Praziquantel was given in view of the progressive nature of the disease. This was followed by a significant improvement of liver enzymes and clinical improvement in hepatic encephelopathy for a period of 6 weeks. The patient also received a trial of steroids prior to Praziquantel and supportive therapy for hepatic encephelopathy. The patient later succumbed to septic shock and gastrointestinal bleeding.

**Schistosoma eggs were identified in both the biopsies with little inflammatory response around them.**

*Schistosoma* is endemic in Leyte district of PI. Retrospective analysis revealed 8 further cases of incidental *Schistosoma* in the past 7 years in Guam. Various organs including GI tract, fallopian tubes, omentum and appendix were involved.

*Schistosoma* should be considered in the differential diagnosis of Cholestatic jaundice in the appropriate high risk population. Asymptomatic infestation appears to be more common than anticipated in Guam. Response to Praziquantel is of unknown significance in this case but was worth the trial. The rapidly progressive nature and adverse outcome may be related to the immune compromised state of the patient on dialysis.

***Gabapentin usage for neuropathic pain in diabetic dialysis patients in Guam - dosing, response and adverse reactions.***

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*National Kidney Foundation, Singapore, 2001*

Gabapentin has been widely used in diabetic peripheral neuropathy with good clinical response. Its elimination is dependent entirely on renal function. Elimination studies showing 30% dialysis dependent removal and prolonged half-life led to the current tentative dose recommendation of 300 mg after dialysis on alternate days. Its use in CRF and ESRD patients has become widespread lately. Little objective information is available on the safety and clinical use in dialysis patients.

30 diabetic dialysis patients in a private practice setting, with neuropathic pain, who failed on Elavil and other conventional agents, were offered Neurontin 300 mg after dialysis on alternate days in an open labeled non-blinded fashion. Objective responses were assessed by a reproducible pain scoring system via a verbal questionnaire after 30 days. Equal number of diabetic dialysis

patients on Elavil were used as internal controls. Objective nerve conduction studies were available on 11 patients. Objective improvement in pain score was seen in 9/16 patients on Neurontin in comparison to Elavil group (8/30).

Alarming high incidents of adverse reactions led to 12 patients to discontinue therapy. These ranged from extreme daytime drowsiness, disabling tinnitus, severe ataxia, acute cerebellar syndrome, bullous rash and semi-coma. All of the above were reversible on discontinuing therapy. 12 patients are continuing therapy with the prescribed dose without discernable adverse reactions. 4 patients tolerated Neurontin with dose reduction to 100 mg QOD after dialysis.

Neurontin appears to be an effective alternative for disabling diabetic neuropathic pain in some ESRD patients. There appears to be widespread individual variation in response with alarming side effects in ESRD population with current dosing recommendations. Close follow-up and monitoring are imperative to avoid near life threatening complications. Well controlled prospective studies in dialysis patients are needed before widespread use in ESRD patient are justified.

***Towards a comparative analysis of health systems reforms in the Asia-Pacific Region***

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*Asia Pac J Public Health* 2002;14(1):9-16

PMID: 12597512 [PubMed - indexed for MEDLINE]

The paper will review a representative selection of health systems reforms throughout the Asia-Pacific region to summarise the regional experience, identify the key lessons learnt from innovative health reforms and propose policy recommendations for sustainable health systems development. Broad descriptive trends of health systems reforms will be compared across the Asia-Pacific region within the context of rapid demographic, health and socio-economic development. More specifically, the study will address the following questions: 1. What are the main features of innovative health systems reforms? 2. How have these reforms affected the health systems? 3. Are there lessons and other implications from these reforms? A common conceptual framework to compare health systems reforms is adopted, using a standardised format to report data of national health systems. A classification of health systems is constructed by categorising them according to the level of development of their respective economies: 1) Developed 2) High Performing 3) Newly Industrialising 4) Transitional, and 5) Developing. A typology of common issues, challenges and responses are generalised for these health systems at different stages of socio-economic development of individual countries. Evaluative criteria are proposed to compare the long-term effects of these reforms on national health systems in terms of efficiency, equity, quality and sustainability.

