

# Acculturation Erodes the Diet Quality of U.S. Hispanics

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**B**y 2020, Hispanics are expected to account for 16 percent of the U.S. population. Hispanics would become the second largest segment of the population, lagging non-Hispanic Whites at 64 percent and exceeding non-Hispanic Blacks at 13 percent.

The U.S. Hispanic population poses a number of policy puzzles because its health and mortality record is in some respects more favorable than that of the general population, despite economic and educational disadvantages. If traditional diet patterns contribute to this favorable record, adoption of typical American eating patterns may erode it. Examination of Hispanic diets reveals that less acculturated Hispanics—those who don't use English—eat somewhat more healthful diets than acculturated Hispanics—those who use English. Nutrition education programs for Hispanics need to emphasize retaining their traditional diets' reliance on grains and beans, while advocating change toward lower fat dairy products and less use of fat in cooking.

## Status of Hispanics Varies by Origins

In 1997, Hispanics accounted for 11 percent of the U.S. population. (The Census Bureau defines Hispanics as those who indicate their origins as Mexican-American, Chicano, Mexican, Puerto Rican, Cuban, Central or South American, or other Hispanic when shown a "flash card" listing ethnic origins.) In general, the Hispanic population is younger, poorer, less educated, and in larger households than the non-Hispanic population (table 1).

Median earnings for Hispanic males working full time in 1996 were \$21,055, compared with \$34,163 for non-Hispanics. Economic disadvantages reflect education disadvantages. Only 61 percent of Hispanics age 25-34 were high school graduates, compared with 91 percent of non-Hispanics.

The Hispanic population varies significantly by regional origins. The Census Bureau categorizes Hispanics for informational purposes by Mexican, Puerto Rican, Cuban, Central and South American, and other origins. The largest and rela-



**Traditional diet eaten by less acculturated Hispanics, those who don't use English, is somewhat more healthful than that of acculturated Hispanics.**

Credit: PhotoDisc.

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tively most disadvantaged Hispanic subgroup is of Mexican origin. This group records the lowest median earnings for full-time workers and the lowest percentage of 25- to 34-year-olds that are high school graduates. In addition, the Mexican-origin population is younger and consists of larger households. The very small Cuban-origin population is relatively the most advantaged among Hispanic groups, although it is has not yet achieved the income and education of the general U.S. population. Puerto Rican-origin and "other Hispanics" are similar in income and education to Cuban-origin Hispanics. U.S. Hispanics of Central and South American origins come close to Mexicans in earnings, but have a higher level of high school graduates among 25- to 34-year-olds.

### Disease and Mortality Puzzle Policymakers

Despite lower incomes and educational attainments, the Hispanic population enjoys a health and mortality record that in many respects is more favorable than that of the general population. Cutberto Garza, a physician and professor at Cornell University, comments that

despite higher poverty and teenage fertility rates and less awareness of major risk factors for cancer and cardiovascular disease:

Hispanics in the Southwest have 99 percent of the life expectancy at birth of non-Hispanic whites. Even more remarkable, however, is that the lower than expected deaths due to heart disease, stroke, and cancer and lower than expected infant mortality are sufficient to compensate almost completely for the extraordinarily high mortality due to homicide and unintentional injury. The major exception... is excess deaths due to diabetes among Hispanic women.

... The most striking challenge is the identification and preservation of factors that promote health before they are lost in the assimilation of Hispanic-Americans.

The higher death rates of Hispanic women from diabetes, compared with the general population, may be due to genetic factors. Garza also reports that Native Americans of the Southwest experience high incidences of diabetes that are

hypothesized to result from a genetic ability to store excess energy, an advantage for populations at risk of severe food shortages. When food is plentiful, diabetes and obesity may result.

