

LATINO COMMUNITY  
CARDIOVASCULAR  
DISEASE PREVENTION  
AND OUTREACH  
INITIATIVE:

BACKGROUND REPORT

*U.S. DEPARTMENT OF HEALTH  
AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH  
National Heart, Lung,  
and Blood Institute*

*For Administrative Use*

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## FOREWORD

For nearly five decades, the National Heart, Lung, and Blood Institute (NHLBI) has been conducting and supporting research, research training, and health education activities related to the prevention and control of heart, lung, and blood diseases for all Americans. The NHLBI strives to translate and disseminate research knowledge, down to the community level, to promote public health and prevent disease. To accomplish this translation and dissemination of information, the NHLBI established its national education programs. These programs include the National High Blood Pressure Education Program, the National Cholesterol Education Program, the National Heart Attack Alert Program, the National Asthma Education and Prevention Program, and the NHLBI Obesity Education Initiative. The recommendations and initiatives of these education programs reflect the efforts of substantial numbers of health professionals who assist the NHLBI in synthesizing and reviewing scientific information.

Through research and clinical studies we have determined that many of the risk factors that influence the prevalence and severity of cardiovascular disease can be modified—primarily by individual choice. These risk factors include high blood pressure, high blood cholesterol, cigarette smoking, physical inactivity, obesity, and diabetes.

Despite progress, minority populations in the United States have not shared fully in the dramatic reductions in cardiovascular disease (CVD) and other diseases experienced in recent years by the general population. For example,

specific data show that the rates of obesity and diabetes are greater among Mexican-Americans than in the general population. The NHLBI believes that the health status of each ethnic and culturally diverse group is integral to the health and well-being of the Nation. Therefore, one of the Institute's top priorities is to determine better methods to reduce the disproportionate burden of heart, lung, and blood diseases among minority populations.

The Latino population, a very young and rapidly growing segment of our society, now numbers 22.4 million, has increased 53 percent over the last decade, and is still growing. About 66 percent of Latinos are younger than 35 years of age. However, despite this young age, the leading cause of death among Latinos, as for all Americans, is cardiovascular disease.

Without intervention, CVD morbidity and mortality can be expected to increase as this population ages because the prevalence of CVD and its related risk factors increase with age. To reduce this potential toll, behavioral change is needed. Unfortunately, studies show that Latinos are generally unaware of important lifestyle changes that could help them prevent the development or progression of CVD, and this knowledge gap transcends socioeconomic status.

This important and challenging prevention and intervention opportunity has led the NHLBI to establish the Latino Community Cardiovascular Disease Prevention and Outreach Initiative. This initiative seeks to promote healthy lifestyles and reduce the prevalence of cardiovascular risk factors by developing and implementing CVD

prevention strategies designed specifically for Latinos. The impact of these programs can be considerable. The relative youth of the Latino population offers a special opportunity for the prevention of chronic diseases, like CVD, that increase in severity and prevalence as people age.

This background paper provides an overview of what is currently known about CVD and its associated risk factors among Latinos in the United States. It also shares some of the knowledge gained by community projects across the Nation about conducting programs designed to reduce illness

and death from CVD among Latinos. We hope that this information sparks ideas to help you and your organization create effective outreach and prevention programs for Latinos in your community.

The Institute thanks all those who have contributed to the much-needed Latino Community Cardiovascular Disease Prevention and Outreach Initiative. The success of this initiative depends on the involvement of Latino communities—and this support has been given enthusiastically. Together, we will continue our efforts to improve the health of Latinos in the United States.



Claude Lenfant, M.D.

Director

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# ACKNOWLEDGMENTS

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# INTRODUCTION

Cardiovascular disease (CVD) is the leading cause of death for all Americans, including Latinos.\* The Latino community is one of the fastest growing segments of the American population. It is projected that Latinos will become the largest minority population in the Nation by the year 2000.

Many risk factors associated with CVD are preventable. A significant portion of morbidity and mortality associated with this disease can be reduced using known health promotion and disease prevention strategies. However, many barriers prevent these strategies from being implemented among Latinos or diminish their effectiveness.

The purpose of this paper is to provide background information to support culturally appropriate programs that will help Latinos understand CVD and its risk factors and make behavioral changes to reduce their chances for developing heart disease. This paper provides an overview of the Latino population in the United States and the impact of CVD and its risk factors on this segment of our society.

Specifically, this background paper supports a culturally appropriate program developed by the National Heart, Lung, and Blood Institute (NHLBI) to prevent CVD among Latinos. The project will promote Healthy People 2000 objectives established for the total U.S. population, as well as those specifically set for Latinos.

To provide a comprehensive picture of CVD among the Latino population, this background paper is organized in three sections:

- **Demographic Information.** This section provides demographic characteristics of the three largest Latino populations in the United States. It focuses on Mexican-Americans, Puerto Ricans, and Cuban-Americans because of the dearth of data on other Latino groups such as South Americans and Central Americans.
- **Cardiovascular Disease and the Latino Population.** This section presents information on each of the major cardiovascular risk factors—high blood pressure (or hypertension), high blood cholesterol, smoking, diabetes, obesity, and physical inactivity—and their effects on Latinos. This section also discusses knowledge, attitudes, and behaviors that affect the development and delivery of health promotion and disease prevention efforts for Latinos.
- **Community-Based Disease Prevention and Health Promotion Programs for Latinos.** This section offers recommendations for culturally sensitive and language-appropriate CVD prevention programs targeting Latinos. Examples are provided of how some of the suggested strategies have been employed by programs targeted to Latinos.

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\* In this background paper, the term “Latino” refers to individuals of Central American, Cuban, Mexican, Puerto Rican, South American, Dominican, and Spanish ancestry.

### **Data Sources and Limitations**

The Hispanic Health and Nutrition Examination Survey (HHANES), conducted from 1982 to 1984 by the National Center for Health Statistics (NCHS), is considered the largest and most comprehensive source of health data on Latinos residing in the United States. The HHANES examined the three largest Latino groups (defined by the 1980 census) in selected areas of the country—Mexican-Americans in California, Texas, New Mexico, Arizona, and Colorado; Cuban-Americans in Florida (Dade County); and Puerto Ricans living in portions of the States of New York, New Jersey, and Connecticut. Among other health indicators, the HHANES assessed three sociocultural determinants known to affect the utilization of preventive health services: access to care; acculturation; and sociodemographic factors such as income, education, age, and gender.

The information provided in this background paper concerning the prevalence of major cardiovascular risk factors in the Latino population is based on data from the HHANES. However, because the HHANES was not designed as a national survey, areas with few Latino residents were not surveyed, and therefore the data are limited. Other sources of data used in this paper include the following:

- The National Vital Statistics System—This system, conducted by the NCHS, collects and publishes data on births, deaths, marriages, and divorces in the United States. Data from this source are limited to States where race or ethnicity is coded on death certificates.
- The National Health Interview Survey (NHIS)—This ongoing nationwide sample survey on personal and demographic characteristics gathers

data through personal household surveys. Data obtained from the NHIS are limited because in most years the survey does not oversample\* Latinos.

- The National Health and Nutrition Examination Surveys (NHANES) II and III (phase 1 only)—These surveys were conducted in 1976-80 and 1988-91, respectively, by the NCHS to measure and monitor indicators of the health and nutrition status of the civilian noninstitutionalized U.S. population through interviews and clinical assessments. Data are limited because the NHANES II did not oversample Mexican-Americans and the NHANES III oversampled Mexican-Americans but did not oversample other Latino groups.
- The Census of the Population—This survey is conducted by the Bureau of the Census, U.S. Department of Commerce, every 10 years to obtain data on the gender, race, age, and marital status of the U.S. population.
- The Current Population Survey (CPS)—This survey also is conducted by the Bureau of the Census and provides monthly estimates of employment, unemployment, and other general characteristics of the U.S. labor force, the American population as a whole, and subgroups of that population.
- Smaller surveys and studies as listed in the text and references.

Some of the data provided in this background paper also are presented in figures 1-15. Additional data are supplied in tables 1-4 of appendix C.

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\* Survey a more-than-proportionate number of participants to ensure representation of all population segments.

## DEMOGRAPHIC INFORMATION

### POPULATION DENSITY

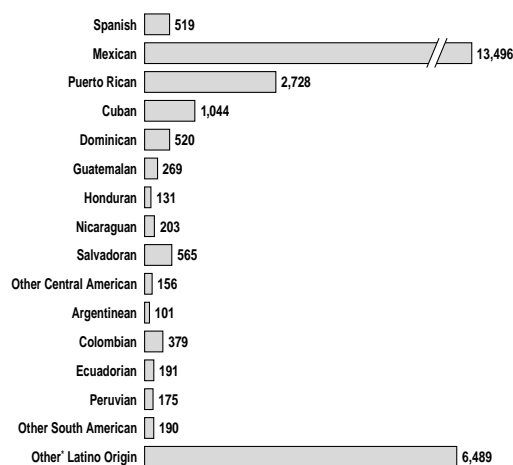
Latinos are the second largest minority population in the United States, totaling approximately 22.4 million people, or about 9 percent of the total U.S. population of about 250 million (U.S. Bureau of the Census, 1993b). Between 1980 and 1990, the Latino population increased by 53 percent. This rate of growth is more than five times that of the total U.S. population (9.5 percent) and about eight times that of non-Latinos (6.6 percent). About half of this growth is attributed to the natural increase in the population, and the other half is the result of immigration (U.S. Bureau of the Census, 1993b). It is estimated that by the year 2000 Latinos will become the largest minority group in the Nation and that by the year 2050 they will represent about 20 percent of the total U.S. population (National Council of La Raza, 1992).

### COMPOSITION AND DISTRIBUTION

Latinos are a culturally, demographically, and geographically diverse population. According to the 1990 census, persons of Mexican origin form the largest Latino population group in the United States, numbering more than 13 million persons, followed by Puerto Ricans, who number close to 3 million, and Cuban-Americans, numbering slightly more than 1 million (figure 1). In 1990, more than half of Latinos (64.2 percent) were native-born Americans and nearly three-quarters were either native-born or naturalized citizens (U.S. Bureau of the Census, 1993b).

FIGURE 1

### U.S. LATINO POPULATION BY COUNTRY OF ORIGIN; 1990 (IN THOUSANDS)



\* Category selected by individuals who consider themselves Latino but do not indicate a more specific origin.

Source: 1990 Census of Population and Housing.

Latinos live in all 50 States and the District of Columbia (figure 2), but they are more concentrated in certain areas. In 1990, nearly 9 out of 10 Latinos lived in just 10 States. The four with the largest proportion of Latino residents were California, Florida, New York, and Texas. Other States with significant Latino populations were Arizona, Colorado, Illinois, Massachusetts, New Jersey, and New Mexico. According to Current Population Survey data, more than half of Latinos are concentrated in two States—California and Texas (U.S. Bureau of the Census, 1993b).

The vast majority of Latinos live in urban areas. According to the 1990 census, more than 91 percent of Latinos are urban residents, compared with about 73 percent of non-Latinos (U.S. Bureau of the Census, 1991).

### AGE

Latinos are a young population. Current Population Survey data for 1993 show that nearly 66 percent of Latinos are younger than age 35. The median age for Latinos in the United States is 26.7 years—about 8 years less than the median age of 34.4 years for non-Latinos (U.S. Bureau of the Census, 1993a).

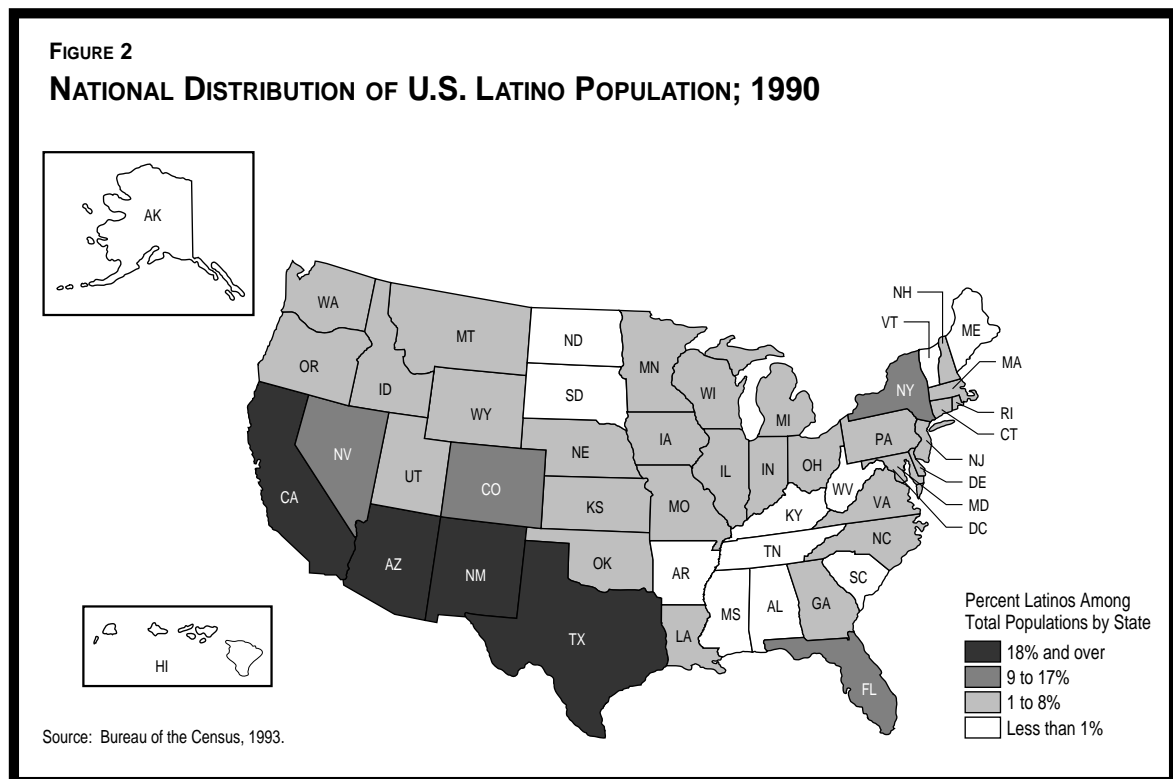
Among the three largest Latino groups, Cuban-Americans are the oldest, with a median age of 43.6 years; Mexican-Americans are the youngest, with a median age of 24.6 years; and Puerto Ricans fall in between, with a median age of 26.9 years. A growing segment of the Latino

population, Central Americans and South Americans, reported a median age of 28.6 years (U.S. Bureau of the Census, 1993a).

