A literature review of various reports sponsored by federal governmental agencies and proceedings of conferences of Asian Americans’ and Pacific Islanders’ health organizations provides data of health disparities among and between these diverse ethnic groups. Specifically, demographic and socioeconomic data, as well as health care issues, are reported. Asian Americans and Pacific Islanders exceed other groups in health disparities in the area of tuberculosis and hepatitis B, whereas cancer and cardiovascular diseases are leading causes of death within the Asian American and Pacific Islander populations. Recommendations for areas of research are provided.

This White Paper reports the current demographic and socioeconomic profile and the current health status of Asian Americans and Pacific Islanders (AAPIs). The article reviews documents in the research literature and various reports sponsored by federal government agencies. To eliminate health disparities for AAPIs, recommendations for nursing research are proposed.

HISTORICAL PERSPECTIVE
The Chinese were the first group of AAPIs to come to America in 1849.1 Primarily, they came to build the transcontinental railroad. Many of them also came for their own reasons. They sought sanctuary in the United States from intense conflicts in China caused by the British Opium wars. They also came as a result of the harsh economic conditions in China where they were forced to pay high taxes to the government. Many Chinese heard of Gam Saan, or Gold Mountain, and stories that the hills in America were paved with gold. Therefore, many came as free laborers.

The Japanese began to immigrate to Hawaii about 1885 also as a result of economic hardships and the promise of employment in America. Later, Korean laborers were imported in 1903 to work in the plantations in Hawaii, and in 1906 laborers from the Philippines were working in the sugar plantations.

AAPIs come from different parts of Asia. Under this broad category, AAPIs originate from 28 Asian countries and 25 identified Pacific Island cultures.2 The 10 largest Asian American groups identified by the US Census Bureau include the Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, Cambodian, Hmong, Laotian, and Thai. The other Asian American groups are the Bangladesh, Burmese, Indonesian, Maylayan, Okinawna, Sri Lanka, and a few others.

The Pacific Islanders come from 3 major groups. First, there is the Polynesian group, consisting of Hawaiian, Samoan, Tahitian, Tongan, and other small Polynesian groups. The next group is the Micronesian group, consisting of Guamanian or Chamorro, Northern Mariana Islander, Palauan, and the Micronesians. The third group is the Melanesian group, consisting primarily of the Fijians and other smaller Melanesian subgroups. The remaining Pacific Islander Americans come from an unspecified number of very small Pacific Islander groups.
DEMOGRAPHIC PROFILE

AAPIs are 1 of the 5 racial/ethnic groups identified by the US Office of Management and Budget (OMB). The term Asian Americans refers to persons of Asian descent who are citizens or permanent residents of the United States. More recently, modification of the OMB Directive No. 15 separated “Asian Americans” from “Native Hawaiian and Other Pacific Islanders.”

The change in racial demographics is primarily driven by the immigration. The Asian population from 1990 to 1996 increased much more rapidly than did the white, Indian, or black populations. The Asian population is projected to grow rapidly but will remain smaller than the other minority groups. AAPIs currently make up 3.7% of the population and will increase to 7.2% in 2020 and 11% in 2050. The largest percentage of populations. The Asian population is projected to grow rapidly and will remain smaller than the other minority groups. AAPIs currently make up 3.7% of the population and will increase to 7.2% in 2020 and 11% in 2050. The largest percentage of AAPIs live in the United States, AAPIs have the highest case rate for tuberculosis per population of 100,000. Most cases occurred among the foreign-born. Choi noted that among AAPI groups, shame, denial, and anger pose as barriers to evaluation and treatment of tuberculosis. In addition, Southeast Asian immigrants older than 45 years have been reported to have an incidence rate of tuberculosis that is 40 times higher than the general US population.

In regard to educational attainment, 39.1% of Asians have completed 4 or more years of college compared with the 21.5% of the total population. On the other hand, findings also show that the educational continuum where the percentage of Asians with zero to four years of elementary school is twice that of the general population, 5.3% to 2.4%, respectively. These factors impose significant cultural and linguistic barriers to access in health care and use of preventive services.