***Life event timing and the emotional consequences of surgical menopause for Asian-Pacific women in Guam***

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*Women Health* 2002;36(4):43-54

PMID: 12555801 [PubMed - indexed for MEDLINE]

Using Behavior Risk Factor Survey data (N = 398), this study tests the age-norms hypothesis by examining the emotional consequences of the timing of surgical menopause for women in Guam's Asian-Pacific community. The results of the study are supportive of the hypothesis that off-scheduled life events result in considerable emotional trauma, and show that women in Guam who are 44 years of age or younger are significantly more likely than older women to suffer psychological distress and unhappiness when they report experiencing surgical menopause. We discuss the potential implications of these findings for theory and future research.

**... off-scheduled life events result in considerable emotional trauma, and show that women in Guam who are 44 years of age or younger are significantly more likely than older women to suffer psychological distress and unhappiness when they report experiencing surgical menopause.**

***ALS and PDC of Guam: forty-year follow-up***

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*Neurology* 2002 Mar 12;58(5):765-73

PMID: 11889241 [PubMed - indexed for MEDLINE]

**BACKGROUND:** It was noticed in the mid-1950s that the incidence of ALS and parkinsonism—dementia complex (PDC) were much higher on Guam than anywhere else in the world. In 1958, a registry of patients and controls was established to ascertain the familial and genetic aspects of these diseases. Patients and individually matched controls and their relatives were registered from 1958 to 1963. The registry was updated and analyzed in 1998 through 1999. **OBJECTIVE:** To ascertain whether first-degree relatives of patients had a higher risk for developing ALS or PDC than relatives of controls. **Methods:** During the period of 1958 to 1963, 126 new patients and 126 individually matched controls

and their respective first-degree relatives and spouses were evaluated neurologically and registered. Forty years later, the number of new cases among the patient and control relatives were compared to an expected number of new cases based on the age- and sex-specific incidence of ALS and PDC in the population at large. **RESULTS:** From 1958 to 1999, there were 102 new ALS or PDC cases among relatives of patients and 33 among relatives of controls. These values were compared with the derived expected values. There were more observed than expected new cases among patients' relatives, and less observed cases than expected among the controls' relatives. **CONCLUSIONS:** Relatives of patients with ALS or PDC have significantly higher risks for developing the disease than the Guamanian population, whereas relatives of controls have significantly lower risks.

***Food Sources of Macronutrients in the Diets of Fifth Grade Children on Guam***

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*Asian Am Pac Isl J Health* 1999 Winter;7(1):25-37

PMID: 11567479 [PubMed - as supplied by publisher]

**PURPOSE.** This study was conducted to develop food lists consisting of the top food sources for energy (calories), protein, carbohydrate, fat, cholesterol, and dietary fiber for children in the fifth grade on Guam. **METHODS.** The food intake of fifth-grade children on Guam, ages 9 through 13, was collected using a one-day food record and computer-analyzed for nutrient content. The 1,006

individual food items from the food records were condensed into 194 food aggregations. Food lists including the 50 major contributors of each nutrient were formulated. Each list represents at least 82% of the total intake per macronutrient. **PRINCIPAL FINDINGS.** Many of the major contributors of energy, total fat, cholesterol, and protein in the diet of children on Guam are meat dishes, fried chicken, canned corned beef, and whole milk. Rice is consumed frequently and is an important contributor of energy, protein, carbohydrate, and fiber. Sweet beverages provide much of the dietary energy and carbohydrate. Potato and tortilla chips, although low in fiber, are eaten frequently and become major contributors of fiber. **CONCLUSIONS.** The foods that contribute to macronutrient intake in these fifth graders include many that are high in fat, processed, have low nutrient density, and are unlike foods traditionally consumed on Guam. **RELEVANCE.** These lists identify foods currently being consumed by children on Guam. These lists can be used to develop culturally specific nutrition education and dietary assessment instruments for children on Guam in an effort to reduce chronic disease risk factors and encourage positive health behaviors in children. **KEY WORDS.** Macronutrients, Energy, Food, Diet, Children, Guam, Chamorro

