

**NATIONAL INSTITUTES OF HEALTH**  
**IMPLEMENTATION PLANS FOR THE DEPARTMENTAL**  
**ASIAN AMERICAN AND PACIFIC ISLANDER (AAPI) INITIATIVE**

**INTRODUCTION**

The National Institutes of Health (NIH) mission is to uncover new knowledge that will lead to better health for everyone. NIH works toward that mission by: conducting research in its own laboratories; supporting the research of non-Federal scientists in universities, medical schools, hospitals, and research institutions throughout the country and abroad; helping in the training of research investigators; and fostering and supporting biomedical communications. Distribution of resources within NIH to accomplish its mission are driven by many criteria. Historically, the operating principles that have driven these allocations have included such considerations as the amount needed by the various grant applicants; the need to respond to public health concerns; the need to take advantage of scientific opportunities; and the need to balance these in the context of long range goals. In evaluating these criteria, NIH seeks advice from many sources, including scientists, the public, advisory groups, other Federal agencies, Congressional staff, and advocacy groups.

The mission of the NIH Office of Research on Minority Health (ORMH) in most respects, parallels that of NIH except that the focus is the health and training of minority Americans. The office was created for that purpose in 1990 by the NIH Director and later authorized by the Congress. The ORMH strategy for accomplishing its mission is to build partnerships with the Institutes and Centers (ICs) of the NIH, as well as with other Federal agencies and other organizations. At the outset, it was recognized that one of the primary responsibilities of the office would be to work closely with minority communities, and academic and health leaders. Therefore, a group of 53 eminent individuals knowledgeable and interested in minority health research and research training were assembled from around the country to assist in setting the agenda for the ORMH. This group included representatives from many ethnic minority communities, including the Asian American/Pacific Islander (AAPI) community; i.e. (APIA Health Forum; Asian/Pacific Islander Health Coalition; Association of Asian Pacific Community Health Organizations). The group became known as the Fact Finding Team (FFT), and a report was written based on their deliberations at three conferences held around the country. The FFT report contained 13 recommendations which became the framework for the activities of the ORMH. In 1994, following a similar process, these recommendations were reviewed, renewed and revised.

Beginning in 1996, at the request of the AAPI community, ORMH participated in the first separate ethnic minority conference through partial support to the 1996 First National Health Summit of Asian and Pacific Islander American Health Organizational Leaders and full support of the 1997 Pacific Islander and Asian Americans' Conference on Health Research and Research Training. Subsequently, the ORMH participated in additional minority meetings focused on the specific concerns of three ethnic/racial minority groups: Hispanic Americans, African Americans and Native Americans. Recommendations have been received by ORMH from each of the meetings. In keeping with the practice of NIH, these submissions are valued as advice from advocacy groups and are considered for implementation in concert with the many other criteria that comprise the operating principles of NIH.

At present, the ORMH is finalizing a report from all of the individual ethnic/racial minority meetings. This report, "Minority Community Meetings Report: Minority Health Research and Health Research Training" will provide a summary of these meetings and identify cross-cutting themes to serve as a basis for further identifying gaps that exist in the NIH minority research and training portfolio. Cross-cutting themes are expected to be an important component of a funding plan, and a preliminary examination of the report identifies several themes: (1) lack of ethnic/racial epidemiological data, particularly among subgroups; (2) lack of knowledge about attitudes, behaviors, characteristics, genetics, risk factors, and biological processes of members of special populations; (3) desire for increased dissemination of research results in minority communities; and (4) desire for increased community-based research.

The timing for consideration of these themes seems ideal for Spring, 1998 as coalescence with action plans for other Department activities such as the AAPI Departmental Initiative and the Departmental response to President Clinton's directive to develop a plan under which the Federal government "can better involve communities, especially minority communities, in research and health care" may be possible.

#### **MECHANISMS OF SUPPORT**

NIH is organized into nineteen institutes and three centers that are invested with extramural award authority. Each institute and center (IC) operates within the framework of a specific mission that is disease or organ focused, in most cases. There are sixteen broad mechanisms of support available to ICs, and the full range is used in support of the AAPI community. Research projects; research program projects and centers; cooperative agreements; and research and research-related contracts are among the most commonly used mechanisms. In addition each institute and center establishes ties to advocacy groups and community organizations that are interested in the mission of the IC. A review of the framework sections below will reveal the kinds of organizations that are supported by NIH and the subject matter of some of the AAPI research and training.

#### **IMPLEMENTATION INFRASTRUCTURE**

The AAPI Action Agenda will be implemented by the ICs under the oversight of the NIH Minority Coordinating Committee, co-chaired by the Deputy Director and Associate Director for Research on Minority Health, NIH. The Office of Research on Minority Health will remain the single point of contact for the Department relative to the health and training of minority populations. The newly formed coordinating committee is expected to serve as a conduit for rapid exchange of information between the ICs and the Office of Research on Minority Health.

#### **FRAMEWORK SECTIONS I-VI**

In this section, the NIH reports on ongoing and future plans in response to the AAPI Initiative. Plans of institutes and centers are listed according to the six broad areas outlined in the initiative. As expected based on the mission of NIH, the bulk of the plans fall under area three: Research on Asian American and Pacific Islanders. Plans from several institutes and centers were not received in time to be included here.

## **I. ACCESS TO AND UTILIZATION OF HEALTH AND HUMAN SERVICES**

### **National Heart, Lung, and Blood Institute**

**Project Title:** Access to and Utilization of Health and Human Services and/or Asian and Pacific Islander Data

Office of Prevention, Education, and Control

**Description:** The National Heart, Lung, and Blood Institute (NHLBI) Ad Hoc Committee on Minority Populations is composed of 16 multiethnic members. Four members are Asian/Pacific Islanders. At the most recent meeting, the Committee was charged with developing a strategic plan for the Institute's outreach and education programs for Asian/Pacific Islanders. The plan includes the development of a background paper that will address the risk profile of the population relative to heart disease, stroke, high blood pressure, high blood cholesterol, obesity, and other associated cardiovascular disease (CVD) risk factors, and asthma.

**Lead Entity:** NHLBI Ad Hoc Committee on Minority Populations

**Time Frame:** 1998-1999

**Measurable Outcome:** This effort will have three outcomes: (1) a strategic plan to guide the NHLBI's outreach and education efforts targeting Asian/Pacific Islanders from March 1998 to September 1999; (2) a background paper which will provide the necessary data on CVD morbidity and mortality and prevalence of associated risk factors as well as asthma morbidity, mortality, and prevalence — the data will serve as bench measures to mount selected community and individual health education strategies in support of the NHLBI national education programs; and (3) the strategic plan and background paper will be placed on the World Wide Web to provide a broader audience with access to the materials as well as to stimulate information sharing.

## II. ASIAN AMERICAN AND PACIFIC ISLANDER DATA

### National Institute of Child Health and Human Development

*“New Immigrant Survey: A Pilot Study” - James Smith, RAND Corporation*

Since much of the discussion of immigration policy in the U.S. has occurred in the absence of reliable and comprehensive data, the Federal Interagency Working Group on Immigration Statistics and the NICHD have recently urged that additional data be collected about U.S. immigrants. A specific need also exists to develop new methods of survey design. As a result, the NICHD, with the Immigration and Naturalization Service and the National Science Foundation, is funding a pilot study to design, implement, and evaluate alternative methods of tracking newly arrived U.S. immigrants over time that will lead to a multiple-cohort, retrospective as well as prospective, longitudinal survey. Data from this pilot survey will provide information on pre-immigration education, work, migration, marriage and fertility histories relevant to understanding assimilation in the U.S. Information will also be provided on economic status, schooling, health and children's well-being, as well as preferences and attitudes to help understand and predict assimilation patterns. The pilot survey instrument has been translated into English, Spanish, Chinese, Russian, Polish, Korean and Vietnamese. In addition, some interviewers can speak Cantonese, Thai and Tagalog (a language spoken in Luzon, Philippines). If this pilot study proves successful, an application will be submitted for the full survey in October, 1998.

**Measurable Outcomes:** As noted above, if successful, this pilot study will lead to a multiple-cohort, retrospective as well as prospective, longitudinal study of U.S. immigrants. Data from the full survey should fill an important data gap and address policy-related issues in the field of immigration by assessing 1) immigration laws; 2) the assimilation and experience of immigrants; as well as 3) the economic and social impact of immigration.

**Lead ICD Entity:** Dr. Chris Bachrach, Demographic and Behavioral Sciences Branch, NICHD

**Start and End Date:** 9/30/95-8/31/98

**Activity Categories:** 2, 6, 10

*“Improving Data for AAPI Research” - Paper submitted for publication by Rose Li, NIH*

The dearth of data on the Asian American and Pacific Islander population in the U.S. has stymied progress in monitoring the prevalence and incidence of various conditions in this population. Assessment of AAPI progress in meeting the HP2000 objectives, and in identifying HP2010 objectives, is often reduced to guesswork because of the lack of adequate baseline data. This review submitted for publication by an NICHD-supported AAPI, outlines cost-effective and concrete opportunities for improving the availability of federally-supported national data on AAPI populations. Success will likely depend on collaborations between Federal agencies.

**Measurable Outcomes:** If followed, the recommendations in this paper should allow the Federal Government to increase the amount and accuracy of data available for understanding AAPI health.

**Lead ICD Entity:** Dr. Rose Li, Demographic and Behavioral Sciences Branch, NICHD

**Start and End Date:** Submitted for publication in December 1997

**Activity Categories:** 2, 6, 10

*“Formation of A Federal Forum”*

Federal statistical and research agencies are considering establishing a Federal forum or clearinghouse on AAPI statistics. The NICHD is very interested in participating.

**Measurable Outcomes:** A federal forum or clearinghouse should increase the availability of national data on AAPI health.

**Lead ICD Entity:** Dr. Rose Li, Demographic and Behavioral Sciences Branch, NICHD

**Start and End Date:** not available

**Activity Categories:** 2, 6, 10

*“Early Childhood Longitudinal Study (ECLS)”- proposed study sponsored by the Department of Education, Washington, D.C.*

This study is one of the first of its kind to follow a nationally representative sample of children from birth through early years of formal schooling to examine children’s early development and learning experiences by race-ethnicity, gender, and region. The current study design includes an over sample of AAPI parents and their children. With supplemental funds from the NICHD and other Institutes, additional data on health measures will be collected.

**Measurable Outcomes:** Comprised of two cohorts, a birth and a kindergarten cohort, this study will allow the Federal Government and researchers to acquire a range of data in such areas as basic measures of health and well-being and development, e.g., asthma, injuries, speech/hearing impediments, ear infections, basic mental health conditions, psychometric measures, abuse/neglect, violence and traumatic stress, effects of alcohol on the family, as well as, measures of prenatal, family and social context. These data in turn, should allow investigators to design studies to assess the prevalence of these health indicators and to better understand how they affect school readiness in a range of racial/ethnic populations including AAPIs.

**Lead ICD Entity:** Dr. Rose Li, Demographic and Behavioral Sciences Branch, NICHD

**Start and End Date:** unknown at this time

**Activity Categories:** 2, 6, 10

### III. RESEARCH ON ASIAN AMERICAN AND PACIFIC ISLANDERS

#### National Heart, Lung, and Blood Institute

**Grant Title:** The Arterial Wall and Atherogenesis in Mice and Humans  
Columbia University, New York

**Description:** This Specialized Center of Research proposes an integrated set of basic and clinical studies aimed at defining molecular mechanisms of atherogenesis at the level of the arterial wall. Effects on atherogenesis of arterial wall enzymes, lipoproteins, diabetes and the immune system, and the interactions among these factors, will be investigated in induced mutant mouse models. A parallel set of studies in humans will determine the relevance of mechanisms defined in mice to the pathophysiology of human atherosclerosis and coronary heart disease (CHD) with the goal of defining new mechanisms of atherogenesis and evaluating their significance in humans. The studies are likely to provide new therapeutic targets in atherosclerosis and innovative genetic information on CHD risk that complements traditional lipoprotein measurements.

Subproject 3, CETP, HDL, and Atherogenesis, will determine the effects of cholesteryl ester transfer protein (CETP) and high density lipoproteins (HDL) on atherogenesis in mice and humans, and evaluate anti-atherogenic mechanisms involving reverse cholesterol transport or influx of atherogenic particles into arteries. Recent studies by the investigators reveal an increased prevalence of CHD in Japanese-American men with mutations in the CETP gene despite increased HDL levels suggesting that the dominant effects of CETP expression in vivo may be anti-atherogenic. The overall goals of this project are to evaluate further the relationship of CETP and HDL to atherogenesis in humans and mice and to define the underlying mechanisms.

**Lead Entity:** Dr. Momtaz Wassef  
Division of Heart and Vascular Diseases

**Time Frame:** 1997-2002

**Measurable Outcome:** Data will be published regarding genetic variation of CETP and CHD in different Asian populations.

**Grant Title:** Angiotensinogen Variants and Adverse Pregnancy Outcomes  
University of Utah

**Description:** Early in gestation maternal blood volume normally expands by an unknown mechanism. Failure of this normal adaptation to pregnancy has been associated with common adverse pregnancy outcomes including preeclampsia, intrauterine growth retardation, and premature labor. The hypothesis to be tested is that functionally different angiotensinogen proteins may underlie the pathophysiology of preeclampsia and other related disorders by not allowing normal volume expansion to occur.

**Lead Entity:** Dr. Winnie Barouch  
Division of Heart and Vascular Diseases

**Time Frame:** 1995-1999

**Grant Title:** Genetic Determinants of Hypertension  
University of Hawaii at Manoa

**Description:** This research Network is attempting to map the major genetic loci underlying hypertension in individuals of Asian-Pacific Chinese (California and Taiwan) and Japanese (Hawaii) origin.

**Lead Entity:** Dr. Susan Old  
Division of Heart and Vascular Diseases

**Time Frame:** 1995-2000

**Measurable Outcome:** Data will be published regarding genetic and environmental factors for hypertension in these populations.

**Grant Title:** Genetic Determinants of Hypertension  
Stanford University

**Description:** This research Network is attempting to map the major genetic loci underlying hypertension in individuals of Asian-Pacific Chinese (California and Taiwan) and Japanese (Hawaii) origin.

**Lead Entity:** Dr. Susan Old  
Division of Heart and Vascular Diseases

**Time Frame:** 1995-2000

**Measurable Outcome:** Data will be published regarding genetic and environmental factors for hypertension in these populations.

**Contract Title:** Interagency Agreement with USDA

**Description:** NHLBI is a major supporter of the National Food and Nutrient Analysis Program (NFNAP), an interagency research activity on the nutritional value of the American food supply. The NFNAP is carried out under the aegis of the U.S. Department of Agriculture. The research protocol will obtain and analyze samples of approximately 1000 types of foods commonly eaten in the United States.

**Lead Entity:** Dr. Abby Ershow

**Time Frame:** 1994-1999

**Grant Title:** Central Obesity and Disease Risk in Japanese Americans  
University of Washington

**Description:** This longitudinal study examined lifestyle factors in second-generation Japanese-American men and women that are related to the development of central obesity. Metabolic alterations associated with the insulin resistance syndrome and the relationship of these to the development of cardiovascular disease and non-insulin dependent diabetes were also explored. Results are being analyzed.

**Lead Entity:** Dr. Diane Bild  
Division of Epidemiology and Clinical Applications

**Time Frame:** 1993 -1998

**Grant Title:** Genetics of CHD Risk Factors in Japanese Americans  
University of Washington

**Description:** This study is an investigation of the genetic influence of candidate gene polymorphisms on risk factors for the metabolic insulin resistance syndrome in Japanese American sibships and kindreds. Specifically, the project conducted genetic analyses of low density lipoprotein (LDL) subclasses and association of small, dense LDL with the metabolic syndrome; characterized the inheritance of Lp(a) and apolipoprotein(a) isoforms in Japanese Americans; and established a white blood cell repository and DNA extraction for future use.

The renewal application proposes a continuation of prior research by identifying genetic influences on risk factors that characterize the metabolic syndrome; testing for genetic linkage between specific candidate genes involved in lipid, and carbohydrate metabolism, blood pressure, obesity and hemostasis with genetically influenced risk factors of the metabolic syndrome in Japanese-Americans; and performing a who genome screen to identify new genes involved in susceptibility to the metabolic syndrome.

