

# JAPANESE IN THE UNITED STATES

## **HISTORY**

Japanese immigrants began arriving in Hawaii and the continental U.S. around 1885, mainly as laborers. After 1924, the National Origins Act barred Japanese and other Asians from immigrating to the U.S. First generation Japanese Americans are known as *Issei*, and second generation Japanese are called *Nisei*. During World War II, 120,000 Japanese Americans, the majority of whom were U.S. citizens, were forced into internment camps (Takeuchi & Young, 1994). The U.S. government has since apologized for its treatment of Japanese Americans during World War II.

## **DEMOGRAPHICS**

The U.S. Census Bureau estimates that in 2000 nearly 797,000 people in the U.S. indicated that they were Japanese (one race alone) and nearly 1,149,000 that they were Japanese alone or in combination with other races. Japanese Americans are the sixth largest Asian ethnic group in the U.S. (U.S. Census Bureau, 2001).

## **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.

Twenty-one percent of Japanese have limited English proficiency (LEP), compared to 2% of the white population. Also, 38% speak a language other than English at home, compared to 18% of the U.S. population. Japanese rank in the top five Asian ethnic groups that are linguistically isolated at 18% (75,382) compared to 1% of White populations (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.

In comparison to other Asian ethnic groups and the U.S. population in general, Japanese have a higher per capita income (\$25,576 compared to \$21,587 for the U.S.). Nine percent live below the federal poverty line (compared to 12% for the U.S.), and 19% live below the 200% of federal poverty line (compared to 30% for the U.S.) (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).

Japanese Americans have lower rates of “less than a high school education” and “high school” at 9% and 42% than the general U.S. population (20% and 50%). They exceed the general US population with 28% having a bachelor’s degree as their highest level of educational attainment as compared to 16% of the US population (APIAHF, 2005).

## **IMMIGRATION/CITIZENSHIP STATUS**

Citizenship status also has significant and widespread effect on an immigrants’ ability to access health services and obtain insurance coverage. While an estimated 15% of citizens lack health insurance, 42% to 51% of non-citizens lack health coverage (APIAHF, 2005).

The general US population is 11% foreign-born, whereas 29% of Japanese are foreign-born. Twenty-eight percent of foreign-born Japanese become naturalized U.S. citizens, lower than the 40% naturalization rate for all foreign-born in the U.S. (APIAHF, 2005). So while some Japanese Americans have lived in the U.S. for several generations, many are new immigrants to this country. This diversity indicates that while some Japanese may be well-assimilated into American life and culture, others may require more assistance.

## **HEALTH STATUS**

It is difficult to characterize the health status of Japanese. Many studies do not differentiate between the various ethnicities studied. 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 here provide only a rough estimate of Japanese health status.

### **HEALTH INSURANCE COVERAGE**

Japanese Americans have one of the highest health insurance rates in the U.S.. In 1997, 13% of Japanese in the U.S. were uninsured. Approximately 3% received Medicaid or other public health care coverage, 77% had job-based coverage, and 7% purchased private insurance. 52% of uninsured Japanese Americans had no usual source of care (Brown, et al, 2000).

### **CHRONIC DISEASES**

#### **HEART DISEASE & STROKE**

The U.S. has one of the highest rates of heart disease in the world, while Japan has one of the lowest rates. Immigrant Japanese appear to have a risk of heart disease that is intermediate between the overall rates in the two countries (Baba, et al, 1994).

The difference in mortality from cardiovascular disease is thought to be partly the result of lifestyle changes due to Westernization. Japanese in Hawaii are more likely to follow a traditional lifestyle than Japanese in California (Benfante, 1992).

A study comparing the dietary patterns of second and later generations of Japanese Americans between the ages 30 and 69 as compared to native Japanese found Japanese Americans had more animal fat and carbohydrate intake than native Japanese. Energy intake as fat also exceeded 25%. Japanese Americans showed an accelerated progression of pre-clinical atherosclerosis and increasing death rates due to coronary artery disease compared to native Japanese (Egusa & Yamane, 2004).

Japanese Americans who have large amounts of visceral fat inside their abdomen (around the internal organs or viscera) rather than just under the skin are at increased risk for hypertension. The Japanese American Community Diabetes Study found that almost one in three participants with the largest amounts of fat were four times more likely to be hypertensive at follow-up (Hayashi, et al, 2004).

In the Honolulu-Asian Aging study following Japanese American men, the higher the metabolic syndrome risk

(which includes the factors hypertension, obesity, dyslipidemia, and glucose intolerance), the increased risk for dementia 25 years later. Modification of such risk factors during middle age may reduce the risk of cardiovascular diseases and of dementia in old age (Kalmijn, et al, 2000).

