

Cancer Statistics for Hispanics/Latinos, 2012

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Hispanics/Latinos are the largest and fastest growing major demographic group in the United States, accounting for 16.3% (50.5 million/310 million) of the US population in 2010. In this article, the American Cancer Society updates a previous report on cancer statistics for Hispanics using incidence data from the National Cancer Institute, the Centers for Disease Control and Prevention, and the North American Association of Central Cancer Registries and mortality data from the National Center for Health Statistics. In 2012, an estimated 112,800 new cases of cancer will be diagnosed and 33,200 cancer deaths will occur among Hispanics. In 2009, the most recent year for which actual data are available, cancer surpassed heart disease as the leading cause of death among Hispanics. Among US Hispanics during the past 10 years of available data (2000-2009), cancer incidence rates declined by 1.7% per year among men and 0.3% per year among women, while cancer death rates declined by 2.3% per year in men and 1.4% per year in women. Hispanics have lower incidence and death rates than non-Hispanic whites for all cancers combined and for the 4 most common cancers (breast, prostate, lung and bronchus, and colorectum). However, Hispanics have higher incidence and mortality rates for cancers of the stomach, liver, uterine cervix, and gallbladder, reflecting greater exposure to cancer-causing infectious agents, lower rates of screening for cervical cancer, differences in lifestyle and dietary patterns, and possibly genetic factors. Strategies for reducing cancer risk among Hispanics include increasing utilization of screening and available vaccines, as well as implementing effective interventions to reduce obesity, alcohol consumption, and tobacco use. *CA Cancer J Clin* 2012;62:283-298. © 2012 American Cancer Society.

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Introduction

Hispanic is used to refer to persons of Mexican, Cuban, Puerto Rican, South or Central American, or other Spanish descent. Hispanic origin is determined based on the response to the question “Is this person of Hispanic, Latino, or Spanish origin?” in the 2010 US Census questionnaire.¹ Affirmative respondents are asked to self-identify from 1 of 3 designated categories (Mexican, Chicano; Puerto Rican; or Cuban) or write in an alternative origin (eg, Argentinian, Spaniard, etc). Federal standards mandate that race and ethnicity are separate and distinct concepts; therefore, people of Hispanic origin may be of any race. In 2010, there were approximately 50.5 million Hispanics, accounting for 16.3% of the total US population.¹ Hispanics are the nation’s largest and fastest growing major demographic group, with a population increase 4 times that of the general population between 2000 to 2010. The majority of Hispanics are Mexican (63.0%), followed by Puerto Rican (9.2%), Cuban (3.5%), and Dominican (2.8%).¹

In the United States, the Hispanic population is unique relative to non-Hispanics in terms of age distribution, socioeconomic status (SES), and immigration history. Just 1 in 10 Hispanics, compared with almost 1 in 3 non-Hispanics, is aged 55 years or older, the age group among whom the majority (77%) of cancers are diagnosed.² In 2010, 26.6% of Hispanics lived in poverty and 30.7% were uninsured, compared with 9.9% and 11.7%, respectively, of non-Hispanic whites (NHWs).³ Approximately 37% of Hispanics, compared with 3.9% of NHWs, are foreign-born; more than one-third (34.7%) of foreign-born Hispanics have resided in the United States for 10 or fewer years.² In interpreting these differences, however, it is important to realize that there is substantial heterogeneity within the Hispanic population. For example, the socioeconomic profile of Cuban Americans is more similar to NHWs than to Mexican Americans.

Compared with NHWs, Hispanics have lower rates for the most common cancers (breast, prostate, lung, and colorectum) and higher rates for cancers related to infectious agents (liver, stomach, and uterine cervix), though risk for common cancers increases with duration of US residence. There is evidence that descendants of Hispanic migrants have

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cancer rates that approach those of NHWs due to acculturation.⁴⁻⁶ Acculturation, or assimilation, refers to the process by which immigrants adopt the attitudes, values, customs, beliefs, and behaviors of their new culture. The effects of acculturation are complex and can be associated with both positive and negative influences on health.⁷ Among Hispanic immigrants to the United States, assimilation may result in improved access to health care and preventive services, as well as the adoption of unhealthy behaviors (eg, smoking, excessive alcohol consumption) and decreased dietary quality and physical activity. One study found that overall cancer death rates were 22% higher among US-born than foreign-born Hispanics.⁸ Ho et al reported that cancer incidence rates among mainland Puerto Rican men were 50% higher than those among island residents.⁹ The immense diversity within the Hispanic community in terms of country of origin and degree of acculturation provides both challenges and opportunities for cancer control and etiologic study.

