

CHAMORROS IN THE UNITED STATES

HISTORY

Chamorros are the original inhabitants of the Marianas Islands. Today, the islands are politically separated into two U.S.-associated territories: Guam and the Commonwealth of the Northern Mariana Islands (CNMI). Both territories are populated by various ethnic groups, with no one ethnicity having a majority. This ethnic diversity came about through centuries of migration that continues today. In addition, the history of Spanish colonization of Guam led to much ethnic and cultural mixing. A person born in Guam or CNMI is a U.S. citizen at birth (OIA, 2006).

DEMOGRAPHICS

Census 2000 counted 58,420 “Guamanians or Chamorros” in the entire United States (U.S. Census Bureau, 2001). Unfortunately, the “Guamanian or Chamorro” category used for most Census data may include individuals who identify as being from Guam but who are not Chamorro.

Guam and CNMI have experienced explosive population growth in the past several decades. In 1990, Guam’s population was 133,152 of whom 43% were estimated to be Chamorro (Rodriguez, 1996). The Census 2000 population count for Guam was 154,805, a 16% increase from 1990, and Chamorros were 42% of the population (U.S. Census Bureau, 2003). CNMI had 43,345 inhabitants in 1990. The Census 2000 population count was 69,221, a 60% increase from 1990. Chamorros accounted for 21.3% of the population in 2000. The total U.S. population grew by 13% from 1990 to 2000 (U.S. Census Bureau, 2003).

According to Census 2000, there is also a sizable “Guamanian or Chamorro” population in California (20,918) and Washington (5,823) (U.S. Census Bureau, 2000).

The latest vital statistics available for Guam show the birth rate at 20.6 births per 1000 population (Hamilton, et al, 2005). This birth rate is significantly higher than the U.S. rate of 14.1 births per 1000 population (Martin, et al, 2005). The age-adjusted death rate for Guam is 686.0 per 100,000 and the U.S. rate is 801.0 deaths per 100,000 (Minino, et al, 2006).

The median age of Chamorros on Guam is 22.5 years (Diaz, 1997). This is much younger than the U.S. median of 35.3 years (U.S. Census Bureau, 2001). Life expectancy for Chamorros on Guam is 69.1 years (Rodriguez, 1996). This is lower than the U.S. life expectancy for 77.9 years (NCHS, 2006).

ENGLISH LANGUAGE PROFICIENCY

The ability to speak English has a tremendous impact on access to health information, public services (i.e. Medicaid, Medicare, SCHIP), effective communication with providers and emergency personnel, and the ability to understand and utilize medications properly.

Thirty-seven percent of Guamanians/Chamorros speak a language other than English at home, 13% are limited English Proficient (LEP), and 9% live in linguistically isolated households, which are all rates higher than the general US population (APIAHF, 2005).

POVERTY/INCOME

The relationship between income and health has been well established over the years. Poverty and lower income have been correlated with high rates of death and disease while higher income has been correlated with better health status. Large disparities in income have been linked to lower life expectancy in cross-national comparisons as well as higher mortality and obesity rates at the state level.

The per capita income for Guamanians/Chamorros is \$15,325, significantly lower than for the US population (\$21,587). One out of seven Guamanians/Chamorros (14%) live below the federal poverty line; and one out of three (34%) live below the 200% federal poverty line (APIAHF, 2005).

EDUCATIONAL ATTAINMENT

According to the Institute of Medicine (IOM), the likelihood of being insured rises with higher levels of educational attainment. Having a college degree is strongly associated with multiple factors that increase the likelihood of being insured—employment in sectors that are more likely to offer coverage, higher income, and a greater likelihood of choosing employment-based coverage if offered. Previous studies of Census data

have shown that adults who did not graduate from high school were almost twice as likely to be uninsured as those with a high school diploma (38.5% compared to 19.6%)(APIAHF, 2005).

Almost 10,000 or 22% of Guamanians/Chamorros did not complete high school. Almost half of the general US population has a high school diploma as their highest level of educational attainment, which is similar to the 55% completion rate in this population. But, this population was less likely to have a bachelor's degree as their highest level of educational attainment compared to the general population (11% vs. 16%).