### **CANCER**

Japanese Americans experience most cancers at rates that are similar to or lower than the white population, with some notable exceptions. However, rates among Japanese Americans differ depending on the cancer site when compared to cancer rates in Japan.

#### ***Stomach Cancer***

Cancer of the stomach occurs at very high rates in Japan, but the U.S. has one of the lowest rates of stomach cancer in the world. Japanese Americans in one study were found to have rates of stomach cancer that were significantly higher than among Whites in the same region; stomach cancer rates among Japanese American women were three times higher than among White women (23.7 vs. 6.9 per 100,000) (Kagawa-Singer, 1997).

#### ***Breast and Ovarian Cancer***

Breast cancer rates among Japanese women living in the U.S. are still two times higher than rates for women living in Japan (Stanford et al, 1995). Also, a study of racial-ethnic women in Hawaii and Los Angeles from 45-75 years old between 1993 and 1996 showed that while historically Japanese Americans are at low-risk for breast cancer, that they exceed Whites with a 1.11 relative risk, compared to 1.0 of whites (Pike, et al, 2002).

While Japanese American women have the highest breast cancer survival rate among Asian American women, breast cancer is the most common form of cancer in this group and screening is consistently low (Lee-Lin & Menon, 2005).

A study of Japanese American women in San Diego California found that the women had high adherence to mammography screening, but a high proportion also listed linguistic and cultural barriers to screenings. They suggested having health care professionals who speak Japanese and more materials available in Japanese as a way to increase screening behaviors (Sadler, et al, 2003). In addition, Japanese American women are less likely than white women to undergo breast conserving therapy and adjuvant therapy, likely due to cultural differences in body image (Kagawa-Singer, 1997).

### ***Liver Cancer***

Japanese American men have been found to have rates of liver cancer that are substantially higher than the White population. One study found Japanese American men experienced liver cancer at a rate nearly 5 times higher than Whites (16.5 vs. 3.4 per 100,000) (Rosenblatt, 1996).

### ***Colorectal Cancer***

A study of Japanese residents in major US metropolitan areas showed the incidence of colorectal cancer among Japanese Americans exceeds the rate of non-Hispanic Whites. In fact, US born Japanese men have a 60% higher rate than US born white men and are only second in incidence rates after Alaska Native men. US Japanese women rank third after Alaska Native and African American women. This study indicates that efforts need to focus on increasing physician recommendations, improving communication between providers and patients, particularly those that are less acculturated. Focusing on more cultural competent interventions will hopefully address the high rate of colorectal cancer by promoting aggressive screening strategies

### **DIABETES**

Research shows that second generation Japanese Americans suffer from diabetes at approximately twice the rate of the White population, and four times the rate seen in Japan (Fujimoto, 1987). Family history followed by diet and environmental factors are thought to contribute to the higher rates of diabetes among Japanese Americans.

Data on the health consequences of weight gain in all Asian ethnic groups is sparse. A few studies have indicated that BMI and waist circumference have no association with diabetes risk in this population. On the other hand, some studies do report that intra-abdominal fat was a significant predictor of diabetes risk among older (Nisei) Japanese American men. The difference in these findings could be attributed to the fact that in older persons, intra-abdominal fat is associated with aging, but among younger persons, intra-abdominal fat is due to excess adiposity (measured by BMI and waist circumference) (McNeely, et al, 2001). Therefore, body mass index (BMI) is a strong risk factor for diabetes in Japanese Americans less than 55 years old, but not in the greater than 55 population (McNeely, et al, 2003).

Other studies suggest that lifestyle modification, such as reducing dietary fat and participating in regular endurance exercise, can improve BMI, body

composition, and body fat distribution in Japanese Americans, which may be effective in delaying or preventing type 2 diabetes (Liao, et al, 2002).

### **INFECTIOUS DISEASES**

#### **HIV/AIDS & SEXUALLY TRANSMITTED DISEASES**

Japanese Americans have the third highest percentage of AIDS cases among Asian American and Pacific Islander (AAPI) populations; nearly 12% of AIDS cases among AAPIs in California occur in Japanese Americans (Maldonado, 1999).

A study focusing on the Japanese population of San Francisco found a decline in gonorrhea cases since 1979, but Chlamydia cases started to increase in 1996. This could be attributed to new screening technology. The same study has reported an AIDS incidence of 552 per 100,000 population for Japanese Americans in San Francisco and almost half that rate (302 per 100,000) for Japanese-born Japanese living in San Francisco. Japanese-born people living with AIDS were less likely to have access to services and more likely to come to the U.S. for detection and treatment, and they are also significantly older than U.S. born cases (Komatsu, et al, 2003).