Further evidence comes from Paul Sorlie and associates whose research, published in the *Journal of the American Medical Association*, estimated age-adjusted death rates by Mexican, Puerto Rican, Cuban, other Hispanic, and all Hispanic origins. Their research used the U.S. Census Bureau's Current Population Survey and the National Death Index developed by the Center for Disease Control and Prevention. Death rates for men and women over 65 in all groups, except Puerto Rican women, were lower than non-Hispanic rates, as were many rates in the 45-64 age group. Hispanics had lower mortality from cancer and cardiovascular disease, but higher mortality from diabetes and homicide (men). The authors note that the lower rates of the diseases did not seem to be explained by the major known risk factors for these diseases, such as smoking. The authors explored the possibility that the presence of recent immigrants in the Hispanic population lowered death rates because immigrants tend to be

Table 1  
U.S. Hispanic Populations Vary Widely in Age, Earnings, Level of Schooling, and Household Size

Population	Median age	Full-time median earnings male	Full-time median earnings female	25- to 34-year-olds who are high school graduates	Households with over 2 persons
	Years	1996 dollars		Percent	
Non-Hispanic	35.5	34,163	24,314	91.4	40.5
Hispanic	26.1	21,055	18,664	61.2	63.4
Mexican origin	24.3	19,981	17,266	55.6	67.5
Puerto Rican origin	27.0	25,720	22,461	74.3	56.4
Cuban origin	40.8	27,397	21,511	76.3	44.8
Central and South American origin	28.7	20,537	18,922	65.5	65.2
Other Hispanic origin	28.5	26,276	18,686	77.5	55.8

Source: Bureau of the Census, *Hispanic Population of the United States*, Current Population Survey—March 1997, Summary Tables, released August 1998.

healthier than non-immigrants. However, Hispanic mortality rates remain lower even adjusted for country of birth.

The Council on Scientific Affairs reviewed Hispanic use of health services and disease incidence, noting that Hispanics, particularly Mexican Americans, have lower rates of premature births and lower rates of low-birth-weight babies, major risk factors for infant mortality, than the general population. This outcome contradicts expectations that would be formed from the lower income and education levels of Hispanics. The authors also note that with acculturation, the risk of low-weight births increases, which might be due to increased smoking by pregnant women.

## Hispanics Surpass Non-Hispanics in Diet Quality...

Diet could contribute to the lower than expected incidence of cancer and cardiovascular disease incidence in the U.S. Hispanic population. Sylvia Guendelman and Barbara Abrams with the University of California at Berkeley compared dietary quality of immigrants and following generation of Mexican Americans with non-Hispanic Whites. The researchers used the Hispanic Health and Nutrition Evaluation Survey of 1982-1984 and the National Health and Nutrition Evaluation survey of 1976-1980. They concluded that as Mexican-origin women move from the first to the second generation, the quality of their diet deteriorates and approximates that of White non-Hispanic women. The researchers found that lower incomes were associated with less healthful diets among non-Hispanics, but with more healthful diets among first-generation Mexi-

can Americans. Among second-generation Mexican Americans, they found no relationship between income and diet quality.

An earlier study by USDA's Economic Research Service examined the interaction of Hispanic ethnicity, income, and education levels on intake of fat, saturated fat, and cholesterol, separating the direct effect of Hispanic ethnicity from the indirect effect of less nutrition knowledge as a result of lower education and income. The direct effect of Hispanic ethnicity was to reduce fat, saturated fat, and cholesterol intake. However, the indirect effect, through less knowledge as a consequence of lower income and education levels, offset these direct effects.

## ... Especially Spanish-Speaking Hispanics

In this study, we examined whether the quality of Hispanic diets differed based on acculturation. The 1994-96 Continuing Survey of Intake by Individuals (CSFII) provides detailed information on intake of individuals as well as other information about them. The information includes whether the person was interviewed in Spanish. Thus, using interviews in Spanish as a proxy for acculturation, it is possible to compare the diets of nonacculturated Hispanics (Spanish speakers) with acculturated Hispanics (English

speakers) and non-Hispanic Whites, the largest population category.