HEALTH STATUS

It is difficult to characterize the health status of Chamorros. As noted above, the use of "Guamanian or Chamorro" as the official U.S. category means that rates will be calculated using an inaccurate denominator. Chamorros are also aggregated with other ethnic groups. For example, studies of Guam and CNMI sometimes do not differentiate between the various ethnicities that are being studied, or the data are aggregated as "Micronesian". Similarly, Chamorros in the U.S. mainland are often lumped in with other Pacific Islanders, Native Hawaiians and/or Asian Americans. Small sample sizes make it difficult to generalize research findings. Finally, in some cases, data are just not available. For these reasons, the data contained in the brief provide only a rough estimate of Chamorro health status.

Like most of the Pacific Islands, the population of Guam and CNMI is concentrated in increasingly crowded urban areas. This trend toward urbanization has strained an already vulnerable health care infrastructure (Diaz, 1997).

An anthropologic review of Chamorro health trends in Guam revealed they are experiencing a mixed transition, with infectious and chronic diseases and risky behaviors leading to injury-related mortality. It is important to take into account the extended, multigenerational family systems, the caring and sharing within communities and the use of traditional healers to understand how changing popular trends interact with their actual lives and the impact on health outcomes (Torsch, 2002).

CHRONIC DISEASES

HEART DISEASE & STROKE

Cardiovascular disease is the leading cause of morbidity and mortality in the Chamorro population in California and Guam. Data from the California Department of

Health Services showed 243.8 deaths per 100,000 due to coronary heart disease in 1990 (California Endowment, 1997). On Guam the rate was 119.2 deaths per 100,000 in 2003 (Hoyert, 2006).

On Guam, Chamorros have a higher prevalence of hypertension than Filipinos. Hypertensive Chamorro men and women are from lower socioeconomic status levels than their Filipino counterparts. Hypertensive men and women of both ethnic groups appear equally likely to be overweight and to suffer diabetes (Pinhey, 1995).

CANCER

Cancer is the second leading cause of death on Guam. Incidence on Guam is high and increasing. Chamorros appear to have significantly higher rates of cancer than other ethnic groups on Guam. From 1989-1991, 61% of deaths were cancer related occurred in the Chamorro and Pacific Islander populations of Guam. Among Chamorros, the leading site was lung cancer (37%) followed by oral cavity, breast, cervix, and colorectal cancers (Guam DPHSS, 1993). Chamorro men on Guam appear to have high rates of cancer of the buccal cavity, nasopharyngeal cancer and liver cancer (Haddock & Naval, 1997).

Guam does maintain a cancer registry and has a chapter of the American Cancer Society on the island. However, while basic cancer diagnosis and treatment can be provided on Guam, many cancer patients must travel to Hawai'i, the U.S. continent or nearby Asian countries to seek advanced medical care. A 2004 study of access to cancer awareness and services in Guam identified an action plan with 5 priority areas: (1) increasing the capacity of cancer prevention and control staff; (2) increasing public awareness of cancer risk factors; (3) expanding the capacity of the Guam Cancer Registry; (4) establishing a Cancer Prevention and Control Advisory Board for the Territory; and (5) improving early detection and screening for priority cancers (Tseng, et al, 2004).

In CNMI, a 2004 study funded by NCI suggested that cancer is the second leading cause of death and most prevalent cancers can be prevented and/or cured with early detection and treatment. CNMI has developed an action plan that prioritizes (1) developing a cancer registry, (2) increasing resources dedicated to cancer prevention and control, and (3) increasing capacity of health professionals (Tseng, et al, 2004). A review of data revealed that the incidence of cervical cancer was nine times higher for Chamorro females (69.1 per 100,000) than for U.S. Whites (7.5 per 100,000). For

Carolinian females the incidence was 20 times higher than for U.S. Whites (151.1 per 100,000) (CNMI DPH, 1995).

Breast cancer is the most common cancer in Pacific Islander women in California. Data from the California Cancer Registry from 1988-96 show that 24% of new cancer cases for Guamanian women were breast cancer. Regular breast cancer screenings need to be promoted among this population (Tanjasi & Sablan-Santos, 2001).

A review of published findings of cancer research revealed a lack of systematic data collection on cancer incidence and mortality in the Pacific Islands. Increased attention to these populations is needed to improve cancer care (Hughes, et al, 2000). On account of the high rate of cancer in the Pacific Islands, the Pacific Islander Cancer Control Network (PICCN) was established to increase cancer awareness and enhance cancer control research. The US-associated Pacific Island jurisdictions (USAPI) also formed the Cancer Council of the Pacific Islands (CCPI) to address cancer health disparities in the region.