The objective of this report is to provide current cancer incidence, survival, and mortality statistics for Hispanics in the United States. Information on cancer prevention and early detection among Hispanics, including screening use and risk factor prevalence, can be found in a companion article by Cokkinides et al.¹⁰ We present the projected numbers of new cancer cases and deaths in 2012, as well as rates of incidence, survival, and mortality for the 4 most common cancers and for those sites with an elevated risk among Hispanics. It is important to note that cancer data in the United States are generally reported for Hispanics as an aggregate group, masking important differences between Hispanic subpopulations according to country of origin. For example, compared with combined Hispanic data, cancer incidence rates for Mexicans tend to be lower and rates for Puerto Ricans and Cubans are generally higher.¹¹ One study of Hispanic adults in Florida found that the age-adjusted cancer death rate for Cuban men (327.5 per 100,000) was twice that of Mexican men (163.4 per 100,000).¹²

Materials and Methods

Incidence and Mortality Data

There are 2 sources for cancer incidence data reported in this article. The Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute (NCI) reports long-term, high-quality, population-based incidence data covering up to 28% of the US population, including 41% of Hispanics. The SEER program began coding Hispanic ethnicity in 1992. Long-term incidence trends (1992-2009), 5-year cause-specific survival rates (2002-2008), and estimations of the lifetime probability of developing cancer (2007-2009) were obtained from SEER registries.^{13,14}

The North American Association of Central Cancer Registries (NAACCR) compiles and reports incidence data for 1995 onward from cancer registries that participate in the

SEER program or the Centers for Disease Control and Prevention's National Program of Cancer Registries, covering up to 95% of the US population. Cancer case data for current, 5-year average incidence rates (2005-2009), 10-year trends (2000-2009), and 2012 projections were obtained from NAACCR.¹⁵ Incidence data from central cancer registries in the District of Columbia and 3 states (Arkansas, Virginia, and Wisconsin) did not meet the NAACCR's standard for high-quality data for all years during 2005 to 2009 and were excluded from cross-sectional rates.

Ten-year trends are described in terms of average annual percent change (AAPC) based on joinpoint regression analysis.¹⁶ Joinpoint is a tool used to describe and quantify trends by fitting observed rates to lines connected at "joinpoints," where trends change in direction or magnitude.¹⁷ Incidence data from central cancer registries in the District of Columbia and 8 states (Arkansas, Kansas, Mississippi, North Carolina, South Dakota, Tennessee, Virginia, and Wisconsin) did not meet the NAACCR's standard for high-quality data for all years during 2000 to 2009 and were excluded from trend analyses.

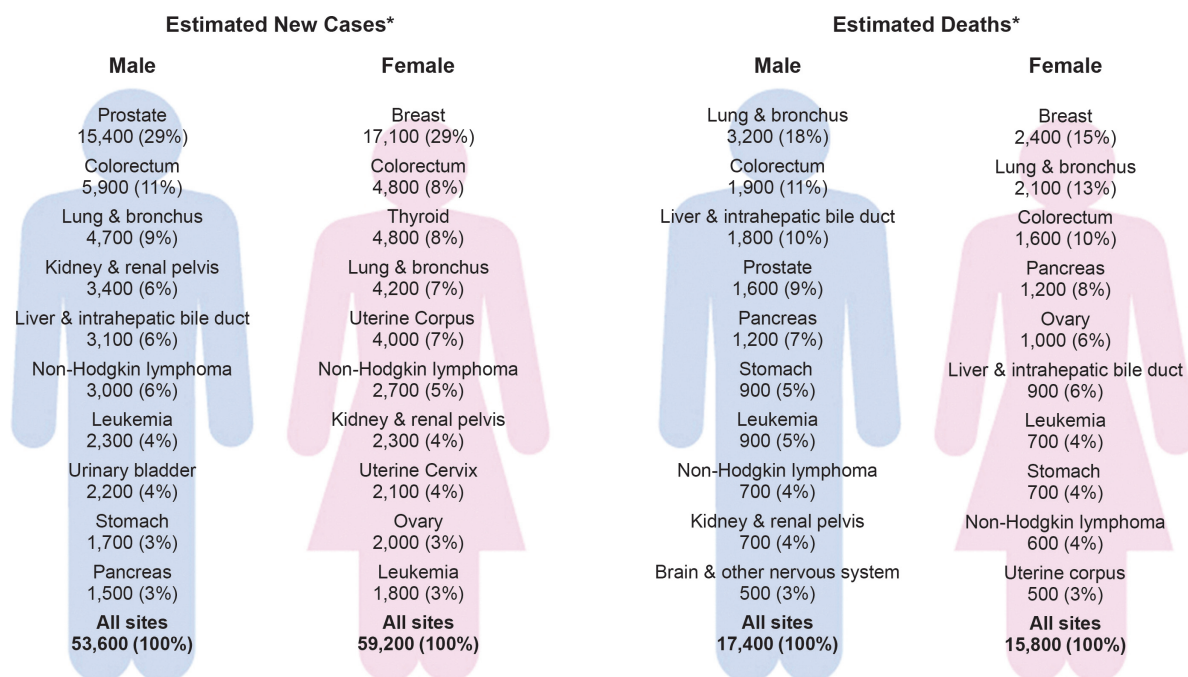
Incidence data from all sources exclude cases diagnosed in 2005 from July through December in Alabama, Louisiana, Mississippi, and Texas due to the effect of large migrations of populations as a result of Hurricane Katrina in September 2005. All cancer cases were classified according to the *International Classification of Diseases for Oncology*.¹⁸