#### ***Breast cancer screening among Chamorro women in southern California***

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*J Womens Health Gend Based Med* 2001 Jun;10(5):479-85

PMID: 11445047 [PubMed - indexed for MEDLINE]

Breast cancer is the most common cancer in Pacific Islander women, yet relatively little is known about their cancer risks and screening behaviors. Chamorros are indigenous people from Guam, and California is home to the largest numbers of Chamorros on the mainland United States. This study examined the breast cancer risk, knowledge, and screening behaviors in a nonprobability sample of Chamorro women age 40 years and older in Los Angeles and Orange Counties (n = 227). The proportional incidence ratio for breast cancer among Chamorro women was found to be 0.7 compared with white women in California, indicating a lower current breast cancer risk for Chamorro women compared with white women. Thirty-seven percent of respondents ever performed a breast self-examination (BSE), 93% ever had a clinical breast examination (CBE), and 77% ever had a mammogram. In terms of screening maintenance, only 27% did BSE monthly, 66% received a CBE in the past year, and 25% received yearly mammograms. Significant corre-

lates of CBE were higher educational attainment, married status, higher income, and health insurance coverage. Women who knew of breast cancer symptoms, would undergo treatment, and would like to know if they had breast cancer were also more likely to have ever had a CBE. With regard to mammography, older age, moderate income, married status, and use of traditional healers and healing practices were associated with higher screening incidence. Implications of these findings for developing culturally tailored and appropriate cancer screening programs are discussed.

#### ***Cancer research studies in Native Hawaiians and Pacific Islanders***

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*Ann Epidemiol* 2000 Nov;10(8 Suppl):S49-60

PMID: 11189093 [PubMed - indexed for MEDLINE]

**PURPOSE:** To review and assess published findings from relevant cancer research studies in Native Hawaiians and other Pacific Islanders and to develop strategies for designing and implementing successful cancer research studies in the future. **METHODS:** Data were collected primarily from MEDLINE and BIOSIS Preview searches of the English literature during a 30-year period for published reports of cancer surveillance studies and epidemiological and clinical cancer studies in the Native Hawaiian and Pacific Islander populations. The cancer burden was critically assessed in the retrieved citations for each of the indigenous groups from Hawai'i, American Samoa, Guam, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Republic of Palau, and the Republic of the Marshall Islands. **RESULTS:** A review of the published literature revealed a lack of systematic data

#### **The paucity of cancer data and clinical cancer research supports the need for increased attention to these indigenous populations to improve the quality of cancer care in Native Hawaiian and Pacific Island communities.**

collection on cancer incidence and mortality in Pacific Islanders. Wide variations were found regarding the status of cancer research among ethnic groups. It is estimated that Native Hawaiians represent 0.1% of subjects accrued to cancer prevention trials, and that Pacific Islanders represent 0.5% of subjects in a large cancer screening trial. **CONCLUSION:** The paucity of cancer data and clinical cancer research supports the need for increased attention to these indigenous populations to improve the quality of cancer care in Native Hawaiian and Pacific Island communities.

#### **Cross-cultural comparison of health perceptions, concerns, and coping strategies among Asian and Pacific Islander American elders**

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*Qual Health Res* 2000 Jul;10(4):471-89  
 PMID: 11010073 [PubMed - indexed for MEDLINE]

This article compares the health perceptions, concerns, and coping strategies among elders in two Asian and Pacific Islander American communities. The qualitative comparison is conducted between elder Chamorros of Guam and elder Chinese of the United States, using a focused ethnography for data collection and the grounded theory method for cross-cultural analysis. The health perceptions of these two communities are manifest in two themes: (a) a sense of holism among body, mind, and spirit and (b) an orientation toward others. The health concerns of these two communities include universal experiences of aging, structural elements within the American health care system, and cultural changes impacting health. A significant coping strategy is adaptation to changes while maintaining continuity. Finally, implications for the delivery of culturally appropriate health care services to Asian and Pacific Islander American elders are discussed.