**Lead Entity:** Phylliss Scholinsky  
Division of Epidemiology and Clinical Applications

**Time Frame:** 1994-1997

**Grant Title:** Genetics of CVD Risk Factors in Samoans  
University of Pittsburgh

**Description:** This is a cross-sectional study to investigate genetic and environmental aspects of lipid, lipoprotein and apolipoprotein determination in Polynesian adults ages 29-59 residing in American and Western Samoa who are exposed to the biobehavioral changes of modernization. Specifically, the study includes: 1) quantitative determinations of lipids and apolipoprotein levels; 2) an estimate of the effects of dietary intake on lipids and apolipoproteins; 3) cross-sectional analyses of genetic factors influencing lipid and lipoprotein levels; and 4) tests of hypotheses related to gene-environment and gene-gene interactions.

**Lead Entity:** Phylliss Scholinsky  
Division of Epidemiology and Clinical Applications

**Time Frame:** 1995-1999

**Grant Title:** Honolulu Heart Program  
Kuakini Medical Center

**Description:** The Honolulu Heart Program was initiated in 1965 by the Institute as a prospective study of environmental and biological causes of cardiovascular disease. The study cohort includes 8006 American men of Japanese ancestry who were born in 1900-1919 and who were living on the island of Oahu in 1965. It provided opportunities to investigate relationships among disease frequencies, pathologic findings, and disease predictors in the cohort and to compare the findings in this population with those in other populations, especially cohorts of Japanese men residing in Japan or the U.S. The program also provided for testing causal hypotheses developed through laboratory and experimental studies.

The fifth and final complete examination of the surviving cohort was concluded in the Spring of 1996 under a contract with the National Institute on Aging. While the emphasis of this exam has been the investigation of dementia, NHLBI has funded the recording of blood pressures and ECGs as

well as the continued surveillance for morbidity and mortality. A cooperative agreement extends the surveillance for an additional five years. As part of the close-out phase of the study, frozen blood samples collected since the study's inception have been sent to a repository in Rockville, MD. A review board for screening prospective users of this resource holds quarterly meetings.

**Lead Entity:** Diane Bild

Division of Epidemiology and Clinical Application

**Time Frame:** 1965-1997

**Project Title:** Women's Health Initiative (WHI)

The WHI is a multicenter study of 167,000 women age 50-79. Minorities will comprise 20 percent of the study population, including more than 4,000 Asian American/Pacific Islanders. The study will include 67,000 women in clinical trials of hormones to prevent coronary heart disease, low fat dietary pattern to prevent cancer of the breast and colon/rectum, and calcium and vitamin D supplementation to prevent osteoporotic fractures. In addition WHI will include 100,000 women in an observational study linking baseline markers of health with future disease outcomes.

**Lead Entity:** Office of the Director, NHLBI

**Time Frame:** 1993-2007

**Measurable Outcomes:** Data on utilization of health services of the first 100,000 participants will be reported in 1998. The data will be reported by race/ethnicity. Data on the utilization of health services for the entire cohort of 167,000 women will be reported in 1999/2000, again stratified by race/ethnicity.

Data on baseline health characteristics of the first 100,000 participants will be reported in 1998. The data will be reported by race/ethnicity. Data on the baseline health characteristics of the entire cohort of 167,000 women will be reported in 1999/2000.

Results of the clinical trials will be reported in 2005-2007. The primary analyses will cover the entire trial cohort of 67,000; secondary analyses will be stratified by race/ethnicity.

Results of the observational study linking health markers to future disease will be published in 2002 and 2005-2007. These will cover the entire cohort of 100,000; additional analyses will be stratified by race/ethnicity.

## **National Institute on Aging**

### **SUGGESTED ACTIVITY (IES):**

*Develop a research agenda that increases clinical research and health care utilization information needed to reduce gaps in knowledge about AAPIs. (AHCPR, NIH, CDC) (long term)*

**Key IC Project:** Long-term Care Utilization in Japanese Americans (1R01 AG 01143)

The purpose of this study is to follow a cohort of 1,330 Japanese Americans to assess factors relating to their decisions to enter a nursing home should they become disabled. The use of assisted living programs as well as formal (paid) home care services is evaluated. The study team will assess whether actual nursing home use is related to previously stated preferences and attitudes, if preferences and attitudes toward nursing home placement change over time, and how these preferences and

attitudes compare to those held by non-minority elders. In addition to data on preferences and attitudes, a range of factors, including cognition, family support structure, and physical health, will be assessed to see if they are related to nursing home utilization. Both quantitative and qualitative methodologies will be utilized to help answer these questions.

**Lead Entity:** Behavioral and Social Research Program

**Time Frame:** 1992-2000

**Measurable Outcome:** Knowledge about social support networks, functional abilities and determinants of health and nursing home utilization.

**Key IC Project:** Honolulu-Asia Aging Study (NO1-AG-4-2149)

The goals of the study are to determine the age-specific prevalence and incidence of Alzheimer's disease (AD) and multi-infarct dementia (MID), to define environmental and genetic risk factors, and to determine how environmental neurophysiologic, neuropsychologic, cardiovascular, and genetic factors interact in the development and clinical course of AD and MID. Data from the HAAS have been used to conduct analyses on the prevalence of dementia; factors involved in the pathogenesis of Alzheimer's disease (AD) and vascular dementia; and, aspects related to diagnostic classification and the recognition of dementia by family members. Another study goal is a comparison of prevalence and incidence rates for dementing illnesses in Asian ancestry populations in Honolulu, Seattle, Japan, and Taiwan.

**Lead Entity:** Epidemiology, Demography and Biometry Program

**Time Frame:** 1991-1997

**Measurable Outcome:** Knowledge from this study will allow a better understanding of the causes of Alzheimer's disease (AD) and multi-infarct dementia (MID), and will provide a basis for the development of future prevention and treatment strategies.

**Key IC Project:** Study of Women's Health Across the Nation (SWAN) (U01AG12539 and U01AG12554)

Menopause and deficient ovarian function appear to play a significant role in the etiology of short- and long-term disorders (osteoporosis, cardiovascular disease, urinary incontinence and now, even Alzheimer's disease). However, the true scope and mechanisms of the hypothesized deleterious effects of menopause remain unknown. While the effects of hormone replacement therapy on various health outcomes have been the subject of numerous investigations, including the large-scale NIH Women's Health Initiative (WHI), few studies have focused on the perimenopause and the process(es) involved in the transition from pre- to postmenopause or the mechanisms of their sequelae. Although the topic of menopause has attained high visibility as an issue for the public due to the graying of the baby-boomer population, the current state of knowledge is based in large part on antediluvian studies and highly anecdotal reports, or is based on very limited numbers of women. More importantly, our knowledge base on menopause applies almost exclusively to white women (of Northwest European ancestry) and the minority experience(s) has been neglected. Understanding the impact of ethnicity on the menopausal experience and its sequelae is essential in identifying ethnically relevant risk factors for chronic diseases such as osteoporosis, osteoarthritis and cardiovascular disease.

**Lead Entity:** Geriatrics Program

**Time Frame:** 1994-1999

**Measurable Outcome:** Knowledge of risk factors may lead to improved preventive strategies. Similarly, clarifying the significance of reduced testosterone levels and the potential benefits of

testosterone therapy will facilitate a better understanding of the role of specific gender-based differences and more appropriate therapeutic approaches.

**Key IC Project:** Homozygosity Mapping of the Werner Syndrome Locus (5 R37 AG08303-08)  
Werner's Syndrome (WS) is an autosomal recessive inherited condition that mimics aspects of premature aging and may provide an important model for normal senescence. Though WS is rare, some of the associated features, including vascular disease, neoplasia, and diabetes, are common disorders of widespread importance. The goal of this project is to establish the chromosomal location of the WS mutation by exploiting the homozygosity mapping strategy most recently described by Lander and Botstein (1987). Homozygosity mapping requires a collection of affected subjects from consanguineous marriages. This method for mapping rare recessive disorders requires the use of highly polymorphic genetic markers. Presently investigators have cell lines from three Japanese WS subjects at the University of Washington. Additional subjects will be recruited through a collaborative arrangement with Dr. Fujiwara, who maintains a WS registry in Japan.

**Lead Entity:** Biology of Aging Program

**Time Frame:** 1989-1999

**Measurable Outcome:** Once the chromosomal location containing the Werner Syndrome (WS) mutation is found, additional markers will be typed to refine the localization with the eventual goal of identifying the Werner Syndrome gene.

#### **SUGGESTED ACTIVITY (IES)**

Ensure that AAPIs and specific subpopulations are included in clinical research and health surveys which track the impact of policy changes (NIH, ASPE, AHCPR) (long term)

**Key IC Project:** Inclusion of Women and Minorities in Clinical Research

The goal of this legislation is to increase the opportunities for obtaining critically important information with which to enhance health and treat disease among all Americans. The legislation will also aid detection and help account for significant differences between genders and ethnic groups where they exist.

**Lead Entity:** Office of Extramural Affairs

**Time Frame:** Federal mandate enacted in February 1993

**Measurable Outcome:** NIH database reflecting the number of men, women and minorities included as subjects in NIH clinical research projects.

#### **SUGGESTED ACTIVITY (IES)**

*Develop a research agenda that increases clinical research and health care utilization information needed to reduce gaps in knowledge about AAPIs. (AHCPR, NIH, CDC) (long term).*

**Key IC Project:** Convoys of Support in Old Age – A Cross National Study - (AG13490)

This research is designed to clarify and further specify how the Convoy Model of Social Relations can be used to improve understanding of those characteristics of social relations which help the elderly to cope with and adapt to three common resource deficits: widowhood, financial strain, and illness. The investigators are using the Convoy Model because it highlights characteristics of close family and friendship relationships which are similar across countries but also allows the culturally specific expression of these relationships. The life-span developmental perspective of the Convoy Model emphasizes individual development but also assumes that situational or environmental factors are important.

**Lead Entity:** Behavioral and Social research Program

**Time Frame:** 1996-1999

**Measurable Outcome:** Knowledge from this comparative study, between the United States and Japan, examining the effects of social networks and support in old age on individual well-being.

**Key IC Project:** Martin, L and Soldo, B. (Eds.) (1997). Racial and ethnic differences in the health of older Americans. Washington, DC: National Academy Press. This text brings together social and biomedical sciences to investigate the reasons for persistent differences between racial and ethnic groups in health at older ages.

**Lead Entity:** Behavioral and Social Research Program

**Time Frame:** Ongoing

**Measurable Outcome:** Dissemination of a research agenda impacting diverse ethnic and racial populations, including AAPIs. Major research questions are identified.

## **National Institute on Alcohol Abuse and Alcoholism**

### **Overview**

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) actively pursues the broad areas within the “Framework” for Asian Americans and Pacific Islanders (AAPI) consistent with the Institute’s mission of scientific research, collaboration and information dissemination. This includes the collection of Asian American and Pacific Islander data, research on Asian American and Pacific Islander populations, and an inclusive policy for all minority populations with regards to training and research career advancement.

Research among AAPI populations has been a very important part of alcohol research, in large part because considerable effort has focused on the apparent low incidence of alcoholism and alcohol-related problems among some Asian groups compared to other Americans. Active areas of NIAAA-sponsored research include the continued assessment of the actual incidence of alcohol abuse and related problems, and investigations into the socio-behavioral and biomedical bases for group differences in alcohol intake and its consequences.

### **Alcoholism and Alcohol Abuse among Asians**

In general, it is reported that Asian Americans consume less alcohol and exhibit fewer alcohol-related problems than do Caucasians, Native Americans, Hispanics and African Americans. A variety of studies over recent years have suggested that there are several important factors that may contribute to this difference. These include cultural and sociological factors as well as biological differences such as the alcohol flushing response observed in many, but not all Asians and those of Asian descent. Research on the genetics of the hepatic metabolism of alcohol has shown that a proportion of Asians exhibit an isozyme of aldehyde dehydrogenase largely responsible for the flushing response. Furthermore, it has been found that individuals who are homozygous for this isozyme manifest an exceptionally low incidence of alcohol use and abuse. This finding has become an important part of the overall assessment of the genetic contributions to the susceptibility to alcoholism. However, the particular mechanisms involved in these genetic influences and the interactions with sociological and cultural factors continue to be active areas of research.

Complicating these issues further, the purported low rate of alcohol consumption among Asians has been found to have significant exceptions, for example, with alarmingly high rates of heavy drinking and alcoholism among some Asian groups. In addition, the assessment of drinking patterns over time suggest gradual trends toward higher rates of drinking. Moreover, collaborative research between NIAAA staff and colleagues in Japan has analyzed drinking patterns at different ages. This analysis revealed that Japanese men in Japan drink much more than Japanese men in the United States, and that men in Japan exhibited increasing rates of drinking with older age in contrast to the general trend of lower rates of drinking with age among other groups.

### **“Week in Washington” Leadership Seminar**

In addition to research, the Institute supports information dissemination and minority participation in numerous ways. As an example, the NIAAA is pleased to participate in the annual “Week in Washington” Leadership Seminar sponsored by the Okura Mental Health Leadership Foundation. This meeting draws together talented young Asian Pacific Americans and leaders in a variety of fields including political leadership, citizens organizations, health services and medical research. Senior Institute staff including Deputy Director Dr. Mary Dufour, and Associate Director Dr. Faye Calhoun have outlined the goals of NIAAA-sponsored biomedical and behavioral research and discussed the role of alcohol research in the broader picture of health issues.

### **Key Projects Sponsored by the NIAAA in FY 1997**

Three key projects sponsored by the Institute in FY 1997 dealt directly with Asian or Pacific Islander populations. These ranged from genetic and biochemical research on the liver enzymes responsible for the metabolism of alcohol and acetaldehyde, to the description and assessment of alcohol-related problems among Filipino Americans.

An additional four projects specifically included AAPI populations in various cross cultural studies. One study assessed the effects of public policy on alcohol abuse among various ethnic and racial populations, while others examined such topics as gang violence, and underage drinking and driving.

Measurable outcomes for scientific research are in terms of knowledge and scientific understanding. Clearly, there has been tremendous advancement in a variety of fields including epidemiology, sociology, biomedical physiology, genetics, and prevention and treatment of alcohol abuse and alcoholism.

### **Projects in which AAPI populations are a primary focus**

#### **HUMAN ALCOHOL & ALDEHYDE DEHYDROGENASES**

PI: Ting-Kai Li

INDIANA UNIVERSITY - PURDUE UNIVERSITY

INDIANAPOLIS, IN

Year 22, future 2

The long-term objective of this research project is to elucidate the molecular basis of individual differences in alcohol elimination. The hypothesis is that genetic differences in the enzymes of

alcohol metabolism account for a substantial part of this variance and may, in part underlie the observed individual differences in the physiological, psychological and pathological consequences of ethanol consumption. Alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH) are the principal enzymes responsible for ethanol metabolism in the liver. There are five structural genes for ADH in humans, and variant alleles for one of them, ADH2, yield isozymes with strikingly different catalytic properties: the beta 2 (subunit)-containing isozymes seen in 85 percent of Asians and the beta 3-containing isozymes seen in 27 percent of African-Americans have higher  $K_m$ 's and  $V_{max}$ 's for ethanol than do the beta 1-containing isozymes found in all three population groups. Since it is now possible to genotype the ADH loci by use of leukocyte DNA samples, it is proposed to compare the pharmacokinetics of ethanol elimination in African-American subjects with the following genotypes: ADH2(1)/ADH2(1) (beta 1 subunits only), ADH2(1)/ADH2(3) (beta 1 and beta 3) and ADH2(3)/ADH2(3) (beta 3 only.) Similarly, 3 groups of Asian subjects with genotypes ADH2(1)/ADH2(1), ADH2(1)/ADH2(2) (beta 1 and beta 2), and ADH2(2)/ADH2(2) (beta 2 only) will be compared. Alcohol elimination rates after oral ethanol administration (0.8 - 0.6 g/kg as moderate dose and 1.0 - 0.9 g/kg as high dose) will be measured. In other studies, kinetic characterization of the different human liver ADH isozymes will be further pursued to discern the effects of different amino acid substitutions. Stopped-flow kinetics and chemical modification of active site His, Arg and Cys residues will be performed. The high- $K_m$ -for-ethanol ADH form in human stomach (sigma-ADH), which appears to be similar to the pi-ADH form in liver, will be isolated and characterized. cDNA libraries will be prepared from human stomachs and the sigma-ADH cDNA will be cloned and sequenced. The sigma-ADH gene will be cloned and compared with other ADH genes. Finally, the formation and catalytic properties of the tetrameric human mitochondrial ALDH (ALDH2) formed from the mixing of active subunits (product of the ALDH2(1) allele) and the inactive subunits (product of the ALDH2(2) allele) will be studied. The amount of the different ALDH2 heterotetramers formed in livers with the heterozygous ALDH2(1)/ALDH2(2) genotype will be measured and their activity and stability will be determined.