Mortality data specific for Hispanic origin have been available since 1990 and were obtained from the National Center for Health Statistics (NCHS).¹⁹ Causes of death were classified according to the ninth and tenth revisions of the *International Classification of Diseases*.^{20,21} Deaths from the District of Columbia, Minnesota, New Hampshire, North Dakota, and South Carolina were excluded due to unreliable Hispanic origin data for one or more years. Mortality trends are described in terms of AAPC.

All cancer cases and deaths were accessed using SEER*Stat software.²² Population data were obtained from the US Census Bureau. Incidence and death rates were age-standardized to the 2000 US standard population and expressed per 100,000 persons. The term "Hispanic" is a US federal designation of ethnicity by the Office of Management and Budget; Hispanic persons may be of any race, although the majority (53%) self-identify as white.¹

Projected Cancer Cases and Deaths in 2012

The precise number of cancer cases diagnosed each year in the nation and in every state is unknown because cancer registration is incomplete in some states. Furthermore, the most recent year for which incidence and mortality data are available lags 3 to 4 years behind the current year due to the time required for data collection, compilation, and dissemination. Therefore, we projected the numbers of new



*Excludes basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder.

FIGURE 1. Leading New Cancer Cases and Deaths Among Hispanics, 2012 Estimates.

cancer cases and deaths among Hispanics in the United States in 2012 in order to provide an estimate of the contemporary cancer burden. The methods for projecting both new cases and deaths in 2012 have been modified and should not be compared with estimates for previous years.

We projected the number of new malignant cancer cases that will be diagnosed in 2012 among US Hispanics using a 2-step process that first estimates complete incidence counts during the years for which observed data are available, and then projects these counts 3 years ahead for the United States overall. To estimate incidence counts, we used incidence data for 2000 through 2009 from 50 states and the District of Columbia that met the NAACCR's high-quality data standard for incidence. Joinpoint trends were then applied to the estimated counts to obtain the 2012 projections.

We estimated the number of cancer deaths expected to occur in 2012 in US Hispanics using the joinpoint regression model based on the actual numbers of cancer deaths from 1995 through 2009 at the state and national levels as reported to the NCHS. For the complete details of this methodology, please refer to Chen et al.²³

Other Statistics

Cause-specific survival, which represents the net survival of a specified cause of death in the absence of other causes, is used to describe the cancer survival experience for Hispanics in this report. The cause-specific survival rates for Hispanics were previously published in the *Cancer Statistics Review 1975-2009*.²⁴ We chose to present

cause-specific survival as opposed to relative survival because the latter is based on life tables produced from information obtained from death certificates that has historically been inaccurate for people of Hispanic origin. However, misclassification has been decreasing over time and life tables by Hispanic origin have recently become available.²⁵⁻²⁷ The lifetime probability of developing cancer is estimated by the NCI's DevCan software²⁸ based on the average experience of the general population and may over- or underestimate individual risk due to differences in exposures or genetic susceptibility.