DIABETES

Diabetes is the third leading cause of death for Chamorros on Guam (Diaz, 1997). The death rate in 1998 was 29.1 deaths per 100,000, more than twice the U.S. rate of 13.6 (NCHS, 2000).

An analysis of the 2001-2003 Guam Behavioral Risk Factor Surveillance System (BRFSS) indicated that Guam residents with diabetes remain below national targets for Healthy People 2010 for four preventive-care practices, particularly performing self-monitoring of blood glucose (SMBG) (CDC, 2005).

In a study using the BRFSS in San Diego, California, Chamorros showed a higher than average prevalence of diabetes, gestational diabetes, and the risk factors associated with premature onset of diabetes. This study concluded that collaborative partnerships should help identify strategies for: (1) community participation in intervention programs, (2) an increase in the community's adherence to recommended behavioral changes, and (3) identification of additional program modifications that will further enhance a program's cultural relevance (Wu, et al, 2005)

The prevalence of infants of diabetic mothers (IDM) in the Micronesians on Guam is 5% vs. 3.7% for non-Micronesian. Micronesians are also at higher risk for

cesarean delivery, recurrent hypoglycemia, and ventilator requirements for the infants than non-Micronesians. Five percent (5%) of Micronesians have diabetes during pregnancy, of which 2/3 have prolonged stays in the hospital and account for the majority of expensive off-island transports (Alur, et al, 2002).

To address the high rate of diabetes in the Pacific Islands, CDC established the Pacific Diabetes Today Resource Center (PDTRC), which has been working since 1998 to develop coalitions and train members in assessment, planning and evaluation of diabetes in their communities (Braun, et al, 2003).

INFECTIOUS DISEASES

TUBERCULOSIS

While Chamorros only make up 28% of Guam's TB patients (Rodriguez, 1996), the incidence on Guam is seven times higher than the continental U.S. rate (Diaz, 1997).

HIV/AIDS & SEXUALLY TRANSMITTED DISEASES

Guam's HIV incidence in 2004 was 47.8 per 100,000 population and 29.2 for AIDS (CDC, 2006). As of 2004, there were 58 residents living with HIV and 36 residents living with AIDS (CDC, 2006). It is not known what percentage of these is Chamorro. While these numbers may seem small, even small numbers of HIV infections are likely to result in significant demand for treatment and supportive health services (Sarda & Harrison, 1995).

In a study of junior and senior high school students in CNMI (aged 10-24), Chamorros had the highest proportions of several risk behaviors. Half were sexually active, of which 86% had never or seldom used contraception (Durand, 1995).

INJURY & VIOLENCE PREVENTION

Unintentional injuries are the fifth leading cause of death among Chamorros in Guam (Diaz, 1997). Guam also has a 12.8 age-adjusted death rate for intentional injuries (i.e. suicides) compared to 10.8 for the United States (Hoyert, 2006).

On Guam, in the Asian/Pacific Islander population, same-sex orientation is associated with a greater risk of suicide attempts for boys and girls. Overall, gay, lesbian, and bisexual Asian/Pacific Islander adolescents in Guam need intervention and counseling programs to reduce suicide risk (Pinhey & Millman, 2004).

MATERNAL AND CHILD HEALTH

The percentage of mothers in Guam receiving prenatal care in the first trimester of pregnancy was 62% in 1998, much lower than the U.S. average of 83% (NCHS, 2001).

In 2003, infant mortality for Chamorros on Guam was 11.28 per 1000 live births, compared to the U.S. national average of 6.85 per 1000 live births (Hoyert, 2006).

In California, infant mortality for Chamorros is 18.1 per 1000; however, this figure is not considered reliable due to the small population size. Also in California, the percent of low birth weight Chamorro infants was 8% (California Endowment, 1997). The national rate of infant mortality for Native Hawaiians and other Pacific Islanders is 6.5%, approximately the same as Whites and Latinos, and lower than Asians (7%). This is higher than the Healthy People 2010 goal of 4.5% (Healthy People 2010, 2000.).

SUBSTANCE USE

Methamphetamine, called meth, crystal, or speed, is reportedly a popular substance. However, there are no studies documenting the prevalence of methamphetamine users.