***Improving the pneumococcal immunization rate for patients with diabetes in a managed care population: a simple intervention with a rapid effect***

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*Jt Comm J Qual Improv* 2000 Sep;26(9):538-46  
 PMID: 10983294 [PubMed - indexed for MEDLINE]

**BACKGROUND:** Pneumococcal disease kills more people in the United States than any other vaccine-preventable bacterial disease, and a national health objective for the year 2000 is that at least 60% of eligible persons be immunized with pneumococcal vaccine. **METHODS:** An electronic care monitoring system was used to track immunization of patients with diabetes in a managed care plan who were receiving their care through a staff-model primary care clinic in Guam. In November 1998 a letter was sent to all patients not known to be immunized. The letter invited these patients to attend immunization clinics and waived usual copayment. Standing orders were also created for the clinic nurses to administer pneumococcal vaccines. In addition, a diabetes care status report was placed on each patient's medical record. **RESULTS:** The immunization rate for the 1,278 actively enrolled patients with diagnosed diabetes increased from 42% in October 1998 to 62% in January 1999. Compared to November 1995, 1996, and 1997, the number of pneumococcal immunizations increased more than 15-fold in November 1998. **DISCUSSION:** The

combined use of patient outreach letters, special immunization clinics, standing orders, and practitioner reminders on medical records resulted in a rapid, marked increase in the pneumococcal immunization rate for patients with diabetes. The electronic care monitoring system is being used to target get interventions for improvement opportunities for an array of diabetes care measures, including regular foot care and eye exams.

***The health status and characteristics of hypertensives in Guam***

Pinhey TK. Micronesia Area Research Centre, University of Guam, Mangilao, Guam.

*Asia Pac J Public Health* 1995;8(3):177-80

PMID: 10050185 [PubMed - indexed for MEDLINE]

Studies of Asian Pacific American populations are often flawed because while the population is quite heterogeneous, researchers usually collapse them into a single category, making it impossible to assess the health status or needs of individual Asian Pacific American ethnic groups. Using a probability sample of Guam residents, the analysis reported here addresses the problem by documenting the health status and characteristics of Chamorro and Filipino hypertensives. In contrast to predictions from

the literature, Chamorros have a higher prevalence of hypertension than Filipinos. Additional results show that hypertensive Chamorro men and women are from lower socioeconomic status levels than their Filipino counterparts, while hypertensive men and women of both ethnic groups appear equally likely to be overweight and to suffer diabetes. Male hypertensives are at greater risk for psychological distress than normotensives, and have a greater chance of heart failure. Compared to Filipinos, hypertensive Chamorros are more likely to evaluate their overall physical health as poor.

***Reimbursement, employment, and hospital privilege data of certified nurse-midwifery services***

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*J Nurse Midwifery* 1998 Jul-Aug;43(4):305-9

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This article reports data that pertain to the distribution of reimbursement modalities, other supporting data necessary to apply for provider contracts, and employment benefits. The frequency of hospital privileges, the type of privileges, and the category of privileges are also reported. Participants were also asked several questions that related to provider contracts: number of provider contracts in existence, number of new contracts obtained

on average per year, type of data needed to apply for a contract, and whether or not physician co-signature is required for reimbursement. Questionnaires were sent to all certified nurse-midwifery practices in the United States that were listed with the American College of Nurse-Midwives in 1994 (n = 1,839), and the response rate was 27%.

#### **Measles outbreaks in Micronesia, 1991 to 1994**

Guris D, Auerbach SB, Vitek C, Maes E, McCready J, Durand M, Cruz K, Iohp K, Haddock R, Rota J, Rota P, Heath J, Redd SC. National Immunization Program, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA. dhm5@cdc.gov

*Pediatr Infect Dis J* 1998 Jan;17(1):33-9

PMID: 9469392 [PubMed - indexed for MEDLINE]