Selected Findings

Overall Cancer Occurrence

Incidence

In 2012, about 112,800 new cancer cases are expected to be diagnosed among Hispanics. According to these estimates, the most commonly diagnosed cancer among Hispanic men will be prostate (29%), followed by cancers of the colorectum (11%) and lung and bronchus (9%) (Fig. 1). The most common cancers among Hispanic women will be those of the breast (29%), colorectum (8%), and thyroid (8%).

The lifetime probability of developing cancer among Hispanics is 40.6% among men and 35.0% among women (Table 1), compared with 45.5% and 39.6% among NHW men and women, respectively. Cancer incidence rates are lower among Hispanics than NHWs overall and for the 4 most common cancers (prostate, breast, lung and bronchus, and colorectum) (Table 2). The most notable of these is

TABLE 1. Probability (%) of Developing Invasive Cancer Among Hispanics/Latinos Over Selected Age Intervals, United States, 2007 to 2009*

		BIRTH to 39	40 to 59	60 to 69	70 AND OLDER	BIRTH TO DEATH
All sites†	Male	1.20 (1 in 83)	6.06 (1 in 17)	12.11 (1 in 8)	35.43 (1 in 3)	40.63 (1 in 2)
	Female	1.90 (1 in 53)	7.56 (1 in 13)	8.38 (1 in 12)	24.76 (1 in 4)	35.03 (1 in 3)
Breast	Female	0.40 (1 in 252)	3.03 (1 in 33)	2.65 (1 in 38)	4.97 (1 in 20)	9.83 (1 in 10)
Colorectum	Male	0.06 (1 in 1,580)	0.80 (1 in 125)	1.27 (1 in 78)	4.16 (1 in 24)	5.13 (1 in 20)
	Female	0.06 (1 in 1,554)	0.62 (1 in 162)	0.85 (1 in 117)	3.33 (1 in 30)	4.31 (1 in 23)
Liver & intrahepatic bile duct	Male	0.02 (1 in 5,777)	0.49 (1 in 203)	0.59 (1 in 169)	1.13 (1 in 89)	1.88 (1 in 53)
	Female	0.01 (1 in 8,781)	0.11 (1 in 938)	0.21 (1 in 477)	0.82 (1 in 122)	1.02 (1 in 98)
Lung & bronchus	Male	0.02 (1 in 6,188)	0.36 (1 in 280)	1.09 (1 in 92)	4.80 (1 in 21)	5.02 (1 in 20)
	Female	0.02 (1 in 5,419)	0.34 (1 in 292)	0.83 (1 in 121)	3.11 (1 in 32)	3.80 (1 in 26)
Melanoma	Male	0.02 (1 in 4,510)	0.08 (1 in 1,254)	0.11 (1 in 920)	0.43 (1 in 235)	0.52 (1 in 191)
	Female	0.05 (1 in 2,089)	0.13 (1 in 763)	0.10 (1 in 1,023)	0.29 (1 in 350)	0.51 (1 in 194)
Prostate	Male	0.01 (1 in 15,266)	1.71 (1 in 58)	5.34 (1 in 19)	11.48 (1 in 8)	14.57 (1 in 7)
Stomach	Male	0.02 (1 in 4,191)	0.22 (1 in 452)	0.42 (1 in 240)	1.57 (1 in 64)	1.82 (1 in 55)
	Female	0.03 (1 in 3,178)	0.16 (1 in 634)	0.21 (1 in 482)	0.95 (1 in 105)	1.20 (1 in 83)
Uterine cervix	Female	0.19 (1 in 533)	0.38 (1 in 264)	0.20 (1 in 498)	0.36 (1 in 281)	1.05 (1 in 95)

*For those free of cancer at the beginning of the age interval. Based on cancer cases diagnosed during 2007 to 2009.

†All sites excludes basal cell and squamous cell skin cancers and in situ cancers except urinary bladder.

Source: DevCan: Probability of Developing or Dying of Cancer Software, Version 6.6.1. Bethesda, MD: Statistical Research and Applications Branch, National Cancer Institute; 2012.

srab.cancer.gov/devcan.

lung cancer, for which rates among Hispanics are about one-half those of NHWs. In contrast, rates are higher in Hispanics for gallbladder cancer, acute lymphocytic leukemia, and several cancers associated with infectious agents (eg, stomach, liver and intrahepatic bile duct, and cervix).