### EDUCATION

Overall, educational attainment is lower for Latinos than for non-Latinos. In the United States, a little more than half of Latinos age 25 and older have a high school education; approximately 12 percent have a fifth-grade education or less; and 9 percent have a bachelor's degree or education above that level. Among non-Latinos, more than 80 percent have completed high school, slightly more than 1 percent have a fifth-grade education or less, and nearly 23 percent have a bachelor's degree or education above that level (U.S. Bureau of the Census, 1993a).

The diversity among Latino population groups also extends to educational attainment. In the United States, 46.2 percent of Mexican-



Americans, 59.8 percent of Puerto Ricans, 62.1 percent of Cuban-Americans, and 62.9 percent of Central Americans and South Americans have graduated from high school. Among those who classify themselves as “other Latino,” 68.9 percent are high school graduates (figure 3).

### INCOME AND EMPLOYMENT

In 1992, 29.3 percent of Latino households lived below the poverty level, compared with 13.1 percent of non-Latino households. The percent of Latino families living in poverty varies according to country of origin. Puerto Ricans have the highest percent (36.5 percent) of families living below the poverty level, followed by Mexican-

Americans (30.1 percent), Central Americans and South Americans (26.7 percent), and Cuban-Americans (18.1 percent), as shown in figure 4.

Unemployment rates also are higher among Latinos than non-Latinos and exceed the total for the general population (figure 5). In 1993, unemployment rates were 11.9 percent for Latinos, 7.1 percent for non-Latinos, and 7.4 percent for the total population. Unemployment was highest among Puerto Ricans (14.4 percent), closely followed by Central Americans and South Americans (13.2 percent) and Mexican-Americans (11.7 percent). Cuban-Americans had the lowest rate of unemployment at 7.3 percent (U.S. Bureau of the Census, 1993a).

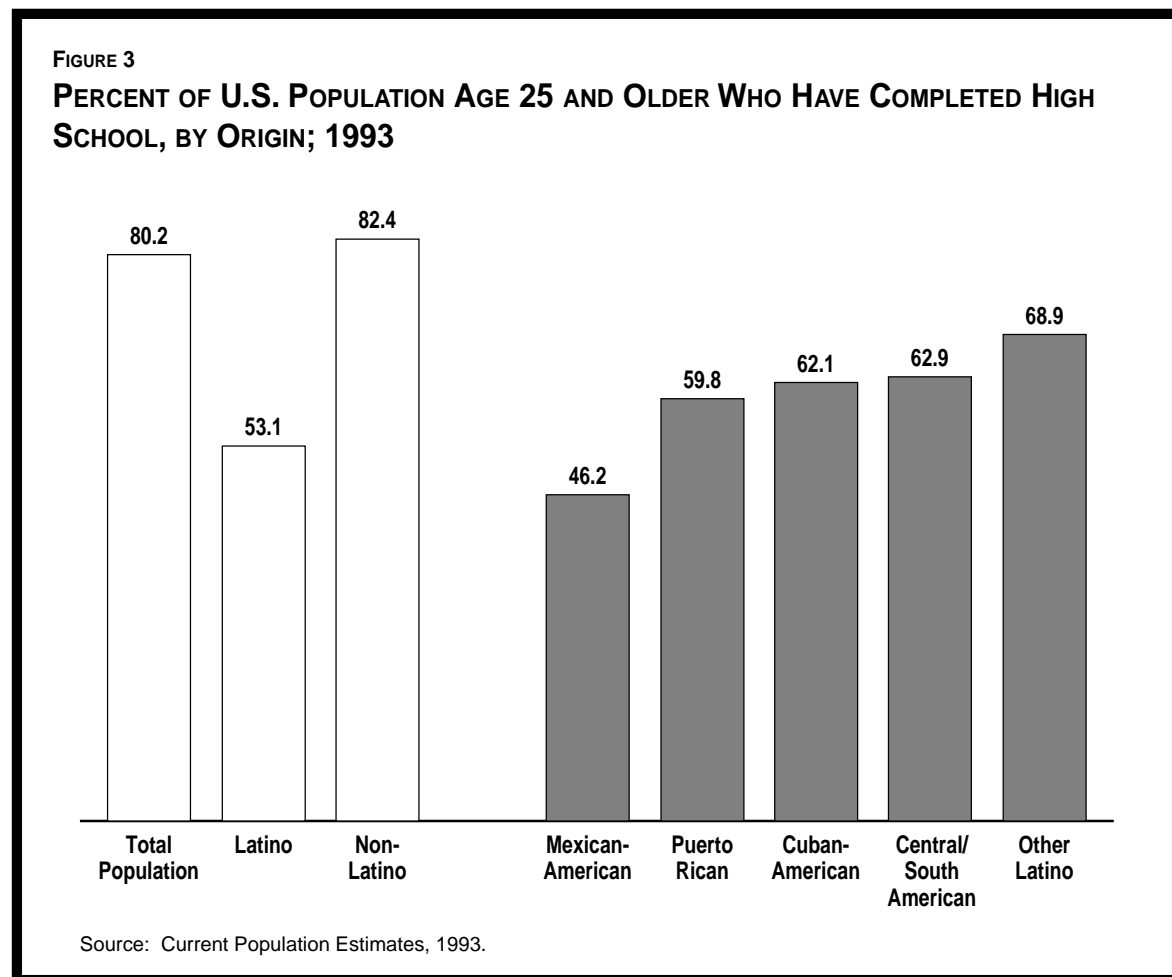
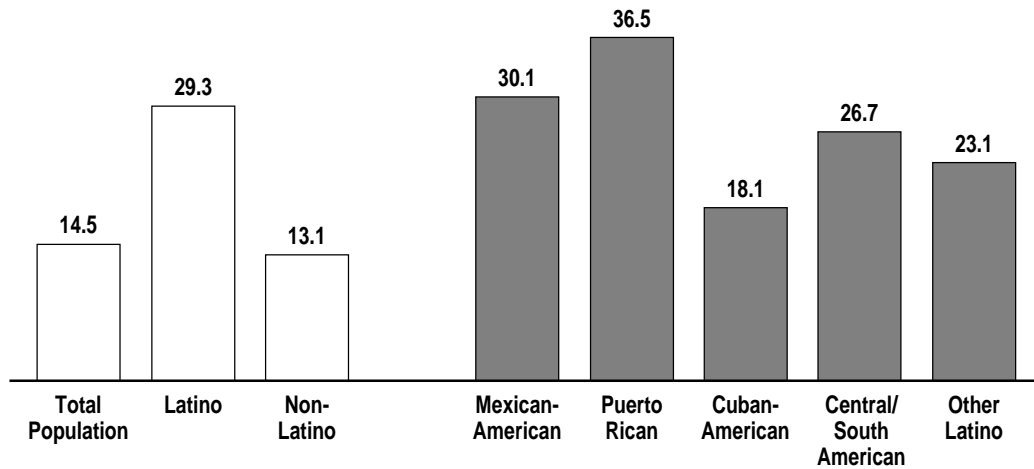


FIGURE 4

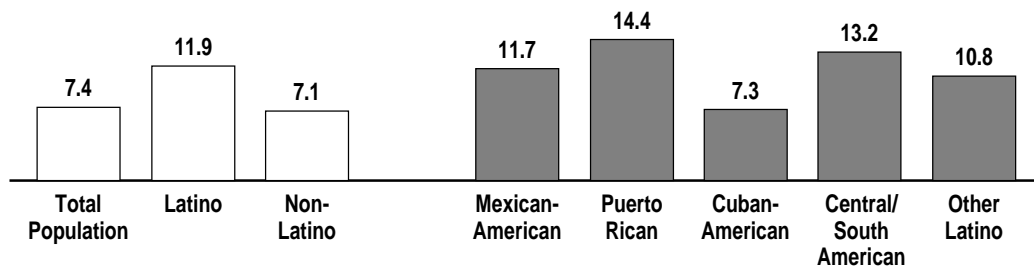
**PERCENT OF U.S. POPULATION LIVING BELOW POVERTY LEVEL, BY ORIGIN; 1992\***



\* Data on income collected in March 1993 refer to income in calendar year 1992.  
Source: Current Populations Estimates, 1993.

FIGURE 5

**PERCENT OF U.S. POPULATION AGE 16 AND OLDER UNEMPLOYED, BY ORIGIN; 1993**



Source: Current Population Estimates, 1993.



Latino men are most likely to be employed as operators, fabricators, or laborers. The greatest difference between Latino men and their non-Latino counterparts is in managerial and professional positions (27.4 percent of non-Latino men compared with 12 percent of Latino men).

Latinas (hereafter referred to as Latino women) are most likely to work in technical, sales, or administrative support positions, and their largest discrepancy is in service positions, with 24 percent of Latino women working as service providers as opposed to 17 percent of non-Latino women (U.S. Bureau of the Census, 1993b).

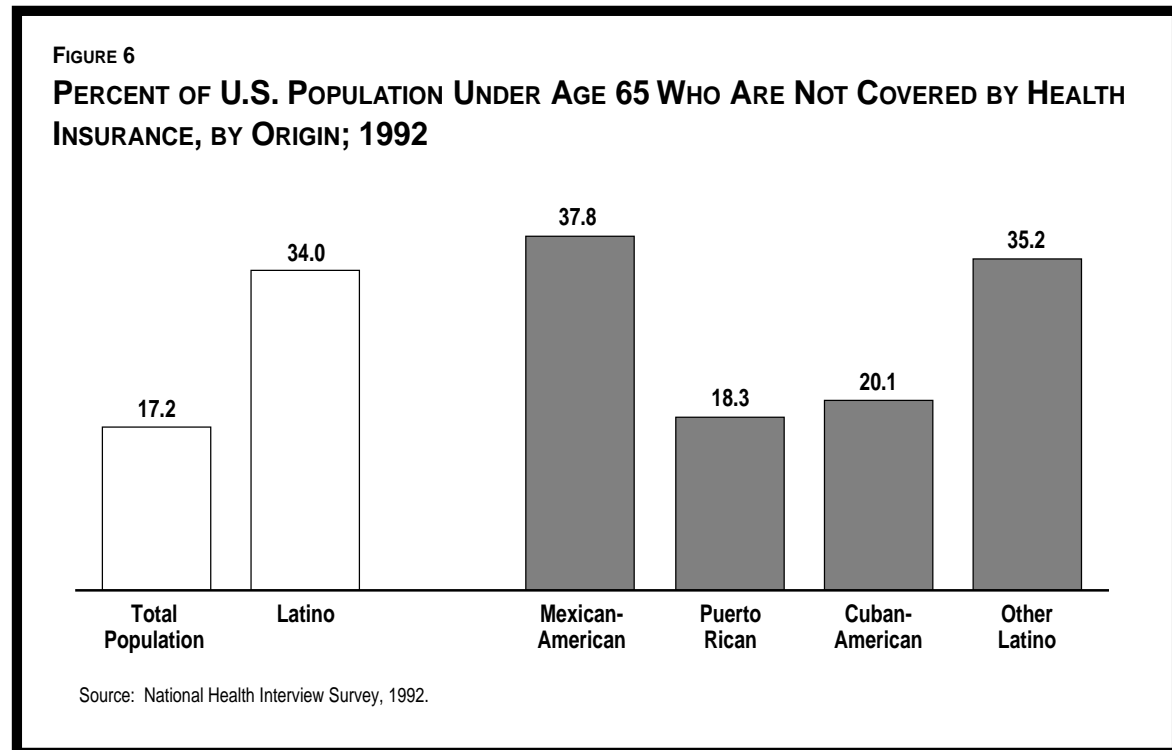
### LANGUAGE

According to the 1990 census, about 78 percent of Latinos over the age of 5 speak a language other than English in the home. This language is almost always Spanish. About 49 percent of

Latinos reported that they speak English very well, about 14 percent said they speak English well, and about 37 percent said that they speak English poorly or not at all (U.S. Bureau of the Census, 1993b).

### HEALTH CARE COVERAGE

Latinos are more likely to be uninsured than “other Americans.” In 1992, slightly more than one-third did not have health insurance (figure 6). A contributing factor is that programs such as Medicaid offer limited coverage to the unemployed but not to the working poor. Consequently, Latinos have less access to preventive and primary health care. Conditions that can be prevented or controlled in a doctor’s office often are not addressed and can lead to costly hospitalizations.