### **DOMESTIC VIOLENCE**

In a face-to-face interview study of a random sample of 211 Japanese immigrant women and Japanese American women in Los Angeles County ages 18 to 49,

- 75% reported some form of emotion abuse
- 16% reported rape by intimate partners
- 14% stated abuse caused injuries and/or caused them to fear for their lives (Yoshihama & Horrocks, 2002).
- More than 50% reported physical abuse—including culturally demeaning practices such as overturning a dining table, or throwing liquid at a woman—sometime prior to the interview (Yoshihama, 1999).

Fifty-two percent (52%) reported having experienced physical violence during their lifetime. When the probability that some women who have not been victimized at the time of the interview, but may be abused at a later date is calculated, 57% of women are estimated to experience a partner's physical violence by age 49 (Yoshihama & Gillespie, 2002).

Victimization was associated with posttraumatic stress symptoms; the more severe the intimate partner violence, the greater the symptoms. In order to serve this population, outreach to this community needs to address feelings of isolation by improving social support

and include treatment programs to address long-term consequences of abuse (posttraumatic stress) (Yoshihama & Horrocks, 2002).

### **MATERNAL AND CHILD HEALTH**

Japanese American women are more likely than women in almost all other racial and ethnic groups to receive early prenatal care; over 89% enter into prenatal care in the first trimester compared to 81% of AAPIs overall. However, approximately 8% of Japanese infants in the U.S. are considered low birth weight, which is among the highest rates for AAPIs (NCHS, 1992). In California, between 4 percent and 6.5 percent of Korean, Japanese, and Chinese mothers had low-birth weight babies (NIH, 2006). The infant mortality rate of 3.4 per 1,000 live births is lower than the rate of Asians (4.8) overall, Whites (5.8) and other racial/ethnic groups (Matthews, et al, 2002).

### **MENTAL HEALTH**

There are few studies on mental health and depression among Japanese in the U.S. However, suicide among Japanese Americans has been well documented. Yet, while suicide rates for some populations actually decrease when they live in a state with large numbers of people from their ethnic group, this is not true for Japanese Americans (Lester, 1992). Japanese American elderly and young men are more likely to commit suicide than other Japanese populations in the U.S. (McIntosh & Santos, 1981).

A study of Japanese adolescents in Hawaii from 1992 to 1996 established a "Japanese Cultural Scale" and found that being Japanese American vs. being part-Japanese American affects formation of cultural identity and may contribute to depressive symptoms experienced by adolescents (Kino Yamaguchi Williams, 2005).

### **SUBSTANCE USE**

The National Asian Pacific American Families Against Substance Abuse (NAPAFASA) Alcohol Use Fact sheet states that immigrants from Japan (62.1%) and Korea (53.2%) have a higher prevalence of past month alcohol use than immigrants from the Philippines (24.1%), China (28.4%), Vietnam (26.4%), and India (26.6%). Korean and Japanese prevalence of alcohol use is similar to the rates of U.S.-born individuals (NAPAFASA, 2005).

### **TOBACCO USE**

Smoking is fairly common among the Japanese American community. A multiethnic cohort study in California & Hawaii found Japanese Americans to have the lowest rate of smoking compared to African-

Americans, Latinos, Native Hawaiians and white men and women (Haiman, et al, 2006).

The NAPAFASA Tobacco Use Fact Sheet states that (NAPAFASA, 2005):

- Past month tobacco use rates were higher for immigrants aged 18 or older from Japan (24%), Korea (30.2%), and Vietnam (25.5%) compared with adult immigrants from the Philippines (13.5%) or China (10.1%).
- For past year tobacco use, foreign-born persons from Japan (26.1%), Korea (33.4%), and Vietnam (27.3%) had higher rates than persons from China (13.5%) and the Philippines (16.7%).

### **BONE HEALTH**

In a King County, Washington study, compared to Caucasian American women, Japanese American women ages 65 to 93 years old have lower bone mineral density (BMD) at most bone sites (Rice, et al, 2001).