**BACKGROUND:** Several islands in Micronesia experienced large measles outbreaks, during 1991 through 1994. Except for Guam, none of the islands had reported measles outbreaks during the previous 20 years. **METHODS:** To characterize the outbreaks, measles surveillance data, hospital records and death certificates were reviewed. Preoutbreak vaccination coverage rates were assessed by reviewing public health vaccination records. Viral isolates were genetically sequenced to determine the source of transmission. Linear regression analysis was performed to assess the effectiveness of outbreak control measures. **RESULTS:** Between 1991 and 1994 more than 1300 measles cases and 16 measles-related deaths were reported in Micronesia. Preoutbreak vaccination coverage rates among 2-year-old children were 55 to 94%. Genetic sequencing of the viral isolates and epidemiologic investigations suggested transmission between islands and new importations from outside of Micronesia. The highest attack rates were among children ages < 5 years (20/1000) and 10 to 19 years (38/1000). Compared with attack rates among children ages < 1 and 10 to 19 years, attack rates were lower among those ages 5 to 9 years, in whom 2-dose vaccination coverage rates were highest (P < 0.001). Early and rapid implementation of mass vaccination campaigns was significantly associated with shorter duration of outbreaks (P = 0.049). **CONCLUSION:** The measles outbreaks in Micronesia show that island populations may be highly susceptible to measles. High two-dose vaccination coverage levels must be maintained to prevent such outbreaks. Early and rapidly implemented mass measles vaccination campaigns were effective in control of island outbreaks. Strengthening public health infrastructure and surveillance is necessary for early identification of outbreaks and rapid implementation of mass campaigns.

#### **Strengthening public health infrastructure and surveillance is necessary for early identification of outbreaks and rapid implementation of mass campaigns.**

#### **An assessment of health and disease in the prehistoric inhabitants of the Mariana Islands**

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*Am J Phys Anthropol* 1997 Nov;104(3):315-42

PMID: 9408539 [PubMed - indexed for MEDLINE]

Using a variety of skeletal and dental stress indicators, an assessment of the health and disease of the indigenous inhabitants of the Mariana Islands, the Chamorro, is made. The major hypothesis to be tested is that the Chamorro were relatively healthy and that deviations from the expected, as well as inter-island variation, may reflect environmental, ecological, and cultural differences. The major skeletal series surveyed include sites on Guam (N = 247 individuals), Rota (N = 14), Tinian (N = 20), and Saipan (N = 102). The majority of the specimens are from the transitional pre-Latte (AD 1-1000) and Latte (AD 1000-1521) periods. These data derive primarily from unpublished osteological reports. The indicators of health and disease surveyed include mortality and paleodemographic data, stature, dental paleopathology, cribra orbitalia, limb bone fractures, degenerative osteoarthritis, and infectious disease (including treponemal infection). Where appropriate, tests of significance are calculated to determine the presence of any patterning in the differences observed within and between the skeletal series. Information recorded in prehistoric Hawaiians provides a standard for external comparisons. Several of the larger skeletal series surveyed have paleodemographic features that are consistent with long-term cemetery populations. Females and subadults are typically underrepresented. Most subadult deaths occur in the 2-5 year age interval. Life expectancy at birth ranges from 26.4 to 33.7 years. A healthy fertility rate is indicated for these series. The prehistoric inhabitants of the Mariana Islands were relatively tall, exceeding living Chamorros measured in the early part of the present century. The greater prevalence of developmental defects in the enamel suggests that the Chamorro were exposed to more stress than prehistoric Hawaiians. The low frequency of cribra orbitalia further indicates iron deficiency anemia was not a problem. There are generally low frequencies of dental pathology in the remains from the Mariana Islands. Betel-nut staining is relatively common in all series which may help to explain the relatively low prevalence of dental pathology. Healed limb bone fractures are rare in these skeletal series; the frequency and patterns of fractures suggest accidental injury as the main cause. Greater physical demands involving the lower back region are indicated by a high frequency of spondylolysis, or stress fracture in the lumbar vertebrae in the Chamorro. Likewise, advanced degenera-

tive bone changes, while of low occurrence, are significantly greater in the Chamorro than Hawaiians. The prevalence of skeletal and dental indicators of stress was generally higher in the smaller islands of the Marianas chain (e.g., Rota), islands with fewer resources to buffer environmental catastrophe. Bony changes suggestive of treponemal (probably yaws) disease are common in most of these Mariana Islands skeletal series.

