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Health Outcomes Among Hispanic Subgroups: Data from the National Health Interview Survey, 1992–95

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Abstract

Background—Within the next 50 years, Hispanics will become the largest minority group in the United States. The largest Hispanic subgroups are those of Mexican, Cuban, and Puerto Rican descent. The Hispanic population is heterogeneous in terms of culture, history, socioeconomic status (SES) and health status. In this report, various health status measures are compared across Hispanic subgroups in the United States.

Methods—National Health Interview Survey (NHIS) data aggregated from 1992 through 1995 were analyzed. NHIS is one of the few national surveys that has a sufficiently large sample size to adequately compare the different subgroups. Data are presented for four Hispanic origin subgroups—Mexican, Cuban, Puerto Rican, and ''other Hispanic'' persons—for the Hispanic population as a whole and for the non-Hispanic white and non-Hispanic black populations. These groups are compared with respect to several health status outcomes, providing both age-adjusted and unadjusted estimates.

Results—The health indicators for Puerto Rican persons are significantly worse than for the other Hispanic origin subgroups. For example, about 21% of Puerto Rican persons reported having an activity limitation, compared with about 15% of Cuban and Mexican persons, and 14% of ''other Hispanic'' persons. In contrast, the health indicators of Cuban persons are often better than those of the other subgroups. For example, Cuban persons reported an average of 3 days per year lost from school or work, compared with about 6 days for Mexican and Puerto Rican persons and 7 days for ''other Hispanic'' persons. Mexican persons fare better than Puerto Rican persons on measures such as restricted activity days, bed disability days and hospitalizations.

Conclusion—These data demonstrate clear differences in health status as well as indicators of socioeconomic status across Hispanic subgroups in the United States. Data on Hispanic subgroups facilitate the planning of public health services for various underserved populations.

Key words: Hispanic • Latino • National Health Interview Survey • Cuban • Puerto Rican • Mexican

Introduction

The Hispanic population in the United States has grown dramatically in recent decades. Between 1970 and 1980, the Hispanic population grew by 61%. Between 1980 and 1990, it grew another 53%, while the rest of the U.S. population had a growth rate of only 7% (1). The Census Bureau estimated that 29.7 million Hispanic people were living in the continental United States, Alaska, and Hawaii in 1997 (2).

The Hispanic population is notable for its diversity. According to the Census Bureau, approximately 63% of the Hispanic population living in the continental United States, Alaska, and Hawaii is of Mexican origin; 11% is of Puerto Rican origin; 4% is of Cuban origin; and the remaining 22% are of ''other Hispanic'' origin, which includes persons of Central and South American descent, Dominicans, and European Spaniards (1). The subgroups of Hispanics vary by their patterns of geographic distribution in the United States; the Mexican population tends to live predominantly in the southwest, the Cuban population lives primarily in Florida, and the Puerto Rican population resides mostly in the northeast.

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In spite of the diversity within the Hispanic population, data collected in past national surveys and censuses rarely allowed for analysis of Hispanic subgroups. In the 1940–70 census, membership in the Hispanic ethnic group was determined based on criteria such as having an Hispanic surname, birthplace, or use of the Spanish language. These methods did not allow researchers to separate the diverse group of Hispanics into the appropriate national origin subgroups. Instead they encouraged the use of one large and heterogenous category (3). More recently, data have been available to analyze the various subgroups comprising the larger rubric of the Hispanic population. The National Center for Health Statistics has also been collecting data on Hispanic subgroups for many years. One report focusing on Hispanic subgroups used 1978–80 National Health Interview Survey (NHIS) data (4).

Many Hispanic origin subgroups have different histories of immigration and different experiences in the United States. For example, Mexico and the United States have had a long and intricate history. At one time, almost the entire region of the present-day southwest was a part of Mexico. Upon signing the Treaty of Guadalupe-Hidalgo in 1848, the United States acquired this land and its many Mexican inhabitants. From this perspective, the concept of immigration is meaningless for many Mexican persons (5). Future immigration from Mexico to the United States in the mid-1900's was dictated by agricultural labor shortages. The Bracero Program brought millions of Mexican laborers to work on U.S. farms. The end of the program in the mid 1960's began the wave of illegal Mexican immigration that continues today (6).

The island of Puerto Rico was acquired from Spain as a result of the Spanish-American War of 1898. The island's inhabitants were made U.S. citizens in 1917. Under the common-wealth agreement, residents of the island received limited eligibility for benefits such as Medicaid and welfare (7). As citizens of the United States, Puerto Rican people may settle and work anywhere on the U.S. mainland. Puerto Ricans have been migrating to cities in the northeast since the early 19th century. However, the largest influx of migrants, which occurred in 1957, was dictated by a labor shortage in American industry (5).

The history of Cuban migration is markedly different from that of the other Hispanic subgroups. In the 1960's, a wave of Cuban immigrants sought exile from the Castro regime. The U.S. Government provided substantial assistance to these well educated and wealthy Cuban immigrants. Today, these immigrants enjoy considerable political influence within the United States. In the 1980's, the Mariel Boatlift brought 125,000 new Cuban refugees to the United States. These immigrants were less educated and poorer than earlier waves of immigrants; thus many initially required substantial Federal assistance (5).

Arriving in the 1980's, the newest immigrants from Central and South America were often fleeing from violence, war, and poverty in their homelands. Many of them have not been granted legally recognized refugee status and are thus ineligible for social services (5). These differences in historical migration among Hispanic subgroups influence their social, economic, and political status, and both directly and indirectly affect the health of these subgroups.

Regardless of the historical differences among the Hispanic subpopulations, all immigrants confront the process of acculturation upon arriving in the United States. Initial studies in the mid-1980's showed that the Mexican population, which generally had lower socioeconomic status (SES), had health indicators similar to those of non-Hispanic white persons, who had a higher SES. This relationship is referred to as the ''Hispanic paradox'' (8–10). Further research on the Mexican population has demonstrated that the effect of SES on health indicators is modified by the acculturation status of the individual (11). Many health behaviors worsen as people become more acculturated. For example, rates of smoking, alcohol, and illicit drug use tend to increase as the Mexican population becomes more acculturated into American society (12–13). However, certain health characteristics such as hypertension, CVD risk factors, pregnancy outcomes, and even mortality seem to follow a more complex pattern—one that is closely linked to both SES and acculturation status (14–18).

The good health outcomes of the more acculturated U.S.-born Mexican population may be a function of their higher SES, while the poor health outcomes of less acculturated but U.S.-born Mexican persons may be explained by both their lower SES and the stress associated with the continual process of acculturation (15–17). In contrast, foreign-born Mexican immigrants, the least acculturated group, experienced favorable health outcomes. Some possible explanations include the protective effect of strong family and cultural ties, social behaviors, the ''healthy migrant effect,'' under-reporting of mortality and poor birth outcomes, and misclassification of Mexican persons on birth and death certificates (9–11, 14, 19–20). The mechanism through which acculturation may affect health status and behaviors could be related to the disruption of social networks, new exposure to racial and class-based discrimination, different and potentially harmful environmental exposures, and the adjustment to the host country's culture, values, and norms (19).

As the United States continues to grow and diversify, these and other issues related to Hispanic health status will become increasingly important. An essential first step in understanding Hispanic health is a more detailed analysis of data on Hispanic subgroups in the United States. Data that present Hispanics as one category may mask substantial differences across Hispanic subgroups. Knowledge of the specific health characteristics of Hispanic subgroups is essential for effectively understanding Hispanic health patterns and for planning public health services for these subgroups. In this report, data from the NHIS provide descriptive national estimates of various health indicators and health care utilization measures for the major Hispanic subgroups.

Methods

NHIS data from 1992–95 were analyzed for this report. Each year the NHIS collects health-related data from a nationally representative sample of the civilian noninstitutionalized population of the United States. Data are collected on a wide variety of health topics and general health status measures to monitor the health of the U.S. population.

Prior to the redesign in 1997, NHIS included an annual set of core questions that collected information on such topics as hospital visits, physician contacts, restricted activity days, and perceived health status. Data were also collected from supplements that changed from year to year and focused on specific health topics such as health insurance, immunization, smoking, and AIDS knowledge and attitudes. In this report, data were analyzed from the core questions as well as data from the 1992–95 AIDS knowledge and attitudes supplements. To assess smoking status, the 1992 Cancer epidemiology supplement and a supplement that collects data on health goals of the nation, known as the Year 2000 objectives supplement (1993–95) were used. Additional information about NHIS can be found on the web page: www.cdc.gov/nchs/nhis.htm.