TOBACCO USE

In a study of junior and senior high school students in CNMI, only Chamorro and Carolinian students reported use of hard drugs and Chamorros had the highest rates of smoking (Durand, 1995). A 2000 study showed that smoking prevalence among adult Pacific Islanders on Guam is 38% and comparable to other islands, but higher than U.S. studies. Future studies need to address tobacco accessibility, adult role modeling, cultural definitions of childhood, and other environmental exposures (Workman, 2001).

NUTRITION, WEIGHT AND PHYSICAL ACTIVITY

With increased rates of childhood obesity throughout all racial/ethnic groups, a recent study examined the perceptions of childhood obesity in the CNMI. Focus groups indicated that understanding child feeding beliefs, values, attitudes and practices are key to how individuals balance familial, sociocultural and official nutritional messages into their everyday lives (Bruss, et al, 2005).

A study of Guam public school students indicated that the median intake of Calcium, vitamin E, and folate were less than 50% of the Recommended Dietary Allowance. Specific diet assessment instruments need to be

developed for culturally appropriate nutrition education (Pobocik, 2002).

The 1999 Safe & Drug Free Schools and Communities Youth Risk Behavior Study (YRBS) on Guam indicated students have a variety of risk factors for obesity. Twenty-six percent (26%) of middle school students consume at least 3 meals per week at a fast food restaurant, and 53.3% drink at least 2 cans of soda per day. Approximately 75% of Guam high school students eat less than one fruit or vegetable a day. This survey also showed Guam adolescents spending more time watching TV than performing physical activities compared to adolescents on the U.S. mainland. Approximately 27% of adolescents surveyed were overweight and with such sub-optimal eating and activity practices, there is an increased risk of immediate and long-term health problems (LeonGuerrero & Workman 2002).

Pacific Islanders have some of the highest obesity rates in the world. However, data are often reported in the aggregate, instead of by island ethnicities. Urbanization, migration, and immigration are just a few factors that must be considered when studying obesity in these populations (Harrigan, 2005).

A study of Filipino and Chamorro adolescents in Guam showed low calcium levels with a need for culturally specific materials emphasizing nutrition needed (Pobocik, 2003).

ORAL HEALTH

Dental disease in early childhood is endemic in the Pacific islands. Compared to 5-9 year old children in Hawaii and Palau, children on Guam have the poorest oral health indicators with high rates of carries and unmet dental needs (Greer, et al, 2003).

The areca nut is commonly used in the Western and South Pacific and South Asia. Regular use of this nut has recently been classified by the International Agency for Research on Cancer as carcinogenic to humans. A study of high-school children from Saipan suggested that areca nut chewing starts at a young age, resulting in many young users developing dependency, which can have serious consequences on oral health (Oakley, et al, 2005).

DISEASES OF THE CENTRAL NERVOUS SYSTEM

From 1950-1970, a remarkable concentration of cases of neurodegenerative diseases occurred among Chamorro natives of Guam. The diseases are called amyotrophic

lateral sclerosis and Parkinson-dementia complex (ALS/PDC); however, they are locally known as lytigo-bodig.

Despite intense investigations over the last four decades, the cause of these invariably fatal diseases is still unknown. Some researchers have linked environmentally severe calcium and magnesium deficiencies (Hermosura, et al, 2005). Others have suggested that flying foxes, a food often boiled in coconut cream and eaten whole contains toxins that affect brain tissue (Cox, et al, 2003). A forty-year follow up of ALS/PDC patients has noted that relatives of such patients have significantly higher risks for developing the disease than other people on the island of Guam (Plato, et al, 2002).

From 1970 onwards, the incidence of ALS has decreased dramatically. The incidence of PDC has also decreased, but to a lesser degree, and age at onset has shifted to a later age by about ten years (Wiederholt, 1999). Some authors support a hypothesis that cultural changes could be responsible for this decrease (Haddock & Chen, 2003). Others also assert that socioeconomic status, ecological changes and others suggest that modifiable environmental factors rather than genetic predisposition influences ALS/PDC (Plato, et al, 2003).