## RESPONSE TO ALCOHOL IN ASIAN MEN AND WOMEN

PI: Tamara L. Wall

UNIVERSITY OF CALIFORNIA SAN DIEGO

SAN DIEGO, CA 92161

Year 02, Future 03

Asians, as a whole, have lower rates of alcohol abuse and alcohol dependence than most other ethnic groups. This decreased risk for alcoholism is thought to result from a combination of biological and sociocultural factors. In the biological realm, recent research has focused on the role of genetically determined factors, such as polymorphisms of the alcohol metabolizing enzymes, alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH), as responsible for alcohol-induced flushing, differences in alcohol and acetaldehyde degradation, and some of the observed ethnic differences in the incidence of alcoholism. There is little information, however, about how these enzyme polymorphisms actually influence an individual's drinking behavior or how sociocultural variables might interact with these biological variables. Pilot data suggest that some Asians may experience a qualitatively, and perhaps quantitatively, different reaction to alcohol. Additional research is needed to evaluate the impact of specific polymorphisms of the alcohol metabolizing enzymes and their interaction with sociocultural variables on individual response to alcohol. This project will use a between-group, repeated measures design to test response to both placebo and alcohol administration

among men and women of Asian heritage with different ADH2, ADH3, and ALDH2 genotypes. This study will focus on various measures of reaction to alcohol and alcohol metabolism. Measures of reaction to alcohol will include subjective feelings of intoxication, heart rate, blood pressure, facial flushing, facial blood flow, plasma cortisol and ACTH levels, and EEG measures. Alcohol metabolism will be measured by blood alcohol concentrations (BACS) and acetaldehyde levels. Sociocultural variables (e.g., specific Asian ethnicity, number of generations lived in the United States, and level of acculturation into American society), factors that may indirectly affect response to alcohol, either through differential levels of experience with alcohol or through learned responses (e.g., cultural attitudes toward drinking or expectations of alcohol's effects) will also be assessed. It is hypothesized that individuals with ALDH2\*2 alleles will demonstrate enhanced responses to alcohol compared with subjects with only ALDH2\*1 alleles. It is also hypothesized that, independent of ALDH2\*2 alleles, subjects with ADH2\*2, and ADH3\*1 alleles will have more intense responses to alcohol than subjects with ADH2\*1 and ADH3\*2 alleles. This study will also analyze data as a way to examine whether the response to alcohol of Asian women differs from that of Asian men, to determine if sociocultural factors explain some of the variability in alcohol sensitivity, and to explore possible mediating and moderating variables associated with intensity of alcohol intoxication and alcohol consumption patterns. The proposed research is part of an effort to elucidate genetically determined responses to alcohol and has the potential to provide critical information for understanding how ADH and ALDH genes might interact with other important variables to modify alcohol drinking and protection from alcoholism among Asian men and women.

#### ALCOHOL RELATED PROBLEMS AMONG FILIPINO AMERICAN

PI: David T. Takeuchi

ASIAN AMERICAN RECOVERY SERVICES, INC.

LOS ANGELES, CA

Year 03, Future 01

The proposed four-year study intends to investigate the geographic variations that exist in the rates of alcohol-related problems and the factors associated with these problems among Filipino Americans. Despite the growth of Filipino American communities, less research has been conducted in these communities than the two other large Asian American populations - Chinese and Japanese. This trend is surprising since Filipino Americans are the second largest Asian American ethnic group (next to Chinese Americans) totaling 1.6 million people in 1990. If present demographic trends continue, Filipino Americans will constitute the largest Asian American ethnic group by the Year 2000.

The target population for the proposed study includes Filipino immigrants and native-born residents of the United States. The study is limited to adults (eighteen and older) who reside in the San Francisco Bay Area and in the state of Hawaii. This investigation will obtain a total of 3,200 completed household interviews with Filipino Americans residing in Hawaii and the San Francisco Bay area (1,600 interviews in each geographic area). Data are obtained from a 90-minute interview with the sample of respondents. Bilingual staff will conduct the interviews. The instrument will include the following: (a) socio-demographic information including age, sex, educational level, household income, number of household members, year of immigration, country of origin, marital status, and English-proficiency; (b) measures of alcohol consumption and alcohol use disorders; (c) CES-D scale; (d) chronic and temporary stressors; (e) social networks and social support; and (f) help-seeking questions. The data analyses are guided by a set of specific hypotheses related to alcohol consumption and helpseeking.

## **Projects in which AAPI Populations are specifically included:**

### **PUBLIC POLICY AND ALCOHOL ABUSE**

PI: Frank Chaloupka

UNIVERSITY OF ILLINOIS AT CHICAGO

Year 04, future 01

The focus of this project is on the effects of all alcohol related policies on alcohol abuse among various racial and ethnic populations. The data to be used include: a pooled time series of annual state cross sections for the years from 1968-1990; the First National Health and Nutrition Examination Survey; the Second National Health and Nutrition Examination Survey; the Hispanic Household Surveys on Drug Abuse; the 1982 and 1989 Monitoring the Future Surveys of High School Seniors; the National Alcohol Survey and its Followup and Supplement. Outcomes to be examined include: alcohol related mortality and fatality rates (including deaths from chronic liver disease, alcohol dependence syndrome, non-dependent abuse of alcohol, alcohol psychosis, alcohol poisoning, motor vehicle traffic accidents, homicides, suicides, falls, drowning, fires and burns, and other accidents) constructed from the Vital Statistics data; and total and beverage specific alcohol consumption, frequency of consumption, incidents of heavy drinking, incidents of drinking and driving, incidents of traffic accident (total and alcohol related), incidents of other alcohol related accidents, drinking related work loss episodes, and other taken from the multiple survey data sets. Race/ethnic specific death rates will be defined for: Whites (including Hispanics), Blacks, Asian/Pacific Americans, and Native Americans (including American, Alaskan, Canadian, Eskimo, and Aleut). Less aggregated, race specific death rates will also be defined, where the data allow, for the following groups: Caucasians, Filipinos, Chinese, Japanese, Hawaiians, other Asian or Pacific Islanders, all Hispanics, Mexicans, Puerto Ricans, Cubans, Central and South Americans, and Other Hispanics. The following racial/ethnic groups will be examined in the survey data: Whites; Blacks; and Hispanics (total and the following subgroups: Puerto Rican, Cuban, Mexican, Latin American, and Other Hispanics). Finally, in addition to the total populations, age and sex specific subgroups will be examined in all data. Alcohol related policies to be emphasized include alcoholic beverage excise taxes, laws related to driving under the influence of alcohol, restrictions on the availability of alcohol (including mandatory minimum legal drinking ages) and limits on alcohol advertising.

### **ALCOHOL, GANGS AND VIOLENCE—A PRE-PREVENTION EXPLORATION**

PI: Geoffrey P Hunt

SCIENTIFIC ANALYSIS CORPORATION

SAN FRANCISCO, CA

Year 02, Future 02

The aim of this project is to explore the relations between alcohol consumption, violence and ethnic youth gangs. To date concern with gang-related violence has tended to concentrate on the role of illicit drugs and has largely ignored the significant role of alcohol in gang life. Using a combination of both qualitative research methods and social survey techniques, we plan to identify and locate all known gangs in San Francisco, conduct short term field observations of their activities and interview 400 gang members. Based on our previous gang research in San Francisco, we expect to

locate approximately 80-100 different gangs. From this total, we propose a stratified sample within each of the three major ethnic groups - African-American, Latino and Chicano, and Asian-American - which, with weighting in our quantitative analyses, will provide a representative sample of gangs in San Francisco. Five gangs of each major ethnic group will be randomly chosen. By utilizing a precoded interview schedule, a life-history interview guide and an in-depth focused interview schedule, the project will examine the possible associations between alcohol consumption, the role of alcohol in gang life and gang-related violent behavior. Such analyses will have two important benefits. First, it should provide insight into the role of alcohol in gang-related violence and inform prevention practitioners on potential interventions which may help to reduce violent behavior associated with drinking practices. Second, the investigation will satisfy two research topic priorities outlined in the recent NIH panel report (1994) on violence and aggression. These include the need for more information on Hispanic, African-American and Asian-American groups, and the need for more research on the impact of social units, such as gangs, on aggressive and violent behavior.

### RISK FACTORS FOR ALCOHOLISM IN NATIVE AMERICANS

PI: Cindy L. Ehlers

SCRIPPS RESEARCH INSTITUTE

LA JOLLA, CA

Year 03, Future 02

The prevalence of alcohol abuse and alcoholism among different ethnic groups varies widely. Certain tribes of Native Americans have very high rates of alcohol abuse when compared to Caucasian, African American, and Asian American subjects living in the same geographic areas. These ethnic differences in rates of alcoholism are thought to reflect a combination of sociocultural and biological factors. Within the biological realm, several preliminary studies provide evidence to suggest that certain electrophysiological variables (ERPs and EEGs) may be good markers of genetic predisposition to alcoholism. Few studies, however, have evaluated whether ethnic and/or racial diversities exist in electrophysiological markers of alcoholism risk. Recent data do suggest that there is genetic diversity in biologic sensitivity to alcohol. The source of the differences in alcohol sensitivity are not well understood, but presumably result, in part, from genetic differences in metabolic factors, i.e., genetic polymorphisms of alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH), as well as inborn differences in CNS "reactivity." The overall objective of the proposed studies is to extend our previous investigations, which evaluated biologic reactivity to alcohol and placebo challenge in Caucasian sons of alcoholics, Asian American men, and Native American men. Our preliminary studies suggest that Native American men have a qualitatively different response to alcohol than Caucasian and Asian American men. We believe that this diversity in response to alcohol may, in part, account for their increased risk for the development of alcoholism. In order to explore this further, in new sets of studies, both Native American men and women ages 18-25 will be tested for biologic reactivity to alcohol and placebo using a modification of the same alcohol challenge protocol from our previous studies. In addition, behavioral and electrophysiological data will be collected from Native American boys and girls between the ages of 8-11 in order to determine whether specific risk markers might be present in young boys and girls prior to any alcohol exposure. These studies have the potential to verify whether Native Americans have any specific biological or behavioral factors that may help to explain the high risk for alcoholism within the tribes evaluated. The identification of such variables may potentially be useful in the development of specific prevention and treatment programs for this population as well as other Native American tribes.

## PREDICTING UNDERAGE DRINKING AND DRIVING—A REGIONAL STUDY

PI: Joel W. Grube

PACIFIC INSTITUTE FOR RESEARCH AND EVALUATION

BERKELEY, CA

Year 01, Future 03

Drinking and driving (DUI) and riding with drinking drivers (RWDD) are serious problems for underage adolescents and young adults. Prevention of these behaviors should be a public health priority. Little current data are available, however, regarding the prevalence of these behaviors based on representative samples of young people. In addition, there is only a limited understanding of the social-psychological processes that underlie underage DUI and RWDD or how these processes may differ by gender and ethnicity. The investigators therefore propose to undertake a random-digit dial (RDD) telephone survey of 1,400 15-20 year old adolescents and young adults from California. The survey will collect data continuously over a two-year period. African American, Asian American, and Latino youth will be over-sampled. In addition to providing detailed data on the prevalence of underage DUI and RWDD, the survey will proceed from a relatively well-developed conceptual model and will obtain data on a range of environmental, personal, and social-psychological variables. The study has five specific goals. The first major objective is to obtain systematic data on the overall prevalence of DUI and RWDD in a representative sample of underage adolescents and young adults. Second, the study will investigate differences in the extent of involvement in DUI and RWDD among young men and women from major ethnic groups (African Americans, Asian Americans, European Americans, and Latinos) and will attempt to ascertain why such differences occur. Third, the study will provide information about the seasonal patterning of underage DUI and RWDD. Fourth, the study will model underage DUI and RWDD using structural equations analyses with latent variables in order to gain a better understanding of the environmental, personal, and social-psychological factors that underlie these behaviors, their relative predictive importance, and whether they affect DUI and RWDD directly or are mediated through other variables. Finally, the study will undertake multi-group structural equations analyses to investigate differences and similarities in the predictors of DUI and RWDD among young men and women who are African American, Asian American, European American, or Latino. The ultimate goals of this research are: (a) to provide a better understanding of how and why young people become involved in DUI and RWDD and (b) to provide a better basis for designing and implementing more effective interventions to reduce and prevent these behaviors.

### **National Institute of Allergy and Infectious Diseases**

#### **BIOMEDICAL RESEARCH SUPPORT**

NIAID supports a wide variety of research grant programs in support of extramural research being conducted in a broad spectrum of academic, non-profit, and proprietary institutions. Through the use of electronic bulletin boards on the Internet [NIAID and NIH homepages, FEDIX (Federally supported R & D homepage)] NIAID makes every attempt to insure that individuals from all groups are aware of its scientific agenda and the grant programs that support it. The majority of NIAID's research is conducted through the support of independent scientific investigator awards.

**Lead Entity:** John J. McGowan, Ph.D.

**Time Frame:** Requests for Proposals: Continuous.

Proposal Deadline: February 1, June 1 and October 1

**Measurable Outcomes:** In FY 1996, NIAID received 236 applications for competing research grants from individuals identifying themselves as being an Asian or a Pacific Islander. NIAID funded 62 applicants which equates to a 26% success rate. This compares favorably to non-minority applicants who had a 32% success rate.

#### INCLUSION IN BIOMEDICAL RESEARCH INITIATIVES

Minority populations in the United States bear a disproportionate burden of sickness and disease. Among the many health problems that afflict minorities are a variety that fall within the purview of the National Institute of Allergy and Infectious Diseases (NIAID). These health problems include acquired immunodeficiency syndrome (AIDS), asthma, sexually transmitted diseases, tuberculosis, autoimmune diseases, and kidney disease. NIAID has developed a comprehensive program of basic, clinical, and epidemiological research designed to reduce the severity and prevent the occurrence of these and other conditions.

The Institute strives to include minorities in all phases of its research program, from the recruitment of patients for clinical trials to the involvement of minority researchers. The following are areas in which the Asian and Pacific Islander population are participating in trials or will benefit from research findings:

#### AIDS

AIDS has emerged as the international health crisis of the 20th century. The Centers for Disease Control and Prevention (CDC) estimates that 1 million people are infected with HIV-1 in the United States. Through June 1997, CDC reported 604,176 (325,793 in minority populations of which 4,370 cases were reported among Asians and Pacific Islanders). Racial and ethnic minorities now account for approximately 54 percent of the reported AIDS cases in the United States, less than 1 percent for Asian and Pacific Islanders. In FY 1997, 136 Asian-Pacific Islanders were enrolled in NIAID-supported clinical trials, approximately the same percentage as reported by CDC for overall AIDS cases in this population.

The four major areas in which NIAID specifically addresses minority issues in HIV disease are treatment research, epidemiologic research, vaccine and prevention research, and infrastructure development and training of minority researchers. While Asians and Pacific Islanders only make up a small percentage of cases they are still actively recruited to participate in studies that cross these four areas. Inclusion of all minority populations in clinical trials is particularly urgent as it is important that the results of the research are applicable to all populations affected by the disease.

In treatment research, NIAID, through its extramural and intramural programs, directs a large national clinical trials program that consists of four components: the Adult AIDS Clinical Trials Group, the Pediatric AIDS Clinical Trials Group, the Terry Bein Community Programs for Clinical Research on AIDS, and the Division of AIDS Treatment Research Initiative. All of these networks strive to ensure that a sufficient proportion of minority subjects are enrolled into clinical trials so that the results of the research may be generalized to the HIV population at large. NIAID works with these networks to identify the need for and assist in the development of culturally sensitive educational materials, to recognize real or potential barriers to recruitment and retention in clinical research for these groups, and to establish mechanisms to overcome these barriers.

## SEXUALLY TRANSMITTED DISEASES

Sexually transmitted diseases (STDs) are critical global and national health priorities because of the devastating impact on women and infants and the interrelationships with HIV/AIDS. These diseases often have severe sequelae such as infertility, tubal pregnancy, cervical cancer, fetal wastage, low birth weight, congenital or perinatal infection, and HIV infection. Recent studies indicate that the more prevalent nonulcerative STDs (chlamydia, gonorrhea, and trichomoniasis) as well as ulcerative diseases (genital herpes, syphilis, and chancroid) increase the risk of HIV transmission by at least threefold to fivefold. Because of the lack of a functioning immune system, HIV infection can result in alteration of the natural history of some STDs (e.g., pelvic inflammatory disease and human papillomavirus infection).

The current STD epidemic in the United States disproportionately affects minorities. Both the incidence of STDs and their long-term, and in some cases, life-threatening consequences are higher among nonwhites than they are among whites. In light of the spiraling acute and chronic morbidity of STDs, STD research is a high priority at NIAID. NIAID supports seven STD Cooperative Research Centers (CRCs), which provide a multidisciplinary approach to STD research by bringing together basic science, clinical/ epidemiologic research, and behavioral intervention strategies for the prevention and control of STDs.