Age-adjusted and unadjusted estimates for the total population, the non-Hispanic white population, the non-Hispanic black population, the overall Hispanic population, and four Hispanic origin subgroups are provided. The unadjusted data are given for the reader's reference and are not explicitly discussed in this report. The four Hispanic origin subgroups analyzed are the Puerto Rican population, the Cuban population, the Mexican population, and the ''other Hispanic'' origin population. The Mexican population includes all individuals who identified themselves as Mexican, Mexican-American, or Chicano. The Cuban and Puerto Rican populations include individuals who identify themselves as Cuban or Puerto Rican, respectively. The ''other Hispanic'' origin subgroup comprise individuals who classify themselves as one of the following: multiple Hispanic origin, Latin American, Spanish, or an unknown type of Spanish origin. While this subgroup comprises 24% of the Hispanic population, sample sizes for the component pieces are not large enough to report separately. As the Hispanic population continues to grow, data will become available on specific subgroups encompassing the category ''other Hispanics.'' However, until then, information on this subgroup is reported for completeness and readers should understand that there is broad variation in the included populations. The total population category includes people of all race and ethnic groups. The population size and percent distribution of the populations analyzed in this report are shown in table 1.

The health indicators analyzed include self-reported health status, activity limitation, interval since last physician contact, mean number of physician contacts, restricted activity days, bed disability days, work- or school-loss days, number of hospital stays, number of days of hospitalization, smoking status, reported AIDS knowledge, AIDS testing, and perceived risk of getting AIDS. This report, which does not include SES comparisons for Hispanic subgroups, focuses primarily on descriptive comparisons of the demographic and health characteristics of Hispanic subgroups. However such comparisons should be included to identify potential causes of observed differences in health. All variables are defined in the Technical Notes section at the end of this report.

Age-adjusted estimates were compared using two-tailed *t*-tests at the 0.05 level. No adjustments were made for multiple comparisons. Terms in the text such as ''greater'' and ''less'' imply a statistically significant difference. Terms such as ''similar'' or ''no difference'' mean that no statistically significant difference between the groups was found.

Results

Sociodemographic characteristics

Table 2 presents a variety of sociodemographic characteristics that provide a descriptive picture of the populations of interest, and also provide a frame of reference for the health outcomes presented in this report. All data in table 2 are age-adjusted, with the exception of the age variables.

Age—The overall Hispanic population was younger than the non-Hispanic white population, with the notable exception of the Cuban population. The Cuban national origin subgroup was, on average, older than the other three subgroups, e.g., 17% of Cubans were 65 and older compared with 5% of the Puerto Rican and ''other Hispanic'' national origin subgroups and only 4% of the Mexican subgroup. The percent of Cuban elderly people was similar to the non-Hispanic white population; 14% of the non-Hispanic white population is 65 years old and older. In contrast, the Mexican, Puerto Rican, and ''other Hispanic'' subgroups were significantly younger than the

Table 1. Number of persons and percent distribution of Hispanic origin subgroups by selected race groups: National Health Interview Survey, annualized figures, 1992–95

Hispanic origin and race[1]	Number in thousands	Percent distribution
Puerto Rican	3,128	12.4
Cuban	1,361	5.4
Mexican/Mexican American	14,747	58.4
Other Hispanic[2]	6,021	23.8
Total Hispanic	25,259	100.0
Non-Hispanic black	31,535	. . .
Non-Hispanic white	188,940	. . .
Total population[3]	256,802	. . .

. . . Category not applicable.
[1]Includes people of all ages.
[2]Includes multiple Hispanic origins, Latin American, Spanish, and unknown Spanish origin.
[3]Includes all race and ethnic groups.
NOTE: Figures may not add to 100% because of rounding.

Table 2. Number and percent distributions of selected demographic characteristics with standard errors by Hispanic origin subgroup and race: United States, annualized figures, 1992–95

[Standard errors in parentheses]

Selected demographic characteristic	Puerto Rican	Cuban	Mexican/ Mexican American	Other Hispanic	Total Hispanic	Non-Hispanic black	Non-Hispanic white	Total population[1]
				Number in thousands				
All persons	3,128	1,361	14,747	6,021	25,259	31,535	188,940	256,802
				Age-adjusted percent distribution and standard error				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Sex								
Male	45.7 (0.63)	50.3 (0.88)	49.6 (0.28)	47.4 (0.45)	48.5 (0.21)	45.8 (0.22)	48.9 (0.08)	48.5 (0.07)
Female	54.3 (0.63)	49.7 (0.88)	50.4 (0.28)	52.6 (0.45)	51.5 (0.21)	54.2 (0.22)	51.1 (0.08)	51.5 (0.07)
Age[2]								
Under 18 years	38.0 (0.74)	23.7 (1.45)	40.0 (0.36)	33.1 (0.49)	37.2 (0.31)	33.7 (0.32)	24.1 (0.13)	26.7 (0.12)
18–64 years	56.9 (0.69)	59.1 (1.32)	56.2 (0.32)	61.5 (0.48)	57.7 (0.26)	58.2 (0.30)	61.8 (0.15)	61.1 (0.13)
65 years and over	5.0 (0.40)	17.2 (2.23)	3.8 (0.18)	5.3 (0.27)	5.1 (0.24)	8.1 (0.19)	14.1 (0.15)	12.1 (0.12)
Detailed age groups[2]								
Under 5 years	11.9 (0.47)	7.1 (0.72)	13.8 (0.23)	10.5 (0.32)	12.4 (0.18)	10.0 (0.17)	6.8 (0.06)	7.8 (0.06)
5–17 years	26.2 (0.68)	16.6 (1.11)	26.1 (0.32)	22.7 (0.44)	24.8 (0.26)	23.7 (0.26)	17.3 (0.11)	18.9 (0.10)
18–24 years	11.7 (0.46)	8.5 (0.72)	13.8 (0.25)	12.5 (0.39)	12.9 (0.20)	11.0 (0.20)	8.8 (0.14)	9.6 (0.12)
25–44 years	30.1 (0.69)	28.8 (1.32)	31.5 (0.26)	34.4 (0.43)	31.8 (0.23)	31.3 (0.25)	32.0 (0.12)	32.0 (0.10)
45–64 years	15.2 (0.60)	21.7 (1.00)	11.0 (0.24)	14.7 (0.38)	12.9 (0.21)	15.9 (0.23)	21.1 (0.12)	19.5 (0.10)
65–74 years	3.3 (0.29)	10.9 (1.53)	2.6 (0.13)	3.5 (0.19)	3.3 (0.16)	5.1 (0.13)	8.2 (0.09)	7.2 (0.07)
75 years and over	1.7 (0.20)	6.3 (0.81)	1.3 (0.08)	1.8 (0.17)	1.7 (0.10)	3.0 (0.10)	5.9 (0.08)	4.9 (0.06)
Education[3]								
Less than high school graduate	42.1 (1.71)	31.2 (2.05)	55.3 (0.71)	34.7 (0.94)	46.3 (0.67)	30.6 (0.44)	16.2 (0.20)	20.0 (0.18)
High school graduate	30.5 (1.20)	28.9 (1.24)	24.4 (0.47)	29.3 (0.71)	27.0 (0.38)	36.1 (0.33)	37.8 (0.18)	36.6 (0.16)
Some college	14.7 (0.74)	18.7 (1.17)	11.7 (0.35)	17.3 (0.55)	13.9 (0.29)	18.3 (0.28)	20.4 (0.13)	19.6 (0.11)
College graduate or more	12.8 (0.82)	21.3 (1.44)	8.6 (0.34)	18.6 (0.66)	12.7 (0.35)	15.1 (0.34)	25.5 (0.23)	23.7 (0.20)
Employment status[4]								
Currently employed	49.2 (1.38)	63.4 (1.00)	57.3 (0.41)	59.6 (0.61)	57.2 (0.37)	57.3 (0.37)	65.8 (0.16)	63.7 (0.14)
Currently unemployed	3.5 (0.30)	3.5 (0.46)	4.0 (0.16)	3.6 (0.24)	3.8 (0.12)	4.5 (0.12)	2.8 (0.05)	3.1 (0.04)
Not in labor force	47.3 (1.41)	33.1 (0.93)	38.8 (0.39)	36.8 (0.59)	39.0 (0.36)	38.2 (0.35)	31.4 (0.15)	33.2 (0.13)
Family income								
Less than $20,000	41.1 (1.69)	25.6 (1.96)	39.5 (0.88)	31.2 (0.89)	37.0 (0.65)	39.0 (0.74)	19.4 (0.25)	24.0 (0.24)
$20,000-$34,999	17.8 (0.88)	17.0 (1.48)	21.2 (0.56)	20.3 (0.78)	20.3 (0.43)	17.6 (0.37)	21.3 (0.18)	20.7 (0.16)
$35,000 and over	22.4 (1.30)	34.4 (2.19)	20.4 (0.60)	28.5 (0.85)	23.3 (0.50)	20.3 (0.49)	43.8 (0.32)	38.4 (0.27)
Unknown	18.7 (1.05)	23.0 (1.66)	18.9 (0.72)	19.9 (0.81)	19.4 (0.51)	23.0 (0.83)	15.5 (0.30)	16.9 (0.29)
Poverty status[5]								
At or above poverty	60.5 (1.56)	77.0 (1.68)	60.5 (0.79)	70.0 (1.00)	63.8 (0.64)	59.6 (0.74)	84.8 (0.23)	79.0 (0.24)
Below poverty	27.8 (1.46)	12.0 (1.40)	26.6 (0.78)	18.0 (0.73)	23.8 (0.59)	24.5 (0.62)	7.7 (0.16)	11.9 (0.18)
Unknown	11.7 (0.74)	11.0 (1.02)	12.9 (0.58)	12.0 (0.67)	12.4 (0.40)	15.9 (0.76)	7.5 (0.18)	9.2 (0.20)
Family size								
1–3 members	53.4 (1.22)	54.8 (2.11)	39.7 (0.58)	49.6 (0.79)	44.9 (0.50)	56.8 (0.45)	59.2 (0.20)	57.3 (0.18)
4–5 members	35.8 (1.16)	36.9 (2.30)	38.0 (0.54)	37.4 (0.77)	37.2 (0.44)	32.1 (0.40)	34.8 (0.18)	34.4 (0.16)
6 or more members	10.8 (0.94)	8.4 (1.21)	22.3 (0.65)	13.0 (0.72)	17.9 (0.47)	11.1 (0.33)	6.0 (0.12)	8.4 (0.13)
Geographic region								
Northeast	64.4 (2.13)	15.2 (1.69)	1.1 (0.13)	29.6 (1.31)	17.0 (0.78)	16.8 (0.61)	20.8 (0.26)	19.7 (0.20)
Midwest	8.8 (1.06)	5.9 (0.74)	7.7 (0.56)	5.9 (0.40)	7.3 (0.39)	19.5 (0.75)	27.9 (0.29)	24.2 (0.21)
South	18.0 (1.45)	68.3 (2.85)	34.5 (1.30)	28.8 (1.17)	33.4 (1.04)	54.8 (1.04)	32.0 (0.36)	34.1 (0.25)
West	8.8 (0.75)	10.6 (1.28)	56.7 (1.34)	35.7 (1.21)	42.3 (1.01)	8.8 (0.41)	19.4 (0.24)	21.9 (0.20)
Place of residence								
MSA, central city[6]	64.6 (2.18)	37.8 (4.67)	47.7 (1.60)	48.5 (1.46)	49.3 (1.26)	56.9 (1.26)	23.1 (0.44)	30.5 (0.44)
MSA, not central city[6]	31.1 (2.03)	57.3 (4.76)	42.3 (1.55)	44.5 (1.43)	42.5 (1.25)	28.5 (1.00)	52.2 (0.55)	48.1 (0.49)
Non-MSA[6]	4.3 (0.53)	4.9 (0.76)	10.0 (1.09)	7.0 (0.78)	8.1 (0.69)	14.7 (1.34)	24.7 (0.47)	21.4 (0.35)