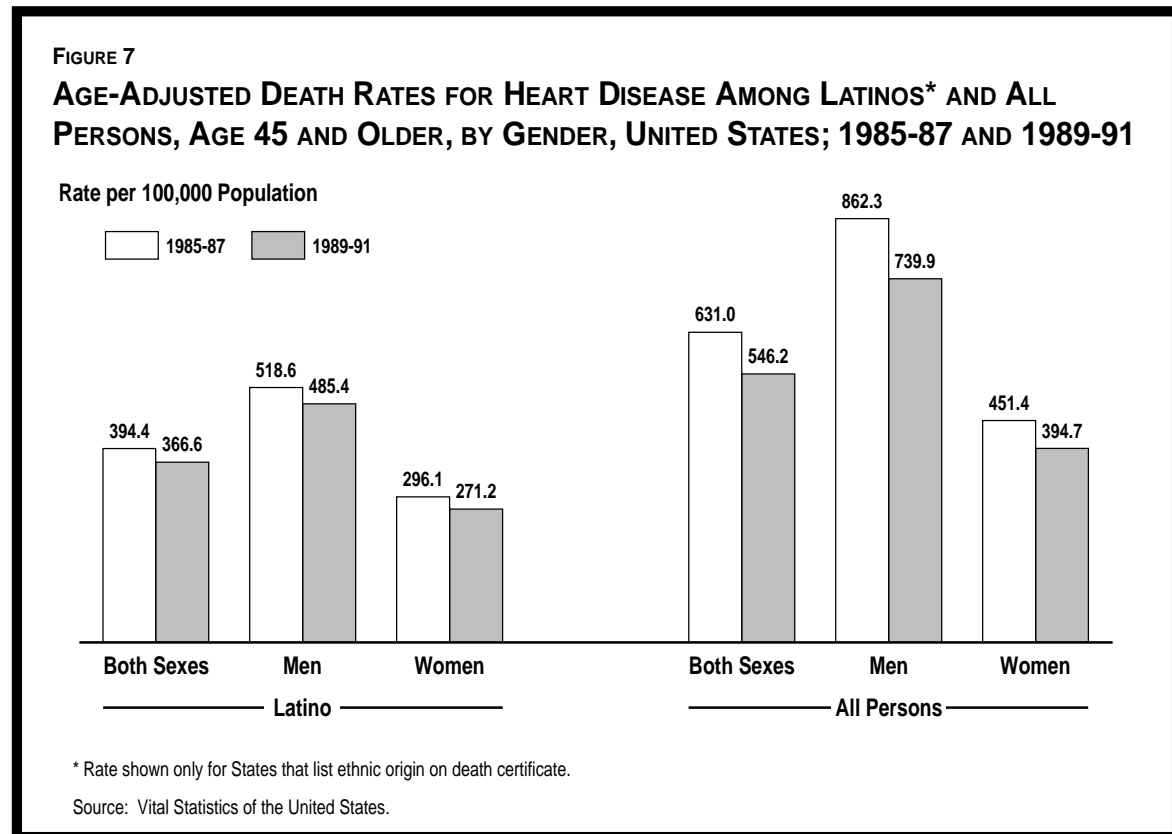




# CARDIOVASCULAR DISEASE AND THE LATINO POPULATION

Cardiovascular disease includes conditions that affect the blood vessels as well as the heart; hence, cardiovascular disease includes cerebrovascular diseases as well as heart disease. The most common cardiovascular disorder is coronary heart disease (CHD\*). Heart disease is the leading cause of death in the United States regardless of gender, race, or ethnicity. In 1992, 24 percent of all deaths among Latinos were attributed to heart disease (National Center for Health Statistics, 1994a).

Age-adjusted heart disease death rates are lower among Latinos than among the general population; however, considering prevalence and mortality rates alone could underestimate the impact and potential impact of CHD in this growing segment of the population. For example, the decline in heart disease mortality rates observed in the general population in recent years has occurred to a much lesser extent among Latinos than in the total population. Figure 7 illustrates this disparity.



\*CHD is defined as diseases bearing ICD codes 410-414, "ischemic heart disease."

CHD and other chronic diseases are expected to increase among Latinos over the next 20 years, as this population ages (Keenan et al., 1992). In 1990, mortality due to CHD was about eight times higher among Latino men age 65 and older than among those 45 to 64 years of age. Latino women in the 65-plus age category are about 17 times more likely to die of CHD than those ages 45 to 64 years (Keenan et al., 1992).

In addition to age, other risk factors are known to increase the risk of developing cardiovascular disease in general and CHD in particular. Although some of these risk factors (e.g., age, gender, heredity) cannot be controlled by the individual, others can be prevented or treated, thus greatly reducing a person's chances of developing CHD. In some instances, preventing or controlling one risk factor will decrease the chances of developing another. Modifiable risk factors include high blood cholesterol, hypertension, diabetes, obesity, physical inactivity, and smoking (National Heart, Lung, and Blood Institute, 1992).

The relatively young age of Latinos presents an opportunity to use health promotion measures to prevent these modifiable risk factors and positively alter the progression of cardiovascular disease in this population.

The following section discusses the most common modifiable CHD risk factors and their effect on Latinos residing in the United States. Because lifestyles, attitudes, geographic factors, cultural influences, length of residency, education levels, and other sociodemographic characteristics affect individual health and disease patterns (Keenan et al., 1992), information is provided on the three major Latino groups—Mexican-Americans, Puerto Ricans, and Cuban-Americans—when it is relevant and when data are available.

## RISK FACTORS

*High blood cholesterol* levels cause plaques to form in the arteries. These plaques can slow or block the flow of blood to the heart, brain, or other vital organs and cause a heart attack, stroke, or other life-threatening condition. The National Cholesterol Education Program (NCEP) has determined ranges of blood cholesterol levels that define desirable, borderline-high, and high blood cholesterol. For adults, a blood cholesterol level lower than 200 mg/dL is desirable. Cholesterol levels from 200 to 239 are considered borderline-high, and high blood cholesterol is defined as levels of 240 mg/dL or greater (National Heart, Lung, and Blood Institute, 1993c).

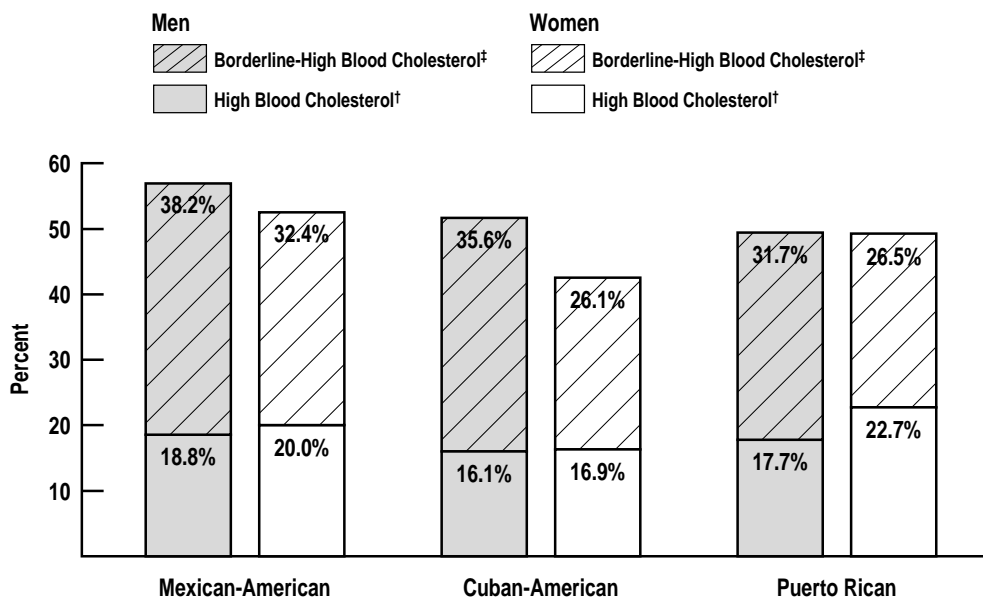
Among the Latino groups, between 48 and 57 percent of men have blood cholesterol levels above the desirable level. For Latino women, between 43 and 52 percent have blood cholesterol above the desirable level. Latino men have a lower percent of borderline-high blood cholesterol levels than Latino women; however, Latino women have a higher percent of high blood cholesterol levels than men (figure 8).

Blood cholesterol levels are influenced by heredity and by modifiable factors including diet and level of physical activity (see box on page 12 for details). Studies consistently indicate that dietary factors, particularly the intake of saturated fat, strongly affect the blood cholesterol levels of individuals and populations (National Heart, Lung, and Blood Institute, 1993b). For Americans, the percent of daily calories derived from fat exceeds recommended levels. About 12 percent of our total daily calories are derived from saturated fat alone, with no differences noted among gender or race/ethnicity groups (McDowell et al., 1994).

Between 1982-84 (HHANES) and 1988-91 (NHANES III, phase 1), the mean dietary cholesterol intake for Mexican-American women decreased from 317 mg per day to 267 mg per day—bringing that group within the recommended daily allowance. Mexican-American men also decreased their dietary cholesterol intake from 479 mg per day in 1982-84 to 378 mg per day in 1988-91, although this remains above recommended levels (Loria et al., 1995).

Plaque formation tends to begin in childhood or adolescence and worsen with age (National Heart, Lung, and Blood Institute, 1993c); hence health education and primary prevention are important. Because borderline-high blood cholesterol levels are more prevalent than high blood cholesterol levels (figure 8), an opportunity exists to initiate the lifestyle changes needed to prevent these levels from progressing to the high range as the population ages.

**FIGURE 8**  
**AGE-ADJUSTED PREVALENCE OF ELEVATED\* BLOOD CHOLESTEROL LEVELS AMONG U.S. LATINOS, AGES 20-74, BY GENDER; 1982-84**



\* Elevated blood cholesterol levels include high and borderline-high levels.

† High blood cholesterol is defined as 240 mg/dL or greater.

‡ Borderline-high blood cholesterol is defined as 201-239 mg/dL.

Source: Hispanic Health and Nutrition Examination Survey, 1982-84.

High blood cholesterol levels cause no symptoms. Screening is an important intervention used to identify and monitor individuals with elevated blood cholesterol. From 1983 to 1990 the percent of people screened for blood cholesterol levels increased from 35 to 65 percent (Schucker et al., 1991), and from 1978 to 1990 the average blood cholesterol level decreased from 213 to 205 mg/dL (Johnson et al., 1993).

However, the National Health Interview Survey indicates that fewer Latinos reported having their blood cholesterol level checked than non-Latinos. Among adults, 30.0 percent of Latino men and 43.9 percent of Latino women reported having had their blood cholesterol level checked, com-

pared with 51.5 percent of non-Latino men and 56.3 percent of non-Latino women (National Center for Health Statistics, 1990; see figure 9).

**Hypertension** is the medical term for high blood pressure. With hypertension, there is resistance to blood flow through the arteries and the heart has to exert excessive pressure to carry blood to the vital organs and muscles. Hypertension can cause heart attack, heart failure, stroke, or kidney or eye damage. Hypertension also is a risk factor for a number of other diseases; the higher the pressure, the greater the risk for disease.

Blood pressure is reported in two numbers. The first number represents pressure when the heart contracts to propel the blood through the arteries.

#### **LIMITING DIETARY FAT TO LOWER BLOOD CHOLESTEROL**

The Adult Treatment Panel (ATP II) guidelines, recently updated by the National Cholesterol Education Program, were established by the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults to improve detection and treatment of high blood cholesterol. These guidelines reflect the latest scientific knowledge concerning blood cholesterol and can be used to assist health care professionals in choosing the best therapy for patients. Cholesterol levels usually can be controlled by lifestyle modification and, in severe cases, by drug treatment (National Heart, Lung, and Blood Institute, 1993b). According to the ATP II, more than three-quarters of those who require some type of therapy for high blood cholesterol can be helped by diet and exercise, and fewer than one-quarter require drug treatment (Sempos et al., 1993).

To establish or maintain an acceptable blood cholesterol level, the NCEP recommends that people:

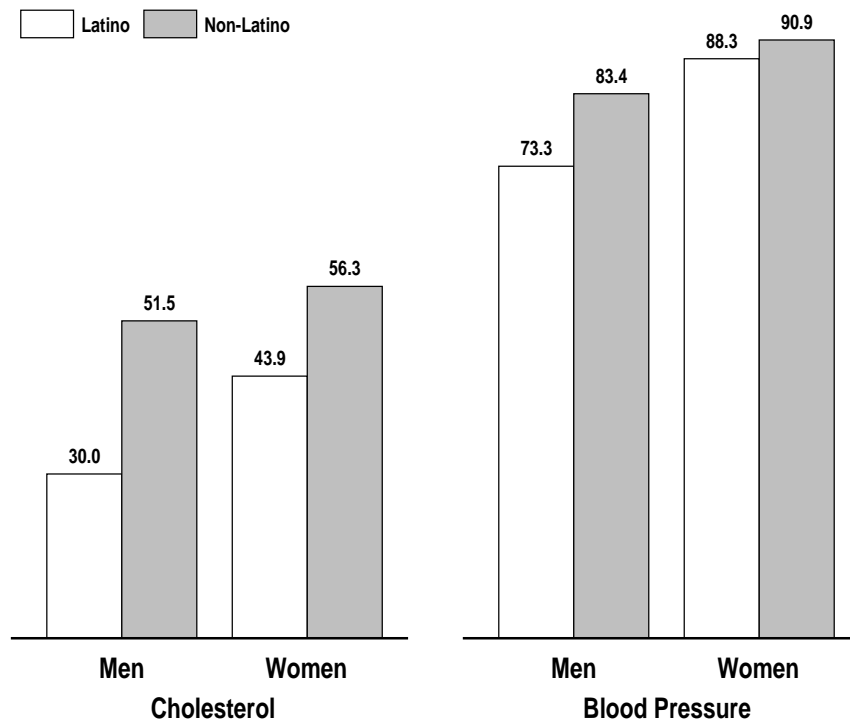
- limit the number of calories derived from saturated fatty acids to less than 10 percent of total fat intake,
- limit total fat to no more than 30 percent of total daily calories, and
- limit total dietary cholesterol to less than 300 mg per day (National Heart, Lung, and Blood Institute, 1993a).