## **RESOURCES**

The following agencies and websites are able to provide additional information regarding the Cambodian community:

Japanese American Citizens League  
1765 Sutter St.  
San Francisco, CA 94115  
415.921.5225  
Tel: (415) 921-5225  
E-mail: [jacl@jacl.org](mailto:jacl@jacl.org)  
Website: <http://www.jacl.org>

The Japanese American Network  
231 East Third Street, Suite G-104  
Los Angeles, CA 90013  
E-mail: [JANet-Info@janet.org](mailto:JANet-Info@janet.org)  
Website: <http://www.janet.org/>

## **REFERENCES**

- Asian Pacific Islander American Health Forum (APIAHF) (2005, January). *Diverse communities, diverse experiences*. Retrieved 2006, July 25 from Web Site: [www.apiahf.org/resources/pdf/Diverse%20Communities%20Diverse%20Experiences.pdf](http://www.apiahf.org/resources/pdf/Diverse%20Communities%20Diverse%20Experiences.pdf)
- Baba, S., Ozawa, H., Sakai, Y., Terao, A., Konishi, M., & Tataru, K. (1994). Heart disease deaths in a Japanese urban area evaluated by clinical and police records. *Circulation*, 89, 109-115. Retrieved August 9, 2006 from

- American Heart Association, Web site:  
<http://circ.ahajournals.org/cgi/content/abstract/89/1/109>
- Benfante, R. (1992). Studies of cardiovascular disease and cause-specific mortality trends in Japanese-American men living in Hawaii and risk factor comparisons with other Japanese populations in the Pacific Region: A review. *Human Biology*, 64(6), 791-805.
- Brown, E.R., Ojeda, V.D., Wyn, R., & Levan, R. (2000, April). *Racial and ethnic disparities in access to health insurance and health care*. Retrieved July 31, 2006 from University of California Los Angeles, Center for Health Policy Research Web site:  
<http://www.healthpolicy.ucla.edu/pubs/files/RacialandEthnicDisparitiesReport.pdf>
- Egusa, G., & Yamane, K. (2004). Lifestyle, serum lipids and coronary artery disease: Comparison of Japan with the United States. *Journal of Atherosclerosis and Thrombosis*, 11(6), 304-312.
- Fujimoto, W.Y., Leonetti, D.L., Kinyoun, J.L., Newell-Morris, L., Shuman, W.P., Stolov, W.C., & Wahl, P.W. (1987). Prevalence of diabetes mellitus and impaired glucose tolerance among second generation Japanese American men. *Diabetes*, 36, 721-729.
- Kalmijn, S., Foley, D., White, L., Burchfield, C.M., Curb, J.D., Petrovitch, H., Ross, G.W., Havlik, R.J., & Launer, L.J. (2000). Metabolic cardiovascular syndrome and risk of dementia in Japanese-American elderly men: The Honolulu-Asia aging study. *Arteriosclerosis, Thrombosis, and Vascular Biology*, 20, 2255-2260.
- Kagawa-Singer, M. (1997). Addressing issues for early detection and screening in ethnic populations. *Oncology Nursing Forum*, 24(10), 1705-1711.
- Kino Yamaguchi Williams, Else, I.R.N., Hishinuma, E.S., Goebert, D.A., Chang, J.Y., Andrade, N.N., & Nishimura, S.T. (2005). A confirmatory model for depression among Japanese American and part-Japanese American adolescents. *Cultural Diversity and Ethnic Minority Psychology*, 11(1), 41-56.
- Komatsu, R., Kamakura, M., Choi, K.H., & McFarland, W. (2003). AIDS, HIV and STD among Japanese and Japanese-Americans in San Francisco, California USA. *International Journal of STD & AIDS*, 14, 704-709.
- Hayashi, E.J., Boyko, D.L., Leonetti, M.J., McNeely, L., Newell-Morris, S.E., Kahn, S.E., & Fujimoto, W.Y. (2004). Visceral adiposity is an independent predictor of incident hypertension in Japanese Americans. *Annals of Internal Medicine*, 140; 992-1000.
- Lee-Lin, F., & Menon, U. (2005). Breast and cervical cancer screening practices and interventions among Chinese, Japanese, and Vietnamese Americans. *Oncology Nursing Forum*, 32(5), 995-1002.
- Lester, D. (1992). Suicide among Asian Americans and social deviancy. *Perceptual and Motor Skills*, 75(3 Pt 2), 1134.
- Liao, D., Asberry, P.J., Shofer, J.B., Callahan, H., Matthys, C., Boyko, E.J., Leonetti, D., Kahn, S.E., Austin, M., Newell, L., Schwartz, R.S., & Fujimoto, W.Y. (2002). Improvement of BMI, body composition, and body fat distribution with lifestyle modification in Japanese Americans with impaired glucose tolerance. *Diabetes Care*, 25, 1504-1509.
- Maldonado, M. *HIV/AIDS and Asians and Pacific Islanders*. National Minority AIDS Council, October 1999.
- Matthews, T.J., MacDorman, M.F., & Menacker, F. (2002). Infant mortality statistics from the 1999 period linked birth/infant death data set. *National Vital Statistics Report*, 50(4), 1-28. Retrieved August 9, 2005 from, Website:  
<https://www.nber.org/perinatal/1999/docs/Lfrpt.pdf>
- McIntosh, J.L., & Santos, J.F. (1981). Suicide among minority elderly: a preliminary investigation. *Suicide & Life-Threatening Behavior*, 11(3), 151-66.
- McNeely, M.J., Boyko, E.J., Leonetti, D.L., Kahn, S.E., & Fujimoto, W.Y. (2003). Comparison of a clinical model, the oral glucose tolerance test, and fasting glucose for prediction of type 2 diabetes risk in Japanese Americans. *Diabetes Care* 26(3); 758-763.
- McNeely, M.J., Boyko, E.J., Shofer, J.B., Newell-Morris, L., Leonetti, D.L., & Fujimoto, W.Y. (2001). Standard definitions of overweight and central adiposity for determining diabetes risk in Japanese Americans. *The American Journal of Clinical Nutrition*, 74; 101-107.
- National Center for Health Statistics (NCHS). *Birth Characteristics for Asian or Pacific Islander Subgroups, 1992*, Monthly Vital Statistics Report, CDC/NCHS.
- National Institutes of Health (NIH) (2006). *Women of color health data book*. Retrieved July 30, 2006 from Office of the Director, Office of Research on Women's Health, Web site:  
<http://orwh.od.nih.gov/pubs/WomenofColor2006.pdf>
- Pike, M.C., Kolonel, L.N., Henderson, B.E., Wilkens, L.R., Hankin, J.H., Spencer-Feigelson, H., Wan, P.C., Stram, D.O., & Nomura M.Y. (2002). Breast cancer in a multiethnic cohort in Hawaii and Los Angeles: Risk factor-adjusted incidence in Japanese equals and in Hawaiians exceeds that in Whites. *Cancer Epidemiology, Biomarkers & Prevention*, 11, 795-800.
- Rice, M.M., Larson, E.B., LaCroix, A.Z., & Drinkwater, B.L. (2001). Diagnosing osteoporosis in Japanese American women: To the editor. *The American Journal of Medicine*, 110; 241-242.
- Rosenblatt, K.A. (1996). Liver cancer in Asian migrants to the United States and their descendants. *Cancer Causes and Control*, 7, 345-50.
- Sadler, G.R., Takahashi, M., Ko, C.M., & Nguyen, T. (2003). Japanese American women: Behaviors and attitudes toward breast cancer education and screening. *Health Care for Women International*, 24, 18-26.
- Stanford, J.L., Herrinton, L.J., Schwartz, S.M., & Weiss, N.S. (1995). Breast cancer incidence in Asian migrants to the United States and their descendants. *Epidemiology*, 6(2), 181-83.
- Takeuchi, E.T., & Young, K.N.J. (1994). *Confronting critical health issues of Asian and Pacific Islander Americans*. Thousand Oaks, CA: Sage.
- The National Asian Pacific American Families Against Substance Abuse (2005, June). *Fact sheet: Asian American and Pacific Islander (AAPI) alcohol use*. Retrieved August 9, 2006 from Web site:  
<http://www.napafasa.org/resources/doc/Alcohol%20Fact%20Sheet.do>