Table 2. Number and percent distributions of selected demographic characteristics with standard errors by Hispanic origin subgroup and race: United States, annualized figures, 1992–95—Con.

[Standard errors in parentheses]

Selected demographic characteristic	Puerto Rican	Cuban	Mexican/ Mexican American	Other Hispanic	Total Hispanic	Non-Hispanic black	Non-Hispanic white	Total population[1]
Nativity[4]	Age-adjusted percent distribution and standard error							
U.S. born[7]	97.0 (0.36)	27.9 (1.74)	52.5 (0.93)	36.5 (1.13)	51.1 (0.92)	93.6 (0.34)	95.3 (0.08)	88.4 (0.16)
Foreign born	3.0 (0.36)	72.1 (1.74)	47.5 (0.93)	63.5 (1.13)	48.9 (0.92)	6.4 (0.34)	4.7 (0.08)	11.6 (0.16)
Years in United States[8]								
Less than 1 year	*-	2.8 (0.70)	2.0 (0.19)	3.2 (0.41)	2.5 (0.19)	2.2 (0.40)	3.2 (0.27)	2.9 (0.13)
1 to less than 5 years	*4.5 (1.97)	8.4 (1.89)	12.1 (0.47)	14.5 (0.73)	12.6 (0.38)	11.4 (0.89)	11.5 (0.50)	13.5 (0.28)
5 to less than 10 years	11.8 (2.76)	5.6 (0.98)	16.2 (0.55)	19.8 (0.79)	16.4 (0.44)	17.9 (1.10)	9.7 (0.42)	14.6 (0.26)
10 to less than 15 years	*10.1 (3.05)	15.7 (1.75)	14.1 (0.50)	17.0 (0.76)	15.4 (0.42)	19.1 (1.15)	9.9 (0.46)	14.7 (0.28)
15 years or more	72.8 (4.27)	67.5 (1.89)	55.6 (0.78)	45.5 (1.05)	53.1 (0.67)	49.4 (1.53)	65.8 (0.76)	54.4 (0.44)

. . . Category not applicable.
*- Figure does not meet standard of reliability or precision and quantity zero.
* Figure does not meet standard of reliability or precision.
[1]Includes all race and ethnic groups.
[2]Age estimates are not standardized.
[3]For persons 25 years of age and older.
[4]For persons 18 years of age and older.
[5]Poverty status is based on family size, number of children under 18 years old, and family income.
[6]MSA is metropolitan statistical area.
[7]Includes persons born on the Island of Puerto Rico.
[8]For foreign-born persons 18 years of age and over.

NOTE: Figures may not add to 100% because of rounding.

Cuban national origin subgroup. Forty percent of Mexican persons, 38% of Puerto Rican persons, and 33% of ''other Hispanic'' persons were under 18 years old compared with only 24% of the Cuban and non-Hispanic white persons.

Education—Mexican persons had lower levels of educational attainment than did the other three Hispanic subgroups and the non-Hispanic populations. More Mexican persons did not complete a high school degree (55%) compared with Puerto Rican persons (42%), ''other Hispanic'' origin persons (35%), Cuban persons (31%), non-Hispanic black persons (31%), and non-Hispanic white persons (16%). A higher percent of Cuban (21%) and ''other Hispanic'' (19%) persons had at least a college degree compared with the Mexican (9%) and Puerto Rican populations (13%). The Puerto Rican subgroup's percent (13%) of college graduation is similar to that of non-Hispanic black Americans (15%).

Employment—The Cuban population had a higher percent of employed individuals (63%) than Puerto Rican (49%), Mexican (57%), and ''other Hispanics'' persons (60%). Puerto Rican adults had higher rates of non-participation in the labor force (47%) than did Mexican (39%), ''other Hispanics'' (37%), and Cuban adults (33%).

Income and Poverty—The Cuban population had a higher percent (34%) of people whose families earned $35,000 or more than families of Mexican (20%), Puerto Rican (22%), and ''other Hispanic'' (29%) origin. Fewer Cuban persons lived in families that were below the poverty level (12%) compared with persons who lived in ''other Hispanic'' (18%), Mexican (27%), and Puerto Rican families (28%). Overall, Mexican and Puerto Rican individuals tended to reside in families that had lower incomes and higher rates of living below the poverty line than did Cuban and ''other Hispanic'' origin families.

Family size—In general, Mexican individuals lived in families that were larger than the other Hispanic subgroups. About one quarter of Mexican individuals reported living in a family having six or more members compared with 13% of ''other Hispanic'' origin individuals. Cuban and Puerto Rican individuals reported living in smaller families than the other Hispanic origin subgroups. Fifty-five percent of Cuban and 53% of Puerto Rican persons reported having only 1–3 members in the household compared with 40% of Mexican and 50% of ''other Hispanic''origin persons.

Region of residence—Each Hispanic national origin subgroup had a distinctive regional distribution within the United States. Most of the Puerto Rican population (64%) lived in the Northeast, most of the Cuban population lived in the South region of the nation (68%), and most of the Mexican population lived in the West (57%) and the South (35%). The ''other Hispanic'' origin subgroup was distributed relatively evenly throughout the Northeast, South, and West. Overall, Hispanic persons tended to be urban dwellers. However, about 10% of Mexican persons lived in areas that were not classified as metropolitan statistical areas (MSA) compared with only 4% of Puerto Rican, 5% of Cuban, and 7% of ''other Hispanic'' persons.