This is called systolic pressure. The second number, called diastolic pressure, reflects the pressure in the arteries when the heart relaxes. A reading of 120/80 mm Hg is considered optimal blood pressure (National Heart, Lung, and Blood Institute, 1993d). Persons with systolic blood pressure measurements of 140 mm Hg or higher or diastolic blood pressure measurements of 90 mm Hg or higher are considered to have hypertension if the elevation occurs at two or more separate visits (National Heart, Lung, and Blood Institute, 1993a).

Even persons with high normal blood pressure (a systolic blood pressure measurement of 130 to 139 mm Hg or a diastolic blood pressure measurement of 85 to 89 mm Hg) are considered at increased risk for disease (National Heart, Lung, and Blood Institute, 1993a). However, available data show that even modest lowering of blood pressure levels can have a favorable impact. For example, data in the report on primary prevention of hypertension indicate that a downward shift in the average national systolic blood pressure of only 2 mm Hg could decrease

FIGURE 9

**PERCENT OF U.S. POPULATION AGE 18 AND OLDER WHO HAVE HAD THEIR BLOOD CHOLESTEROL OR BLOOD PRESSURE CHECKED, LATINO AND NON-LATINO, BY GENDER; 1990**



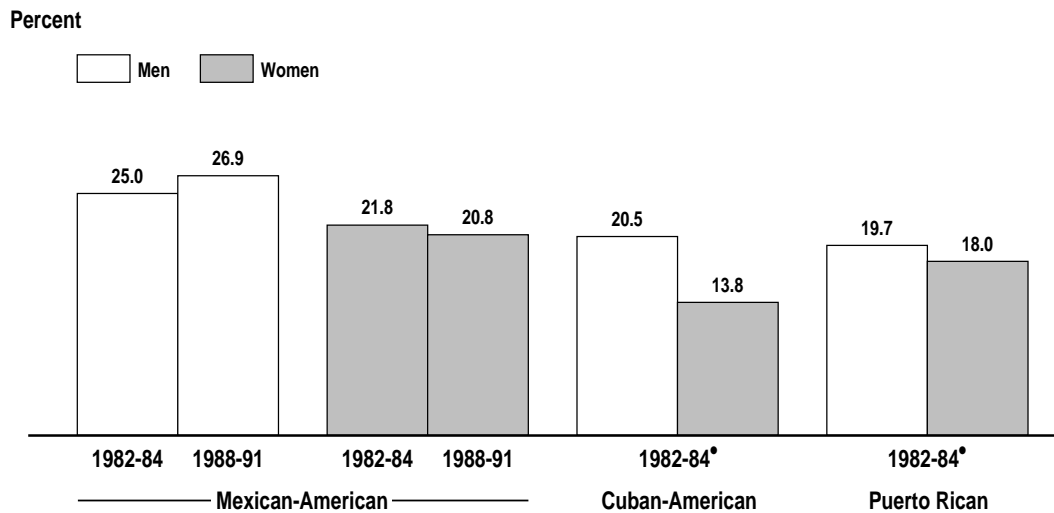
Source: National Health Interview Survey, 1990.

annual U.S. mortality from stroke, heart disease, and all causes by 6, 4, and 3 percent, respectively (National Heart, Lung, and Blood Institute, 1993d).

Hypertension among Latinos varies by gender and by country of origin (Pappas et al., 1990). Latino men tend to have higher prevalence rates than Latino women. Mexican-Americans have higher age-adjusted hypertension prevalence rates than Cuban-Americans or Puerto Ricans (figure 10). The prevalence of hypertension among Mexican-American men increased by 7.6 percent between 1982-84 (HHANES) and 1988-91 (NHANES III, phase 1).

A family history of hypertension places a person at increased risk for this disease. The following factors also contribute to hypertension but can be modified: being overweight, being physically inactive, having a high sodium intake, or consuming excessive amounts of alcohol (National Heart, Lung, and Blood Institute, 1993d). Data from HHANES and NHANES III indicate that Latinos have a higher prevalence of overweight and are more likely to report a sedentary lifestyle than non-Latinos. Although sodium intake is similar among Latinos and non-Latinos, both groups exceed the recommended daily intake (see box on page 15 for details). Among Latino women,

**FIGURE 10**  
**AGE-ADJUSTED PREVALENCE OF HYPERTENSION\* AMONG U.S. ADULT LATINOS,**  
**BY GENDER; 1982-84 AND 1988-91**



\* Defined as the average of two blood pressure measurements greater than or equal to 140/90 mm Hg or currently taking antihypertensive medication.

• Data are for ages 18-74 years.

Source: Hispanic Health and Nutrition Examination Survey, 1982-84.  
 National Health and Nutrition Examination Survey III (Phase 1), 1988-91.



the self-reported prevalence of chronic drinking is similar to that of women not of Latino origin. However, gender differences in the prevalence of chronic drinking do exist. Chronic drinking is about seven times higher for Latino men than for Latino women (Keenan et al., 1992).

Interventions conducted in community-based and practice-based settings indicate that the lifestyle changes needed to prevent hypertension are feasible. Although the studies did not specifically target Latinos, the efficacy of four interventions—weight loss, reduced sodium intake, reduced alcohol consumption, and increased physical activity—has been documented (National Heart, Lung, and Blood Institute, 1993d).

For blood pressure levels, as for high cholesterol levels, adequate screening also is essential. Data from the NHIS also indicate that Latinos are less likely than non-Latinos to have either their blood cholesterol levels or blood pressure checked (figure 9). In all three Latino groups surveyed by the HHANES, women were more aware of having hypertension than men and were more likely to have their hypertension treated or controlled (figure 11). Further, a substantial proportion of Puerto Rican and Mexican-American men determined by the HHANES to have hypertension (21.3 and 32.1 percent, respectively) were not aware of their condition and therefore were not receiving treatment.

**Diabetes mellitus** is a group of disorders characterized by high blood glucose levels. The vast majority of diabetics die from some type of cardiovascular disease. This is partly because diabetes affects cholesterol levels. Thus, diabetes is related to lipoprotein metabolism and atherosclerosis as well as obesity and hypertension. Diabetes is an independent risk factor for CHD, and the risk is doubled when hypertension is present (National Heart, Lung, and Blood Institute, 1994a).

## DIETARY SODIUM AND HYPERTENSION

An excessive intake of salt and sodium may lead to increases in blood pressure. Salt and sodium occur naturally in food and are added in some form to almost all processed foods. The Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure, convened by the National High Blood Pressure Education Program, recommends limiting dietary sodium intake to no more than 2,300 mg per day (National Heart, Lung, and Blood Institute, 1993a). This is the equivalent of a little more than one teaspoon of table salt (a teaspoon of salt contains 2,000 mg of sodium).

The most current data on dietary sodium intake and discretionary salt use are from the NHANES III, phase 1 (1988-91). Overall, these data show that salt intake is very similar for all the racial/ethnic groups studied—non-Latino whites, non-Latino blacks, and Mexican-Americans—and that all these groups exceed the recommended daily intake level (Briefel et al., 1994). According to NHANES III data, mean sodium intake for individuals age 20 or older is 3,395 mg for non-Latino whites, followed by 3,242 mg for Mexican-Americans, and 3,303 mg for non-Latino blacks (Briefel et al., 1994).

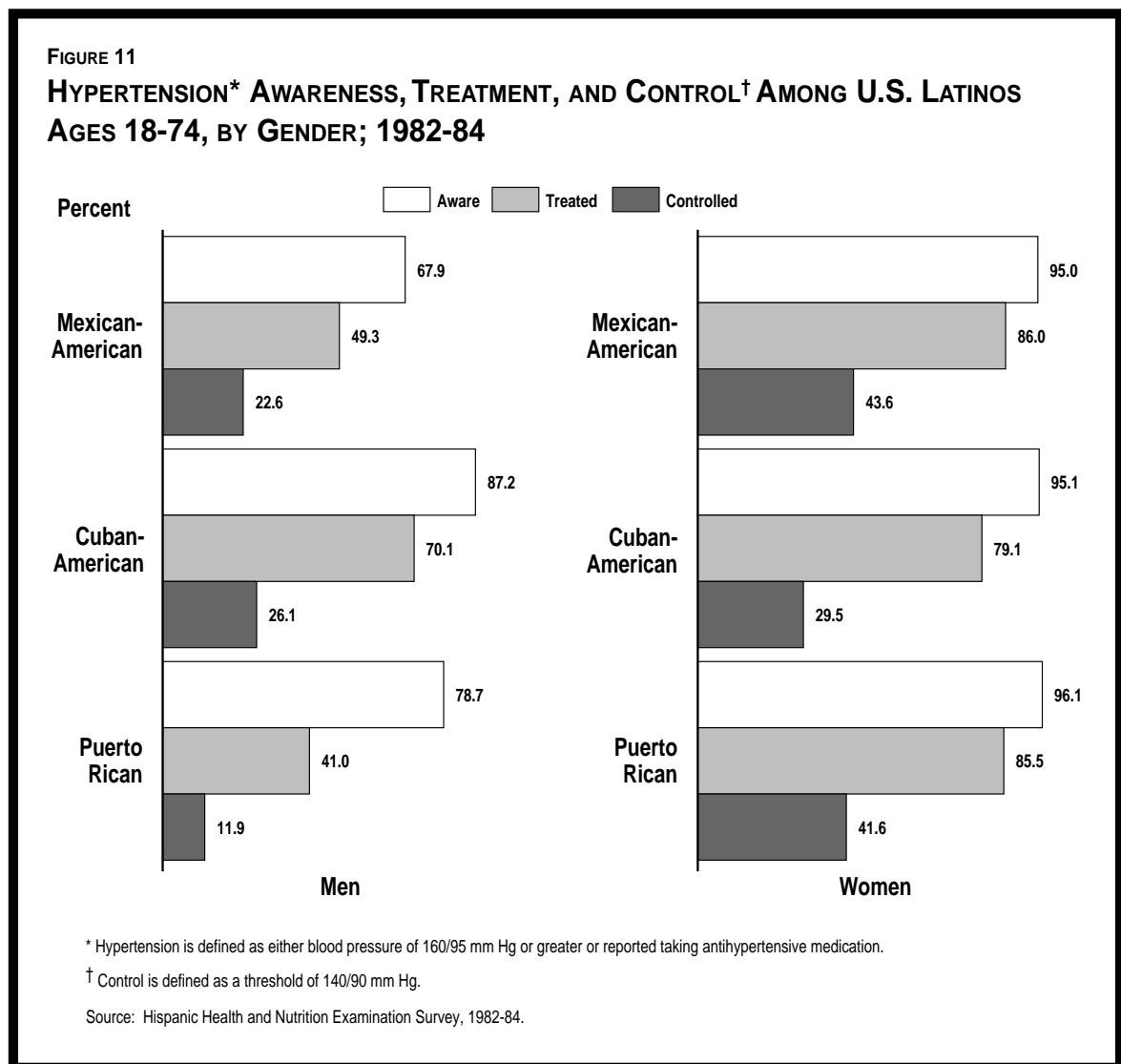
Diabetes is a very serious health problem for Latinos. Data from the HHANES estimate that 1.3 million adult Latinos (nearly 10 percent) have diabetes (Flegal et al., 1991). As shown in figure 12, the prevalence of diabetes was two to three times as great for Mexican-Americans and Puerto Ricans surveyed in the 1982-84 HHANES as for

non-Latino whites surveyed in NHANES II (1976-80).

The mortality rate due to diabetes is 42 percent greater among Latinos ages 45 to 64 than among non-Latinos. The rate among Latinos 65 years and older is about 66 percent higher than among non-Latinos (Keenan et al., 1992).

Studies comparing the prevalence of diabetes among individuals with similar genetic

susceptibility and different lifestyles indicate that behavioral factors may be capable of overriding a genetic predisposition to diabetes (U.S. Public Health Service, 1993a). Lifestyle changes that help control and may help prevent diabetes include dietary modifications and exercise. For individuals with diabetes, reducing other health risks, such as cigarette smoking and hypertension, also reduces the chances of complications (Zonszein, 1993).