In regard to educational attainment, 39.1% of Asians have completed 4 or more years of college compared with the 21.5% of the total population. On the other hand, findings also show that the educational continuum where the percentage of Asians with zero to four years of elementary school is twice that of the general population, 5.3% to 2.4%, respectively.6

The bipolar socioeconomic status of AAPIs is not generally reported. Although 14.8% of full-time AAPIs 25 years or older had an income of more than $50,000 (compared with 12.2% in the general population), 34.7% had earnings of less than $20,000, a figure slightly higher than that of the total population (33.9%). One out of every five workers (20.5%) earned less than $15,000, and 12.2% of AAPIs lived below poverty.7

AAPI HEALTH CARE ISSUES IN THE RESEARCH LITERATURE

The myth that AAPI Americans are the “model minority” is one of the major barriers to health. This misconception assumes this group does not have major health problems that need to be addressed.8

Traditional cultural beliefs decrease the use of and compliance to current health care services. Lin-Fu9 indicated that many Asians dislike blood sampling, invasive procedures, and hospitalizations. Unmarried women, especially the Vietnamese Americans, avoid Papanicolaou tests and pelvic examinations. One study indicated that two thirds of Asian female immigrants had never had a Papanicolaou test, and 70% had never had a mammogram.10

Many Asian immigrants do not understand the Western biomedical philosophy. They believe in the yin and yang theory or the Ayurvedic principle. This is based on the belief in the balance of the two energy forces needed to maintain health. Many rely on folk medicine or traditional healers and will delay seeing a physician until symptoms become severe. Others believe in supernatural forces and ancestral transgression. For example, Southeast Asians’ health care practices include Cao Ggio (Vietnamese), or koi khyal (Cambodian), which mean to “scratch or rub the wind.” This treatment is commonly applied to the neck, back, chest, and arms and is thought to bring the toxic “wind” to the surface of the body.11

Choi12 reported that of all the racial/ethnic groups in the United States, AAPIs have the highest case rate for tuberculosis per population of 100,000. Most cases occurred among the foreign-born. Choi noted that among AAPI groups, shame, denial, and anger pose as barriers to evaluation and treatment of tuberculosis. In addition, Southeast Asian immigrants older than 45 years have been reported to have an incidence rate of tuberculosis that is 40 times higher than the general US population.

Kanaka Maoli (full-blooded indigenous Hawaiians) continue to have the worst health and socioeconomic indicators in Hawaii.13 As a result, it is estimated that by the year 2043 the last full-blooded Hawaiian will have disappeared.14 Native Hawaiians have a high incidence of cancers such as stomach, ovarian, and lung. Hawaiian women have the highest incidence rate of breast cancer among all US racial and ethnic groups, 111 per 100,000 Hawaiian women versus 86 per 100,000 for white women.

A recent review of the literature concluded that Asian Indians have one of the highest rates of coronary artery disease (CAD) and suggested genetic predisposition. About 50% of all Asian Indians are vegetarians, but their excessive risk for CAD varies from 4 times that of the general population. Risk factors such as high blood pressure, high serum total cholesterol, and obesity consistently fail to fully explain these unusual incidences of CAD.15

Parasitic infestations disproportionally affect Southeast Asian refugees. Of all the malaria in the United States, 45% occurs among Southeast Asians.16

There are genetic, maternal, and child health care services that need special attention. These disorders include hemoglobin E, α thalassemia-1, β thalassemia, and G6PD deficiency.17 Studies have reported a high prevalence of sudden infant death syndrome (SIDS). In a survey conducted in California, researchers found 62 Chinese SIDS cases (1.3 per 1000). SIDS was approximately 38 times more likely to occur in Chinese in California than in Chinese in Hong Kong.18

A recent study conducted by Affonso et al19 examined the relationship of psychosocial perinatal care services developed through community partnerships and cultural reverence to
individual women's health issues and use of prenatal care, birth outcomes, and perinatal care costs in Hawaii. The findings showed that the use of prenatal care visits and birth outcomes were significantly lower for Malama program participants than for women of similar ethnic groups before implementation of the culturally relevant program. Cultural beliefs and practices were incorporated to foster health promotion and use of health care services.

Another question arises in reference to dosage of medications. Because of differences in body physiology, AAPIs may react differently to the standard doses of prescribed medications. Studies have shown that Asian Americans metabolize drugs, specifically procainamide, isoniazid, and hydralazine, at different rates.20

**MENTAL HEALTH: REPORT OF THE SURGEON GENERAL**

The first ever Surgeon General's report on mental health21 was released December 13, 1999, and commissioned by Health and Human Services Secretary, Donna Shalala. This report presents evidence that mental health and mental illness are shaped by age, gender, race, and culture, as well as additional facets of diversity that can be found within all these population groups.