Nativity and years in the United States—A larger percent of the Cuban (72%) and ''other Hispanic'' (63%) populations were foreign born compared with the Mexican population (47%). However, a large percent of the foreign-born Cuban subgroup reported

having lived in the United States for 15 years or more (68%) compared with the foreign born Mexican (56%) and the ''other Hispanic'' population (46%). The Mexican and ''other Hispanic'' populations seem to be more recent immigrants to the United States.

Health status indicators

Table 3 provides age-adjusted and unadjusted data on self-reported health

Table 3. Age-adjusted and unadjusted percent distributions of selected health characteristics with standard errors by Hispanic origin subgroup and race: United States, annualized figures, 1992–95

[Standard errors in parentheses]

Selected health characteristic	Puerto Rican	Cuban	Mexican/ Mexican American	Other Hispanic	Total Hispanic	Non-Hispanic black	Non-Hispanic white	Total population[1]
				Number in thousands				
All persons	3,128	1,361	14,747	6,021	25,259	31,535	188,940	256,802
				Age-adjusted percent distribution and standard error				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Self-assessed health status[2]								
Excellent	27.8 (0.94)	37.8 (1.50)	28.3 (0.49)	33.2 (0.66)	29.7 (0.37)	28.0 (0.36)	40.0 (0.22)	37.2 (0.18)
Very good	26.5 (0.91)	22.1 (1.09)	24.2 (0.41)	26.9 (0.63)	25.1 (0.32)	25.2 (0.35)	29.4 (0.15)	28.5 (0.13)
Good	28.2 (0.87)	26.1 (1.26)	31.3 (0.50)	27.6 (0.61)	29.9 (0.37)	28.7 (0.30)	21.4 (0.13)	23.6 (0.12)
Fair or poor	17.5 (0.77)	14.1 (0.88)	16.2 (0.36)	12.4 (0.45)	15.3 (0.26)	18.0 (0.32)	9.3 (0.10)	10.8 (0.08)
Activity limitation status[2]								
Not limited or unknown	78.6 (0.84)	85.1 (0.84)	84.9 (0.34)	86.3 (0.40)	84.5 (0.25)	80.5 (0.27)	84.6 (0.12)	84.3 (0.10)
Limited	21.4 (0.84)	14.9 (0.84)	15.1 (0.34)	13.7 (0.40)	15.5 (0.25)	19.5 (0.27)	15.4 (0.12)	15.7 (0.10)
Limited, but not in major activity	5.1 (0.40)	4.1 (0.45)	3.8 (0.17)	4.2 (0.26)	4.1 (0.13)	4.6 (0.12)	5.1 (0.06)	4.9 (0.05)
Unable to perform major activity	8.9 (0.63)	5.0 (0.43)	6.3 (0.22)	4.9 (0.27)	6.1 (0.18)	8.0 (0.17)	4.3 (0.06)	4.8 (0.05)
Limited in kind or amount of major activity	7.3 (0.44)	5.9 (0.55)	4.9 (0.19)	4.6 (0.25)	5.2 (0.16)	6.9 (0.16)	6.0 (0.07)	6.0 (0.06)
Limited in major activity [3]	16.2 (0.75)	10.8 (0.70)	11.3 (0.29)	9.5 (0.35)	11.3 (0.22)	14.9 (0.24)	10.3 (0.10)	10.8 (0.08)
Interval since last physician contact[2]								
Less than 1 year	82.8 (0.67)	78.3 (1.22)	69.2 (0.40)	76.6 (0.52)	73.3 (0.32)	79.2 (0.25)	79.9 (0.12)	78.9 (0.10)
1 to less than 2 years	8.3 (0.41)	10.3 (0.74)	11.2 (0.23)	10.3 (0.37)	10.5 (0.18)	10.4 (0.17)	9.3 (0.07)	9.6 (0.06)
2 to less than 5 years	6.1 (0.44)	7.1 (0.64)	12.8 (0.25)	8.8 (0.33)	10.6 (0.19)	7.5 (0.16)	7.8 (0.07)	8.2 (0.06)
5 years or more	2.8 (0.26)	4.4 (0.56)	6.8 (0.23)	4.3 (0.24)	5.5 (0.16)	2.9 (0.10)	3.0 (0.04)	3.3 (0.04)
				Unadjusted percent distribution and standard error				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Self-assessed health status[2]								
Excellent	31.5 (1.05)	36.0 (1.87)	32.4 (0.54)	36.1 (0.70)	33.4 (0.41)	30.9 (0.40)	39.5 (0.20)	37.7 (0.17)
Very good	27.8 (0.90)	21.7 (1.15)	26.1 (0.45)	28.0 (0.65)	26.6 (0.35)	26.1 (0.37)	29.4 (0.15)	28.7 (0.13)
Good	27.2 (0.87)	26.9 (1.32)	30.6 (0.52)	26.3 (0.60)	29.0 (0.39)	28.2 (0.32)	21.6 (0.13)	23.3 (0.12)
Fair or Poor	13.6 (0.62)	15.4 (1.47)	10.8 (0.27)	9.6 (0.37)	11.1 (0.23)	14.8 (0.29)	9.5 (0.10)	10.3 (0.08)
Activity limitation status[2]								
Not limited or unknown	83.1 (0.75)	83.9 (1.24)	90.5 (0.23)	89.8 (0.31)	89.1 (0.22)	83.8 (0.26)	84.3 (0.12)	85.0 (0.10)
Limited	17.0 (0.75)	16.1 (1.24)	9.5 (0.23)	10.2 (0.31)	10.9 (0.22)	16.2 (0.26)	15.7 (0.12)	15.1 (0.10)
Limited, but not in major activity	3.8 (0.30)	4.6 (0.46)	2.5 (0.10)	2.9 (0.16)	2.9 (0.09)	3.8 (0.10)	5.3 (0.06)	4.7 (0.05)
Unable to perform major activity	6.7 (0.53)	5.2 (0.47)	3.6 (0.13)	3.6 (0.19)	4.1 (0.12)	6.5 (0.14)	4.4 (0.06)	4.6 (0.05)
Limited in kind or amount of major activity	6.5 (0.39)	6.3 (0.84)	3.4 (0.12)	3.7 (0.19)	4.0 (0.12)	6.0 (0.14)	6.1 (0.07)	5.7 (0.05)
Limited in major activity[3]	13.2 (0.70)	11.5 (1.04)	7.0 (0.19)	7.3 (0.27)	8.1 (0.19)	12.4 (0.22)	10.5 (0.10)	10.3 (0.08)
Interval since last physician contact[2]								
Less than 1 year	82.9 (0.65)	78.9 (1.28)	68.7 (0.41)	75.8 (0.55)	72.7 (0.33)	78.7 (0.26)	79.9 (0.12)	78.8 (0.10)
1 to less than 2 years	8.8 (0.42)	9.9 (0.78)	11.9 (0.24)	11.0 (0.40)	11.2 (0.19)	11.0 (0.18)	9.2 (0.07)	9.7 (0.07)
2 to less than 5 years	5.9 (0.42)	6.9 (0.63)	13.0 (0.25)	9.0 (0.34)	10.8 (0.19)	7.5 (0.16)	7.8 (0.07)	8.2 (0.06)
5 years or more	2.4 (0.23)	4.3 (0.54)	6.4 (0.21)	4.2 (0.24)	5.3 (0.15)	2.8 (0.10)	3.1 (0.04)	3.3 (0.04)

. . . Category not applicable.
[1]Includes all race and ethnic groups.
[2]Includes people of all ages.
[3]Includes the categories unable to perform major activity and limited in kind or amount of major activity.

NOTE: Figures may not add to 100% because of rounding.

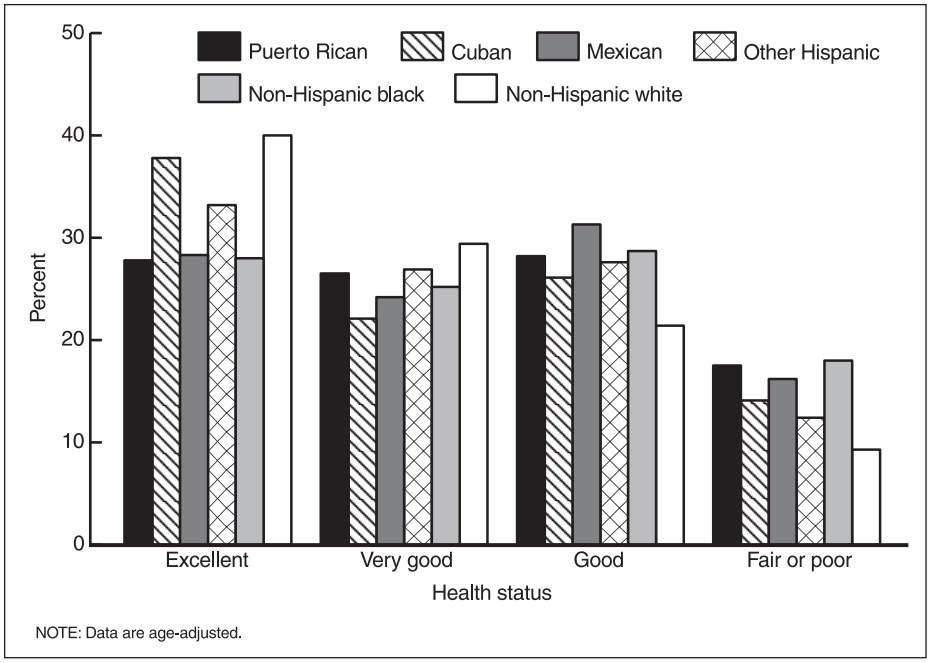

Figure 1. Self-assessed health status by Hispanic origin subgroup and race for people all ages: United States, annualized figures, 1992–95

status, activity limitation, and interval since last physician contact.