Dividing the Hispanic survey respondents into Spanish speakers and English speakers highlights the economic disadvantages of Spanish speakers. Adult Spanish speakers lived in households that attained a median household income of 110 percent of the poverty level, compared with 201 percent for English speakers and 300 percent for non-Hispanic Whites. Households with youth were more likely to be in poverty, which is based on the number of people in the household as well as income. Spanish-speaking youth (17 and under) lived in households with a median household below the poverty level, at 82 percent, compared with 131 percent of the poverty level for English-speaking youth and 291 percent for non-Hispanic White youth. (The median income divides households exactly in half—50 percent have higher incomes and 50 percent have lower; it is not necessarily the average.)

We used scores on the U.S. Department of Agriculture's (USDA) Healthy Eating Index (HEI) to determine whether acculturation erodes diet quality. The HEI, developed by USDA's Center for Nutrition Policy and Promotion, measures how well a diet conforms to 10 dietary recommendations in the *Dietary Guidelines for Americans*

Table 2

### Hispanic Spanish Speakers Score Highest on Healthy Eating Index

Population	Healthy Eating Index scores <sup>1</sup>	
	Age 18 and over	Under 18
Non-Hispanic White	63.41	66.49
Hispanic Spanish speakers	65.11	69.44
Hispanic English speakers	62.73	64.96

<sup>1</sup> Score of 100 indicates a perfect diet; scores in the range of 81-99 indicate a good diet; scores in the range of 51-80 indicate a diet that needs improvement; and scores of 50 or under indicate a poor diet.

Source: Calculated by USDA's Economic Research Service from 1994-96 Continuing Survey of Food Intake by Individuals (CSFII) data.

Table 3  
**Hispanic Attitudes and Knowledge About Nutrition Diverge**

Population	Knowledge and attitude index scores for adults		
	Healthy diet importance <sup>1</sup>	Nutrient content knowledge <sup>2</sup>	Diet-disease awareness <sup>3</sup>
Non-Hispanic White	37.10	9.50	6.00
Hispanic Spanish speakers	39.25	6.39	5.42
Hispanic English speakers	36.87	8.63	5.69

<sup>1</sup>Scores range from 11 (low importance) to 44 (high importance).

<sup>2</sup>Scores range from 0 (no knowledge) to 15 (high knowledge).

<sup>3</sup>Scores range from 0 (no awareness) to 7 (high awareness).

Source: Calculated by USDA's Economic Research Service from 1994-96 Diet and Health Knowledge Survey data.

and the Food Guide Pyramid (see "Many Americans Falsely Optimistic About Their Diets" elsewhere in this issue). All six populations (adult and youth Hispanic English speakers, adult and youth Hispanic Spanish speakers, and adult and youth non-Hispanic Whites) fall below the 80-100 range that indicates a healthful diet. Properly designed and successful nutrition education programs would benefit all six populations.

Despite their economic disadvantages, Spanish speakers eat more healthful diets than do non-Hispanic Whites and Hispanic English speakers (table 2). But the effects of acculturation, which is accompanied by improved economic circumstances, erode diet quality. Adult Spanish speakers average 65.11 on the HEI, exceeding the 63.41 average of non-Hispanic Whites. English speaking Hispanic adults do not score as well, averaging 62.73. The results for youth are even more striking. Spanish speaking youth score 69.44 on the HEI, well above non-Hispanic White youth at 66.49, while Hispanic English speakers drop to 64.96.

Differences in fat, cholesterol, and fiber intake contribute to the Spanish speakers' HEI scores. Adult Spanish speakers average approximately 4.6 grams per day less total fat and 1.9 grams per day less satu-

rated fat than non-Hispanic Whites. However, Spanish speakers' consumption of cholesterol exceeds recommended levels, while cholesterol consumption of the other groups stays below recommended levels. Spanish speakers consume approximately 3.4 more grams of fiber per day than non-Hispanic Whites, but the Spanish speakers still fall short of the standard of 25 grams per day, averaging only 19.4. Hispanic English speakers lag Spanish speakers by 2.9 grams of fiber per day.