One paragraph is allotted to describing AAPI mental health issues. Specifically, it notes that mental illness among Asian Americans is difficult to determine because of the lack of population sampling. The report reveals that there is a wide variance of mental illness among AAPI ethnic groups. It raises questions about the validity of DSM-IV diagnostic criteria with respect to AAPI culturally expressed symptoms and culture bound syndromes. There is underuse of mental health services by AAPIs as a result of issues such as shame and lack of linguistically and culturally appropriate services.

There are no references made to specific issues involving Pacific Islanders in the report. There are some isolated references to Asian Americans (but not Pacific Islanders) in chapters addressing mental health issues for adults and children, but none in the chapter on older adults. Cultural differences exacerbate the general problems of access to appropriate mental health services. These services have been designed but are not widely available.

Recommendations for policy include the importance of culturally competent services, more research on underuse of services, and the need for more mental health professionals from racial and ethnic minority groups.

**Healthy People 2000**

Originally, the Healthy People 2000 (HP 2000)22 report only identified 9 subobjectives related to AAPIs. In its mid-course review, 11 new subobjectives were added with input from AAPI health organizations, including the Asian American Pacific Islander Nurses Association. The following are the health indicators of the Healthy People 2000 review relevant to AAPI communities.

**Tobacco use.** The percentage of Southeast Asian men who smoked decreased from 55% to 23.1% from 1987 to 1994. However, the data used to track this objective are from different sources and are not directly comparable. According to self-reported data, smoking prevalence among AAPI women is typically less than 10%. However, biochemical verification tests in a study sponsored by the National Heart, Lung and Blood Institute, smoking rates among AAPI women were shown to be 2 to 3 times higher than self-reported data (HP 2000 Review).

**Mental health.** The suicide rate among AAPIs in California is similar to the 6.6 per 100,000 rate for the total US population. In Hawaii, the rate jumps to 11.2 per 100,000 of all persons residing there. AAPI women have the highest suicide rate among women aged 65 years and older (HP 2000 Review).

**Cancer.** Death rates due to cancer have increased at a faster rate among AAPIs than any other racial/ethnic population, and cancer has become the leading cause of death for AAPI women.24 Cancer is the leading cause of death for Chinese and Vietnamese. Surveillance, Epidemiologic and End Results (SEER) data from the National Cancer Institute show that Korean stomach cancer rates are 5 times the rate for the total population. Liver cancer rates are highest for Vietnamese and primary liver cancer has a higher incidence for nearly all AAPI groups due to chronic hepatitis B infections (HP 2000 Review). In Hawaii, incidence rates are among the highest for thyroid cancer. This disease is also found to have the highest rates for Chinese men and Filipino women.25 Another report showed that Filipinos have the lowest survival rates for kidney and renal cancers. The Chinese have the highest incidence of nasopharyngeal cancer and the lowest survival rates for leukemia, as well as the highest liver cancer mortality.26

**Cardiac diseases.** HP 2000 review (1997) noted that deaths from cerebrovascular disease are increasing for men and women AAPIs.

**Hepatitis B.** Hepatitis B prevalence rates are the highest among AAPIs.27 The number of hepatitis B cases among AAPI children decreased from 10,817 to 4207 cases. However, this number is still 2 to 3 times higher than for all children in the United States (HP 2000 Review).

**Tuberculosis.** Tuberculosis incidence rates for AAPIs are approximately 5 times higher than the rates for the total population. Moreover, the tuberculosis rate for AAPIs is increasing while it is decreasing for the total population.28 From 1988 to 1995, the tuberculosis rate for AAPIs has increased from 36.3 to 45.9 per 100,000 (HP 2000 Review).

**Access to health.** Progress has been made in raising the percentage of AAPIs receiving recommended clinical preven-
tive services, but none of the identified AAPI relevant HP 2000 subobjectives have met the year 2000 target. From 1992 to 1994, the percentage of women receiving Papanicolaou tests increased from 62% to 66%, but this trend may not be reflective of progress for all AAPI communities. For example, in Alameda County, California, 40% of Korean Americans had never received a Papanicolaou test compared with all women living in that county (HP 2000 Review, 1997). From 1991 to 1994, more AAPIs had a regular source of primary care—70% and 78%, respectively. However, these percentages are still below the total population (84%) and the 95% target for the year 2000. For many AAPIs, language and cultural differences are likely barriers (HP 2000 Review, 1997). AAPIs are second to Hispanics in the number of persons who are uninsured. Thirty-six percent of AAPIs younger than 65 years have no health insurance compared with 16% of the US population younger than 65 years (HP 2000 Review, 1997).