## ORGAN TRANSPLANTATION AND DONATION

NIAID research in the field of transplantation encompasses a variety of basic and clinical research efforts focused on addressing the higher incidence rates of end-stage renal disease (ESRD) among minority populations. These efforts include support for several Transplantation Program projects and investigator-initiated studies involving immunologic mechanisms and potential immunotherapies in the prevention of graft rejection. Therefore, research supported by NIAID is targeted at both the development of improved, specific immunosuppressive agents and the understanding and development of strategies to induce donor-specific tolerance in the transplant recipient that would allow discontinuation of nonspecific immunosuppression.

In 1993, 217,479 Americans with ESRD required treatment with dialysis (180,127) or transplantation (11,021). There is a racial disparity in renal transplantation rates. Although African Americans represent 34.3 percent of those awaiting kidney transplantation, they receive only 24.8 percent of the cadaveric transplants and 14.3 percent of living donor transplants. Similarly, there are fewer transplants among Asians (3.7 percent cadaveric and 4.0 percent living donor) than would be expected from their representation on the waiting list (5.1 percent).

Retransplantation currently accounts for 17 percent of all kidney transplants, 15 percent of liver transplants, and 2 to 5 percent of all other organs transplanted. The number of patients being re-enrolled on waiting lists has increased each year.

The Cooperative Clinical Trial in Transplantation, a multicenter clinical trial of new therapies for prolonging kidney graft survival, has finished enrollment in its donor-specific blood transfusion trial. The program has been successful in recruiting minority patients. Preliminary analysis has shown that this therapy shows efficacy in prolonging kidney graft survival, but the extent of this enhance-

ment is not known. Patients will be followed for 10 years to determine if this therapy has a positive effect on long-term graft survival.

In FY 1994, NIAID established its first Cooperative Clinical Trial in Pediatric Transplantation at 35 medical centers to examine new treatments to prevent the rejection of transplanted kidneys in children. This cooperative research program will examine the causes of the lower patient and graft survival rates in children versus adults and the effects of immunosuppressive therapy on growth retardation.

In addition, projects such as the one at the University of Washington, is exploring the use of a community-based outreach network to deliver information on organ donation and transplantation to African American and Asian communities in Seattle and Tacoma. The project will develop and distribute an education video, public service announcements, a school instruction program, and educational materials targeted to these two populations. VISTA volunteers recruited from the targeted communities will distribute materials and collect survey information in local neighborhoods, schools, and churches. The investigators will create a computerized database to record donation preferences, education levels, and medical histories of community residents. The investigators will measure efficacy through surveys on attitudes toward donation, a state organ donor registry, and actual donation and transplantation rates by race. If successful, the strategies employed by this project can be duplicated by other communities and thereby increasing the number of organ donor registrations.

**Lead Entity:** Milton J. Hernandez, PhD, Acting Director,  
Office of Research on Minority and Women's Health

**Measurable Outcomes:** Support in these and related areas for Asian and Pacific Islanders totaled \$3,970,869 in FY 1997.

### **National Institute of Child Health and Human Development**

*“Asian-Americans: Effects of Acculturation and Child's Delay on Child-Rearing and Family Relations” - Kazuo Nihira and Iris T. Mink, UCLA*

Although many ethnic minority families have members who are mentally retarded or developmentally disabled (MR/DD), to date, few studies have systematically explored the distinctive characteristics of these families and their support systems, strengths, goals and needs. To address this need, the NICHD currently supports a project that investigates how Asian-American families cope, using cross-cultural comparisons of home environments between Asian-American and Euro-American families with MR/DD children.

Previous project results revealed a significant participation and influence of the extended family in child-rearing support for Asian-American families with MR/DD children. The traditional values and practices of close-knit kinship were evident in the Asian-American families studied. The presence of a MR/DD child seems to have facilitated closer kinship relations in these families.

This project has been extended to study generational differences and the effect of immigration and acculturation on the home environment of Asian-American families with MR/DD children. Using Euro-American families as a contrast group, the research has identified various cultural resources

and constraints, as well as psychosocial characteristics unique to the Asian-American families in the study.

**Measurable Outcomes:** Because it was unclear whether the unique features of the families in this project were related to having a child with MR/DD—rather than to their cultural heritage, acculturation and minority status—the current study will try to distinguish between these effects.

**Lead ICD Entity:** Dr. Felix De la Cruz, Mental Retardation and Developmental Disabilities Branch, NICHD

**Start and End Date:** 3/1/80-4/30/99

**Activity Categories:** 3

*“The Cultural Context of Psycho-social Competence” - Robert B. Edgerton, UCLA*

Variability among family and home environments within ethnic minority communities, until recently have remained unexamined or unmeasured, particularly in comparisons of ethnic minority and immigrant communities. To help address this need, the NICHD currently supports comparative ethnographic analyses of family adaptation with the goal of developing measures sensitive to six different ethnic minority communities. The aim of this particular study is to determine the impact of cultural constraints and opportunities on family adaptation and the development of psycho-social competence among ethnic minority children at risk for mild MR/DD; and to identify sociocultural influences on the prevention or reduction of these risks. The middle childhood period in Asian-American children with developmental delay is one age and population group currently being studied.

**Measurable Outcomes:** Although researchers better understand the needs and concerns of ethnic minority populations affected by the risks of MR/DD, far too little is known to permit effective prevention and intervention strategies to be developed. This project will produce new knowledge regarding family adaptation; familial protection, risks, and resilience; and child competence. This, in turn, will be used to modify family and community-level prevention and intervention efforts. Study results should also be of interest to experts in child development.

**Lead ICD Entity:** Dr. Felix De la Cruz, Mental Retardation and Developmental Disabilities Branch, NICHD

**Start and End Date:** 3/1/80-4/30/99

**Activity Categories:** 3

*“Chinese-American Fathers with Children with Mental Retardation or Developmental Delay” - Iris T. Mink, UCLA*

Because few research studies focus on the impact that fathers in Chinese-American families have on their child with MR/DD, the NICHD currently supports research to compare two groups of immigrant Chinese-American fathers (those with children with MR/DD and those with typically developing children) to determine:

- the range of beliefs, values and attitudes regarding parenting and MR/DD;
- if the two groups of fathers differ in their child rearing attitudes and practices based on the child's gender or age and the father's socioeconomic level;
- the best set of predictors of the father's involvement with child care; and
- if a father's child rearing attitudes and practices vary according to the child's level of functioning.

**Measurable Outcomes:** This project will expand the very limited information currently available on attitudes and behavior of immigrant Chinese-American fathers with children with MR/DD. These studies should aid the design and implementation of appropriate interventions for these families with MR/DD children.

**Lead ICD Entity:** Dr. Felix De la Cruz, Mental Retardation and Developmental Disabilities Branch, NICHD

**Start and End Date:** 8/1/94-7/31/98

**Activity Categories:** 3

*“New Immigrant Survey: A Pilot Study” - James Smith, RAND, Santa Monica, CA*

Since much of the discussion of immigration policy in the U.S. has occurred in the absence of reliable and comprehensive data, the Federal Interagency Working Group on Immigration Statistics and the NICHD have recently urged that additional data be collected about U.S. immigrants. A specific need also exists to develop new methods of survey design. As a result, the NICHD (with the Immigration and Naturalization Service and the National Science Foundation) is funding a pilot study to design, implement, and evaluate alternative methods of tracking newly arrived U.S. immigrants over time that will lead to a multiple-cohort, retrospective as well as prospective, longitudinal survey. Data from this pilot survey will provide information on pre-immigration education, work, migration, marriage and fertility histories relevant to understanding assimilation in the U.S. Information will also be provided on economic status, schooling, health and children’s well-being, as well as preferences and attitudes to help understand and predict assimilation patterns. The pilot survey instrument has been translated into English, Spanish, Chinese, Russian, Polish, Korean and Vietnamese. In addition, some interviewers can speak Cantonese, Thai and Tagalog (a Philippine dialect). If this pilot study proves successful, an application will be submitted for the full survey in October, 1998.

**Measurable Outcomes:** As noted above, if successful, this pilot study will lead to a multiple-cohort, retrospective as well as prospective, longitudinal study of U.S. immigrants. Data from the full survey should fill an important data gap and address policy-related issues in the field of immigration by assessing 1) immigration laws; 2) the assimilation and experience of immigrants; as well as 3) the economic and social impact of immigration.

**Lead ICD Entity:** Dr. Chris Bachrach, Demographic and Behavioral Sciences Branch, NICHD

**Start and End Date:** 9/30/95-8/31/97

**Activity Categories:** 2, 6, 10

*“Add Health—A National Longitudinal Study of Adolescent Health” - J. Richard Udry, University of North Carolina*

The NICHD-supported Add HEALTH study is the first national study designed to provide an understanding of the complex factors that promote good health among adolescents and explore the factors that place them at risk. Among the topics studied are diet, smoking, drinking, drug use, sexual behavior, injury prevention, violent and delinquent behavior, exercise, fitness and mental health. Since researchers know that adolescents establish life styles and behavior patterns that affect their health for the rest of their lives, part of the study’s strength lies in its ability to weave together data from varied sources to describe how the different parts of an adolescent’s world interact to shape health and health behavior now and in years to come.

Another strength of the study is that with a sample size of nearly 20,000 teens, researchers can analyze and compare the determinants of health and health behavior within and across minority and ethnic groups. Chinese adolescents were selected for over-sampling in this study to insure meaningful analysis since important differences are expected to exist among the Asian subgroups and between the Chinese and white, African-American and Hispanic adolescents.

The initial survey and the first wave of analysis are completed. The data, as a unique resource for continuing scientific analyses of the effects of various contextual factors on adolescent health outcomes, have been made available to researchers. Preliminary results already show intriguing differences between the Chinese, Filipinos and other race/ethnic subgroups.

**Measurable Outcomes:** Study results should provide a wealth of resources for research and policy communities. As the data continues to be shared with researchers and program planners, studies should continue to emerge concerning the many factors affecting adolescent health behavior.

**Lead ICD Entity:** Dr. Chris Bachrach, Demographic and Behavioral Sciences Branch, NICHD

**Start and End Date:** 3/7/94-2/28/99

**Activity Categories:** 2, 6, 10

*“Mortality Among Asian American Elderly” - Diane Lauderdale, National Opinion Research Center*

The number of Asian Americans currently living in the U.S. is growing primarily due to immigration. Current data also suggest that this population may be the longest-lived in the world. If these estimates are correct, the U.S. Asian American population could be an important group to target for theoretical work concerned with maximal longevity. To examine some of the issues involved the aging of specific U.S. populations, a pilot study has been funded in collaboration with the National Institute on Aging. To assist in identifying Asian Americans for this pilot project, NICHD-supported investigators will 1) obtain an *enrollment database* from the Health Care Financing Administration (HCFA) for elderly enrollees; 2) construct name algorithms for identifying persons with specific Asian ancestries using available Social Security Administration files; and 3) obtain initial counts of the number of person identified by the name algorithm within the HCFA *enrollment database* by merging the two databases.

**Measurable Outcomes:** This pilot study will establish the feasibility of a project that should be able to answer three questions: 1) what are the death rates for specific elderly Asian American populations; 2) do death rates differ for Asian Americans by place of birth, i.e., U.S.- versus foreign-born; and 3) is date of birth information reliable for foreign-born Asian Americans?

**Lead ICD Entity:** Dr. Chris Bachrach, Demographic and Behavioral Sciences Branch, NICHD

**Start and End Date:** 2/1/84-6/30/99

**Activity Categories:** 3

*“Events Recording of High Risk Infants on Apnea Monitors” - David H. Crowell, Kapiolani Medical Center Women & Children*

This study is a continuation of the Collaborative Home Infant Monitoring Evaluation CHIME Study which examines the use of home infant monitors to reduce poor health outcomes for infants with irregular cardiorespiratory (CR) patterns. Despite years of experience, it is not known to what extent monitor use has reduced either infant mortality or morbidity. This study serves a broad population and includes AAPI participants.

**Measurable Outcomes:** The CHIME Study will create a comprehensive summary of the full range of cardiorespiratory events occurring in the home. The results will yield important insights regarding underlying mechanisms, antecedent variables predictive of CR events, appropriate intervention strategies, and the relationship between CR events and neurodevelopmental outcomes in infants.

**Lead ICD Entity:** Dr. Charlotte Catz, Pregnancy and Perinatology, NICHD

**Start and End Date:** 9/30/91 - 8/31/99

**Activity Categories:** 1, 4, 5, 10

### **National Institute of Dental Research**

**SUGGESTED ACTIVITY:**

*Ensure that Asian American and Pacific Islanders are appropriately represented in clinical trials, research studies and demonstration grants funded by NIDR..*

**Key IC Project:** Implement a tracking system to monitor the inclusion of the AAPI population in clinical research.

**Lead Entity:** Office of Planning, Evaluation, and Communications and Division of Extramural Research

**Time Frame:** FY 98-99

**Measurable Outcome:** NIDR is currently implementing a tracing system to monitor inclusion of minorities and women in clinical trials.

**Key IC Project:** Identify gaps in knowledge of health problems disproportionately affecting the AAPI population.

**Lead Entity:** Deputy Director and Division of Intramural Research

**Measurable Outcomes:** Review the recommendations of the Surgeon General's Oral Health Report. Analyze the NHANES and NHANES III data to assess gaps in knowledge of health problems affecting the AAPI population.

### **National Institute of Diabetes and Digestive and Kidney Diseases**

**Principal Investigator ID#:** Paul Z. Zimmet - R01 DK25446  
International Diabetes Institute

**Title:** Diabetes in Pacific Islanders—Environment/Genetic Determinants

**Program Director:** Dr. Maureen Harris, Epidemiology Research

**Description:** This grant continues studies of the epidemiology of type 2 diabetes, including gene-environment interaction in its etiology, its complications, associated conditions such as the Metabolic Syndrome, and the potential for their prevention. The emergence of type 2 diabetes and cardio-

vascular disease in Pacific and Indian Ocean Islanders, and in these ethnic minorities in the U.S. has been concomitant with rapid socioeconomic and environmental changes and differences in genetic susceptibility to type 2 diabetes among ethnic groups.

This project was first funded in 1979 and presently is approved for 2 future years of funding.

**Principal Investigator ID#:** Wilfred Y. Fujimoto - R01 DK31170  
University of Washington

**Title:** Metabolic Epidemiology of NIDDM

**Program Director:** Dr. Maureen Harris, Epidemiology Research

Description: The specific aim of this research is to ascertain the metabolic sequelae of an important milestone of aging in women, the menopause transition, and its relationship to type 2 diabetes. This is a longitudinal metabolic epidemiologic study of second-generation Japanese-American women and third-generation Japanese-American men and women.

This project was first funded in 1984 and presently is approved for 3 future years of funding.

**Principal Investigator ID#:** Wilfred Y. Fujimoto - R01 DK48152  
University of Washington

**Title:** Reduction of Diabetic Risk in Japanese Americans

**Program Director:** Dr. Charles Wells, Diabetic Complications Research

Description: The high prevalence of type 2 diabetes in Japanese Americans results from the effects of environmental (behavioral) factors reflecting “westernization.” The specific aim of the proposal is to demonstrate that increased endurance type physical activity and a reduction of dietary animal (saturated) fat by Japanese Americans with impaired glucose tolerance will result in a reduction of risk factors associated with progression to type 2 diabetes.

This project was first funded in 1990 and presently is approved for 1 future year of funding.

**Principal Investigator ID#:** Teresita B. Hernandez - R42 DK48530  
Health Technomics, Inc.

**Title:** Asian Assist Multimedia Dietary Assessment

**Program Director:** Dr. Judith Podskalny, Small Business Innovation Research/Nutrition

Description: The overall objective of this project is to develop a state-of-the-art computer-based dietary assessment program for Chinese Americans.

This project was funded from FY 1994 through FY 1997. At the present time no additional funding has been committed.

**Principal Investigator ID#:** Marjorie K. Mau - R01 DK48136  
University of Hawaii at Manoa

**Title:** Cultural-Based Diabetes Program for Native Hawaiians

**Program Director:** Dr. Charles Wells, Diabetic Complications Research

Description: Diabetes is a significant health problem for native Hawaiians (NHs) living in the State of Hawaii. The main focus of the study was culturally-sensitive, family-based community interven-

tion targeting families at high risk for developing diabetes and involved two treatment arms: 1) healthy lifestyles program, delivered through the 'ohana and 2) the same information delivered through community meetings.

This project was funded from FY 1994 through FY 1997. At the present time we have not received an application for additional funding.

