Nativity Status and Cardiovascular Disease Mortality Among Hispanic Adults

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Background—Hispanic persons represent a heterogeneous and growing population of any race with origins in Mexico, the Caribbean, Central America, South America, or other Spanish-speaking countries. Previous studies have documented variation in cardiovascular risk and outcomes among Hispanic subgroups. Few studies have investigated whether these patterns vary by nativity status among Hispanic subgroups.

Methods and Results—We used the National Center for Health Statistics mortality file to compare deaths of Hispanic (n=1 258 229) and non-Hispanic white (n=18 149 774) adults (aged ≥25 years) from 2003 to 2012. We identified all deaths related to cardiovascular disease (CVD) and categorized them by subtype (all CVD, ischemic, or cerebrovascular) using the underlying cause of death (*International Classification of Diseases, 10th Revision* codes I00–I78, I20–I25, and I60–I69, respectively). Population estimates were calculated using linear interpolation from the 2000 and 2010 US censuses. CVD accounted for 31% of all deaths among Hispanic adults. Race/ethnicity and nativity status were recorded on death certificates by the funeral director using state guidelines. Nativity status was defined as foreign versus US born; 58% of Hispanic decedents were foreign born. Overall, Hispanic adults had lower age-adjusted CVD mortality rates than non-Hispanic white adults (296 versus 385 per 100 000). Foreign-born Cubans, Mexicans, and Puerto Ricans had higher CVD mortality than their US-born counterparts (rate ratio: 2.64 [95% confidence interval, 2.46–2.81], 1.17 [95% confidence interval, 1.15–1.21], and 1.91 [95% confidence interval, 1.83–1.99], respectively).

Conclusions—Mortality rates for total cardiovascular, ischemic, and cerebrovascular disease are higher among foreign- than US-born Hispanic adults. These findings suggest the importance of disaggregating CVD mortality by disease subtype, Hispanic subgroup, and nativity status. (*J Am Heart Assoc*. 2017;6:e007207. DOI: 10.1161/JAHA.117.007207.)

Key Words: acculturation • epidemiology • ethnicity • health disparities • Hispanic • mortality

The term *Hispanic* refers to a heterogeneous group of individuals of any race who have origins in Mexico, the Caribbean, Central America, South America, or other Spanish-speaking countries.[1] Although Hispanic persons share the same Spanish language, their histories of migration into the United States differ, affecting patterns of settlement, social profiles, and health factors.[2–6] Hispanic persons

currently compose the largest ethnic minority group in the United States, and according to the US Census Bureau, that population is expected to increase from 55 million in 2014 to 119 million by 2060 (29% of total US population).[7,8] In 2014, ≈34% of all Hispanic persons in the United States were foreign born, down from a peak of ≈40% in the early 2000s.[9] Although cardiovascular disease (CVD) is the leading cause of death for this group, when studied in aggregate, Hispanic persons experience lower age-adjusted CVD mortality rates than non-Hispanic white (NHW) persons.[10] This lower than expected mortality, despite greater adverse CVD risk profiles and lower levels of income and education than NHWs, has been coined the "Hispanic paradox."[11–14] It has been speculated that Hispanic cultural orientation results in healthier behaviors (eg, lower smoking rates) that result in better health outcomes, protecting Hispanic patients against the effects of lower socioeconomic status compared with other race/ethnic groups in the United States.[15] The "healthy immigrant effect," whereby

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Clinical Perspective

What Is New?

- Using national mortality data, we found that foreign-born Hispanic adults have higher cardiovascular disease mortality rates than their US-born counterparts, challenging the previously held notion of an "immigrant advantage."

What Are the Clinical Implications?

- Cardiologists and medical practitioners should be sensitive to the finding that foreign-born Hispanic patients face higher cardiovascular disease mortality.