Self-assessed health status—Figure 1 provides a comparison of self-assessed health status among the different race and Hispanic origin subgroups. Among the Hispanic origin subgroups, Cuban persons reported better health than the others. Thirty-eight percent of Cuban persons reported excellent health compared with 33% of the ''other Hispanic'' population and 28% of Mexican and Puerto Rican individuals. In contrast, Puerto Rican persons more frequently reported poor or fair health than the Cuban and the ''other Hispanic'' subgroups. Eighteen percent of Puerto Rican persons reported fair or poor health compared with 12% of ''other Hispanic'' origin persons and 14% of Cuban individuals.

Activity limitation—Puerto Rican persons reported a higher level of activity limitation than the other three Hispanic origin subgroups (21% compared with 15% of Cuban and Mexican persons and 14% of ''other Hispanic'' origin persons). In addition, Puerto Rican individuals were more likely to report an inability to perform their major activity. The age-adjusted rates of activity limitation were similar for the Cuban, Mexican, and ''other Hispanic'' populations.

Interval since last physician contact—The age-adjusted estimates of physician contacts show that a larger percent of Puerto Rican persons reported seeing a physician within the past year than all other Hispanic subgroups. Eighty-three percent of Puerto Rican individuals reported a recent physician visit compared with 69% of Mexican persons, 77% of ''other Hispanic,'' and 78% of Cuban individuals. Conversely, a larger proportion of Mexican persons reported not having seen a doctor in the past 5 years (7%) compared with 3% of Puerto Rican and 4% of ''other Hispanic'' and Cuban individuals.

Table 4 focuses on the following health status measures: mean numbers of physician contacts, restricted activity days, bed disability days, and work or school loss days.

Table 4. Number and age-adjusted and unadjusted mean with standard errors of physician contacts and restricted activity days per year by Hipanic origin subgroup and race: United States, annualized figures, 1992–95

[Standard errors in parentheses]

Selected health indicator	Puerto Rican	Cuban	Mexican/ Mexican American	Other Hispanic	Total Hispanic	Non-Hispanic black	Non-Hispanic white	Total population[1]
				Number in thousands				
All persons	3,128	1,361	14,747	6,021	25,259	31,535	188,940	256,802
				Age-adjusted mean and standard error				
Physician contacts[2]	6.4 (0.33)	4.5 (0.35)	5.1 (0.15)	5.9 (0.24)	5.4 (0.12)	6.2 (0.11)	6.3 (0.05)	6.1 (0.04)
Restricted activity days[2]	21.3 (1.55)	14.5 (1.41)	19.0 (0.61)	16.7 (0.79)	17.9 (0.51)	21.8 (0.47)	16.2 (0.19)	16.7 (0.17)
Bed disability days[2]	10.4 (0.85)	8.6 (0.98)	8.0 (0.37)	7.2 (0.48)	8.0 (0.27)	9.7 (0.25)	6.0 (0.08)	6.5 (0.07)
Work- and school-loss days[3]	6.0 (0.66)	3.4 (0.63)	5.7 (0.45)	6.9 (0.86)	5.8 (0.36)	7.1 (0.41)	5.1 (0.11)	5.3 (0.10)
				Unadjusted mean and standard error				
Physician contacts[2]	5.7 (0.25)	4.8 (0.32)	4.1 (0.10)	5.1 (0.19)	4.6 (0.09)	5.5 (0.10)	6.4 (0.05)	6.0 (0.04)
Restricted activity days[2]	16.9 (1.08)	14.9 (1.41)	13.3 (0.39)	14.0 (0.59)	14.0 (0.32)	18.4 (0.38)	16.4 (0.19)	16.2 (0.16)
Bed disability days[2]	8.4 (0.56)	8.8 (1.03)	5.6 (0.21)	5.9 (0.33)	6.2 (0.18)	8.1 (0.20)	6.1 (0.09)	6.3 (0.07)
Work- and school-loss days[3]	6.9 (0.75)	3.9 (0.69)	4.8 (0.22)	5.6 (0.35)	5.2 (0.18)	6.3 (0.19)	5.0 (0.07)	5.1 (0.06)

[1]Includes all race and ethnic groups.
[2]Includes people of all ages.
[3]Sum of school-loss days for children 5–17 years of age and work-loss days for currently employed persons 18 years of age and over.

Physician contacts—Cuban and Mexican persons had fewer age-adjusted physician contacts than ''other Hispanic'' or Puerto Rican individuals (4.5 and 5.1 vs. 5.9 and 6.4, respectively).

Restricted activity days—Cuban persons had fewer annual restricted activity days (14.5) than Puerto Rican persons (21.3) and Mexican persons (19).

Bed disability days—Puerto Rican persons reported more bed disability days than either Mexican persons or ''other Hispanic'' origin individuals (10.4 vs. 8.0 and 7.2).

Work and school-loss days—Cuban persons had fewer days lost from school and/or work than the other three Hispanic origin subgroups. They reported 3.4 days per year, Mexican persons reported 5.7 days, Puerto Rican individuals reported 6.0 days, and

Table 5. Number of people, hospital stays, and days of hospitalization of Hispanic origin subgroups and age-adjusted and unadjusted percent of hospital stays with standard error by Hispanic origin subgroup and race: United States, annualized figures, 1992–95

[Standard errors in parentheses]

Hospital stay[1]	Puerto Rican	Cuban	Mexican/ Mexican American	Other Hispanic	Total Hispanic	Non-Hispanic black	Non-Hispanic white	Total population[2]
				Number in thousands				
Number of persons	3,128	1,361	14,747	6,021	25,259	31,535	188,940	256,802
Number of hospital stays	281	117	840	350	1,589	2,856	17,000	22,011
Number of days of hospitalization	2,198	619	4,842	1,886	9,547	19,577	100,854	133,823
Persons with 1 or more hospital stays				Percent and standard error				
Age-adjusted	8.4 (0.48)	6.3 (0.50)	6.1 (0.20)	5.9 (0.31)	6.3 (0.15)	7.7 (0.14)	6.5 (0.05)	6.5 (0.05)
Unadjusted	6.6 (0.33)	6.6 (0.51)	4.4 (0.12)	4.7 (0.22)	4.9 (0.11)	6.6 (0.13)	6.6 (0.06)	6.3 (0.05)

[1]Hospital stay is any continuous period of stay of 1 night or more in a hospital as an inpatient, except the period of stay of a well newborn infant.
[2]Includes all race and ethnic groups.

Table 6. Number and age-adjusted and unadjusted percent distributions of smoking status and sex with standard errors by Hispanic origin subgroup and race: United States, annualized figures, 1992–95

[Standard errors in parentheses]