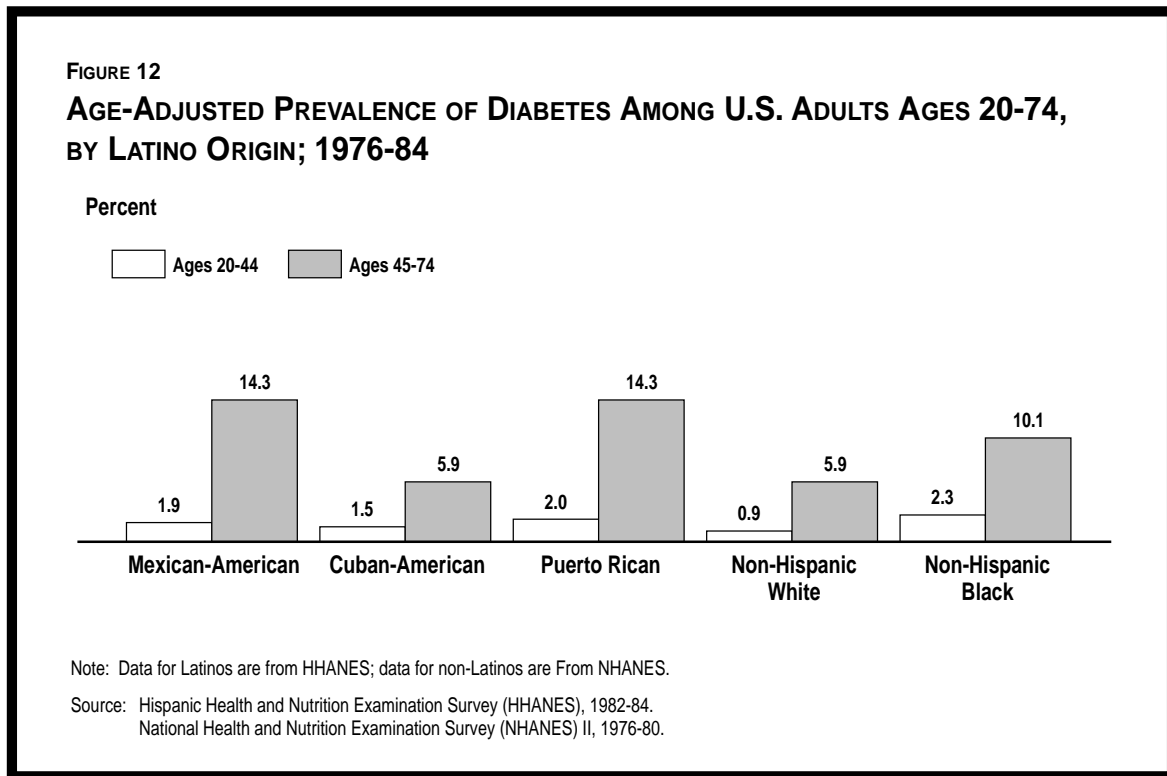


**Overweight\*** is an independent risk factor for CHD that also is associated with high blood pressure, high blood cholesterol levels, and diabetes (National Heart, Lung, and Blood Institute, 1994b).

Overweight is common among Latinos. HHANES data for 1982-84 showed that among Latino women, ages 20 to 74, 41.4 percent of Mexican-Americans, 39.8 percent of Puerto Ricans, and 31.9 percent of Cuban-Americans were overweight. Latino men had lower prevalence rates than Latino women, but more than one of every four—31.2 percent of Mexican-Americans, 25.7 percent of Puerto Ricans, and 28.5 percent of Cuban-Americans—were overweight (figure 13). More recent data from

NHANES III show the age-adjusted prevalence of overweight to be 48 percent among Mexican-American women and 40 percent among Mexican-American men (National Heart, Lung, and Blood Institute, 1994b).

The San Antonio Heart Study not only revealed a high level of overweight among Mexican-Americans (Stern et al., 1990), but determined that, in this geographic area, overweight was more prevalent among Mexican-Americans than among their non-Latino white counterparts, regardless of gender (Mexican-American men, 65.7 percent; non-Latino white men, 51.9 percent; Mexican-American women, 59.5 percent; non-Latino white women, 31.5 percent).



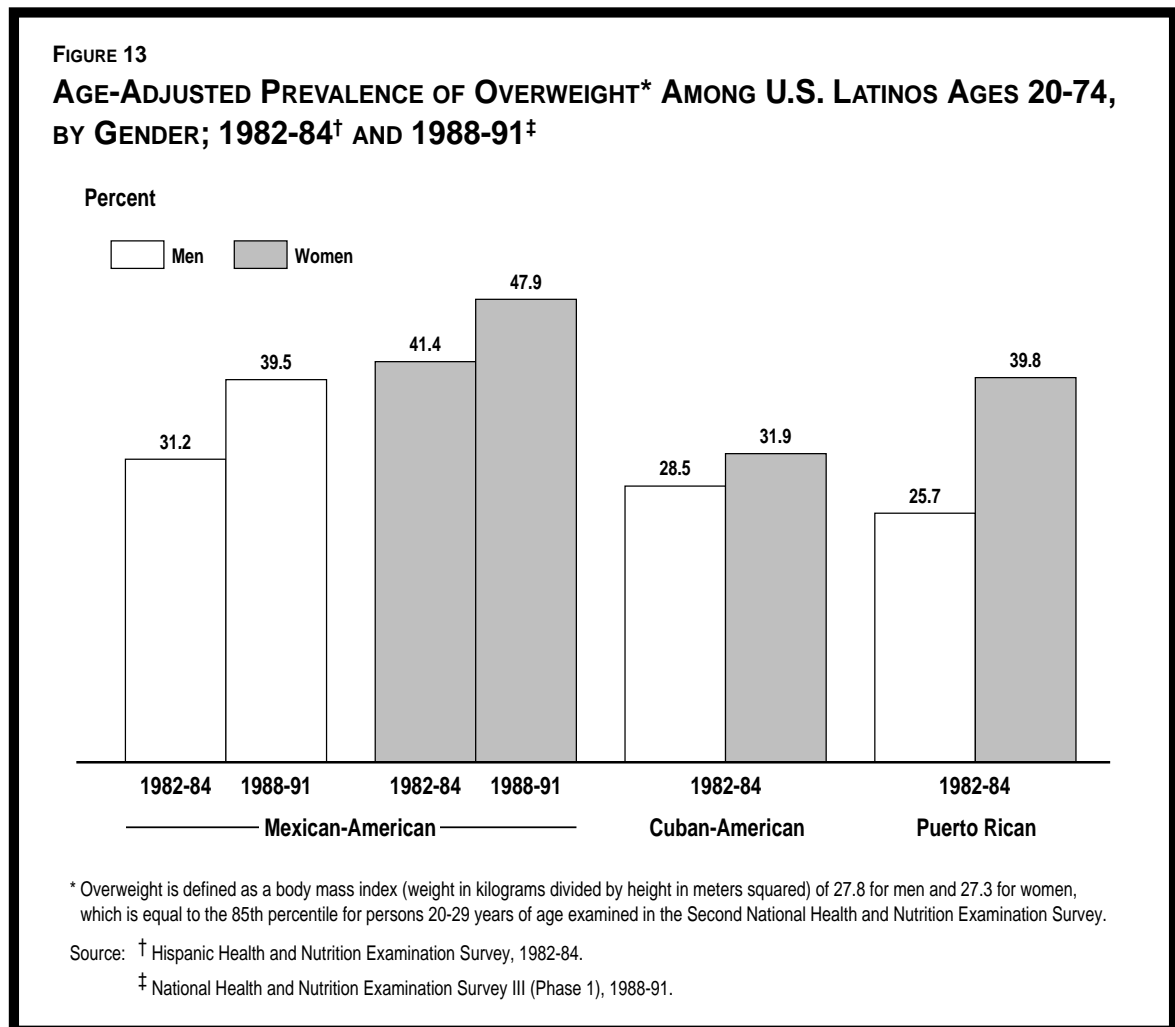
\* Overweight is defined as having a body mass index (weight in kilograms divided by height in meters squared) equal to or greater than 27.8 for men and 27.3 for women (National Center for Health Statistics, 1990).

The prevalence of overweight varies among Latino groups. Mexican-Americans have a higher prevalence of overweight than Puerto Ricans or Cuban-Americans of the same gender (National Center for Health Statistics, 1989). Data collected through the Behavioral Risk Factor Surveillance System in Maricopa County, Arizona, also show a propensity among Mexican-Americans toward central obesity, which is adversely associated with increased insulin, glucose, and triglyceride levels (McGinnis and Ballard-Barbash, 1991).

Weight loss among adults is difficult to attain and even more difficult to maintain; however, even

small losses have been shown to have positive effects on cardiovascular risk. Five-year data from the Coronary Artery Risk Development in Young Adults (CARDIA) study show that an initial loss of 5 pounds without regain of more than 5 pounds over 5 years raised high density lipoprotein cholesterol levels and also reduced blood pressure (National Heart, Lung, and Blood Institute, 1994b).

A strong argument for overweight prevention is that obese children have a much higher relative risk of becoming obese adults than nonobese children (National Heart, Lung, and Blood Institute, 1994b). Studies also indicate that



prevention of overweight in children may be more efficacious than attempts to lose weight and maintain weight loss among adults. Data from four 10-year family-based treatment studies showed a high correlation between weight changes in parents and children over the short term. However, there was less correlation over time. After 5 to 10 years, parents tended to go back to their original weight, even when their child maintained the weight loss (National Heart, Lung, and Blood Institute, 1994b).

Sociocultural factors may be the most important influence on prevalence patterns of overweight. Sociocultural factors influence food consumption, activity patterns, and attitudes toward body weight (National Heart, Lung, and Blood Institute, 1994b). For example, in some Latino cultures overweight is frequently considered a sign of health and thinness is associated with illness (National Heart, Lung, and Blood Institute, 1994a). Experts convened by the NHLBI for the Strategy Development Workshop for Public Education on Weight and Obesity stressed the importance of targeted interventions to support weight control strategies (National Heart, Lung, and Blood Institute, 1994b). These experts recommended (1) that programs for minority populations begin with target audience segmentation that considers country of origin and degree of acculturation and (2) that message content, communication channels, and motivational factors vary according to population group and age.

**Physical inactivity** can double an individual's chance of developing heart disease (National Heart, Lung, and Blood Institute and American Heart Association, 1993), whereas physical activity of the proper duration and intensity improves the fitness of the heart and lungs and helps control blood cholesterol levels, high blood pressure, diabetes, and obesity.

Data from the NHIS show that a smaller percent of Latinos engage in regular moderate physical activity than non-Latinos (20.1 versus 24.0 percent, respectively), and this disparity holds true for both men and women (unpublished data from the National Center for Health Statistics, National Health Information Survey, 1991) (figure 14). Although many Latinos hold jobs that require physical labor, the activities involved in the jobs may not be of the type or duration that improve cardiovascular health (National Council of La Raza, 1992; Nieman, 1995).

Researchers have indicated that interventions to encourage physical activity among Latinos should be culturally based and tailored for specific geographic regions (Keenan et al., 1992). Local studies have indicated that Latinos are more motivated to participate in activities that are family-centered (National Heart, Lung, and Blood Institute, 1994b).

**Cigarette smoking** is an independent risk factor for heart disease that also acts synergistically with other risk factors. Even light smoking can cause adverse effects. Cigarette smoking is associated with each of five interrelated processes that have been determined to contribute to the development of myocardial infarction—atherosclerosis, thrombosis, coronary artery spasm, cardiac arrhythmia, and reduced blood oxygen delivery (U.S. Public Health Service, 1990).

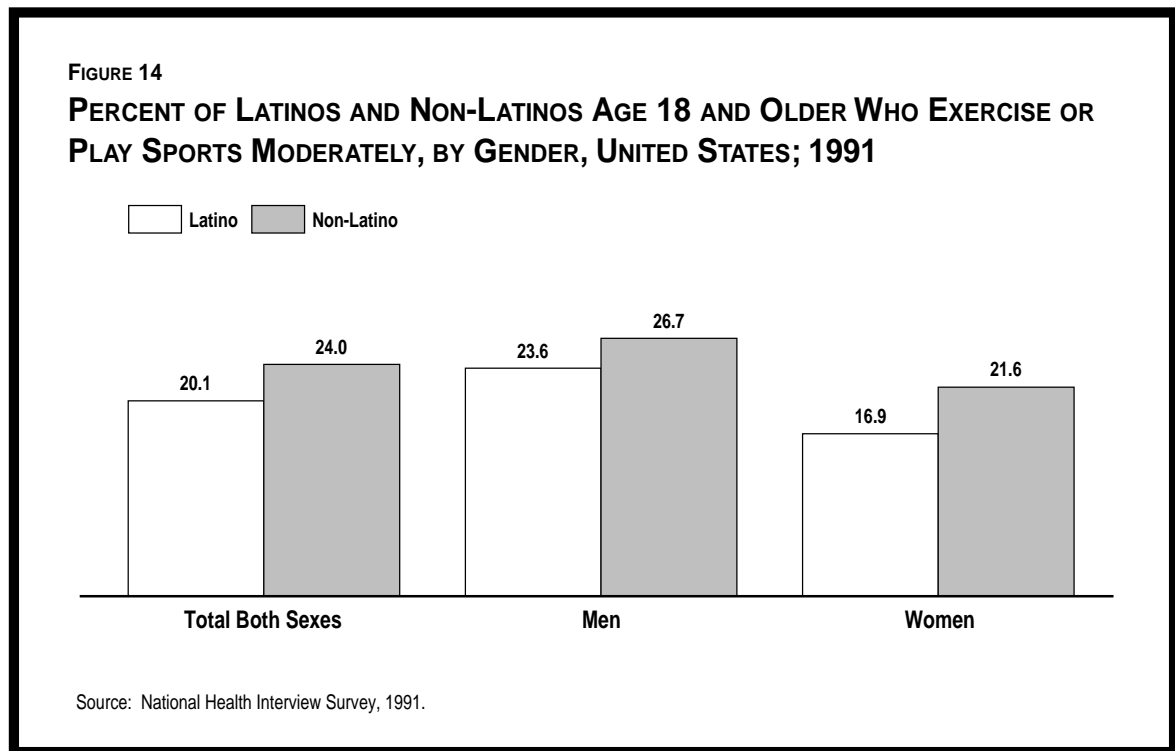
Smoking appears to increase atherosclerosis by promoting the adherence of platelets to the lining of the arteries (U.S. Public Health Service, 1990). Smoking also increases the level of the clotting enzyme fibrinogen, which is strongly related to heart disease and stroke (Whitney and Harris, 1994). In addition, smoking raises the heart rate and blood pressure, which increases oxygen demand and concurrently decreases the capacity of the blood to deliver oxygen by elevating carbon

monoxide levels. The resulting imbalance between oxygen need and delivery increases the chance of myocardial infarction (U.S. Public Health Service, 1990).