RESOURCES

The following agencies are able to provide additional information regarding the Chamorro community:

Guam Communications Network
4201 Long Beach Blvd., Ste. 218
Long Beach, CA 90807
Tel: (562) 989-5690
Fax: (562) 989-5694
E-mail: info@guamcomnet.org
Website: www.guamcomnet.org

Guam Department of Public Health and Social Services
Government of Guam
123 Chalan Kareta
Mangilao, Guam 96923
Telephone No.: 671-734-7102
Fax No.: 671-734-5910
Website: www.dphss.govguam.net

Catholic Social Services
234-A U.S. Army Juan C. Fejerang St.,
Barrigada, Guam 96913

Tel: (671) 635-1410
Fax: (671) 635-1444
Email: css@guam.net
Website: www.css.guam.org

University of Guam Center for Excellence in
Developmental Disabilities, Education, Research and
Service (GUAM CEDDERS)
UOG Station
Mangilao, Guam 96923
Tel: 671-735-2481
Fax: 671-7354-5709
E-Mail: heidisan@ite.net

Guma' Mami, Inc.
Post Office Box FN, Hagatna, GU 96932
Tel: (671) 477-1764/1505
Fax: (671) 477-4984
Email: monical@ite.net or darlenec@ite.net

Guahan Project (Guam's HIV/AIDS Network Project)
P.O. 20640
Barrigada, Guam 96921

- Tamuning Office (671) 647-5684
- Dededo Office, (671) 632-6815
- OraSure Counseling (671) 688-2635 or (671) 687-3146
- alexsilverio@hotmail.com

Guam Medical Society, Inc.
275-G Farenholt Avenue, Suite 248,
Tamuning, Guam 96913
Tel: 671-647-2249
Fax.: 671-647-3276
E-Mail: guammedicalsociety@yahoo.com

The Salvation Army Lighthouse Recovery Center
(Guam)
440 East Marine Drive Corps
Hagåtña, Guam 96910
Telephone No.: 671-477-7671
Fax No.: 671-477-4649
E-Mail Address: tsagulr@ite.net

Health Services of the Pacific-Home Care
415 Chalan San Antonio, PMB 101-352
Tamuning, Guam 96913
Tel.: 671-647-5355
Fax.: 671-647-5358
E-Mail: hsp@teleguam.net

Pacific Diabetes Today Resource Center (PDTRC)
Papa Ola Lokahi
894 Queen Street
Honolulu , Hawai'i 96813
Tel: 808.597.6550
Fax: 808.597.6551
E-mail: manao@papaolalokahi.org
Website:
http://www.papaolalokahi.org/hoe2/index.cfm?wwa_ID=32EF073C-120E-4A99-9A21D1A4A74C6374&sub=yes

CNMI
Commonwealth Health Center
Division of Public Health
PO BOX 500-409
Saipan, MP 96950-0409
Tel: (670) 664-4835
Fax: (670) 664-4840
E-mail: help@dphsaipan.com
Website: <http://www.dphsaipan.com/>

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ABOUT THIS SERIES

This health brief is part of a series of that includes Cambodian, Chamorro, Chinese, Filipino, Hmong, Japanese, Korean, Native Hawaiian, Samoan, South Asian, and Vietnamese. All are available for download at www.apiahf.org.

Purpose

The purpose of the series is to summarize published research findings of disparities in the health and healthcare of the selected group. The data presented is meant for community health advocates, grant writers, evaluators and students as a tool to raise awareness, guide program development and spark future research for the well-being of Asian American and Pacific Islander populations.

Methods

This brief was updated after a PubMed literature review. In order to find the latest information, the Pubmed literature search focused on the years 2000-present and each ethnic group was cross referenced with these focus areas: access to quality health services, arthritis, osteoporosis, and chronic back conditions, cancer, chronic kidney disease, diabetes, disability and secondary conditions, education & community-based programs, environmental health, family planning, food safety, health communication, heart disease and stroke, HIV, immunization, infectious disease, injury & violence prevention, maternal, infant & child health, medical product safety, mental health & mental disorder, nutrition & overweight, occupational safety & health, oral health, physical activity & fitness, public health infrastructure, respiratory disease, sexually transmitted disease, substance abuse, tobacco use, and miscellaneous topics. For the Chamorro health brief, the search cross-referenced the terms Guam, Guamanian, Chamorro, Commonwealth of the Northern Marianas Islands, and Pacific Islands with the aforementioned areas.

Limitations

It is difficult to characterize the health status of specific Asian American or Pacific Islander ethnic populations. Many studies do not differentiate between the various ethnicities studied. Small sample sizes make it difficult to generalize research findings and in some cases, data are just not available. For these reasons, the data contained here provide only a rough estimate of health status and are not an exhaustive presentation of the findings, nor are they meant for medical decision-making.

Contributors

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