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there is selective migration among healthier immigrants to a host country, has also been cited as a possible explanation for the Hispanic mortality advantage.[16]

Acculturation is defined as a multidimensional process through which foreigners adapt to the customs, values, and traditions of a host country.[17,18] Of the limited available studies of diverse racial/ethnic groups, data suggest that increased acculturation is associated with greater risk of CVD.[8,19] Higher acculturation has been associated with increased psychosocial stress and deleterious health behaviors such as an unhealthy diet and less physical activity, leading to a greater prevalence of obesity, metabolic syndrome, inflammation, and subsequent CVD.[20]

Nativity status (foreign versus US born) is a frequently used proxy for acculturation.[21] Compared with foreign-born Hispanic persons, US-born Hispanic persons generally have a higher prevalence of the major CVD risk factors of obesity, smoking, and hypertension,[8] and increased acculturation has also been linked with a greater prevalence of subclinical CVD.[22] Recent data from HCHS/SOL (Hispanic Community Health Study/Study of Latinos) showed that foreign-born Hispanic women had more favorable cardiovascular risk profiles than US-born Hispanic women.[23] However, the majority of studies exploring the association between acculturation and CVD have been limited to studying only 1 Hispanic subgroup (mostly Mexican populations), with results then extrapolated to the broader Hispanic population, and most studies have focused on risk factor prevalence data instead of mortality.

Our previous work has documented marked heterogeneity in CVD mortality in the 3 largest Hispanic subgroups; Puerto Ricans had the highest rates of ischemic and hypertensive heart disease deaths compared with other Hispanic subgroups, whereas Mexicans had the highest rates of stroke deaths.[24] Given the importance of acculturation to Hispanic cardiovascular health, our current study aims to explore CVD mortality outcomes by nativity status (US versus foreign born) among Hispanic subgroups.

Methods

The data, analytic methods, and study materials will not be made available to other researchers for purposes of reproducing the results or replicating the procedure because our data set is restricted; however, these data are publicly available through the US Census Bureau should other investigators choose to obtain them.

Study Population

The study population was comprised of comprised Hispanic and US-born NHW (NHW) decedents aged ≥25 years in the US population from 2003 to 2012. Race/ethnicity was recorded on death certificates by the funeral director using state guidelines. Hispanic ethnic groups are classified as one of the following categories on US mortality records: *Mexican, Puerto Rican, Cuban, Central or South American*, and *other or unknown Hispanic*. Because of limited sampling for the last 2 categories, analyses were restricted to the 3 largest Hispanic subgroups that are consistently documented on the national death certificates throughout our study period, which together make up ≈80% of the Hispanic group.

We identified total decedents from the Mortality Multiple Cause–of–Death files of National Center for Health Statistics. We analyzed deaths specifically as *all–cause mortality* or as *all CVD, ischemic heart disease* (IHD), and *cerebrovascular disease* using the underlying cause of death (*International Classification of Diseases, 10th Revision* codes I00–I78, I20–I25, and I60–I69, respectively) from mortality records. Population data were obtained from the 2000 and 2010 US Census data, and midyear estimates were calculated using linear interpolation and extrapolation out to 2012 to generate denominator data for age-adjusted mortality rates (AMRs). Methods for linear interpolation have been described previously.[24,25] Educational attainment was categorized as *no formal education, high school or GED* (General Equivalency Diploma), *some college, bachelor's degree or higher*, and *unknown*, using both 2003 and 1989 revisions because different states adopted different revisions.

Nativity Status

Several steps were taken to maintain consistent classification of nativity status across the databases. On the death certificates, decedents were classified as *foreign born* if they were born in any of the US territories (eg, Puerto Rico, Guam, Virgin Islands) or other foreign countries listed, as has been done in previous literature exploring nativity status and mortality.[26–28] In the 2000 and 2010 censuses, however, individuals self-identified as *US born* if they were born within the 50 states or the District of Columbia or "outside the

United States" including Puerto Rico, the US Island Areas, or abroad of American parents. Individuals self-identified as foreign born if they were a "naturalized US citizen" or "not a US citizen." Consequently, we reclassified Puerto Ricans who indicated they were born in Puerto Rico/US Island Areas as foreign born, using the 2005–2009 ACS (American Community Survey) Public Use Microdata Sample (PUMS) files, for the purpose of this analysis. Sex-specific proportions were calculated by stratifying each 5-year age category from ages 25 to 29 through ≥85 years for both US- and foreign-born Puerto Ricans, using 2005–2009 ACS PUMS data. We then used the proportion calculated in PUMS to multiply by the total death counts from the 2000 and 2010 censuses to obtain population estimates for Puerto Ricans by nativity status.