We measured people's attitude toward the importance of a healthful diet from the Diet and Health Knowledge Survey. This survey contacts a subsample of the respondents to the CSFII and asks questions on the importance of avoiding too much of nutrients such as fat, saturated fat, and cholesterol in their diets. We measured diet-disease awareness by yes or no answers to another question on whether the respondent had heard about health problems related to several nutrients. Nutrient content knowledge was measured by correct choices between pairs of foods on the basis of higher or lower fat and nutrient contents.

Spanish speakers' higher HEI scores are not the result of better nutritional knowledge. Spanish speakers know less about nutrients

in foods and diet-disease connections than do non-Hispanic Whites and Hispanic English speakers, although Spanish speakers attach more importance to having a healthful diet (table 3). Limited knowledge could reflect Spanish speakers' limited access to advertising and labeling information in English.

Non-Hispanic Whites record more knowledge, less emphasis on the importance of a healthful diet, and lower HEI scores. One explanation is that non-Hispanic Whites' higher incomes may lead them to seek convenience foods and away-from-home foods more often. Prior ERS studies have found that these foods are more likely to have increased fat and cholesterol levels and lower fiber than home-prepared foods.

Nutrition education programs for Hispanic populations need to advocate both preservation and change in diets. Noting that some aspects of traditional diets are healthful, nutritionists have incorporated them in recommended diets. For example, Diva Sanjur of Cornell University has developed sample Mexican and Mexican-American menus based on the U.S. dietary guidelines. These menus maintain reliance on beans, rice, and tortillas, but emphasize low-fat dairy products in place of traditional ones and fry beans in small amounts of vegetable oil. Thus, it is possible and desirable to

incorporate many components of traditional Hispanic foods in nutrition education guidelines. An exchange of food habits between the Hispanic and non-Hispanic populations might even help both groups achieve needed dietary improvements.

## References

Bowman, S.A., M. Lino, S.A. Gerrior, and P.P. Basiotis. *The Healthy Eating Index: 1994-96*. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion, CNPP-5, 1998.

Council on Scientific Affairs. "Hispanic Health in the United States." *Journal of the American Medical Association*, Vol. 265, No. 2, January 9, 1991, pp. 248-252.

Garza, Cutberto. "Diet-Related Diseases and Other Health Issues." Chapter 6, in *Hispanic Foodways, Nutrition, and Health*, ed. Diva Sanjur, Allyn and Bacon, Boston, Massachusetts, 1995.

Guendelman, Sylvia, and Barbara Abrams. "Dietary Intake among Mexican American Women: Generational Differences and a Comparison with White Non-Hispanic Women." *American Journal of Public Health*, Vol. 85, No. 1, January 1995, pp. 20-25.

Sanjur, Diva. *Hispanic Foodways, Nutrition, and Health*. Allyn and Bacon, Boston, Massachusetts, 1995.

Sorlie, Paul D., Eric Backlund, Norman J. Johnson, and Eugene Hogot. "Mortality by Hispanic Sta-

tus in the United States." *Journal of the American Medical Association*, Vol. 270, No. 20, November 24, 1993, pp. 2464-2468.

U.S. Bureau of the Census. Hispanic Population of the United States. Current Population Survey—March 1997, Summary Tables, released August 1998.

U.S. Bureau of the Census. "Hispanic Population Nears 30 Million, Census Bureau Reports." Press Release, August 7, 1998.

Variyam, Jayachandran N., James Blaylock, and David Smallwood. *Diet-Health Information and Nutrition: The Intake of Dietary Fats and Cholesterol*. U.S. Department of Agriculture, Economic Research Service, Technical Bulletin 1855, 1997. ■