**Health status of diabetic persons in an Asian-Pacific population: evidence from Guam**

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*Ethn Dis* 1997 Winter;7(1):65-71

PMID: 9253557 [PubMed - indexed for MEDLINE]

**OBJECTIVE:** The goal of this study was to document the sociodemographic, physical, and psychosocial health characteristics of self-reported diabetic Asian-Pacific Americans in Guam. **METHODS:** Data from Guam's 1991 Behavioral Risk Factor Survey were analyzed using analysis of variance. **RESULTS:** Diabetic men are significantly more likely than nondiabetic men to be Chamorro, not to have graduated from high school, to be unemployed, and to be impoverished. Diabetic women are also significantly more likely than nondiabetic women to be impoverished. Hypertension is more prevalent among diabetic men and women than among nondiabetic persons. Diabetic men are at greater risk than nondiabetic men for heart attack, and are significantly more likely to assess their physical health as poor. Diabetic women are more likely than nondiabetic women to suffer strokes. **CONCLUSIONS:** The results of this study indicate significant differences in the health status of diabetic and nondiabetic Asian-Pacific persons in Guam and extends our understanding of the health characteristics and service needs of this rapidly growing and under-studied population.

**Human immunodeficiency virus-induced immunosuppression is an important contributor to the TB epidemic and probably accounts for a minimum of 30% of excess TB cases during the period from 1985 through 1990.**

**National trends in the concurrence of tuberculosis and acquired immunodeficiency syndrome**

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*Arch Intern Med* 1995 Jun 26;155(12):1281-6

PMID: 7778959 [PubMed - indexed for MEDLINE]

**BACKGROUND:** Elucidation of the relationship between tuberculosis (TB) and the acquired immunodeficiency syndrome (AIDS) is needed to help predict the future course of these two epidemics. We examined nationwide trends in TB and AIDS occurring in the same individual.

**METHODS:** Health departments in the 50 states, District of Columbia, Puerto Rico, and Guam matched their TB and AIDS case registries to determine the number of persons diagnosed with both TB and AIDS. The number of AIDS cases, TB cases, AIDS cases that matched with a TB case on the TB registry, and TB cases that matched with an AIDS case on the AIDS registry were reported to the Centers for Disease Control and Prevention, Atlanta, Ga. Data were analyzed for the period from 1981 through 1991. The number of matched TB-AIDS cases was compared with a modeled estimate of excess TB cases during the period from 1985 through 1990. **RESULTS:** From 1981 through 1991 there were 11,299 AIDS cases that matched with a TB case on the TB registry, representing 5.1% (geographic variation, 0% to 9.3%) of AIDS cases. The TB cases that matched with an AIDS case on the AIDS registry represent 4.3% (geographic variation, 0% to 15.1%) of TB cases from 1981 through 1991. Since 1981, matched TB and AIDS cases increased yearly through 1990. When examined by year of AIDS report, the percentage of AIDS cases that matched with a TB case increased from 1981 to 1982 (1.9% to 5.1%), remained fairly constant from 1983 through 1987 (range, 4.0% to 4.7%), increased in 1988 (5.4%) after extrapulmonary TB was added to the AIDS case definition, and increased slightly through 1990 (5.8%). When examined by year of TB report, the percentage of TB cases that matched with an AIDS case increased steadily from 1981 through 1990 (0.1% to 9.5%). The calculated fraction of excess TB cases during the period from 1985 through 1990 that could be accounted for by identified TB-AIDS cases was 30%. **CONCLUSION:** The risk of TB or AIDS among persons already diagnosed with one disease is much higher than among the general population. The percentage of persons with TB who are also diagnosed with AIDS has been increasing rapidly. Human immunodeficiency virus-induced immunosuppression is an important contributor to the TB epidemic and probably accounts for a minimum of 30% of excess TB cases during the period from 1985 through 1990. ■