Smoking status[1]	Puerto Rican	Cuban	Mexican/ Mexican American	Other Hispanic	Total Hispanic	Non-Hispanic black	Non-Hispanic white	Total population[2]
All persons	1,799	1,070	8,617	3,881	15,369	20,972	144,265	188,277
				Age-adjusted percent distributions				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Current	20.7 (1.47)	16.0 (2.23)	17.6 (0.80)	17.7 (1.17)	17.8 (0.58)	26.7 (0.61)	26.3 (0.26)	25.2 (0.22)
Former	20.2 (1.99)	17.8 (1.80)	20.5 (0.89)	19.3 (1.33)	19.7 (0.70)	16.9 (0.48)	26.5 (0.22)	24.6 (0.19)
Never Smoked	59.0 (2.18)	66.2 (2.76)	62.0 (1.10)	63.0 (1.51)	62.5 (0.87)	56.4 (0.68)	47.3 (0.27)	50.2 (0.24)
				Unadjusted percent distributions				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Current	23.3 (1.71)	15.4 (2.41)	18.9 (0.77)	19.1 (1.18)	19.2 (0.59)	26.6 (0.61)	26.1 (0.26)	25.4 (0.23)
Former	18.2 (1.87)	18.1 (1.91)	15.8 (0.70)	16.6 (1.10)	16.4 (0.55)	14.9 (0.46)	26.6 (0.24)	24.0 (0.24)
Never smoked	58.5 (2.12)	66.6 (2.79)	65.4 (0.99)	64.3 (1.40)	64.4 (0.74)	58.4 (0.69)	47.3 (0.28)	50.6 (0.25)
Males				Age-adjusted percent distributions by sex				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Current	20.6 (2.30)	21.4 (3.35)	23.1 (1.34)	21.6 (1.82)	22.3 (0.95)	31.8 (1.09)	27.4 (0.35)	27.2 (0.31)
Former	29.6 (3.49)	27.1 (4.04)	28.4 (1.51)	30.8 (2.23)	29.0 (1.12)	21.4 (0.82)	32.2 (0.32)	30.7 (0.29)
Never smoked	49.8 (3.63)	51.5 (4.33)	48.5 (1.64)	47.6 (2.32)	48.6 (1.23)	46.8 (1.12)	40.5 (0.38)	42.2 (0.34)
Females								
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Current	20.7 (1.86)	11.6 (2.29)	12.2 (0.87)	14.7 (1.47)	13.7 (0.68)	22.8 (0.67)	25.2 (0.34)	23.4 (0.28)
Former	13.0 (1.63)	10.6 (2.32)	13.8 (1.05)	12.0 (1.34)	12.6 (0.78)	13.6 (0.55)	21.6 (0.31)	19.6 (0.25)
Never smoked	66.4 (2.23)	77.8 (3.35)	74.0 (1.26)	73.3 (1.80)	73.7 (1.05)	63.7 (0.78)	53.1 (0.37)	57.1 (0.31)

. . . Category not applicable.
[1]Includes persons 18 years of age and older.
[2]Includes all race and ethnic groups.
NOTE: Figures may not add to 100% because of rounding.

''other Hispanic'' origin individuals reported 6.9 days.

Hospital episodes—Table 5 presents data on the gross numbers of hospital stays, days of hospitalization, and information for those who had at least one hospital stay in the past year. After adjusting for age, the percent of people who had one or more hospital stays was higher for Puerto Rican individuals (8%) than for each of the other Hispanic origin subgroups (6%).

Smoking status—Table 6 presents data on smoking status for adults 18 and older shown by sex. There was little overall difference among the Cuban, Puerto Rican, Mexican, and ''other Hispanic'' origin subgroups in terms of smoking status. However, among Hispanic women there was a significant difference in smoking status, as illustrated in figure 2. The age-adjusted data indicate that there were more current smokers among the Puerto Rican women than in the other three groups. About 21% of Puerto Rican women reported being current smokers compared with 12% of Cuban and Mexican American women and 15% of ''other Hispanic'' origin women. These differences were not significant for men.

AIDS knowledge—Table 7 provides data on AIDS knowledge, testing, and perceived risk of HIV infection. Cuban individuals reported having a higher level of knowledge about AIDS than the other subgroups. Close to 50% said they had at least some knowledge of AIDS compared with 36% of Puerto Rican, and 38% of Mexican and ''other Hispanic'' origin persons. A higher percent of Mexican persons claimed no knowledge of AIDS (13%), compared with 4% of Cuban, 7% of Puerto Rican, and 8% of ''other Hispanic'' origin persons. Levels of AIDS knowledge among the different race and Hispanic origin subgroups are shown in figure 3. Mexican persons reported receiving fewer tests for HIV infection than did Cubans and ''other Hispanic'' origin adults (26% compared with 37% and 32%, respectively). The percent of persons who perceived they were at high or medium risk for getting the AIDS virus was not significant across Hispanic origin subgroups.

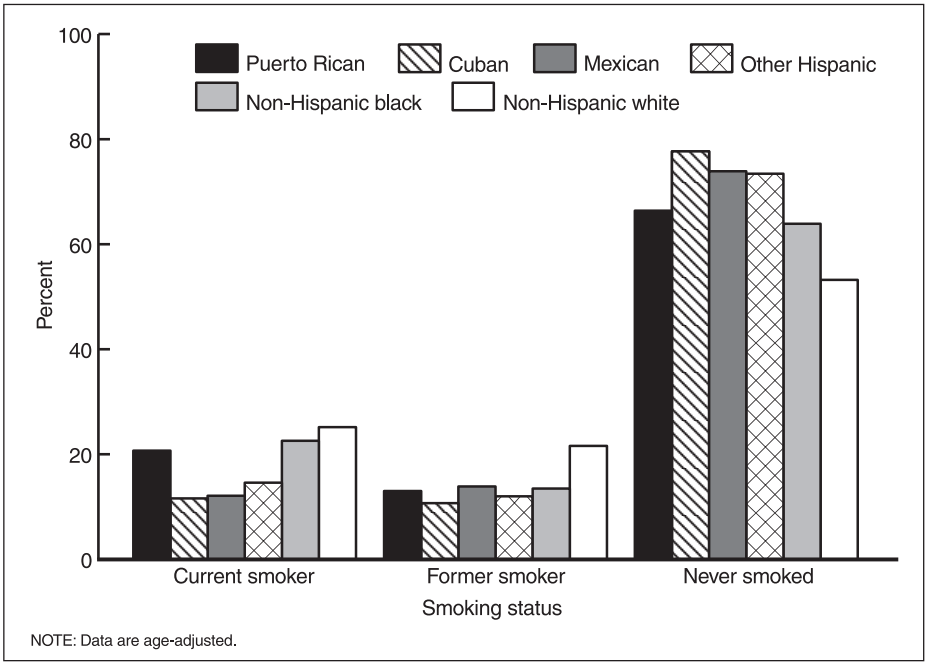

Figure 2. Smoking status by Hispanic origin subgroup and race for women 18 years and older: United States, annualized figures, 1992–95

Discussion

This analysis highlights the significant heterogeneity within the growing Hispanic population. Not only do the groups vary in terms of health outcomes, but they also have differing demographic characteristics. As seen in this report, Cuban persons generally have a higher SES and report better health status than the other Hispanic origin subgroups. Given the indicators measured in NHIS and their low SES, Puerto Rican individuals appear to have poorer health status. This contrasts considerably with Mexican persons who have relatively good health status in spite of their poor SES. Health research that places all Hispanic origin people into one category masks the substantial differences among Hispanic origin subgroups.

The finding of poorer health status among the Puerto Rican population compared with the other Hispanic origin subgroups is consistent with previously published reports (6–7, 19–21). For measures of functional limitation and self-reported health status, Puerto Rican persons report having poorer health status and increased functional limitation. In addition, restricted activity and bed disability days are higher for Puerto Rican Americans. The Puerto Rican population also reveals having had more recent doctor visits and more hospitalizations than the other Hispanic origin subgroups. The increased use of health care services among the Puerto Rican population may partly be a result of their poor health status, but may also be a function of their improved access to health care as American citizens.

The positive association between SES and health has been well developed in the literature. From this analysis, it appears that the Cuban and Puerto Rican populations follow the expected SES-health relationship. Groups with high SES generally have better health outcomes, while those with low SES have poor health outcomes.

A deviation from this well-established pattern is seen among some of the Mexican population. Despite their low SES, their health outcomes are relatively good. This ''paradox'' phenomenon is better understood when acculturation is taken into account. Research on other recently immigrated Asian and non-Hispanic groups would provide a better understanding of this so-called ''paradox.''

NHIS offered the opportunity to merge data across years and thus increase precision of the estimates.