Statistical Analyses

Directly standardized, AMRs with 95% confidence intervals (CIs) by nativity status were calculated for all-cause mortality, all CVD, IHD, and cerebrovascular disease by 5-year age categories, adjusting to the 2000 US standard population. We analyzed the ratios of foreign-born AMRs for causes of death of interest with respective US-born AMRs, as the referent population. Relative rate ratios of foreign- versus US-born AMRs for CVD and subtypes were calculated for Hispanic subgroups.

All analyses were performed in R Studio (version 0.99.896) and SAS (version 9.4), and statistical tests were based on 2-sided tests with a significance level of 0.05.

The Stanford University institutional review board provided a waiver for use of these publicly available mortality and census data.

Results

Table 1 shows the demographic characteristics of decedents by nativity status among all-Hispanic, Cuban, Mexican, Puerto Rican, and NHW adults. Foreign-born all-Hispanic, Cuban, and Puerto Rican adults were considerably older at the time of death compared with US-born all-Hispanic, Cuban, and Puerto Rican adults. Foreign-born Hispanic adults were more likely to have lower educational attainment, with 40.5% of Cubans, 73.6% of Mexicans, and 46.7% of Puerto Ricans having less than a high school education. IHD accounted for more than half of the CVD-related deaths among both foreign- and US-born Hispanic persons (54% and 52%, respectively).

Figure 1 demonstrates age-adjusted all-cause and CVD mortality among all Hispanic adults by nativity status. Foreign-born Hispanic adults experienced higher age-adjusted death rates for all-cause mortality, all CVD, IHD, and cerebrovascular disease compared with US-born Hispanic adults. Rates for US-born Hispanic persons were 16.6% lower for total CVD deaths, 24.2% lower for IHD deaths, and 9.6% lower for cerebrovascular disease deaths compared with foreign-born Hispanic persons. Figure 2 shows the effect of nativity status on CVD mortality among the 3 largest Hispanic subgroups. Foreign-born Cubans, Mexicans, and Puerto Ricans experienced higher mortality than US-born groups. Notably, foreign-born Puerto Ricans had higher AMRs for IHD compared with foreign-born Cubans and Mexicans (9.5% and 34.9% higher, respectively).

Table 2 shows the age-adjusted death rates for Hispanic and NHW adults by subgroup, nativity status, and sex. In aggregate, foreign-born Hispanic adults had 315 (95% CI, 314–316) total CVD deaths per 100 000 compared with 270 (95% CI, 269–272) among US-born Hispanic adults. Foreign-born Puerto Ricans had the highest CVD death rates, with 390 (95% CI, 386–393) deaths per 100 000 among all other Hispanic groups. The difference between foreign- and US-born mortality rates between subgroups varied by sex. Men experienced higher CVD mortality rates than women. However, the differential between foreign- and US-born mortality was higher among Mexican women for both CVD (309 [95% CI, 306–312] versus 237 [95% CI, 235–239] deaths per 100 000) and IHD (146 [95% CI, 144–149] versus 113 [95% CI, 111–114] deaths per 100 000), whereas mortality rates among foreign and US-born Mexican men were similar (368 [95% CI, 365–372] versus 354 [95% CI, 351–357] deaths per 100 000 for CVD and 200 [95% CI, 197–312] deaths per 100 000 for IHD).

Table 3 shows the rate ratios (with 95% CIs) of all-Hispanic, Cuban, Mexican, and Puerto Rican adults for foreign-born decedents, with respective US-born groups as the reference group. Foreign-born Cubans had 2.51 (95% CI, 2.42–2.61) times higher all-cause mortality rates compared with US-born Cubans, and mortality rates were 2.64 (95% CI, 2.46–2.81) times higher for CVD, 2.84 (95% CI, 2.63–3.09) times higher for IHD, and 2.61 (95% CI, 2.14–3.00) times higher for cerebrovascular disease. Rate ratios for foreign-born/islander Puerto Ricans were approximately twice as high as those of US-born Puerto Ricans for all CVD mortality.