Overall cancer incidence rates declined from 2000 to 2009 (the most recent 10 years for which data are available) among Hispanics by 1.7% per year among men

and 0.3% per year among women (Fig. 2), compared with declines of 1.0% and 0.2% among NHW men and women, respectively (Table 3). Among Hispanic men, declines occurred for all sites shown in Table 3 over the most recent 10 years of data with the exception of cancer of the liver and intrahepatic bile duct, which increased by 2.6% per year (Fig. 3). Among Hispanic women, trends were declining for all cancers except

TABLE 2. Cancer Incidence and Mortality Rates* and Ratios Comparing Hispanics to Non-Hispanic Whites, 2005 to 2009

	INCIDENCE						MORTALITY					
	MALE			FEMALE			MALE			FEMALE		
	HISPANIC	NHW	RATIO†	HISPANIC	NHW	RATIO†	HISPANIC	NHW	RATIO†	HISPANIC	NHW	RATIO†
All sites	418.7	556.6	0.8‡	333.2	433.9	0.8‡	146.3	221.9	0.7‡	100.5	154.7	0.6‡
Prostate	124.9	143.2	0.9‡	-	-	-	17.8	21.9	0.8‡	-	-	-
Breast	-	-	-	93.0	126.6	0.7‡	-	-	-	14.9	23.0	0.6‡
Colorectum	46.9	53.4	0.9‡	33.3	39.8	0.8‡	15.3	19.8	0.8‡	10.2	13.8	0.7‡
Lung & bronchus	45.4	85.7	0.5‡	26.6	60.5	0.4‡	30.8	68.0	0.5‡	14.0	43.1	0.3‡
Stomach	13.5	7.9	1.7‡	8.1	3.5	2.3‡	7.3	4.0	1.8‡	4.3	2.0	2.2‡
Uterine cervix	-	-	-	11.8	7.2	1.6‡	-	-	-	3.0	2.1	1.5‡
Liver & intrahepatic bile duct	17.5	8.3	2.1‡	6.6	2.8	2.4‡	11.8	7.0	1.7‡	5.3	2.9	1.9‡
Thyroid	4.6	6.7	0.7‡	17.2	18.9	0.9‡	0.5	0.5	1.1	0.6	0.5	1.4‡
Gallbladder	1.3	0.7	1.8‡	2.8	1.2	2.4‡	0.6	0.4	1.5‡	1.3	0.7	1.9‡

NHW indicates non-Hispanic white.

*Rates are per 100,000 and age-adjusted to the 2000 US standard population.

†Ratio is the unrounded Hispanic rate divided by the NHW rate.

‡The difference between the rate for Hispanics and NHWs is significant ($P \leq 0.05$).

Note: Persons of Hispanic origin may be of any race.

Data Source: Incidence: North American Association of Central Cancer Registries (NAACCR), 2012. Incidence data for Hispanics and NHWs are based on the NAACCR Hispanic Identification Algorithm (NHIA). Mortality: National Center for Health Statistics, Centers for Disease Control and Prevention, 2012.

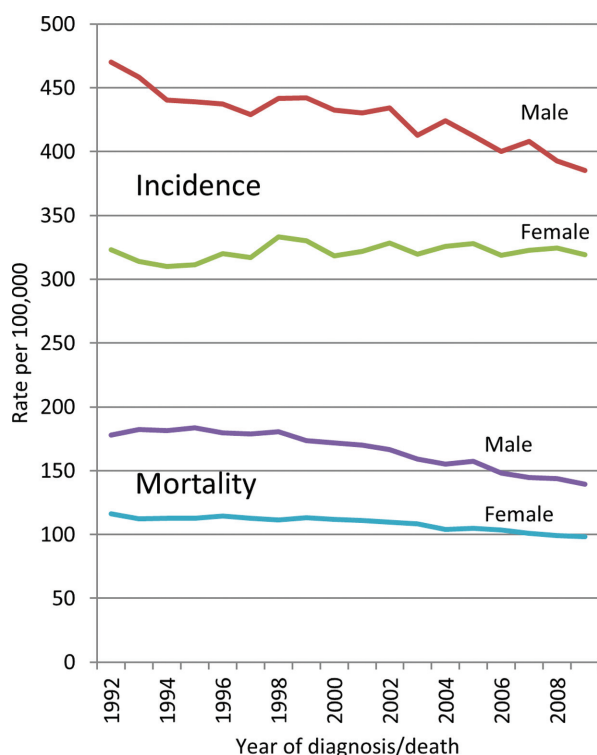


FIGURE 2. Trends in Overall Cancer Incidence and Death Rates Among Hispanics, 1992 to 2009.

those of the lung and bronchus and breast, for which rates were stable, and the liver and intrahepatic bile duct, for which rates increased by 2.0% per year.