Table 7. Number and age-adjusted and unadjusted percent distributions of AIDS knowledge, testing, and perceived risk with standard errors by Hispanic origin subgroup and race: United States, annualized figures, 1992–95

[Standard errors in parentheses]

AIDS knowledge, testing, and risk[1,2]	Puerto Rican	Cuban	Mexican/ Mexican American	Other Hispanic	Total Hispanic	Non-Hispanic black	Non-Hispanic white	Total population[3]
				Number in thousands				
All persons	1,930	1,142	8,438	4,025	15,536	20,886	144,347	188,274
				Age-adjusted percent distributions				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Self-reported AIDS knowledge[1]								
A lot	38.7 (2.07)	33.0 (2.96)	24.0 (0.91)	33.6 (1.41)	29.2 (0.76)	29.4 (0.57)	32.3 (0.27)	31.5 (0.23)
Some	36.3 (1.89)	49.4 (3.68)	37.6 (1.04)	37.9 (1.46)	38.6 (0.84)	36.0 (0.62)	46.5 (0.26)	44.4 (0.23)
A little	18.1 (1.60)	13.3 (1.65)	25.4 (0.96)	20.7 (1.30)	22.4 (0.66)	21.0 (0.52)	16.3 (0.21)	17.7 (0.18)
Nothing	6.9 (1.12)	4.3 (1.39)	13.0 (0.84)	7.8 (1.07)	9.8 (0.51)	13.6 (0.43)	5.0 (0.11)	6.4 (0.11)
Ever had blood tested for the AIDS virus infection (excluding blood donations)[1]								
Yes	29.1 (2.03)	36.7 (3.08)	26.2 (0.90)	31.5 (1.40)	28.9 (0.74)	33.4 (0.64)	21.0 (0.23)	23.2 (0.22)
No	70.9 (2.03)	63.3 (3.08)	73.8 (0.90)	68.5 (1.40)	71.1 (0.74)	66.6 (0.64)	79.0 (0.23)	76.8 (0.22)
Perceived risk of getting the AIDS virus[1]								
High/medium	6.2 (1.02)	3.5 (1.07)	5.5 (0.45)	5.5 (0.63)	5.4 (0.33)	7.2 (0.33)	3.9 (0.10)	4.5 (0.09)
Low	21.2 (1.58)	32.2 (3.00)	22.6 (0.84)	27.1 (1.31)	24.2 (0.66)	30.0 (0.63)	33.3 (0.29)	31.9 (0.25)
None	72.6 (1.80)	64.3 (3.04)	71.9 (0.91)	67.4 (1.41)	70.4 (0.72)	62.7 (0.68)	62.8 (0.29)	63.6 (0.26)
				Unadjusted percent distributions				
Total	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)	100.0 (. . .)
Self-reported AIDS knowledge[1]								
A lot	41.2 (2.01)	31.7 (3.65)	26.8 (0.88)	36.1 (1.43)	31.4 (0.74)	31.7 (0.61)	32.1 (0.28)	31.9 (0.24)
Some	37.8 (1.89)	49.3 (3.92)	39.5 (0.96)	38.8 (1.43)	39.8 (0.78)	37.4 (0.63)	46.3 (0.26)	44.5 (0.23)
A little	16.3 (1.38)	14.3 (1.77)	23.8 (0.82)	19.9 (1.17)	21.2 (0.60)	20.0 (0.50)	16.4 (0.22)	17.5 (0.19)
Nothing	4.6 (0.73)	4.7 (1.48)	9.9 (0.63)	5.3 (0.69)	7.7 (0.40)	10.9 (0.41)	5.2 (0.12)	6.2 (0.11)
Ever had blood tested for AIDS virus infection (excluding blood donations)[1]								
Yes	32.4 (2.15)	35.0 (3.22)	31.2 (0.99)	35.5 (1.41)	32.7 (0.76)	36.6 (0.70)	21.1 (0.24)	24.1 (0.24)
No	67.6 (2.15)	65.0 (3.22)	68.8 (0.99)	64.6 (1.41)	67.3 (0.76)	63.4 (0.70)	78.9 (0.24)	75.9 (0.24)
Perceived risk of getting the AIDS virus[1]								
High/medium	6.6 (1.01)	3.4 (1.06)	6.5 (0.52)	6.4 (0.71)	6.2 (0.37)	8.1 (0.38)	3.8 (0.09)	4.6 (0.09)
Low	23.9 (1.78)	31.2 (2.64)	26.1 (0.91)	30.4 (1.38)	27.4 (0.70)	32.1 (0.66)	33.2 (0.30)	32.5 (0.27)
None	69.5 (1.94)	65.5 (2.76)	67.4 (1.00)	63.3 (1.50)	66.4 (0.76)	59.8 (0.74)	63.0 (0.32)	63.0 (0.28)

. . . Category not applicable.
* Figure does not meet standard of reliability or precision.
[1]AIDS is acquired immunodeficiency syndrome.
[2]Includes persons 18 years of age and older.
[3]Includes all race and ethnic groups.

NOTE: Figures may not add to 100% because of rounding.

Furthermore, the data are nationally representative, thus allowing generalization of these findings to the U.S. population, as well as to each Hispanic origin subgroup. However, there are notable limitations of the data.

One limitation is the concern about non-English speaking respondents. NHIS is a household survey involving face-to-face interviews with respondents. When encountering a non-English speaking respondent, interviewers who are not fluent in Spanish request that other household members, friends, or neighbors translate the questions for the interview. This ad hoc procedure raises several concerns. The family member or friend translating the question from English to Spanish may not understand the meaning of the question in the correct context. Each translator may have a different understanding of the question, thus resulting in potentially inconsistent responses. Confidentiality is another concern. Respondents may be uncomfortable relaying personal health information to neighbors and friends, again resulting in potentially inaccurate survey data. NCHS recognizes the need for a formally translated questionnaire to be administered by bilingual Spanish-speaking interviewers. The Census Bureau, which administers the survey, has been actively recruiting bilingual interviewers. Also, NHIS has recently been translated into Spanish and began being used in the field in July of 1998.

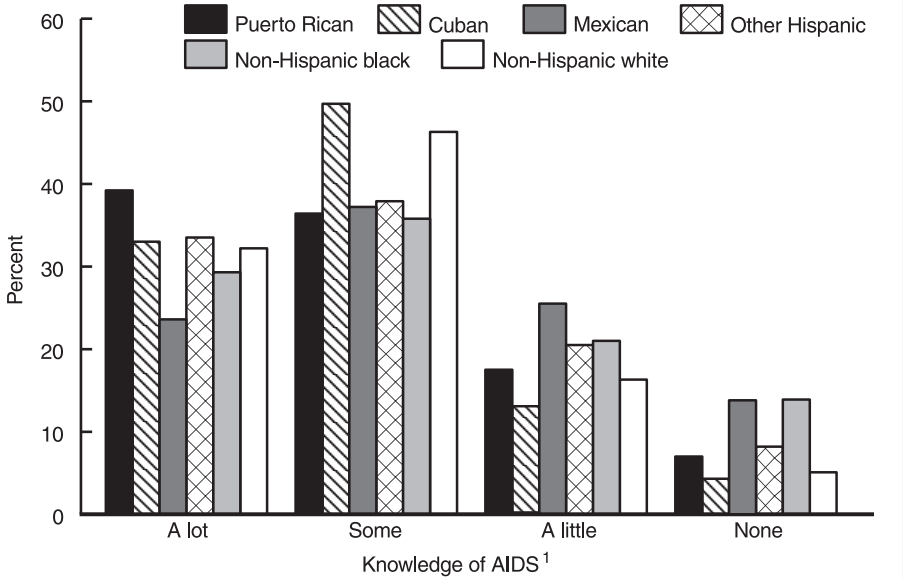

Figure 3. Self-reported knowledge of AIDS by Hispanic origin subgroup and race for adults 18 years and older: United States, annualized figures, 1992–95

The issue of cultural interpretation of survey questions is a critical one that may also limit the interpretation of survey results. Ren and Amick (21) found that the Puerto Rican population had higher levels of functional limitation than other Hispanic origin subgroups, and their analysis suggests that differences in the cultural interpretations of functional limitation and good health may explain the differences seen in self-reported health status. NHIS results indicate a similarly high level of functional limitation, thus suggesting that the issue of cultural interpretations may not be adversely affecting the data. However, cultural interpretation is an important issue for future research to consider.

A substantial number of Hispanics in the survey were classified in the all encompassing ''other Hispanic'' category. This subgroup is made up of those individuals who responded to the Hispanic origin question with one of the following answers: multiple Hispanic, other Latin American, other Spanish, and unknown type of Spanish origin. They comprise almost 24% of the total U.S. Hispanic population according to NHIS data. The delineation ''other'' does not provide substantive information about the social, cultural, or demographic characteristics of these people. In 1997, NHIS began collecting more specific information on national origin subgroups for Hispanic respondents. Future data will permit a more thorough analysis of the ''other Hispanic'' subgroup.

Recommendations for future study

A limitation of this analysis is that these data are not adjusted for SES, which is known to play an important role in health status and other outcomes for Hispanic origin groups. While SES would likely explain some of the differences observed in Hispanic origin groups shown in this report, analyses including SES as an explanatory variable are complex and beyond the scope of this analysis. However, the information provided on the demographic and health characteristics of Hispanic origin groups can serve as the basis of future analyses looking at the relationship of SES to health for Hispanic origin groups.

Although acculturation was not specifically measured in this analysis, it remains an important component of the larger picture of Hispanic health. The hypothesized curvilinear relationship of SES, acculturation, and health has been studied extensively in Mexican Americans. Equally rigorous research is needed for the other Hispanic origin subgroups as well as the diverse and rapidly growing Asian population. All immigrants to the United States undergo the process of acculturation. How and why acculturation differentially impacts different racial and ethnic groups remains to be determined. Further comparisons to other Western nations would also assist in understanding this complex triad of SES, acculturation, and health.