Recognition of the diversity and disparity in AAPI populations. In the section about race and ethnicity, it is reported that:

Asians and Pacific Islanders, on average, have indicators of being one of the healthiest populations groups in the U.S. However, there is great diversity within this population group, and health disparities for some specific groups are quite marked.

For example, women of Vietnamese origin have cervical cancer at nearly 5 times the rate for white women. New cases of hepatitis and tuberculosis are higher in Asian and Pacific Islanders living in the United States than in whites. The average life expectancy for AAPIs (80.3 years) is higher than that for the total population (75.2 years). Among AAPIs, Japanese have the highest life expectancy (82.1 years) and Native Hawaiians have the lowest (68.3 years) (HP 2000 Review, 1997).

Data reporting and availability. The only state to disaggregate AAPI subpopulations in the Behavioral Risk Factors Surveillance Survey (BRFSS) is Hawaii. Examining data by AAPI subpopulations allows health disparities to be recognized so resources can be better targeted to ethnic-specific health promotion and disease prevention programs. Yu29 recommended that within the Asian American populations, differences in nativity and generation are critical factors to take into consideration in any analysis of health data. Yu noted that "with the three oldest Asian American immigrant groups (ie, Japanese, Chinese, Filipino)...there exist distinct generations of American born Asians each with its own worldview, educational attainment, occupational characteristics, and lifestyle.”

Healthy People 2010

Healthy People 201030 is a comprehensive, nationwide health promotion and disease prevention agenda for improving the health of all persons in the United States during the next decade. The main purpose of Healthy People 2010 is to promote health and prevent illness, disability, and premature death. One of the key features of Healthy People 2010 is the set of leading health indicators that will serve as a set of measures that will provide a snapshot of the health of the nation (similar to the previous Healthy People 2000). These indicators will be tracked and progress will be reported at the national and state levels to spotlight achievements and challenges.

In response to data issues, the Healthy People 2010 document reports 3 levels of data: “Asian or Pacific Islander,” “Asian,” and “Native Hawaiian and other Pacific Islander.” In addition, whenever AAPI data are not reported, it codes the reasons for the absence in 3 ways: DNA (data have not been analyzed), DNC (data are not collected), and DSU (data are statistically unreliable). This clarification is tremendously helpful in determining approaches to increase the data on AAPI populations.

In reviewing this report, 3 leading health indicators were examined for health disparities among AAPIs: cancer; heart disease and strokes; and immunizations and infectious diseases. The report reveals that some forms of cancer affect other ethnic groups at rates higher than the national average (ie, stomach and liver cancers among Asian American populations). This is the only reference to Asians in the chapter. In reporting the target rates for the 15 cancer subobjectives by the year 2010, the AAPI aggregate rates for mortality and percentages are noted. In the breakdown of data for “Asian” or “Native Hawaiian and other Pacific Islander,” the codes DNA (data have not been analyzed), DNC (data not collected), and DSU (data are statistically unreliable) are reported for all of the subobjectives.

There is no reference to Asians or Pacific Islanders in relation to heart disease or strokes. As in the cancer chapter, data for AAPIs (aggregate), as well as “Asian” or “Native Hawaiian and other Pacific Islander,” are not collected or data are statistically unreliable for nearly 16 of the subobjectives.

There is also no reference to health disparities among Asian or Pacific Islanders in relation to immunizations and infectious diseases. In the data, specifically in relation to hepatitis B cases and new tuberculosis cases, Asian or Pacific Islander rates (aggregate) are the highest among the ethnic/minority groups, and data collected or statistically reliable are noted for Asians or Native Hawaiians or other Pacific Islanders for all of the 31 subobjectives in this section.

The paucity of systematic collection of disaggregated AAPI data leads to a lack of information on the health status, treatment, and service delivery to various AAPI subgroups.

The paucity of systematic collection of disaggregated AAPI data leads to a lack of information on the health status, treatment, and service delivery to various AAPI subgroups. Healthy People 2010 target rates for the leading health indicators may be unrealistic.

Eliminating Racial and Ethnic Disparities in Health

President Clinton committed the nation by the year 2010 to eliminate the disparities in 6 areas of health status experienced
by racial and ethnic minority populations with a US Department of Health and Human Services initiative. The 6 areas in which racial and ethnic minorities experience serious disparities in health access and outcomes are infant mortality, cancer screening and management, cardiovascular disease, diabetes, human immunodeficiency virus infection/acquired immunodeficiency syndrome, and immunizations.