Discussion

Using a decade of national data, we found that foreign-born Cubans, Mexicans, and Puerto Ricans experienced higher age-adjusted CVD mortality than their US-born counterparts. This pattern was consistent across the 3 largest Hispanic subgroups, albeit strongest among Cubans and weakest among Mexicans. Our study generally supports the Hispanic paradox by showing that both foreign- and US-born Hispanic adults had lower CVD mortality than NHW adults but

Table 1. Characteristics for Decedents Aged ≥25 Years for All-Hispanic, Cuban, Mexican, Puerto Rican and NHW Adults by Nativity Status, 2003–2012

Decedent Characteristics	All Hispanic		Cuban		Mexican		Puerto Rican		NHW
	Foreign-Born	US-Born	Foreign-Born	US-Born	Foreign-Born	US-Born	Foreign-Born/Islander	US-Born	US-Born
Deaths, n	730 524	527 705	125 671	5092	318 315	376 266	134 266	30 815	18 149 774
Average annual population size*, n	147 997 414	101 496 757	8 737 069	2 851 745	81 814 249	64 607 669	11 709 019	11 789 098	1 317 541 018
Absolute no. of death by cause, n (%)									
All CVD	237 125 (32.5)	153 822 (29.1)	47 643 (37.9)	1504 (29.5)	96 452 (30.3)	112 903 (30.0)	45 314 (33.7)	7099 (23.0)	6 170 859 (34.0)
IHD	128 729 (17.6)	79 292 (15.0)	28 865 (23.0)	804 (15.8)	47 994 (15.1)	58 669 (15.6)	26 744 (19.9)	3536 (11.5)	3 152 576 (17.4)
Cerebrovascular disease	42 515 (5.8)	28 264 (5.4)	6411 (5.1)	201 (3.9)	20 678 (6.5)	21 201 (5.6)	6561 (4.9)	1033 (3.4)	1 020 008 (5.6)
Age at death, median (IQR)	73 (57–83)	70 (53–81)	80 (71–87)	63 (43–83)	69 (52–82)	71 (55–82)	73 (61–83)	50 (41–62)	79 (67–87)
Female; %	46.4	44.3	48.9	42.0	43.3	44.3	47.7	38.2	51.2
Educational attainment, %									
No formal education	55.9	46.6	40.5	24.4	73.6	50.7	46.7	25.9	23.3
High school or GED completed	24.9	32.4	31.7	38.7	13.6	30.1	37.0	48.0	43.0
Some college	7.4	13.5	8.9	19.9	5.3	12.6	7.2	16.5	16.0
Bachelor's degree or higher	4.6	5.4	3.6	14.9	4.7	4.4	4.0	7.7	14.6
Unknown	7.2	2.2	15.3	2.0	2.8	2.2	5.1	2.0	3.1

CVD indicates cardiovascular disease; GED, General Equivalency Diploma; IHD, ischemic heart disease; IQR, interquartile range; NHW, non-Hispanic white.
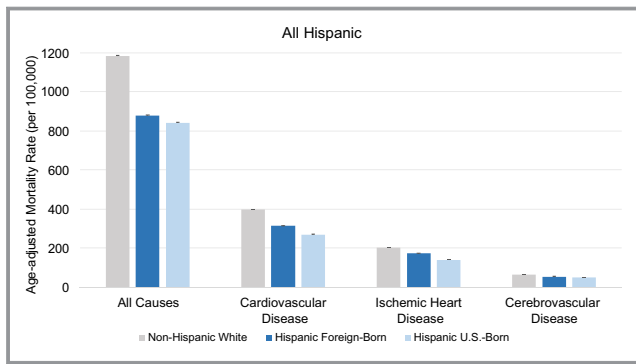
*Over the 10-year study period.