This analysis provides additional evidence of the importance of subgroup analysis when computing data on Hispanic health. Having this knowledge better equips public health workers to provide appropriate health services to the relevant communities and to more efficiently use resources in working towards the ultimate goal of reducing health disparities. Furthermore, public health services and interventions may benefit from focusing on acculturation as a potential mechanism that drives health disparities. As the Hispanic population continues to grow in the United States, understanding and acknowledging subgroup heterogeneity will become more important.

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Technical Notes

Sample design

NHIS is a cross-sectional household interview survey with a complex survey design. Data are collected continuously throughout the year. Sampling for NHIS is done only throughout the continental U.S., Hawaii, and Alaska. U.S. territories and protectorates are not sampled for this survey, i.e., Puerto Rico, Virgin Islands, Guam. The sample sizes of the Hispanic origin subgroups from the 1992–95 NHIS are provided in table I.

Table I. Total sample size of Hispanic origin subgroups and race for survey years 1992–95: National Health Interview Survey

Hispanic origin/race	Sample size
Puerto Rican	6,922
Cuban	3,008
Mexican/Mexican American	36,924
Other Hispanic	13,865
Total Hispanic	60,719
Non-Hispanic black	62,447
Non-Hispanic white	315,638

Response rates

The 1992–95 NHIS sample consisted of completed interviews from 187,029 households and 456,729 persons. The average annual response rate to the 1992–95 NHIS core questionnaire was 94.6%. The overall response rate to NHIS supplements is estimated as a product of the core response rate and the supplement response rate. From 1992 through 1995, 77,556 persons completed the AIDS Knowledge and Attitudes supplement. The average annual supplement response rates and overall supplement response rates for the AIDS Knowledge and Attitudes supplement 1992–95 were 84.3% and 79.7%, respectively. The 1992–95 NHIS supplements covering cigarette smoking habits were completed by 70,088 persons. The average annual supplement response rates and overall supplement response rates for the supplements containing the smoking questions were 86.6% and 81.9%, respectively. The year specific data on the number of interviews, households, and the response rates can be found in table II.

Precision of estimates

All estimates are age-adjusted and most are also presented as unadjusted estimates. Considering the varying age structures of the populations under study, age adjustment is a necessary tool to compare estimates in a more meaningful manner. The direct method of age adjustment was used, and the projected year 2000 population provided by the Census Bureau was used as the standard population. The following age groups were used for standardization: under 5 years, 5–17 years, 18–24 years, 25–44 years, 45–64 years, 65–74 years, and 75 years and over. For tables 6 and 7, the weights used for age standardization were recalculated to correctly reflect the age 18 and over population.

Relative standard error (RSE) was used as a criterion of precision. The RSE of an estimate is calculated by dividing the standard error of the estimate by the estimate itself and expressing it as a percent. Estimates with a RSE of 30% or greater are shown with an asterisk (*), indicating that those estimates do not meet a standard of adequate precision and stability.

To effectively account for the complex multi-stage survey design, the statistical package SUDAAN was used to analyze NHIS data (22).

Tests of significance

Statistical tests performed were two-tailed with no adjustments for multiple comparisons. The test statistic used to determine statistical significance of the difference between two rates was

$$Z = | X_a - X_b | / \sqrt{S_a^2 + S_b^2}$$

Here X_a and X_b are the 2 percents being compared, and S_a and S_b are the standard errors of those percents. The critical value used for two-sided tests at the 0.05 level of significance was 1.96.

Definition of terms

Age—The age recorded for each person is the age in years at last birthday.

Education—Education was calculated for persons 25 years of age and older.

Employment Status—Employment status includes those 18 years of age and older.

Currently employed—This category includes anyone who reported that at any time during the 2-week period covered by the interview they either worked at or had a job or business.

Currently unemployed—This group includes those who have been laid-off or are looking for work.

Not in labor force—This category includes retired people, housewives, and others who are not seeking employment.

Family Income—Each family member is classified according to the same total family income. The income recorded is the sum of all income received by household members related to each other by blood, adoption, or marriage in the 12-month period preceding the week of interview.

Poverty Status—Poverty status is based on family size, number of children under 18 years of age, and family income.

Family—In NHIS, a family is defined as kinfolk residing in the sample household.

Geographic Region—The States are grouped into four regions corresponding to those used by the U.S. Bureau of the Census.

Place of Residence—The place of residence of an individual is classified

Table II. Number of households, response rates, and number of persons interviewed for the core questionnaire and selected supplements: National Health Interview Survey, United States, 1992–95

Year	Core questionnaire			Smoking supplement[1]			AIDS[2] Knowledge and attitudes supplement		
	Response rate	Number of persons interviewed	Total number of households	Response rate	Overall response rate	Number of persons interviewed	Response rate	Overall response rate	Number of persons interviewed
1992	95.7	128,412	51,643	90.0	86.1	12,005	86.9	83.2	20,974
1993	94.7	109,671	44,978	85.7	81.2	21,028	84.5	80.0	20,607
1994	94.1	116,179	48,584	84.5	79.5	19,738	81.9	77.1	19,127
1995	93.8	102,467	41,824	86.2	80.9	17,317	83.8	78.6	16,848

[1]Cigarette smoking questions were included in Cancer Epidemiology (1992) and Year 2000 Objectives (1993, 1994, 1995) supplements.
[2]AIDS is acquired immunodeficiency syndrome.

as inside a metropolitan statistical area (MSA) or outside an MSA. It is further classified as either central city or not central city.

Metropolitan statistical area—The definition and titles of MSA's are established by the U.S. Office of Management and Budget with the advice of the Federal Committee on Metropolitan Statistical Areas. An MSA consists of a county or group of counties containing at least one city having a population of 50,000 or more plus adjacent counties that are metropolitan in character and economically and socially integrated with the central city.

Central city—The largest city in an MSA is always a central city.

Not central city—This includes all of the MSA that is not part of the central city itself.

Not in MSA—This includes all other places in the country.

Nativity—In this report, nativity is analyzed only for persons 18 years of age and older. Foreign born refers to persons born outside the 50 states of the United States and/or Puerto Rico.

Years in the United States—In this study, this was analyzed for foreign born persons 18 years of age and older.

Health Status—The categories related to this concept result from asking the respondent, ''Would you say _____'s health is excellent, very good, good, fair or poor?'' It is based on a family respondent's opinion and not directly on any clinical evidence.

Activity limitation—This refers to a long-term reduction in a person's capacity to perform the average kind or amount of activities associated with his or her age group.

Major activity—Persons are classified in terms of the major activity usually associated with their particular age group. The major activities for the age groups are (a) ordinary play for children under 5 years of age, (b) attending school for those 5–17 years of age, (c) working or keeping house for persons 18–69 years of age, and (d) capacity for independent living (e.g., the ability to bathe, shop, dress, and eat without needing the help of another person) for those 70 years of age and over.

Interval since last physician contact—The interval since last physician contact is ascertained by asking persons interviewed about how long it has been since they last saw or talked to a medical doctor or assistant.

Physician contact—A physician contact is a consultation with a physician, nurse, or other person acting under a physician's supervision. The consultation can be either in person or by telephone and for the purpose of examination, diagnosis, treatment, or advice.

Restricted activity days—Restricted activity days is a general term encompassing the following four measures: bed disability days, work-loss days (for currently employed persons 18 years of age and older), school-loss days (children 5–17), and cut-down days. The number of restricted-activity days is the number of days on which a person experienced at least one of the four types of activity restriction.

Bed disability day—A day during which a person stayed in bed more than half a day because of illness or injury.

Work/school-loss day—A day in which an employed person 18 years of age or older or a child 5–17 years old misses more than half a day of work or school due to illness or injury.

Hospital stay—Hospital stay is any continuous period of stay of one night or more in a hospital as an inpatient, except the period of stay of a well newborn infant.

Smoking status—

Current smoker—A current smoker includes anyone who has smoked at least 100 cigarettes in his/her lifetime and who currently smokes every day or some days.

Former smoker—A former smoker includes those who have smoked at least 100 cigarettes in their life, but do not currently smoke.

AIDS variables—The knowledge question asks, ''How much would you say you know about AIDS—a lot, some, a little, or nothing?'' This is the respondent's perception of AIDS knowledge, a purely subjective measure.

Testing—The testing question excludes blood donations since March 1985. It states ''(Except for tests you may have has as part of blood donations,) Have you ever had your blood tested for the AIDS virus infection?''

Risk—''What are your chances of getting the AIDS virus; would you say high, medium, low or none?'' The high and medium categories are combined for this report.

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