**Principal Investigator ID#:** Jin-Xiong She - R01 DK50220  
University of Florida

**Title:** Affected SIB Pair and Disequilibrium Mapping of IDDM Genes

**Program Director:** Dr. Joan Harmon, Type 1 Diabetes Research

Description: This study has two components. This research is a continuation of studies aimed at identifying susceptibility genes involved in type 1 diabetes, an autoimmune disease in which the insulin-producing, pancreatic beta cells are destroyed. Linkage disequilibrium analysis was performed using the ASP and simplex families as well as unrelated patient and control populations from diverse ethnic groups (Caucasians, Chinese and African Americans).

This project was funded from FY 1995 through FY 1997. At the present time no additional funding has been committed.

**Principal Investigator ID#:** Elizabeth L. Barrett-Connor - R01 DK31801  
University of California San Diego

**Title:** Epidemiology of NIDDM and CVD in Three Ethnic Groups

**Program Director:** Dr. Maureen Harris, Epidemiology Research

Description: This grant has two complementary components, as follows: 1) Continuation of the Rancho Bernardo Study (RBS) of 1000 community-dwelling older middle class men and women of Caucasian northern European ancestry, who have been previously characterized for most covariates of interest, including a 75g oral glucose tolerance test (OGIT) performed in 1984-87 and again in 1992-95. 2) Completion of a study of 500 African American and 500 Filipina American women of similar age and social class to include an OGIT and most of the other components of the RBS, in order to provide comparable information about carbohydrate tolerance, cardiovascular disease (CVD) risk factors, and CVD prevalence.

This project was first funded in 1984 and presently is approved for 3 future years of funding.

**Principal Investigator ID#:** David Feldman - R01 DK50802  
Stanford University

**Title:** Vitamin D Receptor Gene Polymorphisms and Osteoporosis

**Program Director:** Dr. Ronald Margolis, Bone and Mineral Research

Description: This grant has several specific aims. The investigators are employing three ongoing longitudinal epidemiological studies in which data on bone mineral density and other markers of bone turnover have been accumulated. The genotypes of these subjects will be determined and existing data correlated with allelic variation. The studies are: 1) The PEPI Trial (Marcus) in which post menopausal Caucasian women have received estrogen and/or progesterone intervention. 2) Mexican-American Study (Kelsey) in which elderly Hispanic women are followed longitudinally. 3)

Adolescent Study (Bachrach) in which young Caucasian, African-American, Asian and Hispanic subjects are followed longitudinally.

This project was first funded in 1994 and presently is approved for 1 future year of funding.

**Principal Investigator ID#:** Richard N. Pierson, Jr. - R01 DK37352  
St. Luke's Roosevelt Institute for Health Sciences

**Title:** Pediatric Body Composition —Ethnic Specificities

**Program Director:** Dr. Susan Yanovski, Obesity and Eating Disorders

**Description:** This grant has two components. Results obtained from phases I and II of the Rosetta stone project for body composition (BC) in White, African-American and Asian American adults have shown that measurements of BC are strongly influenced by age, sex, race, and choices of methods. These results have been used as norms for the interpretation of BC measurements in patients with AIDS, obesity, paraplegia and aging. A similar study for children and adolescents is needed. The investigators are performing BC measurements: total body potassium, water, dual photon absorptiometry, bioimpedance analysis, electrical capacitance, anthropometry and underwater weighing, in White, African-American and Asian-American children aged 6 to 18 years, as an extension of their previous studies in adults.

This project was first funded in 1986 and presently is approved for 1 future year of funding.

**Principal Investigator ID#:** Steven E. Kahn - U01 DK48413  
University of Washington

**Title:** NIDDM Primary Prevention Trial (DPP-2)

**Program Director:** Dr. Sanford Garfield, NIDDM Clinical Trials

**Description:** This proposal has three components. The primary specific aim of the present proposal is to determine whether subjects with impaired glucose tolerance or newly diagnosed type 2 diabetes can have the progression of their glucose intolerance slowed or even reversed. A second aim is to determine the importance of factors such as insulin resistance, insulin secretion and body fat distribution in predicting individuals who are likely to respond to an intervention aimed at slowing or reversing the progression to hyperglycemia. To address these issues, the investigators are studying two populations at increased risk of developing type 2 diabetes. One hundred Asian-Americans and 100 women with a history of gestational diabetes mellitus will be recruited as part of a multicenter national clinical trial.

This project was first funded in 1993 and presently is approved for 3 future years of funding.

**The following research applications include Native Chinese, Japanese and Taiwanese.**

**Principal Investigator ID#:** Janice S. Dorman - R01 DK49588  
University of Pittsburgh at Pittsburgh

**Title:** Molecular Epidemiology of IDDM in China

**Program Director:** Dr. Maureen Harris, Epidemiology Research

Description: This research is evaluating the clinical characteristics and potential genetic, environmental, and immunologic determinants of childhood diabetes in 15 Chinese populations. This project was first funded in 1994 and presently is approved for 1 future year of funding.

**Principal Investigator ID#:** Martin J. Blaser - DK50837  
Vanderbilt University

**Title:** Biological Markers of Helicobacter Pylori Induced Oncogenesis

**Program Director:** Dr. Frank Hamilton, Gastrointestinal Mucosal and Immunology

Description: This grant has two components. The purpose of this study was to identify further H. pylori-linked markers for persons at high or low risk of developing gastric cancer. Serum and gastric tissue specimens have been acquired from three previous studies (Minnesota, Hawaii, Japan) in which an association of H. pylori infection and gastric cancer have been shown, and from Villagers in Shandong Province in China who differ substantially in cancer risk.

This project was funded from FY 1994 through FY 1997. At the present time no additional funding has been committed.

**Principal Investigator ID#:** Philip D. Whanger - R01 DK38341  
Oregon State University

**Title:** SE Intake Effects on Human Blood and Urine Fractions

**Program Director:** Dr. Michael May, Nutrient Metabolism

Description: The specific aims of this study were to determine the relationship of various indices of selenium (Se) status (blood components) to the size of the selenite-exchangeable metabolic pool (Se-EMP); establish the relationship of dietary Se intake to excretion of urinary trimethyl selenium (TMS<sub>e</sub>); and determine the influence of Se restriction on the rate of depletion of Se-EMP, in human subjects in China.

This project was funded from FY 1990 through FY 1997. At the present time no additional funding has been committed.

**Principal Investigator ID#:** D. Roger Illingworth - U13 DK53756  
Oregon Health Sciences University

**Title:** Conference—U.S.—Japan Oxidants and Antioxidants Meeting

**Program Director:** Dr. Michael May, Nutrient Metabolism

Description: The U.S.-Japan Cooperative Medical Science Program was initiated in 1965 by an agreement between the President of the United States and the Prime Minister of Japan. The Nutrition and Metabolism Panel is one of a number of scientifically focused groups organized under this Program to foster scientific interchange and provide leadership in identifying areas of research priority for the two countries. The 1997 Conference was held on September 25-28, 1997. The theme for the U.S. Japan Nutrition and Metabolism Panel was the role of oxidants and antioxidant therapy in disease. Interactions developed at this meeting will foster the use of new approaches, models and endpoints and lead to collaborative interactions amongst investigators.

This was a one time meeting; no future funding is involved.

**Principal Investigator ID#:** Chawnshang Chang - R01 DK51346  
University of Rochester

**Title:** Molecular Epidemiology of Androgen Receptor Expression in Prostate

**Program Director:** Dr. Leroy Nyberg, Urology

**Description:** This proposal has two components. Androgen-independent tumor growth accounts for the rapid progression of prostate cancer following failure of primary androgen ablation therapy. Whether a change in the molecular mechanism of androgen-androgen receptor expression can contribute to the progression of human prostate cancer to an androgen-independent state is an important question and will be the major goal of this proposal. The researchers will use various factors as tools to screen prostate tumors from (1) different age groups; (2) different stages of prostate cancer; (3) different races (Taiwanese/Japanese vs. American white/black); and (4) spontaneous prostate tumor from rats treated with different diet.

This project was first funded in 1993 and presently is approved for 3 future years of funding.

### **National Institute of Environmental Health Sciences**

**Title of Key IC Project:** Drug Metabolizing Enzymes in Humans and Animal Models

**Performing Organization:** Laboratory of Pharmacology and Chemistry, NIEHS  
(Dr. Joyce Goldstein, PI)

**Project Description:** The CYP enzymes metabolize drugs and xenobiotics, and polymorphisms in some of these enzymes account for variability in metabolism in man. We have identified three new defects in CYP2C19 responsible for poor metabolizers (PMS) of the anticonvulsant drug mephenytoin and the antiulcer drug omeprazole and developed genetic tests for two of these polymorphisms. Genetic tests developed in our laboratory identify approximately 100% of Oriental and approximately 84% of Caucasian PMS in clinical studies. cDNA expression studies confirm that 2C19 is the principle omeprazole 5-hydroxylase. A polymorphism in CYP2C9 responsible for PMS of the antidiabetic drug tolbutamide has been identified as the CYP2C9-Leu allele which has decreased affinity in cDNA expression studies for certain substrates such as the anticoagulant warfarin and the antidiabetic drug tolbutamide. cDNA expression and site-directed mutagenesis studies are being used to identify amino acids which are important in the substrate specificity of the CYP2C subfamily. Amino acid 99 and amino acid 220 have been identified as being important for selectivity of CYP2C19 for omeprazole but are not sufficient to confer selectivity for mephenytoin. Additional studies are directed toward identifying additional defects in CYP2C19 and developing and improving the accuracy of genetic testing. Site-directed mutagenesis studies are identifying which additional amino acids confer specificity for additional drugs and endogenous chemicals such as omeprazole, mephenytoin, warfarin and arachidonic acid. Partial gene structures for possibly new CYP2C enzymes have been identified and gene cloning studies are attempting to identify the total gene structure for these genes, and identify their mRNA products in liver and extrahepatic tissues. cDNA expression studies are directed toward identifying which CYP2C enzymes are involved in pesticide metabolism, and metabolism of the antimalarial proguanil.

**Lead Entity:** Division of Intramural Research, NIEHS

**Time Frame:** 1982-2000

**Title of Key IC Project:** Human Exposure to Halogenated Aromatic Compounds

**Performing Organization:** Epidemiology Branch, NIEHS (Dr. Walter Rogan, PI)

**Project Description:** Polychlorinated biphenyls (PCBs) and DDT/DDE (DDE is the stored metabolite of DDT) are toxic, widespread pollutants. Both pass from mother to child through the placenta and by contaminating breast milk. This project includes a study of children exposed to low levels of both compounds in North Carolina and a study of persons poisoned by heat-degraded PCBs in Taiwan. In North Carolina, we measured DDE and PCBs in breast milk in about 700 women who had children between 1978 and 1982 and followed the children since. PCBs and DDE can cause long term induction of steroid metabolizing enzymes following exposure early in life. This could change the way the children metabolize sex hormones as they approach puberty. In Taiwan, an epidemic of 2000 cases of PCB poisoning occurred in 1979. We are collecting data on onset of puberty in these children to see whether their rate of sexual maturation is affected by their perinatal exposures to these compounds. Children born up to 7 years after the poisoning were affected, and children followed for 6 years showed little recovery. Thirteen years after the poisoning, there was 2.7 fold excess mortality from non-malignant liver disease, but so far no excess of liver cancer. Currently, we are working with the Taiwanese on morbidity in the adults, with special attention to cancer incidence and female reproductive and menstrual function, and are analyzing data on children born between 1985 and 1992.

**Lead Entity:** Division of Intramural Research, NIEHS

**Time Frame:** 1977-1999

**Title of Key IC Project:** Genetic Susceptibility to Nonmalignant Respiratory Disease

**Performing Organization:** Epidemiology Branch and Biostatistics Branch, NIEHS

(Drs. Stephanie London, Clarice Weinberg and Norman Kaplan, PIs)

**Project Description:** We have appended a study of genetic susceptibility for respiratory disease to a longitudinal study of the relationship of air pollution to risk for respiratory disease in school children being conducted by investigators from the University of Southern California. The study is based in public schools in 12 communities chosen to provide maximal contrast in exposure to ozone, particles, nitrogen oxides and acids. The study, now in the 6th year of data collection, includes detailed information on exposure to these agents as well as sources of indoor air pollution in the home and clinical outcomes along with yearly measurement of pulmonary function. Our addition will allow investigation of genetic susceptibility to asthma and other adverse respiratory outcomes (such as impaired growth in pulmonary function) as well as gene-environment interaction with respect to air pollution. We will collect buccal cell samples on children in the study to provide a source of DNA for examination of genetic polymorphisms. The collection protocol was refined based on the results of pilot studies carried out among other California school children. Collection will begin with all students who are leaving the study B graduating seniors and students who are being followed up after leaving study schools. Based on the success of this field work, we will either enroll all students in the following year or continue to enroll students as they leave the schools over the next five years. Approximately 20% of the children are expected to be of Asian ethnicity.

There are currently sufficient asthma candidate genes to justify collection now. In addition, because of family linkage studies underway, we expect the roster of candidate genes to have evolved markedly by the time that the sample collection is complete. The study has several important advantages. First, the collection of genetic material enhances the ability of the main study to detect health effects of air pollutants, which are expected to be subtle, by identifying subgroups with greater susceptibil-

ity. Second, the study provides a general population sample that will allow confirmation of association with asthma genes that emerge from specially selected families in linkage studies. An optimal control group can be easily sampled from children without asthma within the study population. Further we will be able to test whether these susceptibility genes may be related to more subtle outcomes such as impaired growth in pulmonary function across multiple years of testing. This study fills an important gap in that family studies of asthma genetics generally lack detailed environment assessment that enables testing for gene environment interaction, which is clearly important in asthma etiology.

**Lead Entity:** Division of Intramural Research, NIEHS

**Time Frame:** 1992-2003

**Title of Key IC Project:** Analysis of P53 Tumor Suppressor Gene and Susceptibility to Hepatocellular Carcinoma

Performing Organization: Epidemiology Branch, NIEHS (Dr. Jack A. Taylor, PI)

Project Description: Hepatocellular carcinoma (HCC) is the third and fourth commonest cancer in Chinese men and women, respectively. In Southern Guangxi the standardized rate of HCC among men is 120 per 100,000 population per year, which is more than 35 times the corresponding rate in men in the United States. Hepatitis B virus has been identified as the risk factor with more significance in populations in which infection by this virus is endemic. Among the environmental factors that putatively contribute to the etiology of HCC is aflatoxin contamination of the diet, in particular aflatoxin B1 (AFB1). Aflatoxins represent a group of mycotoxins produced by the fungi *Aspergillus flavus* and *Aspergillus parasiticus*. AFB1 is metabolized by the hepatic cytochrome P450 system to produce a highly reactive intermediate, AFB1-8,9-epoxide. The subsequent covalent binding of this active carcinogen with DNA is considered a critical step in hepatocarcinogenesis. In vitro studies have shown that AFB1 preferentially induces the transversion of G to T in the third position of codon 249 of p53 gene. The extent of AFB1 contamination varies significantly among different countries or regions of the world, so evaluation of the aflatoxin intake in humans becomes a very important issue in trying to establish correlations between levels of exposure and DNA mutations. The arbitrary classification of a certain region as a high or low aflatoxin exposure area has led to contradictory results in terms of the correlation between mutations at codon 249 in the p53 gene and exposure to AFB1. Studies performed on HCC from people living in Southern Africa, Mozambique, Qi-Dong County in China and Senegal have found a positive correlation between the presence of codon 249 mutations in the p53 gene and levels of exposure to AFB1. One of the major limitations in these studies is the number of HCC subjects from high AFB1 exposure areas compared to moderate and low areas. The only studies from high exposure areas are from Qi-Dong and southern Africa, there are no reports from Guangxi, China, an area where aflatoxin is well confirmed to play a significant role in the etiology of HCC. While rates of chronic HBV infection and AFB1 exposure are both elevated in HCC endemic areas, HCC incidence in regions of Asia are still higher than in regions of Africa with comparable exposures. These differences could be due to host factors, such as allelic variations in metabolic enzymes, such as glutathione S-transferase M1 (GSTM1) and epoxide hydrolase (EPHX), both involved in the detoxification pathway of AFB1 in hepatocytes. Studies performed on the HCC endemic areas of Ghana and China (Shanghai) support the hypothesis that genotype differences may explain HCC incidence differences in these two areas, in particular the difference in the EPHX distribution may be of particular significance. There are no data regarding p53, allelic variations of metabolism enzymes and HCC in hyper-endemic regions such as Guangxi, China.