According to the NHIS, the overall prevalence of cigarette smoking is lower among Latinos (20.2 percent) age 18 and older than among non-Latinos (26.1 percent). Consistent with the general population, data also show that a much higher percent of Latino men smoke than Latino women (figure 15). Both Latinos and non-Latino whites show a changing pattern in smoking initiation, with women developing smoking behaviors similar to those found among men, and Latino women are experiencing steeper increases in smoking prevalence than their counterparts in

the general population (Gregory and Clark, 1992). Another important observation is that Puerto Rican and Cuban-American men are not experiencing the same steep decline in smoking rates that is observed in non-Latino whites (Gregory and Clark, 1992).

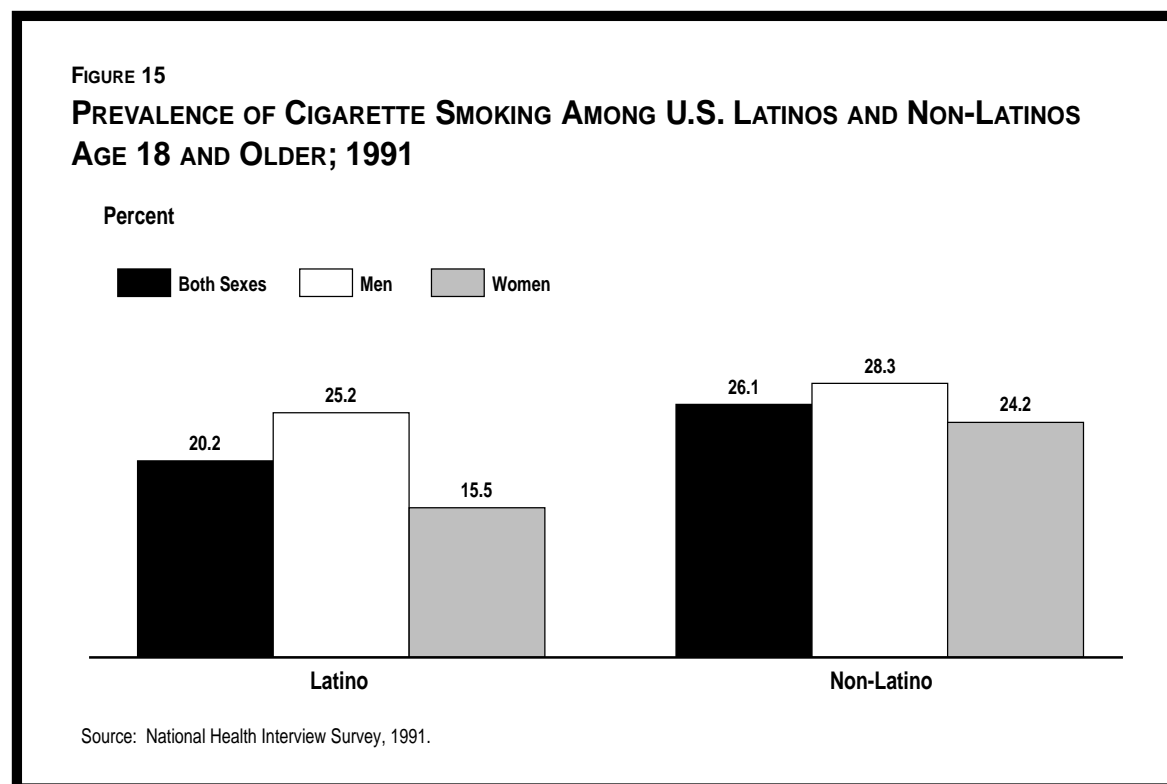
Although a lower percent of adult Latinos smoke than other population groups, a majority (75 percent) of Latino high school students have experimented with cigarettes, and 6.8 percent already smoke frequently (American Cancer Society, 1992). Tobacco products are being extensively marketed in regions with high concentrations of Latinos, which may also result in an increase in smoking among Latino youth (Keenan et al., 1992).



## KNOWLEDGE, ATTITUDES, AND BEHAVIORS

Based on the limited data concerning the levels of knowledge about cardiovascular disease and its risk factors among Latinos, it appears that many Latinos are not aware of lifestyle changes that can prevent or control many of the risk factors for cardiovascular disease. Much of the available data are from local studies that included only a single Latino group; however, these studies commonly show that Latinos know less about CVD and its risk factors compared with non-Latinos. For example, when the San Diego Health Project surveyed knowledge on the effects of dietary fat, exercise, and salt consumption, scores across each of these areas were higher for white children and parents than for Mexican-American children and parents (Vega et al., 1987).

To significantly improve the primary health of a community, major behavioral changes are required. Research has revealed that knowledge alone is not sufficient to invoke this degree of behavioral change. A market research study convened focus groups of low-income adults to examine how hard-to-reach segments of the American public perceive the roles of diet, exercise, and weight control in preventing or controlling certain chronic diseases. Responses from these groups, which included six Latino groups, suggest that people frequently fail to see how information about risk factors and disease applies to them personally. They may profess to know that healthy behaviors are linked to disease reduction, while retaining the belief that disease is largely out of their own control (U.S. Public Health Service, 1993b).



Indeed, many factors can affect people's desire and ability to modify their lifestyle. The health promotion and planning model PRECEDE (Green and Kreuter, 1991) established three categories of factors that influence health behaviors. These categories are beneficial to consider when planning, developing, implementing, and evaluating health programs for specific communities. They are:

- **Predisposing factors** that include knowledge, values, cultural beliefs, perceived needs, perceived abilities, and existing skills;
- **Enabling factors** that include conditions of the environment (such as access to health care) and the ability to perform new tasks that constitute a health-related behavior; and
- **Reinforcing factors** that include family and social support, peer influence, and real or perceived positive or negative consequences of the behavior.

Knowledge concerning all of these factors, as they apply to a specific target group, may help to maximize the effect of health promotion messages. Values placed on health, meanings attached to disease, health priorities, level of acculturation, language preferences, literacy levels, economic status, and demographics all influence the outcomes of interventions (National Heart, Lung, and Blood Institute and The Johns Hopkins Medical Institutions, 1992)

The next section provides examples of how selected health promotion and disease prevention programs targeting Latinos have used these kinds of information to develop culturally competent cardiovascular disease prevention programs.



## COMMUNITY-BASED DISEASE PREVENTION AND HEALTH PROMOTION PROGRAMS FOR LATINOS

Culture is a complex social phenomenon that influences every aspect of a person's life. Culture consists of the shared beliefs and values within a group of people that guide their accepted and patterned ways of behavior (Kreps and Kunimoto, 1994). Cultural values also influence an individual's attitudes toward medications, illness, and death and beliefs concerning the individual's control over his or her health (Kavanaugh and Kennedy, 1992).

When developing disease prevention programs, cultural values and norms can be used to strengthen and facilitate the efficacy of the intervention. It has been suggested that positive social and cultural factors may explain why poverty, poor access to primary care, and a lack of health insurance have not created a higher mortality rate among Latinos living in the United States (Sorlie et al., 1993).

Cultural values differ among Latinos according to country of origin, educational attainment, and acculturation level (National Coalition of Hispanic Health and Human Services Organizations, 1990). However, most Latinos share core values and beliefs that differentiate them from other cultural groups (Marin, 1989) and that can be used to improve the efficacy of the health promotion and disease prevention interventions. Latino values and beliefs that may influence health include:

- *familismo*—the significance of the family to the individual;

- *colectivismo*—the importance assigned to friends and members of the extended family;
- *simpatía*—the need for positive, smooth interpersonal relations;
- *personalismo*—the preference for friendly and personal relationships with members of the same ethnic group;
- *fatalismo*—the belief that there is little that an individual can do; and
- *respeto*—deferential behavior toward others based on factors such as age and position of authority. Doctors, teachers, and other professionals may be awarded respect by virtue of healing functions or education.

Because these factors vary from one community to another, there is no single best way to design a health promotion and disease prevention campaign. Some programs involve community leaders and community volunteers. Volunteers also may be referred to as *promotoras/promotores* or *consejeras* (see box, page 24). Some programs use community resources such as churches, schools, community centers, local health clinics, social clubs, and local businesses as partners for community-based outreach efforts. These community resources also may have ties to national organizations with even stronger, more extensive networks (National Heart, Lung, and Blood Institute, 1987). Other programs use the local media to enhance some program outreach efforts.

Data suggest that Latinos can be reached effectively through public health intervention programs that are media based and culturally appropriate. Spanish-language television and radio are both excellent methods for promoting prevention and control messages to Latinos. Research has revealed that on a typical day, 67 percent of Latinos in the United States watch Spanish-language television; 47 percent listen to Spanish-language radio; 21 percent read Spanish-language newspapers; and 19 percent read Spanish-language magazines (Ramirez and McAlister, 1988). According to 1990 census data, more than 17 million people age 5 and older speak Spanish, and 8.3 million of these speak English poorly or not at all (U.S. Bureau of the Census, 1993b).

Program planners also must keep in mind that a segment of the Latino population speaks only English. A need also exists for culturally sensitive messages presented in English and disseminated through the mainstream media.

Community involvement has proven to be a key element in planning, developing, implementing, and evaluating programs. Community involvement enhances a program's credibility and visibility and helps ensure broader community participation. Overall, it is evident that a community-based approach of project implementation offers distinct advantages, including the ability to gain the community's support, the prospect of decreasing the community's dependence on external resources, the ability to better assess needs and tailor interventions, and the potential to achieve behavioral change through active participation in the project (Alcalay and Taplin, 1989). Community-based health promotion programs also have the opportunity to conduct needs assessments in the form of population-based surveys or focus groups in the target

### **LATINO COMMUNITY PARTNERS**

Community leaders are typically active in local churches, schools, social clubs, and other community resources and are recognized as opinion leaders. These individuals have access to information that is unavailable to outsiders. They understand the health priorities of the Latino community as well as the daily challenges they face. Community leaders are familiar with local language preferences, health beliefs, and health practices, and they know what community health care resources are available and how they are used. They also can identify other community opinion leaders, communication networks, and local experts who may be useful to the program (National Heart, Lung, and Blood Institute, 1987).

Community volunteers, *consejeros/consejeras*, or *promotoras/promotores* are respected and responsible members of the target communities who not only share health information and materials but also model appropriate health behaviors in their own lives. In many instances, these volunteers become agents of social change in their communities, rising to leadership positions and inspiring others to accept personal responsibility for taking control of their own health (University of California—San Diego, 1990).

communities. A sound needs assessment can help program planners determine the level of knowledge within the community concerning relevant health issues and how these issues are perceived.

## RECOMMENDED STRATEGIES AND EXAMPLE PROGRAMS

This section discusses some key elements to consider in the design of community-based health promotion programs targeted to Latinos. The strategies are based on findings from intervention studies of Latinos, the experiences of actual programs, and the demographic and epidemiological reality of the Latino community as established in this background paper. These highlighted strategies are not presented in order of priority and are not meant to represent the universe of successful program strategies.

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### ***Gain community support.***

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The health promotion and disease prevention programs cited are examples of interventions that have employed one or more of the recommended strategies. Some of the programs reviewed were not designed to reduce cardiovascular disease; however, their approach and outreach strategies have significant relevance and applicability to CVD prevention for Latinos. An overview of the projects used as examples appears in table format in appendix A.

Involving community members in the program lends credibility. Family and friends are respected sources of information among Latinos and an essential part of their support system. Encouraging people to share their personal stories and give testimonies of simple lifestyle changes they have made to prevent CVD and contribute to overall improved health status can be very effective. Recruiting volunteers from the community to share health information and to model desirable health behaviors is a viable method. Focus groups composed of members of the target community also provide valuable insights into the target audience's health beliefs and practices as well as its level of knowledge about specific health issues.

Recruiting community members assists program planners in various ways. Community members can be enlisted to conduct their own community needs assessment. Working groups also can be established to assist with the development of concepts, messages, and images to ensure culturally appropriate CVD prevention and education materials. Working groups lend credibility and visibility to program efforts, and given training and support, they can evolve over time into a community coalition to address not only CVD prevention and education but other health issues as well.

*A Su Salud*, a smoking prevention and cessation program that targeted Mexican-Americans, recruited and trained more than 400 volunteers from its target communities (Ramirez and McAlister, 1988). These volunteers distributed educational materials and served as role models for behavior modification.