Figure 1. All-cause and cause-specific cardiovascular disease age-adjusted mortality rates (per 100 000 population) with 95% confidence intervals by nativity status for all Hispanic and non–Hispanic white adults (2003–2012).

contradicts the healthy immigrant effect because foreign-born Hispanic adults had higher mortality rates than US born Hispanic adults.

There are several possible explanations for our findings against the healthy immigrant effect. First, we used a large national sample that included a heterogeneous population of Hispanic subgroups, a major limitation of prior work that has focused largely on Mexicans in 1 geographic region[29] and on risk factors rather than mortality.[30–32] US-born Cubans and Puerto Ricans, in particular, had lower AMRs, suggesting a protective effect of generational status among these subgroups. As shown in our data, foreign-born Hispanic adults are significantly older and have lower educational attainment than both US-born Hispanic and NHW adults. The gradient between socioeconomic status and health has been extensively documented.[33,34] It is likely that lower socioeconomic status among foreign-born Hispanics translates to worse CVD risk profiles and access to care and thus higher CVD death rates. Hispanic persons born in the United States are more likely to be insured, to seek regular preventive services, and to have higher English language proficiency—factors that may, in turn, mitigate cardiovascular risk and mortality.

The role of acculturation in Hispanic CVD health remains uncertain.[12,35–37] Whereas some studies have shown that greater acculturation is associated with greater prevalence of CVD risk factors,[38] others have shown that lower acculturation is associated with worse risk factor control.[35] In addition, the role of acculturation and chronic disease risk factor control varies by country of origin and the acculturation metric (nativity, language, duration of residence) that is studied.[39] The healthy immigrant effect postulates that new immigrants are healthier than average compared with persons in both their native and host countries, likely due to selective migration,[40] although a study from the Mexican Family Life Survey documented weak support for this hypothesis.[41] Large studies supporting the healthy immigrant effect and mortality have examined duration of residence in immigrant populations, rather than nativity status, as a marker of acculturation.[42]

Our results challenge the commonly held notions of the "healthy migrant" or the "salmon bias hypothesis."[12,13] These theories contend that those who migrate to the United States are healthier and younger than those who chose not to migrate, resulting in a health advantage over the host population. Similarly, the salmon bias theory proposes that migrants return to their native country to die, thereby spuriously lowering mortality rates in the United States. We found consistently higher AMRs for foreign-born Hispanic adults across all-cause mortality, all CVD, IHD, and cerebrovascular disease deaths. However, this foreign- versus US-born difference was lowest for Mexican Americans and highest for Cubans, which may in part be influenced by ease of reverse migration to these respective countries.

Our findings also emphasize the importance of data disaggregation by Hispanic subgroup in national reports. Although our prior work has highlighted heterogeneity between Hispanic subgroups and CVD mortality,[24] granulizing data even further by nativity status (especially for largely foreign-born populations) has demonstrated further heterogeneity in outcomes. Foreign-born Cubans were shown to have the largest CVD mortality differential compared with US-
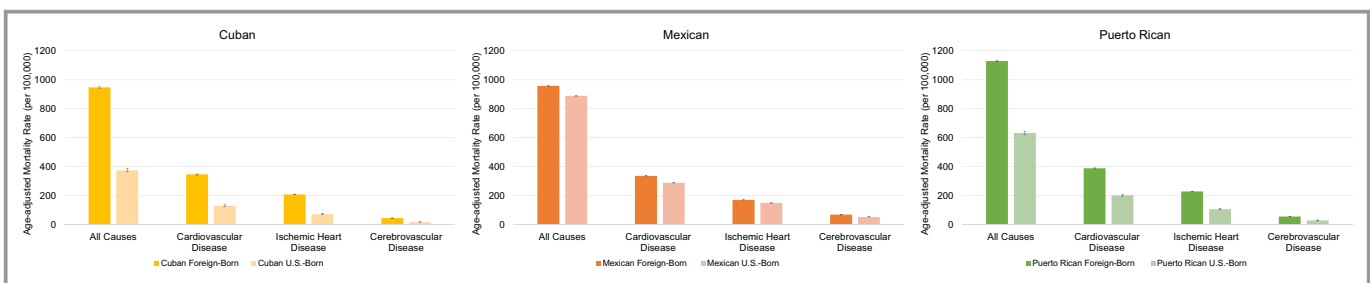

Figure 2. All-cause and cause-specific cardiovascular disease age-adjusted mortality rates (per 100 000 population) with 95% confidence intervals by nativity status for Hispanic subgroups (2003–2012).