In order to define better the possible role of dietary AFB1 in hepatocarcinogenesis and the induction of codon 249 mutation in p53 we intend to analyze the incidence of this mutation in HCC from patients from southern Guangxi. We will also study the possible association between p53 mutations and GSTM1 and EPHX genotypes in order to determine the putative role of these genes as susceptibility factors in this area of high exposure to AFB1. Given the fact that HBV infection appears to act synergistically with AFB1 we will investigate the status of infection of the samples under analysis. Our working hypothesis is that by analyzing the mutational spectra for p53, the GSTM1 and EPHX genotype and the HBV status in an area well-known for its high aflatoxin exposure we will be able to better define the role of these elements in aflatoxin hepatocarcinogenesis.

**Lead Entity:** Division of Intramural Research, NIEHS

**Time Frame:** 1998-1999

**Title of Key IC Project:** Pilot Study: Longitudinal Study of Respiratory Health of Children in Wuhan, China.

Performing Organization: Epidemiology Branch and Biostatistics Branch, NIEHS (Drs. Stephanie London and Norman Kaplan, PIs)

Project Description: There are few data on the respiratory health of children in China. However, the data that exist suggest important differences between China and Western countries which may help clarify etiologic factors. For example, the rate of asthma among Chinese children appears to be low (1.5-2.4%) although by provocation testing, a substantial number of people appear to have evidence of bronchial hyperactivity without any symptoms of asthma. The reasons for the low prevalence of asthma is unclear. However, the relative risk of emphysema in relation to smoking appears to be lower among men in China than among US men suggesting that susceptibility factors may differ. Possible susceptibility factors include genetics and diet.

Cigarette smoking is increasing rapidly in China. A recent survey of smoking habits among middle school students in Wuhan China indicates an alarmingly high rates of exposure to environmental tobacco smoke in the home (66%) as well as personal smoking (36%-52% for boys and 11% for girls). We propose to collect buccal cells for assessment of genetic susceptibility in an ongoing survey of respiratory health and exposure to smoking, air pollution and other factors among middle school children in Wuhan China. Outcomes will include pulmonary function testing, symptoms questionnaires and doctor diagnoses of asthma. This cross sectional survey is intended to provide baseline data for a longitudinal study. Wuhan is particularly interesting because of high exposure to ambient air pollution including sulfur dioxide, nitrogen oxides and particles. An advantage of the population for studies of gene environment interaction is that it is genetically homogeneous B over 93% of the children are reported by our collaborators to be of Han ethnicity.

While there are a number of candidate gene polymorphisms for asthma that would be worthy of study that have been identified already, we anticipate that in one year when the samples are available, the list will be much refined. A very high priority would be the genes that have been recently reported to be involved in asthma in isolated populations, including several polymorphic candidate genes potentially relevant to persons of Han ancestry. The current study will fill an important gap because the existing asthma linkage studies are not incorporating environmental information that can be used to investigate gene environment interaction.

The health and exposure survey is will be conducted by investigators from the University of Southern California and the Wuhan Public Health and Anti-epidemic Station. They will enroll 5000 7th grade students in a cross sectional study of risk factors for respiratory illness. The outcomes would include pulmonary function (measured by spirometry) along with questionnaire data on asthma and respiratory symptoms. The questionnaire will be administered in a school setting with the children completing the questions regarding current symptoms. Parents will complete questionnaires on diet, past medical history, family history, and exposures. Parents will also be asked to report on their own history of asthma and respiratory symptoms. Exposures of interest include tobacco smoke, ambient air pollution, indoor air pollution from cooking and heating sources.

We propose to add measurements to assess genetic susceptibility to adverse respiratory outcomes from cigarette smoke and air pollution. We would collect buccal cells as a source of DNA from children and parents. In these samples we plan to look for associations between candidate genes and asthma and other respiratory outcomes such as change in pulmonary function. We would also be able to look at gene-environment interaction with respect to active and passive tobacco smoke exposure.

**Lead Entity:** Division of Intramural Research, NIEHS

**Time Frame:** 1998-2000

**Title of Key IC Project:** GSTM1 and Lung Cancer in the Shanghai Cohort Study

Performing Organization: Epidemiology Branch, NIEHS (Dr. Stephanie London, PI)

Project Description: Glutathione S-transferase M1 is polymorphic and plays a key role in the detoxification of a number of carcinogens, including those found in cigarette smoke. We recently showed that deletion of the GSTM1 gene was associated with a modest increase in lung cancer risk. However, the risk associated with the null genotype was greatest among light smokers whereas no association was observed for heavier smokers. The highest risk was observed for squamous cell lung cancer among light smokers. We are attempting to confirm these observations in a cohort of 18,244 men in Shanghai China being followed by investigators from the University of Southern California. The Shanghai cohort presents an ideal population in which to test the hypothesis of an association between lung cancer and GSTM1 among light smokers because while smoking is highly prevalent in the cohort, the number of cigarettes smoked is lower than among Caucasians or African-Americans in the Los Angeles population. Serum and urine samples from members of the cohort have been stored. It is now possible to extract DNA from serum and test for homozygous deletion of the GSTM1 gene. Approximately 200 cases of lung cancer are expected in the cohort. Stored samples from these cases and 600 controls who do not develop lung cancer will be studied for the GSTM1 gene deletion.

**Lead Entity:** Division of Intramural Research, NIEHS

**Time Frame:** 1997-2001

**Title of Key IC Project:** Molecular Biomarkers of Exposure and Effects of Environmental Carcinogens

Performing Organization: Massachusetts Institute Of Technology (Dr. Gerald Wogan, PI)

Project Description: The overall objectives of this program are to refine and validate molecular biomarkers of human exposures to aromatic and heterocyclic amines, and to utilize the markers to determine the roles of heterocyclic amines on the risk of colon cancer and aromatic amines on the

risk of bladder cancer in smokers and nonsmokers in different racial and ethnic groups. In Los Angeles, these will include Latinos, African Americans, Japanese and Whites; defined cohorts will also be studied in Singapore, China and Japan. In Project I, hemoglobin adducts will be used to determine the extent of human exposure to N-hydroxyalkylanilines, as well as the key enzymes regulating their activation. Urinary metabolite excretion will be used to determine metabolic polymorphisms and exposure of different racial and ethnic groups to specific heterocyclic amines, and also determine the relationship between exposure and colon cancer in case-control studies. In project 2, methods for measuring heterocyclic amine DNA adducts in urine and cellular DNA will be developed and validated as markers of biologically effective exposures. The markers will be used to determine relationships between DNA adduct formation and risk of colon cancer in case control studies and to assess exposure in different racial and ethnic groups. Methodology for measuring the major DNA adduct of 4-aminobiphenyl in urine and cellular DNA will be developed and used to determine relationships between DNA adduct formation and risk of bladder cancer in a case-control study. In addition, methodology will be developed for measurement of total DNA adduct levels in cellular DNA in order to assess possible interactions among diverse carcinogen exposures. Project 3 will determine prevalence of exposure to heterocyclic amines and alkyilanilines among different racial and ethnic groups, and also determine dietary and other possible environmental correlates of exposure to these compounds within and between racial-ethnic groups. Additionally, preliminary studies will be conducted to investigate relationships between exposure to heterocyclic amines and colorectal cancer, and between arylamine and alkyilaniline exposure and bladder cancer. Interrelationships between different biomarkers and each other and to target tissue levels, as well as relationships to enzymatic genotypes/phenotypes within and between racial/ethnic groups will also be investigated. Together, the individual projects will provide complementary data for assessing the validity of molecular biomarkers in measuring biologically effective exposures, and testing the hypothesis that exposure to aromatic and heterocyclic amines increases risk for bladder and colon and pancreatic cancers.

**Lead Entity:** Division of Extramural Research and Training, NIEHS

**Time Frame:** 1992-2000

**Measurable Outcomes:** Refinement and validation molecular biomarkers of human exposures to aromatic and heterocyclic amines, and utilization of the markers to determine the roles of heterocyclic amines on the risk of colon cancer and aromatic amines on the risk of bladder cancer in smokers and nonsmokers in different racial and ethnic groups.

**Title of Key IC Project:** Biomarkers of Benzene Exposure and Genotoxicity

**Performing Organization:** University of California-Berkeley (Dr. Martyn T. Smith, PI)

**Project Description:** Benzene is an ubiquitous environmental pollutant and continues to be used as a solvent in developing countries. Benzene is an established cause of human leukemia, but the risk it poses at different exposure levels is highly controversial. The mechanism by which benzene exerts its toxic effects also remains unclear. Through their studies, the investigators hope to provide insight into the mechanism of benzene-induced leukemogenesis and to develop clinically-relevant biomarkers of exposure and genotoxicity for use in epidemiological investigations of human exposure to benzene and other potential leukemogens. This project has provided new information regarding benzene-induced leukemogenesis by analyzing the blood cells of exposed workers using fluorescence in situ hybridization (FISH). To date, they have investigated aneuploidy of four chromosomes, 7, 8, 9 and 21, and translocations between 8 and 21. They propose to continue and expand

this analysis to 10 chromosomes for aneuploidy and 5 or more translocations of relevance to leukemogenesis. In total, 94 individuals with current or past exposure to benzene will be studied along with 72 matched controls. The biologic samples have already been collected, and the exposure assessment has been validated by measurement of urinary metabolites and hematotoxicity. This study, therefore, provides a unique opportunity to gain insight into benzene-induced leukemia and to develop clinically relevant biomarkers in a cost-efficient manner.

**Lead Entity:** Division of Extramural Research and Training, NIEHS

**Time Frame:** 1994-1998

**Measurable outcome:** The data obtained thus far suggest that lower exposures to benzene have a selective aneuploidy-inducing effect on chromosome 7. The data obtained to date also demonstrate that benzene exposure increases the frequency of translocations between chromosomes 8 and 21, t(8;21), which are frequently observed in acute myelogenous leukemia.

**Title of Key IC Project:** Modeling Human Exposure Dose Relationships—1,3-Butadiene

**Performing Organization:** Harvard School of Public Health (Dr. Thomas J. Smith, PI)

**Project Description:** An individual's risk from exposure to a metabolically activated and/or detoxified agent is defined by the interaction of exposure intensity and duration with genetic factors that control metabolic enzyme activity. Thus individuals who have sustained high exposure to 1,3-butadiene (BD), and have both high oxidation rates and slow detoxification rates are most likely to have high risk of adverse effects. However, in vivo data on human metabolism of BD are not available. Laboratory exposures are needed to fill this critical gap. **Specific Aims:** (1) Recruit populations of potential subjects: 400 each from Caucasian, African-American, and Hispanic groups, and 160 from Chinese-Americans. (2) Prescreen all potential subjects to determine their genotypes for EH and GST-theta. Select a set of 60 test subjects (equal numbers of males and females) from each racial subgroup, who meet human subject criteria and are over-represented in subjects with variant EH allele (reduced hydrolase activity) and GST-theta null genotypes. (3) Expose the selected subjects to low levels of BD in the laboratory, and collect timed blood, breath and urine samples before, during and after the exposure. Phenotype subjects for oxidative activity of CYP2E1 with chlorooxazone. Analyze blood and breath samples for BD and urine samples for metabolites. (4) Use lab data to fit parameters of personal PBPK model. (5) Characterize variation in BD metabolism by genotype, sex, racial subgroups, diet, and lifestyle factors.

**Lead Entity:** Division of Extramural Research and Training, NIEHS

**Time Frame:** 1994-1998

**Title of Key IC Project:** Richmond Laotian Environmental Justice Collaboration

**Performing Organization:** Asian Pacific Environmental Network, 310 - 8th Street, #309, Oakland, Ca 94607 (Dr. Peggy K. Saika, PI)

**Project Description:** This proposal seeks to implement an environmental justice paradigm in the Laotian community of Richmond, CA. The main goal of this collaboration is to develop a model of research, outreach, education and communication in order to increase access to the Laotian community in the region. Other goals are to develop survey methods appropriate for hard-to reach communities of new immigrants with limited language skills, determine obstacles for communication, develop a core of community advocates and facilitate linkages between community members and existing environmental justice groups.

The Laotian community of Richmond is composed of immigrants from various tribal groups which differ in their native dialect and degree of literacy. Literacy in this population is very limited, even in

their own languages due to the fact that many of these dialects did not exist in written form. This has led to the practical isolation of this community with many compounding consequences, including high gang activity, very low incomes, overcrowding, low educational levels and limited access to health care. Richmond is part of Contra Costa County which has the highest concentration of hazardous materials in California, due primarily to the large concentration of petrochemical industries. In 1993 the General Chemical Company of North Richmond released a toxic cloud of petroleum spreading 10 miles across the community. This toxic release heavily affected the minority communities living in Richmond, which also includes a large population of African-Americans and Hispanics. The proposal concentrates on serving the Laotian population because of its unique problems as a new immigrant community with limited resources. The toxic release accident of 1993 prompted the company to settle with the community for \$1 million dollars which has been used to establish the North Richmond Center for Health. Most of the activities to be undertaken within this proposal will be housed at this Center.

**Lead Entity:** Division of Extramural Research and Training, NIEHS

**Time Frame:** 1994-1998

**Title of Key Project:** Organochlorine Compounds and Menstrual Cycle Function

Performing organization: Public Health Institute, 2151 Berkeley Way, Annex 11, Berkeley, Ca 94704 (Dr. Gayle Windham, PI)

Project Description: The purpose of this proposal is to examine whether women who have been exposed to chlorinated pesticides, which have been identified as endocrine disruptors in animals, have alterations in their ovarian function as measured by frequency of menstrual cycle disturbances. Such disturbances may have adverse effects on the frequency of infertility and sub-fertility, as well as that of other hormone-dependent illnesses such as breast cancer and osteoporosis, which affect large numbers of women. The target exposed population is a group of Laotian immigrants who are frequent consumers of fish caught locally in the San Francisco Bay. Contamination levels above health protective advisories have been documented in Bay fish and shellfish. Immigration from Asia, as well as consumption of contaminated fish, have been shown to be associated with higher organochlorine pesticide body burdens. Exposure will be measured by determining levels of DDT and other pesticide metabolites in a serum sample. Menstrual function will be assessed by measuring urinary metabolites of steroid hormones daily during three menstrual cycles of approximately 50 Laotian women. Menstrual function in a group of 400 women is currently being studied, to allow the development of algorithms to determine ovulatory status, day of ovulation and menstrual cycle disturbances such as short luteal phase, which will also be applied to the new sample. This previously-collected sample will serve as a baseline comparison group, as well as a source of data on the effects of lifestyle factors (such as smoking and alcohol consumption) on hormone function. The availability of this previously assembled cohort allows for more efficient examination of a small group of exposed women. This will be one of the first studies to examine biomarkers of exposure in relation to patterns of the menstrual cycle assessed directly by daily hormone levels. In addition to serum pesticide levels, questionnaire measures of exposure (e.g., species-specific fish consumption) will be examined in relation to ovarian function defined as continuous measures (e.g. cycle length) and dichotomous "abnormalities" (e.g., short luteal phase or anovulation). If interesting associations are revealed, follow-up in larger populations, with a larger gradient of exposure, will be warranted.

**Lead Entity:** Division of Extramural Research and Training, NIEHS

**Time Frame:** 1996-1999

**Title of Key IC Project:** Lead, Endocrine Disruption and Reproductive Outcomes

**Performing Organization:** Harvard School of Public Health (Dr. Xiping Xu, PI)

**Project Description:** A prospective cohort study is proposed to assess the effects of lead exposure on endocrine dysfunction and adverse reproductive outcomes in China. The investigators will enroll a total of 800 women (400 lead-exposed and 400 unexposed), in Shenyang, China, who are married and between 20 and 34 years of age, who are never smokers, who have obtained permission to have a child, and who will be attempting to become pregnant over the course of the study. Lead exposure will be defined by lead levels in blood samples collected at the baseline survey (both women and their husbands), first and second trimesters, and at delivery (both maternal and cord blood). Endocrine dysfunction will be monitored by urinary hormone metabolites, including follicle-stimulating hormone (FSH), leutinizing hormone (LH), estrone conjugates (E1C), and pregnanediol-3-glucuronide (PdG). Reproductive endpoints will include menstrual disturbance, time to conception, spontaneous abortion, preterm delivery, and low birth weight. After enrollment, interviewers will administer a questionnaire to the women and their husbands to collect baseline information on reproductive history, sociodemographic, environmental, and personal covariates. Height and weight will be measured by standard methods. A follow-up study and a nutritional survey will be conducted trimonthly. Each woman will keep a diary of her menstrual period and related symptoms, sexual activity, general health status, medication, contraceptive use, active and passive smoking, indoor air pollution, alcohol use, amount of vigorous exercise and physical activity, emotional upset, and changes in job activity and lifestyle. Daily urine samples will be collected from each subject for up to one year or until pregnancy occurs. Urinary -hCG will be measured to identify subclinical pregnancy. Once a woman becomes pregnant, she will be followed for pregnancy outcomes.