The *Ayude Su Corazón* project also trained community volunteers (Oto-Kent et al., 1991). More than 50 people were taught how to take blood pressure measurements and complete survey questionnaires. This project also involved the area stores, schools, churches, and Spanish-language newspapers and radio stations in activities designed to increase awareness of high blood pressure, high blood cholesterol, and other heart disease risk factors. For example, a bilingual education campaign was conducted in five major grocery stores.

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### ***Develop culturally appropriate and language-specific materials.***

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Direct input from the community can enable a program to design materials based on the specific needs of the target audience.

For some target audiences, the *novela* may be an effective way to deliver health messages. In other

cases, a colorful poster with one simple message may be the best approach. Selected formats should attract the target group and be understood by them.

It is usually best to develop Spanish-language materials in Spanish from the beginning. If English-language materials are translated into Spanish, use only experienced translators who understand that direct translations generally are not successful in communicating the intended message and may offend the target audience.

Recognizing the diversity within each Latino community ensures reaching more individuals. One approach will not be appropriate for all. Developing and implementing interventions to target different age groups, socioeconomic levels, and acculturation levels are desirable.

It is important to obtain an accurate assessment of the general educational level, literacy level, and language preference of the target audience before developing written materials and messages. For low-literacy audiences, materials using simple words, short sentences, and concrete concepts are most successful. The use of graphic illustrations maximizes ease of understanding key messages. Public service announcements should be produced using the preferred language of the target population. Messages and materials need to have a present-time orientation. Themes that focus on the future may not be as effective as those that emphasize the importance of making health behavior changes now. Pamphlets and brochures should be pretested for readability and appeal.

The *Checkerboard Cardiovascular Curriculum* is an example of a program that showed respect for cultural values (Harris et al., 1988). This program was designed to help Native American and Latino children in rural New Mexico develop healthier eating and exercise habits. The program invited respected elders to the classroom to talk about the cultural importance of physical activity and to

demonstrate how traditional heart-healthy foods are prepared. Materials used in this program were relevant to the American Indian and Latino cultures.

As a result of this program, all of the students showed significant increases in their knowledge about the cardiovascular system, exercise, nutrition, obesity, tobacco use, and how behavior can be changed to enhance heart health.

The *San Diego Family Health Project* illustrates another possible impact that materials and techniques can have on outcomes among ethnic populations (Nader et al., 1989). This project was designed to encourage families to decrease their intake of high-salt and high-fat foods and increase their physical activity levels. Both Mexican-American and white families participated in the program. As expected, the experimental group gained more knowledge than the control group during the specified time period. However, a greater change was found among whites in the experimental group than among the Mexican-Americans. Several factors may have influenced this discrepancy. Because participants were required to record behaviors using diaries and questionnaires, it has been suggested that the quality of translation of the questionnaires and the literacy level of the target audience may have needed more consideration.

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***Involve existing community organizations and services.***

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When possible, attaching a new health promotion or disease prevention program to existing health programs in the target commu-

nity will allow the newer program to utilize infrastructures and viable local networks that the ongoing services and programs have already established. Collaborative efforts can significantly expand the reach of the combined

programs beyond what either of the single programs could accomplish alone.

A program's planning process should take into account the role, patterns of use, and impact of the local mainstream health care system on the target community. This information may be obtained from private physicians, local health clinics, hospital emergency departments, and other health care providers and facilities.

The *Washington Heights-Inwood Healthy Heart Program* combined a community intervention with an ongoing media campaign sponsored by the New York State Healthy Heart Program (Shea et al., 1992). This project determined ways to adapt the statewide intervention to a specific urban area. Strategies included adapting the materials for the linguistic and cultural diversity of the target population and involving community leaders and organizations to lend legitimacy to the efforts.

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**Select influential media.**

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Local media can assist with the planning and implementation of the program. This ensures more community involvement and also can reduce certain costs. Sponsoring television and radio stations may provide air time free of charge or at a nominal fee. Local media channels may include local television and radio stations, community newspapers and magazines, and newsletters published by community-based organizations. Enlisting the cooperation of a local media personality to serve as a spokesperson for the CVD prevention program facilitates immediate program recognition and can lend credibility and visibility to program efforts.

The *A Su Salud* project included local media at an early stage of the program implementation (Ramirez and McAlister, 1988). This step resulted in increased community involvement.

It also reduced program costs because the sponsoring stations provided production time free of charge and air time at a nominal fee.

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**Incorporate community lifestyle, values, and beliefs.**

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Interventions that complement their daily activities and preferences may be better accepted by a target audience.

For example,

Latinos find family-centered activities more appealing than solitary activities. To encourage Latinos to increase their physical activity, judicious choices would be walking, hiking, dancing, swimming, or other activities that can be enjoyed in a group setting.

Some programs have found it more effective to fit new health information into an old frame of reference. For example, program strategies can be incorporated into traditional healing practices. To reach certain segments of the Latino community, this approach is more successful than ignoring or trying to eliminate such beliefs.

Interpersonal communication also is important in transmitting health messages. Interpersonal communication may come from health experts or immediate family members. Latino women often serve as channels to the entire family and can successfully transmit messages to less accessible family members.

*Por la Vida*, a program designed to increase Latino women's knowledge of heart disease and help them develop skills to prevent heart disease and stroke, used existing social networks in the community to encourage women to participate in the program (University of California—San Diego, 1990). A unique feature of *Por la Vida* is that it provided child care during its training sessions, which was a major incentive for women to take the time to learn how to care for themselves and others.

**THE NHLBI LATINO COMMUNITY  
CARDIOVASCULAR DISEASE PREVENTION  
AND OUTREACH INITIATIVE**

Implementation of the NHLBI Latino CVD prevention and outreach initiative follows a thorough study of the prevalence of cardiovascular risk factors among Latinos residing in the United States, the sociodemographics of the Latino community, and the community's knowledge base concerning CVD and its prevention.

The first NHLBI-sponsored initiative will target Central and South Americans living in the Washington, D.C., metropolitan area. The effectiveness of specific strategies for developing and implementing other health promotion and disease prevention programs for the Latino community also was carefully reviewed in preparation for this program. A report follows (appendix B) that outlines the goals and objectives of the Washington, D.C., metropolitan area program.

## REFERENCES

- Alcalay R, Taplin S. Community health campaigns: from theory to action. In: Rice RE, Atkin CK (eds.). *Public Communication Campaigns*. 2nd edition. Newbury Park, CA: SAGE Publications, 1989.
- American Cancer Society. *Cancer Risk Report: Prevention and Control, 1992*. Atlanta, GA: American Cancer Society, 1992.
- Briefel RR, Alaimo K, Wright JD, McDowell MA. "Dietary Sources of Salt and Sodium." Paper presented at Implementing Recommendations for Dietary Salt Reduction Workshop, sponsored by the National Heart, Lung, and Blood Institute, Rockville, MD, August 25-26, 1994.
- Flegal K, Ezzati T, Harris M, Haynes S, Juarez R, Knowler W, Perez-Stable E, Stern M. Prevalence of diabetes in Mexican Americans, Cubans, and Puerto Ricans from the Hispanic Health and Nutrition Examination Survey, 1982-1984. *Diabetes Care*, Supplement 14(3):628-638, 1991.
- Green LW, Kreuter MW. *Health Promotion Planning: An Educational and Environmental Approach*. 2nd Edition. Mountain View, CA: Mayfield Publishing Company, 1991.
- Gregory SJ, Clark PI. The "big three" cardiovascular risk factors among American blacks and Hispanics. *Journal of Holistic Nursing* 10(1):76-88, 1992.
- Harris MB, Davis SM, Ford VL, Tso H. The Checkerboard Cardiovascular Curriculum: a culturally oriented program. *Journal of School Health* 58(3):104-107, 1988.
- Johnson CL, Rifkind BM, Sempos CT, Carroll MD, Bachorik PS, Briefel RR, Gordon DJ, Burt VL, Brown CD, Lippel K, Cleeman JJ. Declining serum total cholesterol levels among US adults. The National Health and Nutrition Examination Surveys. *Journal of the American Medical Association* 269(23):3002-3008, 1993.
- Kavanaugh KH, Kennedy PH. *Promoting Cultural Diversity: Strategies for Health Care Professionals*. Newbury Park, CA: SAGE Publications, 1992.
- Keenan NL, Murray ET, Truman, BI. Hispanic Americans. In: Centers for Disease Control and Prevention. *Chronic Diseases in Minority Populations*. Atlanta, GA: Centers for Disease Control and Prevention, 1992.
- Kreps GL, Kunimoto EN. *Effective Communication in Multicultural Health Care Settings*. Thousand Oaks, CA: SAGE Publications, 1994.
- Loria C, Bush TL, Carroll MD, Looker AC, McDowell MA, Johnson CL, Sempos CT. Macronutrient intakes among adult Hispanics: a comparison of Mexican Americans, Cuban Americans, and mainland Puerto Ricans. *American Journal of Public Health* 85(5):684-689, 1995.

- Marin G. AIDS prevention among Hispanics: needs, risk behaviors, and cultural values. *Public Health Reports* 104(5):411-413, 1989.
- McDowell MA, Briefel RR, Alaimo K, Johnson CL. Energy and macronutrient intakes of persons ages 2 months and over in the United States: Third National Health and Nutrition Examination Survey, Phase 1, 1988-91. Advance data from *Vital and Health Statistics*; No. 255. Hyattsville, MD: National Center for Health Statistics, 1994.
- McGinnis MJ, Ballard-Barbash RM. Obesity in minority populations: policy implications of research. *American Journal of Clinical Nutrition* 53:1512s-1514s, 1991.
- Nader PR, Sallis JF, Patterson T, Abramson I, Rupp JW, Atkins CJ, Roppe BE, Morris JA, Wallace JP, Vega WA. A family approach to cardiovascular risk reduction: results from the San Diego Family Health Project. *Health Education Quarterly* 16(2):229-244, 1989.
- National Center for Health Statistics. Advance report of final mortality statistics, 1991. *Monthly Vital Statistics Report*. Supplement 42:2. Hyattsville, MD: U.S. Department of Health and Human Services, 1993a.
- National Center for Health Statistics. Advance report of final mortality statistics, 1992. *Monthly Vital Statistics Report*. Supplement 43:6. Hyattsville, MD: U.S. Department of Health and Human Services, 1994a.
- National Center for Health Statistics. Anthropometric data and prevalence of overweight for Hispanics: 1982-1984. *Vital and Health Statistics* 11(239):14-15. Hyattsville, MD: U.S. Department of Health and Human Services, DHHS Pub. No. 89-1689, 1989.
- National Center for Health Statistics. Health promotion and disease prevention, United States, 1990. *Vital and Health Statistics* 10(185):46. Hyattsville, MD: U.S. Department of Health and Human Services, DHHS Pub. No. 93-1513, 1993b.
- National Center for Health Statistics. *Health, United States, 1993*. Hyattsville, MD: U.S. Department of Health and Human Services, DHHS (PHS) Pub. No. 94-1232, 1994b.
- National Center for Health Statistics. Serum lipids and lipoproteins of Hispanics, 1982-84. *Vital and Health Statistics* 11(240):42-43. Hyattsville, MD: U.S. Department of Health and Human Services, 1990.
- National Coalition of Hispanic Health and Human Services Organizations (COSSMHO). *Delivering Preventive Health Care to Hispanics: A Manual for Providers*. Washington, DC: National Coalition of Hispanic Health and Human Services Organizations, 1990.
- National Council of La Raza. *State of Hispanic America 1991: An Overview*. Washington, DC: National Council of La Raza, 1992.
- National Diabetes Information Clearinghouse. *Diabetes in Hispanics Fact Sheet*. Bethesda, MD: National Institutes of Health, NIH Pub. No. 93-3265, 1993.
- National Heart, Lung, and Blood Institute. *Executive Summary: Strategies for Diffusing Health Information to Minority Populations; A Profile of a Community-Based Diffusion Model*. Bethesda, MD: National Institutes of Health, 1987.
- National Heart, Lung, and Blood Institute. *Facts About Coronary Heart Disease*. Bethesda, MD: National Heart, Lung, and Blood Institute, NIH Pub. No. 92-2265, 1992.