Nativity and CVD Mortality

Table 2. AMRs (Per 100 000 Population) for All-Hispanic, Cuban, Mexican, Puerto Rican, and NHW Adults by Cardiovascular Subtype, Nativity Status, and Sex (95% CIs)

Decedent Characteristics	All Hispanic Foreign-Born AMR (95% CI)	All Hispanic US-Born AMR (95% CI)	Cuban Foreign-Born AMR (95% CI)	Cuban US-Born AMR (95% CI)	Mexican Foreign-Born AMR (95% CI)	Mexican US-Born AMR (95% CI)	Puerto Rican Foreign-Born AMR (95% CI)	Puerto Rican US-Born AMR (95% CI)	NHW US-Born AMR (95% CI)
Female									
All cause	741 (739–744)	689 (686–692)	751 (744–757)	306 (292–320)	847 (842–852)	729 (725–732)	911 (904–919)	508 (496–521)	1014 (1013–1015)
CVD	271 (269–272)	221 (219–223)	277 (274–281)	108 (100–117)	309 (306–312)	237 (235–239)	325 (320–329)	168 (160–176)	335 (334–335)
IHD	143 (141–144)	104 (103–105)	162 (159–164)	57 (51–64)	146 (144–149)	113 (111–114)	186 (183–189)	84 (78–90)	153 (153–153)
Cerebrovascular disease	52 (51–52)	47 (46–48)	42 (41–43)	17 (14–21)	69 (68–71)	51 (50–52)	51 (49–52)	28 (25–31)	65 (65–65)
Male									
All cause	1059 (1055–1063)	1033 (1029–1037)	1191 (1181–1200)	461 (442–482)	1077 (1071–1083)	1085 (1080–1090)	1420 (1409–1431)	788 (770–806)	1407 (1406–1408)
CVD	371 (369–374)	332 (329–334)	434 (428–439)	161 (149–174)	368 (365–372)	354 (351–357)	479 (472–485)	250 (238–261)	479 (478–479)
IHD	215 (213–217)	187 (185–189)	270 (265–274)	94 (85–104)	200 (197–202)	200 (198–203)	291 (285–296)	140 (132–148)	269 (269–270)
Cerebrovascular disease	59 (58–60)	54 (53–55)	52 (50–54)	20 (15–24)	71 (69–72)	59 (58–60)	65 (62–67)	34 (30–39)	65 (65–66)
Total									
All cause	881 (879–883)	844 (841–846)	948 (942–953)	377 (365–389)	959 (955–962)	890 (887–893)	1129 (1123–1136)	634 (623–645)	1186 (1186–1187)
CVD	315 (314–316)	270 (269–272)	348 (344–351)	132 (125–140)	338 (336–340)	290 (288–291)	390 (386–393)	204 (197–211)	399 (398–399)
IHD	174 (173–175)	140 (139–141)	210 (208–213)	74 (69–79)	172 (170–173)	151 (150–153)	230 (227–233)	109 (104–114)	203 (203–203)
Cerebrovascular disease	55 (55–56)	50 (50–51)	47 (45–48)	18 (16–21)	70 (69–71)	55 (54–56)	57 (55–58)	30 (28–33)	66 (66–66)

AMR indicates age-adjusted mortality rate; CI, confidence interval; CVD, cardiovascular disease; IHD, ischemic heart disease; NHW, non-Hispanic white.