**Lead Entity:** Division of Extramural Research and Training, NIEHS

**Time Frame:** 1996-2000

**Title of Key IC Project:** 5 $\alpha$ -Reductase Metabolites in Healthy Men

**Performing Organization:** University Of Southern California School Of Medicine

(Dr. Ann Wu, PI)

**Project Description:** Cell division in the prostate is controlled by testosterone after intracellular conversion to its reduced form dihydrotestosterone (DHT). This conversion is metabolically controlled by a single enzyme, 5 $\alpha$ -reductase (type II), which is encoded by a single gene, SRD5A2. Recent studies show lower 5 $\alpha$ -reductase activity (based on serum levels of two DHT metabolites; 3 $\alpha$ -17 $\beta$ -androstenediol glucuronide (3 $\alpha$ -diol G) and androsterone glucuronide (A-G)) in young Asian men compared to young white and African-American men which may explain the lower incidence of prostate cancer observed in Asian men. This study will expand on a recently completed case-control study on prostate cancer in African-American, whites, and Asian-Americans who are at high, intermediate, and low risk of prostate cancer. As part of this case-control study, blood specimens (sera and lymphocytes) were collected from some 1100 older African-American, white and Asian-American control men. Serum levels of testosterone, DHT, sex-hormone binding globulin (SHBG) were determined. Ratios of DHT to testosterone were highest in African-Americans, intermediate in whites and lowest in Asian-Americans, providing indirect support of ethnic differences in 5 $\alpha$ -reductase activity. The objectives of the proposed study are to further investigate ethnic differences in 5 $\alpha$ -reductase activity by measuring stored sera levels of 3 $\alpha$ -diol G and A-G and determining 5 $\alpha$ -reductase genotypes in stored lymphocytes. The information obtained from the biological specimens will be combined with a large amount of interview information as well as serum androgen and SHBG levels previously gathered. This will allow us to: 1) investigate racial/ethnic differences in 5 $\alpha$ -reductase activity; 2) investigate racial/ethnic differences in 5 $\alpha$ -reductase genotype, 3) and identify

the role of demographic (e.g., age) and anthropometric characteristics (e.g., body size), lifestyle factors (e.g., vasectomy, physical activity patterns, dietary habits), and family history of prostate cancer as modifiers on 5 $\alpha$ -reductase activity

**Lead Entity:** Division of Extramural Research and Training, NIEHS

**Time Frame:** 1995-1997

## **National Institute of Mental Health**

97 1K01MH01506-01

Okazaki, Sumie

Correlates of Affective Distress Among Asian Americans

Sociocultural and Environmental Processes

University of Wisconsin Madison

Description: The purpose of this MSDA/NMF application is to provide the candidate with training in theory and methods for assessing non-self-report measures of affective distress (i.e., third person reports, clinicians rating, facial expressions, and psychophysiological activities) to complement her existing expertise in Asian American mental health.

Secondarily, the application will also allow the applicant to expand her theoretical knowledge of cultural theories within the emerging interdisciplinary framework of cultural psychology. This application is designed to provide the candidate with the necessary knowledge and research skills to pursue her immediate career goal of developing a program of research that examines cross-cultural validity of depression and social anxiety among Asian Americans. The research program will build a series of studies to examine ethnic and cultural variations between Asian Americans and White Americans in (a) their beliefs and meaning associated with items in the common self-report measures of depression and social anxiety, (b) the severity of dysfunctions and clinical syndromes associated with high score on the self-report measures of depression and social anxiety, (c) the psychophysiological and facial behavioral correlates of depression and social anxiety, and (d) the relationship between culturally-derived personality factors and affective regulation patterns that occur among the three levels of affective distress (verbal self-report of subjective experience, facial behavior, and psychophysiological response). The proposed program incorporates course work, research training, and consultation with experts in psychophysiology, behavioral observation, clinical interviewing, and cultural psychology to provide the candidate with the requisite knowledge to implement proposed studies. With respect to long term career goals, the proposed MSDA training provides the applicant with a unique combination of expertise in laboratory-based methods for examining cultural variables in affective regulation and psychopathology. The applicant's institution is strongly supportive of these goals.

97 5R01MH44331-10

Sue, Stanley

Asian American Mental Health

Minority Mental Health Services Research

University of California Davis

Davis, California

Description: This application requests 5 years of support to continue the research agenda of the National Research Center on Asian American Mental Health. The Center's long-term objectives are to: 1) continue to conduct and facilitate the development of systematic and programmatic, problem-oriented research on mental health and the development of effective mental health services for Asian American populations; 2) continue its program of research that has theoretical and policy signifi-

cance for Asian Americans, in particular, and the mental health field, in general; 3) be the focal point and stimulus for researchers conducting Asian American research so the Center can coordinate and be on the cutting edge of research on a national level; and 4) form a network of researchers, service providers, and policy makers to facilitate theory and methodology development. In particular, four research projects are proposed: 1) Assessment; 2) Social Networks, 3) Ethnic-Specific Services, and 4) Treatment Outcomes. In order to accomplish the objectives, pilot studies are supported by Center seed monies that will lead to further external funding of major projects. The Center is also engaged in ongoing, well-developed, funded major research projects. Organizational components of the Center include the Administrative Core; the Statistical and Methodology Core; four research projects; experienced teams of researchers, students, community agencies, and an Advisory Board.

97 5R24MH53808-03

Potkin, Steven G

Clinical Cross-cultural Mental Health Services Research

Minority Mental Health Services Research

University of California Irvine

Irvine, California

Description: This proposal will stimulate the development of a cross-culturally focused Clinical Mental Health Services (CMHS) research program at the University of California Irvine (UCI), by bringing together a group of clinical and services research investigators from UCI, sister institutions and other centers to address and important clinical mental health service research issue: the degree of effectiveness of mental health interventions in ethnic minorities. The principal investigator and other UCI clinical investigators have a strong track record in clinical mental health research in schizophrenia, and as the major effort of this proposal, will transition to cross-cultural CMHS research in schizophrenia. Other senior investigators at UCI have skills relevant to CMHS research (such as health economics, social supports and networks, and cross-cultural clinical health services research), but currently are not directly involved in CMHS research. This proposal will capitalize on the current strengths of these investigators to develop a focused, integrated, and competitive clinical mental services research program at UCI. This will be accomplished by utilizing colleagues from other institutions for training and the transferring of specific CMHS skill, initiating a series of training programs, and recruiting junior faculty. Co-Investigators from sister UC campuses and nationally recognized consultants have been carefully and deliberately chosen to provide the additional expertise and experiences needed to achieve a functional CMHS program. These experts will work with UCI faculty and graduate students on a specific central projects in order to foster true interdisciplinary collaboration and the development of specific skills that will remain at UCI. This five-year process will transform the currently dispersed investigators into an integrated core of experienced CMHS researchers, who then, as a group, will be able to continue high quality research independently.

97 1R01MH55600-01A1  
Digman, John M  
Personality and Health—A Longitudinal Study  
Risk and Protective Processes and Behavior Change  
Oregon Research Institute  
Eugene, Oregon

Description: Recent findings from the Terman Life-Cycle study indicate that the personality domain of Conscientiousness predicts mortality from age 20 on (Friedman et al, 1993, 1995). This project will examine the replicability and generalizability of these remarkable findings in a longitudinal study that will test a process account of the relation between Conscientiousness and mortality. It is hypothesized that Conscientiousness determines a healthful life style (composed of preventive health behaviors and risk avoidance behaviors), which determines health status, and thus morbidity and mortality. These hypotheses will be tested using teachers' personality ratings collected by the Principal Investigator 25 to 35 years ago on three samples comprising over 1,5000 children in Hawaii. These subjects, now in their early to mid-forties, will be located and invited to participate in a follow-up assessment of their current personality and health. Pilot work is described indicating that it should be possible to achieve a target of locating approximately 1,000 of the original subjects. The childhood data consist of scores on the Big Five domains that constitute the now widely accepted Five-Factor Model of Personality. The adult assessment will include questionnaire measures of the Big Five, health behaviors, health status (including a brief wellness examination of 25 percent of the subjects), health history (including a history of stressful life events), and behavioral risk assessment surveys. Therefore, the role of all the major personality domains in the determination of healthful lifestyle and health status will be evaluated. The data will be analyzed using structural equation modeling, taking advantage of the latest development in multisample analyses and missing data techniques. The location and follow-up assessment of these samples will be a significant contribution to longitudinal research. These new data will permit the testing of numerous hypotheses about the relation between childhood personality and adult outcomes. The proposed follow-up assessment is pivotal in establishing the samples as an ongoing longitudinal study that will allow future prospective studies of relations between childhood personality and older adult outcomes, including years of healthful life and mortality.

97 1R43MH57606-01  
Duong, Lan-Vuong  
Video Based Program on Abuse of Vietnamese Women  
Small Business Innovation Research  
Curriculum Design and Training Systems  
Bellevue, Washington

Description: The objective of the proposed project is to produce and evaluate a one-half hour, video-based program on intimate violence against Vietnamese women which is sensitive to the traditional cultural beliefs and special survival issues unique to refugee women. The selection of the content will come from Vietnamese cultural informants and discussions with a panel of experts including mental and physical health service providers, police and court representatives, religious leaders and Vietnamese community leaders.

The video-based program will be developed for four different purposes: 1) women victims watching the videos will be shown how to seek help for intimate violence and how seeking help does not violate traditional values; 2) community leaders will see the importance of reframing traditional values to send clear messages of community intolerance of intimate violence and the importance of developing a community response to stop the violence; 3) violent men will understand that violence is illegal and not tolerated by the Vietnamese community; and 4) service providers will have a clearer understanding of traditional Vietnamese values and beliefs that must be considered when providing services and treatment for victims, abusers and the applicant claims that the study team represents a unique collaboration between four organizations that bring together unique skills, knowledge and expertise in the area of Vietnamese culture and traditions, research methodology related to intimate violence against women, and treatment issues related to intimate violence among refugee women.

R01MH47193

Lin, Keh-Ming

Performing Organization: Harbor-UCLA Research & Educ Inst

Title: Research Center on the Psychobiology of Ethnicity

Future Years 3

Description: The Center was established in 1990. Its primary mission is to bridge the gap between biological and sociocultural research efforts and to contribute towards the establishment of a more fully integrated bio-psycho-socio-cultural approach to psychiatric research and practice. This renewal application seeks five years of support to continue and expand the Center's research agenda. Building upon the solid foundation of its infrastructure and research tools developed over the past five years, the Center plans to apply advanced research methodologies into clinical and community settings, to concurrently assess the influence of biological, psychosocial and cultural factors in psychiatric morbidity, nosology and treatment responses, and to examine how these factors might interact with one another. Also introduced will be health services methodology to allow the use of data derived from an existing medication prescription monitoring system.

The research projects included in this proposal include five research areas examining the following issues: (1) the clinical utility of recently developed pharmacogenetic probes with multi-ethnic/multi-cultural patients suffering from different psychiatric conditions; (2) the use of <sup>7</sup>Li-MR spectroscopy to measure Lithium concentration in the brain in relation to ethnic differences in response to Lithium; (3) biopsychosocial assessment of major depression, both cross-sectional and longitudinal, in a multi-ethnic mental health care setting; (4) long-term longitudinal follow-up of a community sample of Chinese-American patients with ICD-10 defined neurasthenia; and (5) the use of a large secondary data set of medication prescriptions to study how ethnicity interacts with other clinical and sociodemographic variables in affecting the patterns of medication prescription.

This fuller integration of biomedical and sociocultural traditions will help to ensure that advances in psychiatric research will be appropriately and effectively applied to patients from diverse sociocultural and ethnic backgrounds. At the same time, cross-ethnic and cross-cultural observations and testing will contribute significantly to the validation and further development of psychiatric theories and practices.

1 R01 MH47355-01  
Investigator: Lin, Keh-Ming  
Organization: Research and Education Institute, Inc.  
City, State: Torrance, California

Project Title: Ethnicity and Differential Responses to Benzodiazepines

Description: This project aims to replicate and expand previous findings regarding ethnic differences between Asian and Caucasian normal volunteers in response to challenge doses of benzodiazepines and to explore factors that might be responsible for such differences. Two different benzodiazepines, alprazolam and lorazepam, with distinct pharmacokinetics properties and neurobehavioral response profiles will be administered parenterally and orally. Standard pharmacokinetics protocols will be utilized for the measurement of plasma concentrations of the test drugs and their metabolites, and proportions of protein-binding. Concurrently, saccadic eye movement, digital symbol substitution test, level of sedation, changes in mood states, growth hormone, ACTH, and cortisol responses will be used for the assessment of the pharmacodynamic effects of these drugs. Both foreign-born and American-born Asians will be included in this study to assess the relative contribution of genetic vs environmental factors in contributing to ethnic differences in the kinetic and dynamic responses.

1 R01 MH57222-01  
Investigator: Mueller, Charles W., Ph.D.  
Organization: University of Hawaii  
City, State: Honolulu, HI

Project Title: Tracking Psychological Growth in Women Living with HIV

Description: The proposed project, based on an antecedent retrospective study of psychological adaptation of women living with AIDS in Hawaii, is to conduct an exploratory, longitudinal qualitative and quantitative study to identify and assess characteristics of psychological growth in women living with AIDS on the island of Oahu, Hawaii. The study will identify 40 adult women who are HIV positive, approximately 50% being women of color, of whom approximately 80% will be Asian American and Pacific-Island American. Most of the women will be poor; will have been exposed to drug use, physical abuse, and violence; will have exchanged sex for money and other factors associated with poverty that expose women to AIDS risk. The study hypothesizes that positive psychological growth (as instrument-measured by self-perception, meaning of life, coping, hope, social support, social networks and participant-generated new areas of growth) occurs steadily after women learn of their HIV status and that growth profile will continue in spite of, although influenced by, episodes of acute illness. By focusing descriptively on known and new factors believed to contribute to positive growth, the study aims to contribute to more effective ways of supporting the mental health needs of people living with HIV/AIDS. The strengths of the application center on the importance, originality, theoretical grounding, and timeliness of the topic. The in-depth and qualitative aspects of the project would appear to be capable of generating important findings. In addition, the investigators seems capable of generating important findings. In addition, the investigators seems capable of conducting the study and recruiting a difficult to reach population. The weaknesses center on the small sample size and resulting power problems and the lack of needed information on the definition of variables, methods of coding, and data analysis procedures. Also, they have not include the measurement and analysis of important contextual factors that are likely to contribute to variance in their dependent variables.

## IV. TRAINING

### National Institute on Aging

**Key IC Project:** Training Programs (T32 and Other)

**Lead Entity:** Biology of Aging, Behavioral and Social Research, Geriatrics, and Neuroscience and Neuropsychology of Aging Programs

**Time Frame:** Ongoing

**Measurable Outcome:** Pre- and post-doctoral students new to aging research and addressing research questions of importance to AAPIs.

#### SUGGESTED ACTIVITY (IES)

*Identify (or create if necessary) and ensure implementation of strategies and mechanisms which ensure cultural sensitivity and community participation in all phases of research projects, and identify lessons learned through existing academic community partnerships and research projects on AAPIs. (NIH, AHCPR, CDC) (long term). Encourage researchers, physicians and scientists to include AAPI indicators when designing or implementing studies.*

**Key IC Project:** Tracking of the Inclusion of Women and Minorities in Clinical Research

**Lead Entity:** Office of Extramural Affairs

**Time Frame:** Ongoing

**Measurable Outcome:** Biennial reports to the National Advisory Council on Aging reflecting the Institute's compliance with Federal policy on the inclusion of women and minorities in clinical research.

#### SUGGESTED ACTIVITY (IES)

*Review the health professions' training programs in HRSA and minority researcher training programs for barriers to participation of underrepresented AAPI sub-populations (e.g. Pacific Islanders, Southeast Asians) and develop plans to remove identified barriers (HRSA, SAMHSA, NIH, AHCPR).*

**Key IC Project:** T32 Training Programs and Special Populations Initiatives

**Lead Entity:** Office of Extramural Affairs and Special Populations Office

**Time Frame:** Ongoing

**Measurable Outcome:** Initiatives addressing barriers to participation of underrepresented individuals and AAPI subpopulations in aging research.

#### SUGGESTED ACTIVITY (IES)

*Identify areas and create opportunities for training and academic-community partnerships in community-based research on AAPI populations (NIH, AHCPR, HRSA).*

**Key IC Project:** Special Populations Initiatives are a series of research and training activities designed to address the underrepresentation of minorities and other disadvantaged groups in aging research.

**Lead Entity:** Special Populations Office

**Time Frame:** Ongoing

**Measurable Outcome:** Magnitude of change in the numbers of trainees and research projects addressing research relevant to AAPI populations.