Infant mortality. There is no mention of AAPI groups in this area except for 2 tables. One identifies infant mortality rates by origin of mother where the Hawaiian and Filipino and other Asian or Pacific Islanders are at the Year 2000 target or above (7 per 1000 live births). The second table identifies SIDS rates by race and ethnicity of mother and the Asian or Pacific Islander group to be the next to lowest (51.2 per 100,000 liveborn infants) above the Hispanic group (46.5 per 100,000) in 1997.

Cancer screening and management. It is noted that Native Hawaiian men have elevated rates of lung cancer compared with white men. Vietnamese women in the United States have a cervical cancer incidence rate more than 5 times greater than white women (47.3 vs 8.7 per 100,000). Asian or Pacific Islander women (older than 50 years) had the lowest percentage of breast examinations and mammograms (46%) and Papanicolaou tests (66%) (women older than 18 years) in the last 2 years among all the racial and ethnic groups in 1994.

Cardiovascular disease. Stroke is the only leading cause of death for which mortality is higher for Asian American men than for white men.

Diabetes. The prevalence data for diabetes among AAPIs are limited as noted in the report. It was noted that groups within this population are at increased risk for diabetes. Native Hawaiians are twice as likely to have a diagnosis of diabetes as white residents in Hawaii.

Human immunodeficiency virus infections/acquired immunodeficiency syndrome. Currently, the report notes that AAPIs have the lowest rates of acquired immunodeficiency syndrome cases among all of the racial and ethnic groups (4.8 per 100,000) in 1998.

Child and adult immunizations. The childhood immunization rate for AAPI children was 75%, slightly higher than black and Hispanic rates of 74% in 1997. The pneumococcal immunization rate among AAPI persons aged 65 years and older was 23.4%, slightly higher than Hispanics (23.2%) and blacks (21.9%) in 1995.

Executive Order for AAPI Initiative
On June 26, 1997, the deputy secretary of the US Department of Health and Human Services announced the establishment of a department-wide AAPI initiative. This initiative is intended to acknowledge and address the unique health and social concerns of AAPI communities. President Clinton signed the executive order in June 1999. The goals include access to and use of health and human services; research on AAPI health; cross-cutting collaboration to enhance health and human services consumer service to AAPIs; AAPI data; and training issues. A 15-member advisory board was recently appointed to oversee the action plan.

RECOMMENDATIONS FOR NURSING RESEARCH
The following are recommendations to the National Institute of Nursing Research (NINR) to eliminate disparities among AAPI groups.

- Fund exploratory studies to determine social, behavioral, and biomedical markers of health, diseases, and drug metabolism among AAPIs.
- Fund comparative research on the use of traditional health modalities and Western health modalities in the health promotion, prevention, and treatment of health problems such as cardiovascular diseases, cancer, diabetes, and other diseases affecting AAPIs.
- Fund the development of valid and reliable linguistically appropriate and culturally specific instruments to measure psychological, social, behavioral, and health determinants among AAPIs.
- Issue separate RFAs (requests for applications) on the study of the following:
  2. Cancer among AAPIs.
  3. High rates of hepatitis B infections and liver disorders among Chinese.
  5. Epidemiology of diabetes, its risk factors, complications, and health care costs among select AAPIs, especially Native Hawaiians and Pacific Islanders.
  6. Communicable diseases, such as sexually transmitted diseases and tuberculosis.
  7. Determinants of health behavior change for AAPIs:
     a. Associations between acculturation and determinants of health behavior change.
     b. High rates of teen pregnancy and infant mortality among Pacific Islanders.
     c. Young male suicide and substance abuse among Pacific Islanders.
     d. Health seeking behaviors among AAPIs and underuse of health care services.
  8. Culturally competent strategies for AAPI groups in health promotion and disease prevention.
- Develop career-enhancing opportunities for AAPI researchers who want to use their unique cultural and linguistic skills to conduct AAPI research.
- Explore models for training programs that incorporate AAPI collaboration with community-based organizations when conducting studies on AAPI populations.
- Fund special short-term fellowship programs to allow AAPIs at various levels of their careers to attend summer institutions and training programs.
- Fund longer-term postdoctoral fellowships to allow AAPI investigators to work with senior investigators to develop research projects focused on AAPI populations.

*Modified from recommendations to the National Institutes of Health from the First National Health Summit of AAPI Health Organization Leaders, June 21-24, 1995.
REFERENCES