Table 3. Relative Rate Ratios and 95% CIs of Foreign-Born to US-Born Age-Adjusted CVD Mortality Rates by Hispanic Subgroups (Cubans, Mexicans, and Puerto Ricans)

	All Hispanic	Cuban	Mexican	Puerto Rican
All cause	1.04 (1.04–1.05)	2.51 (2.42–2.61)	1.08 (1.07–1.08)	1.78 (1.74–1.82)
CVD	1.17 (1.15–1.17)	2.64 (2.46–2.81)	1.17 (1.15–1.18)	1.91 (1.83–1.99)
IHD	1.24 (1.23–1.26)	2.84 (2.63–3.09)	1.14 (1.11–1.15)	2.11 (1.99–2.24)
Cerebrovascular disease	1.10 (1.07–1.12)	2.61 (2.14–3.00)	1.27 (1.23–1.31)	1.90 (1.67–2.07)

CI indicates confidence interval; CVD, cardiovascular disease; IHD, ischemic heart disease.

born Cubans, highlighting a potentially missed opportunity in cardiovascular prevention among immigrants. Contrary to the Hispanic paradox, we also found that foreign-born/islander Puerto Ricans experienced higher mortality for IHD compared with NHW adults and other Hispanic subgroups. Foreign-born Mexicans experienced the highest rates of cerebrovascular disease mortality at younger ages, perhaps explained by differences in risk factors, healthcare access, or genetic susceptibility to disease.[43] Similar to our findings, a study of insured Hispanic persons in Northern California also documented that the Hispanic mortality paradox was attenuated by taking into account nativity status, with higher CVD mortality among Mexican-born Hispanic persons compared with US-born Mexicans.[44]

Our analysis provides a contemporary overview of mortality outcomes by Hispanic subgroups and nativity status. The recent HCHS/SOL indicated that recent immigrants with <10 years of residence in the United States had more favorable cardiovascular health.[45] Given the younger age of participants in these cohort data (ie, mean age ≈40–47 years for foreign-born versus 31 years for US-born adults), it is possible that the observed health advantages may attenuate over time among foreign-born Hispanic persons with increasing acculturation, which is then associated with worsening of CVD health.[38] It is likely that many of the foreign-born decedents in our study had longer years of residence in the United States, partly explaining the higher mortality.

Our study has several strengths including national level data, multiple years of data analyzed, and consideration of both Hispanic subgroups and major CVD subtypes. We also included older adults, a major limitation of prior studies that have focused on young and middle-aged Hispanic adults.[46] Limitations include the use of nativity as a crude measure of acculturation, which fails to fully capture the complexity and multiple dimensions of the acculturative process. We were unable to distinguish foreign-born individuals who migrated to the United States at younger versus older ages or to include years of residence in the United States in our analyses. Given the limitations inherent to mortality records, we were unable to adjust for sociodemographic or risk factor differences that

may partially explain our findings. Misclassification of race and ethnicity data on mortality records may have led to under- or overestimation of mortality rates. However, studies have ascertained that Hispanic classification on death records is reasonably accurate, with a net ascertainment of Hispanic classification just 3% higher on survey records compared with death certificates.[47] Both sensitivity (88–93%) and positive predictive value (91–96%) are reasonably high. With a potential 3% misclassification of Hispanic race/ethnicity on the death records, it is possible that rates may be slightly underestimated, and this relatively small misclassification rate may vary across subgroups.[48] Statistical immortality conferred by reverse migration (ie, individuals may migrate to their country of origin to die) may result in an underestimation of deaths, although this would not likely explain the results seen for Puerto Ricans (captured in US mortality data) or Cubans (unable to easily return back to their country of origin). Finally, the group "all-Hispanic" includes a heterogeneous population including Dominicans, South, and Central Americans, which could not be further disaggregated given small sample sizes. In addition, CVD mortality may vary by geography and other socioeconomic factors that were not included in the analyses.

Conclusion

In a large national study of 10 years of mortality data, we showed that foreign-born Hispanic adults experienced higher age-adjusted mortality rates from CVD compared with US-born Hispanic adults; this difference was particular pronounced among Cubans and Puerto Ricans. Our findings suggest that public health strategies to improve the cardiovascular health of Hispanic adults in the United States need to consider Hispanic subgroup and nativity status.

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Disclosures

None.

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