The National Asian Pacific American Families Against Substance Abuse (2005, June). *Fact sheet: Asian American and Pacific Islander (AAPI) tobacco use*. Retrieved August 9, 2006 from Web site: <http://www.napafasa.org/resources/doc/Tobacco%20Fact%20Sheet.d>

U.S. Census Bureau (2001, May). *Census 2000 Demographic Profile*. Retrieved 2006, July 26 from Web site: <http://www.census.gov/prod/cen2000/dp1/2kh00.pdf>

Yoshihama, M., & Gillespie, B. (2002). Age adjustment and recall bias in the analysis of domestic violence data:

Methodological improvement through the application of survival analysis methods. *Journal of Family Violence*, 17(3), 199-221.

Yoshihama, M. (1999). Domestic violence against women of Japanese descent in Los Angeles: Two methods of estimating prevalence. *Violence Against Women*, 5(8), 869-897.

Yoshihama, M., & Horrocks, J. (2002). Posttraumatic stress symptoms and victimization among Japanese American women. *Journal of Consulting and Clinical Psychology*, 70(1), 205-215.

## 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](http://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 Japanese health brief, the search cross-referenced the terms Japanese and Japanese American 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

This series was revised in 2006 by Gem P. Daus, MA, Mona Bormet, MPH, and Sang Leng Trieu, MPH, with research assistance from Doris Chen. You may send comments and questions to [healthinfo@apiahf.org](mailto:healthinfo@apiahf.org).