**SUGGESTED ACTIVITY (IES)**

*Publicize HHS fellowship, internship and other training programs, and actively recruit racial/ethnic minority candidates, including AAPIs (all).*

**Key IC Project:** FY 1997 RFA, "Networks to Enhance Minority Recruitment to Aging Research."

This initiative was designed to foster collaboration between professional organizations and the NIA in order to increase the number of qualified and successful minority investigators in aging research.

**Lead Entity:** Behavioral and Social Research Program

**Time Frame:** 1998-2002

**Measurable Outcome:** Networks of faculty and students committed to education and training of minority scientists in aging research.

## **National Institute of Allergy and Infectious Diseases**

NIAID supports a wide variety of research training programs that support extramural research training being conducted in domestic institutions of higher education. Through the use of electronic bulletin boards on the Internet (NIAID and NIH homepages, FEDIX (Federally supported R & D homepage)) NIAID makes every attempt to insure that all institutions and individuals are aware of its scientific agenda and the training programs that support it. In FY 1996, NIAID supported 149 individuals who identified themselves as being an Asian or a Pacific Islander. The following describes the training grants currently supported by NIAID:

### Independent Scientist Award (K02)

This program provides support for newly independent scientists who can demonstrate the need for a period of intensive research focus as a means of enhancing their research careers. The award is intended to foster the development of outstanding scientists and to enable them to expand their potential to make significant contributions to their field of research. The candidate should hold a doctoral degree and have peer-reviewed, independent research support or have work that is primarily theoretical in the absence of support. Candidates must be U.S. Citizens, Non-Citizen Nationals, or lawfully admitted for permanent residence.

### Mentored Clinical Scientist Development Awards (K08)

This program provides support to develop outstanding clinician research scientists and solicits applications from clinically trained professionals who are committed to career in research and have the potential to develop into independent investigators. The candidate should hold a clinical doctoral degree and should have initiated postgraduate clinical training. Candidates must be U.S. Citizens, Non-Citizen Nationals, or lawfully admitted for permanent residence.

Individual Postdoctoral Fellowships (F32). This award offers health scientists the opportunity to receive full time research training in areas that reflect the national need for biomedical and behavioral research. The candidate should have received by the award start date a Ph.D., M.D., D.D.S., D.V.M., or equivalent degree and have arranged to work with a particular sponsor affiliated with a private or public institution that has the staff and facilities needed for the proposed training. Training can also occur in a federal laboratory such as an NIH Intramural laboratory. Training may be undertaken abroad but only where the site provides opportunities unavailable in the United States. Candidates must be U.S. Citizens, Non-Citizen Nationals, or lawfully admitted for permanent residence.

### Institutional Research Training (T32)

These grants are made available to eligible institutions to develop or enhance research training opportunities interested in research training beyond the doctorate to prepare for careers in biomedical and behavioral research. Domestic non-profit private or public graduate level educational institutions which have, or are about to develop, the staff and facilities required for the proposed program are eligible. The training program director at the institution will be responsible for the selection and appointment of trainees and for the overall direction of the program. Trainees must be Citizens, Non-Citizen Nationals, or lawfully admitted for permanent residence. These awards are not made for study leading to professional degrees.

### Research Supplements for Underrepresented Minority Individuals

Under its general authorization from the Congress of the United States, NIH is directed and encouraged to establish programs that will increase the number of underrepresented minority scientists in the biomedical sciences. The program has five segments that target key steps in an individual's academic career where this program will have the most impact in retaining them in the scientific field: high school, graduate student, pre-doctoral level, junior researcher and faculty member (professor, assistant professor, instructor or teacher). Underrepresented minority categories include African Americans, Hispanic Americans, Native Americans, Alaskan Natives or Pacific Islanders. Principle Investigators holding active NIH research grants are eligible to submit a request for an administrative supplement to support a minority in the conduct of research.

**Lead Entity:** Milton J. Hernandez, PhD, Director, Office of Training

**Time Frame:** K02 and K08: Requests for Proposals: Continuous.

Proposal Deadline: February 1, June 1 and October 1

F32: Requests for Proposals: Continuous.

Proposal Deadline: February 1, June 1 and October 1

T32: Requests for Proposals: Continuous

Proposal Deadline: September 10

Research Supplements: Proposal Deadline: Supplements may be submitted at any time.

**Measurable Outcomes:** Since the reporting of one's racial background is not required for grant applicants, these data reflect only those individuals who chose to self-identify in FY 1996:

K02: 2

K08: 7

F32: 16

T32: 123

Research Supplements: 1

## **National Institute of Child Health and Human Development**

### *NICHD Intramural Research Training Program*

As of January 1998, 165 Asian and Pacific Islander Americans serve as NICHD guest workers, visiting fellows, post-doctorals, and senior level intramural scientists. In addition, several of NICHD's intramural laboratories have and are currently conducting collaborative studies with researchers and institutions in AAPI countries. Research training and collaborative areas of emphasis include: reproductive and developmental endocrinology, theoretical and physical biology, molecular genetics, human genetics, developmental and molecular immunity, hormone action in the reproductive and endocrine systems, cell biology and metabolism, embryonic development, molecular growth regulation, developmental neurobiology, and nerve growth factors.

**Measurable Outcomes:** Trained AAPI researchers  
**Lead ICD Entity:** Dr. Arthur Levine, Division of Intramural Research, NICHD  
**Start and End Date:** Ongoing  
**Activity Categories:** 13

### **National Institute of Dental Research**

**SUGGESTED ACTIVITY:**

Develop strategies to strengthen the participation of AAPIs in NIDR's research training and career development programs.

**Key IC Project:** Ensure that information about research training and career development opportunities with NIDR are disseminated to AAPI community groups.

**Lead Entity:** Division of Extramural Research

**Time Frame:** FY 98-99

**Measurable Outcome:** Identification of AAPI community organizations to receive information about opportunities.

**Key IC Project:** Encourage AAPI scientists to submit grants to NIDR's research training and career development programs.

**Lead Entity:** Division of Extramural Research

**Time Frame:** FY 98-99

**Measurable Outcome:** Identification of an increase of AAPI scientists in grant applications.

### **National Library of Medicine**

**Key IC Project:** NN/LM Pacific Southwest Region

The Pacific Southwest Regional Medical Library, whose region includes Hawaii and the U.S. territories of the Pacific Basin, conducts various activities which focus on Asian/Pacific Islanders. Presentations have been made at the meetings of The Pacific Island Health Officers Association, which is comprised of the people in charge of the departments of health on the different islands, and will be made at the Pacific Island Medical Association. Funding has been provided for the purchase of a scanner for the library at the University of Guam to give them the capability of electronic document delivery. The Regional Medical Library is also working with the library to obtain funds to provide Internet training and training in accessing NLM's online systems.

**Lead Entity:** National Network Office, NLM

**Time Frame:** 1996-2001

### **Fogarty International Center**

#### Background

In support of its legislative mandate to advance public health research and research training through international cooperation, the Fogarty International Center (FIC) and the Office of Research on

Minority Health (ORMH) implemented the Minority International Research Training (MIRT) program as a pilot initiative to provide international research training opportunities for minorities underrepresented in the scientific professions.

MIRT institutional awards are made to minority and non-minority institutions to provide international research training experiences for undergraduate and graduate students and selected faculty members, minority and nonminority. Minority faculty members are supported to conduct independent biomedical studies at foreign institutions and/or to serve as mentors to undergraduates abroad. Nonminority faculty are also supported to serve as mentors for undergraduates while conducting independent research abroad. MIRT training activities currently span more than 45 countries in all regions of the world including the emerging democracies in Eastern Europe, the developing countries in Africa and Latin America, and the industrialized countries on all continents.

Since its inception in 1993, over 1,300 students and faculty have been supported by the MIRT Program, and of these 64, 22, and 14 percent respectively were undergraduates, graduate students and faculty participants. Of the 421 students supported in FY 1997, 12 or 2.9 percent were identified as AAPI—11 Pacific Islanders and 1 Asian American.

MIRT Programs Supporting AAPI Student Participants.

<b>Project/Institution/Start-End Date</b>	<b>Performing Org./</b>
<b>Responsible Entity</b>	
<b>Accomplishments</b>	
Minority Int'l Res. Training Program San Francisco State Univ. /School of Sci. 09/30/95 - 09/29/98 DITR	Fogarty Int'l Center Two of five undergraduates applied for graduate programs, 4 M.S. degree and one Ph.D. trainee worked on dissertation research; one manuscript submitted with student co-author.
Minority Int'l Res. Training Program Univ. of Alabama/ School of Public Health 09/20/95 - 09/19/98 DITR	Fogarty Int'l Center/ Six manuscripts in progress; two publications by MPH student; some career goals clarified; foreign language skills improved.
Minority Int'l Research Training Program Duke University, School of Medicine 09/30/95 - 09/29/98 DITR	Fogarty Int'l Center/ One participant now entering 2 <sup>nd</sup> year in medical school; three working in research labs for one year prior to applying to medical or graduate programs; undergraduates progressing toward baccalaureate degree; two abstracts for scientific meetings.
Minority Int'l Research Training Program Univ. of Maryland, School of Medicine 09/30/93 - 09/29/95 DITR	Fogarty Int'l Center/ Abstracts of research projects submitted to program director.

## V. WORK FORCE AND PARTICIPATION IN HHS OPERATIONS

### National Institute on Aging

#### SUGGESTED ACTIVITY (IES)

*Involve researchers and reviewers familiar with AAPI issues in ongoing research activities such as study sections and councils. NIH ASPE, AHCPR, CDC). (short term)*

**Key IC Project:** Senior NIA staff are asked on a routine basis to recommend individuals for consideration as advisory and council members. Diversity of interest in aging research is sought, as well as diversity in the representation of the populations served by the NIA.

**Lead Entity:** Office of Extramural Affairs

**Time Frame:** Ongoing

**Measurable Outcome:** Representation of AAPIs on NIA advisory and review panels. Competent advisors and reviewers of science, impacting AAPIs and other relevant minority group members.

### National Institute of Dental Research

#### SUGGESTED ACTIVITY (IES)

(a) Develop strategies to increase the participation of AAPIs as investigators in NIDR research and serving on Public Advisory Committees.

(b) Develop recruitment initiatives and activities for Asian American and Pacific Islanders that are linked to the underrepresentation of identified in NIDR's Affirmative Action Plan for Minorities and Women.

**Key IC Project:** Encourage NIDR grantees to utilize the various supplemental programs in NIDR to increase the pool of talented AAPI men and women involved in oral-dental-craniofacial research.

**Lead Entity:** Division of Extramural Research

**Time Frame:** FY 98-99

**Measurable Outcome:** Identification of AAPIs in the pool of grant applications.

**Key IC Project:** Continue to identify researchers and reviewers familiar with AAPI issues to serve on Institute's Public Advisory Committees and workshops.

**Lead Entity:** Deputy Director, Division Directors

**Time Frame:** FY 98-99

**Measurable Outcome:** Develop a database of potential AAPI leaders and health professionals that are knowledgeable of oral-dental-craniofacial health issues and concerns.

**Key Project:** NIDR is implementing a pilot Affirmative Action Planning Process (AAPP), a new tool for monitoring and increasing the representation of all severely underrepresented minorities, including AAPIs, in the NIDR work force as well as in time limited appointments, such as Intramural Research Training Award (IRTA) recipients. The AAPP establishes goals based on hiring and promotion projects and severe underrepresentation.

**Lead Entity:** Equal Employment Office

**Time Frame:** FY 96-99

**Measurable Outcomes:** Establishment of effective recruitment strategies that result in improved diversity of the NIDR work force for all EEO groups. Accomplishment of AAPP goals set for

AAPIs.

## **National Institute of Mental Health**

97 2T34MH16891-16

Jung, John R

NIMH COR Honors Undergraduate Research Training

Office for Special Populations

California State University Long Beach

Long Beach, California

Description: This is a renewal application for the successful NIMH COR Undergraduate Honors Research Training Program started in 1981 at California State University, Long Beach to increase the number of minority researchers in areas of concern to NIMH. The record of accomplishments over the three previous 5 year funding periods indicates that the percentages of trainees entering advanced training are on a par with other COR Programs and have increased from 60 to 73 to 79 percent over successive funding periods. This program involves only the Department of Psychology, continuing the unidisciplinary emphasis approved in the original application. However, within the Psychology Curriculum requirements, trainees are required to have breadth of training in the biobehavioral and psychosocial aspects of the discipline. The COR Program Centers around a 2 hour weekly honors seminar for the junior and senior years, allowing 8 academic units over two years, and enriches the regular course requirements for the psychology major. Seminar goals include the exposure of trainees to a graduate school atmosphere, with discussion of seminal articles as well as oral and written presentations of their own research. Training is provided in areas such as: literature searches of computer bibliographic databases, computer statistical packages such as SPSS, and familiarity with computer applications such as spreadsheets, graphical software, and databases. Trainees receive counseling and guidance regarding graduate school applications, as well as GRE preparation. They attend colloquia and professional conferences, have a research assistantship with a faculty mentor, and conduct independent research projects each year. There are two summer research internships of 8-10 weeks, with the pre-senior year summer spent at another university. Minority students with a minimum GPA, courses in research methods and statistics, and a commitment to attending graduate school are recruited. Selection of new students by the Program Director, in consultation with the Steering Committee, is based on grades, interviews, instructor recommendations, and the match between applicant's career goals and the program aims.

## **VI. CROSS CUTTING COLLABORATION TO ENHANCE HHS CUSTOMER SERVICE TO AAPIs**

### **National Institute on Aging**

#### **SUGGESTED ACTIVITY (IES)**

*Each HHS division/program should identify opportunities to research customer needs and customer satisfaction with services delivered to AAPI communities and clients. Divisions and programs should seek opportunities to (1) solicit advice from AAPI community groups, and (2) involve AAPI communities in material development and decision making on customer service strategies and improvements. (ALL)*

**Key IC Project:** Technical assistance and information dissemination to the National Asian Pacific Center on Aging (NAPCA)

**Lead Entity:** NIA Special Populations Office

**Time Frame:** Ongoing

**Measurable Outcome:** Collaboration with and responses from the NAPCA on research needs.

#### **SUGGESTED ACTIVITY (IES)**

*Strengthen partnerships with AAPI communities and service providers on HHS-related issues in the long term, through strategies such as:*

*A. Regional meetings to address differing needs and issues of AAPIs in urban and rural areas, and in states with a high concentration of AAPIs and with smaller, isolated clusters of AAPIs (OCR, lead, all) (short term)*

*B. Sponsor invitational meetings to engage AAPI community health leaders, customers and researchers in dialogue about the AAPI Initiative, the work plan and, where applicable, implementation activities to respond to the recommendations that were a product of two national conferences. An invitational meeting is being planned by HRSA in December of 1997 involving issues such as access to safety net providers, HRSA grant program, and health professions training. (short term)*

*C. Include workshops or presentations on AAPI needs and on barriers within AAPI communities to accessing necessary and appropriate health care services during AAPI Heritage Month (May).*

**Key IC Project:** 1997 National Institute on Aging Regional Meeting in Seattle, WA. The purposes of the regional meetings are to provide information on existing opportunities, interact with investigators and underrepresented scientists who are current NIA grantees, and to solicit advice on the design of new opportunities.

**Lead Entity:** NIA Special Populations Office

**Time Frame:** September, 1997

**Measurable Outcome:** Dissemination of information on NIA research and training opportunities.

**Key IC Project:** NIA/American Association of Retired Persons (AARP) collaboration on “Long-term care and ethnicity: Speakers Series.” The NIA provided technical assistance and advice to the AARP on speakers and topics.

**Lead Entity:** NIA Special Populations Office

**Time Frame:** September, 1997

**Measurable Outcome:** Dissemination of information on NIA research and training opportunities. The speakers’ series participants identified health needs of AAPIs in long-term care.

## National Institute of Dental Research

**SUGGESTED ACTIVITY:**

*Develop a process for communicating (radio, television, home page, and print media) with the AAPI community about oral-dental-craniofacial health concerns.*

**Key IC Project:** Review NIDR publications to determine if the materials address the health concerns of the AAPIs.

**Lead Entity:** Office of Planning, Evaluation, and Communications

**Time Frame:** FY 98-99

**Measurable Outcome:** Decision to continue or expand coverage of AAPI health concerns.

**Key IC Project:** Explore the possibility of targeting Public Service Announcements (radio and television), HHS and NIDR home pages to reach the AAPI population.

**Lead Entity:** Office of Planning, Evaluation, and Communications

**Time Frame:** FY 98-99

**Measurable Outcomes:** Identification of media stations to post announcements. Development of public service announcements.