- National Heart, Lung, and Blood Institute. Joint National Committee. *The Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure*. Bethesda, MD: National Heart, Lung, and Blood Institute, NIH Pub. No. 93-1088, 1993a.
- National Heart, Lung, and Blood Institute. National Cholesterol Education Program. *Report of the Expert Panel on Population Strategies for Blood Cholesterol Reduction*. Bethesda, MD: National Heart, Lung, and Blood Institute, NIH Pub. No. 93-3046, 1993b.
- National Heart, Lung, and Blood Institute. National Cholesterol Education Program. *Second Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults: Executive Summary*. Bethesda, MD: National Heart, Lung, and Blood Institute, NIH Pub. No. 93-3095, 1993c.
- National Heart, Lung, and Blood Institute. *National High Blood Pressure Education Program: Working Group Report on Hypertension in Diabetes*. Bethesda, MD: National Institutes of Health, NIH Pub. No. 94-3530, 1994a.
- National Heart, Lung, and Blood Institute. *National High Blood Pressure Education Program: Working Group Report on Primary Prevention of Hypertension*. Bethesda, MD: National Institutes of Health, NIH Pub. No. 93-2669, 1993d.
- National Heart, Lung, and Blood Institute. *Obesity Education Initiative: Strategy Development Workshop for Public Education on Weight and Obesity, Summary Report*. Bethesda, MD: National Institutes of Health, NIH Pub. No. 94-3314, 1994b.
- National Heart, Lung, and Blood Institute and American Heart Association. *Exercise and Your Heart: A Guide to Physical Activity*. Bethesda, MD: National Institutes of Health, NIH Pub. No. 93-1677, revised 1993.
- National Heart, Lung, and Blood Institute and Johns Hopkins Medical Institutions. *Health Behavior Research in Minority Populations: Access, Design, and Implementation*. Bethesda, MD: National Institutes of Health, NIH Pub. No. 92-2965, 1992.
- Nieman DC. Fitness and sports medicine: a health-related approach. *Physical Activity and Heart Disease*. 3rd edition. Palo Alto, CA: Bull Publishing Company, 1995.
- Oto-Kent D, Lee M, Gonzalez D. Ayude Su Corazón: A health education project in rural California. *Journal of Health Education* 22(5):321-324, 1991.
- Pappas G, Gergen PJ, Carroll M. Hypertension prevalence and the status of awareness, treatment, and control in the Hispanic Health and Nutrition Examination Survey (HHANES), 1982-1984. *American Journal of Public Health* 80(12):1431-1436, 1990.
- Ramirez AG, McAlister AL. Mass media campaign—A Su Salud. *Preventive Medicine* 17:608-621, 1988.
- Schucker B, Wittes JT, Santanello NC, Weber SJ, McGoldrick D, Donato K, Levy A, Rifkind BM. Change in cholesterol awareness and action: results from national physician and public surveys. *Archives of Internal Medicine* 151(4):666-673, 1991.

- Sempos CT, Cleeman JI, Carroll MD, Johnson CL, Bachorik PS, Gordon DJ, Burt VL, Briefel RR, Brown CD, Lippel K, Rifkind BM. Prevalence of high blood cholesterol among U.S. adults. *Journal of the American Medical Association* 269(23):3009-3014, 1993.
- Shea S, Bach CE, Lantigua R, Wechsler H. The Washington Heights-Inwood Healthy Heart Program: a third-generation community-based cardiovascular disease prevention program in a disadvantaged urban setting. *Preventive Medicine* 21:203-217, 1992.
- Sorlie PD, Backlund E, Johnson NJ, Rogot E. Mortality by Hispanic status in the United States. *Journal of the American Medical Association* 270(20):2464-2468, 1993.
- Stern MP, Patterson JK, Mitchell BD, Haffner SM, Hazuda HP. Overweight and mortality in Mexican Americans. *International Journal of Obesity* 14(7):623-629, 1990.
- University of California—San Diego. *Por la Vida User's Guide: How To Work With the Latino Community in Developing a Health Promotion Project*. San Diego, CA: University of California—San Diego, Child and Family Health Studies; and San Diego State University, Center for Behavioral and Community Health Studies, 1990.
- U.S. Bureau of the Census. Current population reports, Series P20-475. *Hispanic Population in the United States: March 1993*. Washington, DC: U.S. Government Printing Office, 1993a.
- U.S. Bureau of the Census. *Selected Social Characteristics: 1990, United States. 1990 Census of Population and Housing (CPH-L-80)*. Washington, DC: U.S. Bureau of the Census, 1991.
- U.S. Bureau of the Census. *We the American. . . Hispanics. November 1993*. Washington, DC: U.S. Government Printing Office, 1993b.
- U.S. Public Health Service. *The Health Benefits of Smoking Cessation*. Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Rockville, MD: U.S. Department of Health and Human Services, DHHS Pub. No. (CDC) 90-8416, 1990.
- U.S. Public Health Service. *Minority Programs of the National Heart, Lung, and Blood Institute, Fiscal Year 1992*. Bethesda, MD: National Institutes of Health, NIH Pub. No. 93-3037, 1993a.
- U.S. Public Health Service. *Promoting Healthy Diets and Active Lifestyles to Lower-SES Adults: Market Research for Public Education*. Washington, DC: U.S. Department of Health and Human Services, 1993b.
- Vega WA, Sallis JF, Patterson T, Rupp J, Atkins C, Nader PR. Assessing knowledge of cardiovascular health-related diet and exercise behaviors in Anglo- and Mexican-Americans. *Preventive Medicine* 16:696-709, 1987.
- Whitney E, Harris N. A progress report on an ongoing smoking cessation initiative as part of a major wellness program. *Health Values* 18(1):84-90, 1994.
- Zonszein J. Latinos and diabetes. *Diabetes Spectrum* 6(2):88-91,136-137, 1993.

# APPENDIX A

## OVERVIEW OF SELECTED CVD-RELATED PREVENTION PROGRAMS

PROJECT	TARGET AUDIENCE	LOCATION	GOALS AND OBJECTIVES	METHODOLOGY
A Su Salud	Mexican-American adults	Texas-Mexico border area	<ul style="list-style-type: none"> <li>– Reduce number of smokers by encouraging current smokers to quit and preventing others from initiating the habit.</li> <li>– Promote other healthy behaviors.</li> </ul>	<ul style="list-style-type: none"> <li>– Use of role models from community.</li> <li>– Distribution by volunteers of culturally specific materials, such as a self-help booklet.</li> <li>– Use of media to disseminate information and personal testimonies.</li> </ul>
Ayude Su Corazón	Rural residents (predominantly Latino)	Yolo County, CA	<ul style="list-style-type: none"> <li>– Increase knowledge of CVD risk factors and ways to prevent and control these risk factors.</li> <li>– Enable community to sustain program after intervention is over.</li> </ul>	<ul style="list-style-type: none"> <li>– Blood pressure screening by trained volunteers.</li> <li>– Cholesterol screening by a local hospital.</li> <li>– Quarterly newsletter, newspaper articles, PSAs.</li> <li>– Toll-free question line.</li> <li>– Promotions in stores.</li> <li>– Classes conducted by area teachers.</li> </ul>
Checkerboard Cardiovascular Curriculum	Native American and Latino children	Rural New Mexico	<ul style="list-style-type: none"> <li>– Teach children heart-healthy behaviors, such as selecting low-fat food and being physically active.</li> <li>– Test a pilot curriculum designed to accomplish the goal stated above.</li> </ul>	<ul style="list-style-type: none"> <li>– Interviews with grandparents about traditional diet and activities.</li> <li>– Cooking demonstrations and talks by elders.</li> <li>– Culturally relevant materials on exercise and diet.</li> </ul>
Por la Vida	Latino women	San Diego, CA	<ul style="list-style-type: none"> <li>– Prevent heart disease and stroke.</li> <li>– Provide skills and knowledge to Latino women to help them improve their own health and the health of their families.</li> </ul>	<ul style="list-style-type: none"> <li>– Trainings conducted by women from the Latino community (<i>consejeras</i>).</li> <li>– Games and culturally specific handout materials.</li> <li>– Child care to allow participation.</li> <li>– Small group sessions of relatives and friends.</li> </ul>
San Diego Family Health Project	Mexican-American and white families	San Diego, CA	<ul style="list-style-type: none"> <li>– Decrease cardiovascular heart disease and related conditions.</li> <li>– Teach children and parents how decreasing salt and fat intake and increasing activity levels can prevent CVD and various risk factors.</li> </ul>	<ul style="list-style-type: none"> <li>– Education.</li> <li>– Aerobic activity.</li> <li>– Self-report of dietary and activity behaviors.</li> </ul>
Washington Heights-Inwood Healthy Heart Program	Low SES urban residents (predominantly Latino)	Northern Manhattan, New Y/rk	<ul style="list-style-type: none"> <li>– Reduce risks of CVD.</li> <li>– Test the diffusion of a community-based disease prevention program.</li> </ul>	<ul style="list-style-type: none"> <li>– Adapted model for inner-city setting.</li> <li>– Used community volunteers.</li> <li>– Involved community organization and leaders.</li> </ul>



## APPENDIX B

### THE NHLBI WASHINGTON, D.C., METROPOLITAN AREA LATINO COMMUNITY CARDIOVASCULAR DISEASE PREVENTION AND OUTREACH INITIATIVE

The initial effort of the NHLBI Latino Community Cardiovascular Disease Prevention and Outreach Initiative is taking place in the Washington, D.C., metropolitan area. The intended goals of this project include:

- increasing the awareness of cardiovascular risk factors and their impact on heart health in the Latino community,
- establishing an alliance of community groups to become partners with the NHLBI in the development and implementation of the project,
- developing a series of health messages and support materials in collaboration with the Latino community, and
- monitoring and assessing the effect of the project's awareness and outreach efforts in the Latino community.

Strategies for attaining these goals include conducting public education through use of the media and through community outreach efforts. The NHLBI and community members are

working together to develop health education products specifically designed for the Latino community.

Widespread community involvement in the endeavor is being emphasized through the development and implementation of this project. Latino health care professionals, community leaders, community-based organizations, clinics, and health centers as well as Latino businesses and media have been invited and encouraged to participate as partners with NHLBI health educators and researchers to develop and provide activities that will promote healthier lifestyles and reduce the risk of CVD among Latinos.

In addition, this effort is intended to serve as a model for future projects elsewhere in the Nation. Planning sessions are being conducted in the Latino community. The first community planning session was held September 12, 1994.

For more information on this project, please contact the NHLBI Information Center at (301) 251-1222, fax (301) 251-1223.



# APPENDIX C

## OVERVIEW OF DATA

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**TABLE 1. PERCENT OF U.S. POPULATION BY SELECTED GROUPS AND SOCIOECONOMIC FACTORS**

Socioeconomic Factors		Selected Groups							
		Total Population	Non-Latino	Latino	Mexican-American	Puerto Rican	Cuban-American	Central/South American	Other Latino
		Percent							
Completed high school	1993 <sup>1</sup>	80.2	82.4	53.1	46.2	59.8	62.1	62.9	68.9
Living below poverty line	1993 <sup>1</sup>	14.5	13.1	29.3	30.1	36.5	18.1	26.7	23.1
Unemployed	1993 <sup>1</sup>	7.4	7.1	11.9	11.7	14.4	7.3	13.2	10.8
Under age 65 and not covered by health insurance	1992 <sup>2</sup>	17.2	—	34.0	37.8	18.3	20.1	—	35.2

<sup>1</sup> Current Population Estimates

<sup>2</sup> National Health Interview Survey

— Data not available



**TABLE 2. SELECTED BEHAVIORS AMONG THE TOTAL U.S. POPULATION AND THE U.S. LATINO POPULATION BY GENDER**

Behaviors		Total Population			Latinos			
		Total	Men	Women	Total	Men	Women	
		<b>Percent</b>						
Exercise or play sports moderately	1991 <sup>1</sup>	24.0	26.7	21.6	20.1	23.6	16.9	
Currently smokes cigarettes	1990 <sup>1</sup>	26.1	28.3	24.2	20.2	25.2	15.5	
Ever checked cholesterol	1990 <sup>1</sup>	52.7	51.5	56.3	37.5	30.0	43.9	
Checked blood pressure within year	1990 <sup>1</sup>	87.0	83.4	90.9	81.8	73.3	88.3	

<sup>1</sup> National Health Interview Survey

**TABLE 3. AGE-ADJUSTED PREVALENCE OF SELECTED FACTORS  
AMONG LATINOS BY ETHNICITY AND GENDER**

Selected Factors		Mexican-American		Puerto Rican		Cuban-American	
		Men	Women	Men	Women	Men	Women
<b>Percent</b>							
Hypertension							
Prevalence	1982-84 <sup>1</sup>	25.0	21.8	19.7	18.0	20.5	13.8
Awareness	1982-84 <sup>1</sup>	67.9	95.0	78.7	96.1	87.2	95.1
Treatment	1982-84 <sup>1</sup>	49.3	86.0	41.0	85.5	70.1	79.1
Control	1982-84 <sup>1</sup>	22.6	43.6	11.9	41.6	26.1	29.5
Prevalence	1988-91 <sup>2</sup>	26.9	20.8	—	—	—	—
High Blood Cholesterol							
Prevalence high	1982-84 <sup>1</sup>	18.8	20.0	17.7	22.7	16.1	16.9
	1988-91 <sup>2</sup>	20.3	19.4	—	—	—	—
Prevalence borderline-high	1982-84 <sup>1</sup>	38.2	32.4	31.7	26.5	35.6	26.1
Overweight							
Prevalence	1982-84 <sup>1</sup>	31.2	41.4	25.7	39.8	28.5	31.9
	1988-91 <sup>2</sup>	39.5	47.9	—	—	—	—
Diabetes*							
Prevalence ages 20-44	1982-84 <sup>1</sup>	1.6	2.3	1.2	2.5	1.0	1.8
Prevalence ages 45-74	1982-84 <sup>1</sup>	13.4	15.2	11.3	16.2	5.2	6.6

<sup>1</sup> Hispanic Health and Nutrition Examination Survey

<sup>2</sup> National Health and Nutrition Examination Survey

\* Crude prevalence

— Data not available

**TABLE 4. AGE-ADJUSTED DEATH RATES FOR HEART DISEASE  
FOR THE TOTAL U.S. POPULATION AND THE U.S. LATINO  
POPULATION BY GENDER**

<b>Behaviors</b>	<b>Total Population</b>			<b>Latinos</b>		
	<b>Total</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>	<b>Men</b>	<b>Women</b>
1985-87 <sup>1</sup>	631.0	862.3	451.4	394.4	518.6	296.1
1988-91 <sup>1</sup>	546.2	739.9	394.7	366.6	485.4	271.2

<sup>1</sup> Vital Statistics of the United States