Hispanics are less likely than NHWs to be diagnosed at a localized stage for most of the cancers shown in Figure 4. Absolute differences in local stage disease are largest for melanoma (11%) and female breast cancer (8%).

Although less access to high-quality care due to lower SES undoubtedly contributes to this disparity,²⁹⁻³¹ some studies have shown that disparities persist even when SES and health care access are similar.³²⁻³⁴ Despite this apparent disadvantage, survival rates among Hispanics for most cancers are similar to those among NHWs (Table 4). The Hispanic survival paradox (high rates of survival despite unfavorable demographic and prognostic indicators) may be partly due to a selectively healthy immigrant population and return migration, although these biases do not appear to wholly explain this phenomenon.^{35,36} In contrast, the 5-year survival rate for Hispanic patients with melanoma is 10.4% lower among men and 4.0% lower among women compared with NHWs. This may be due, in part, to differences in tumor thickness at diagnosis. Recently published melanoma data from the California cancer registry showed that Hispanic patients were substantially more likely than NHWs to have a lower SES and to be diagnosed with thicker tumors; moreover, the inverse association between SES and tumor thickness was stronger for Hispanics than NHWs.³⁷

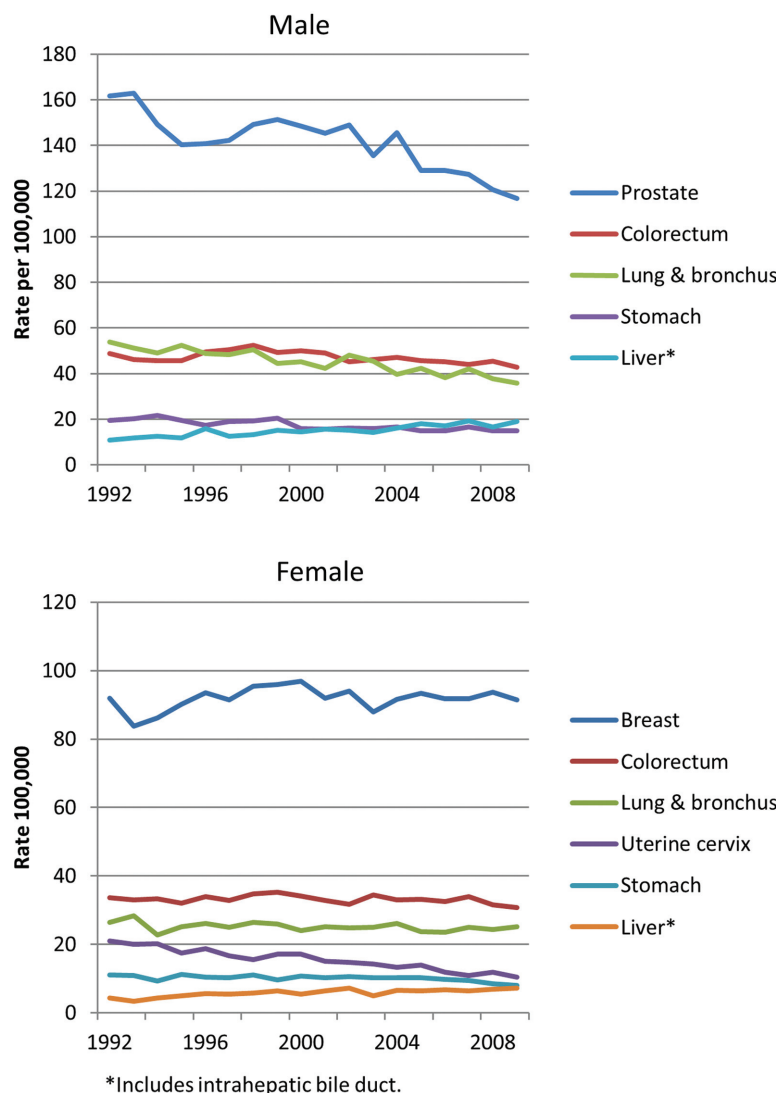
Mortality

Cancer was the leading cause of death among Hispanics in 2009, followed closely by heart disease (Table 5). Approximately 33,200 cancer deaths are expected to occur among Hispanics in 2012 (Fig. 1). Lung cancer is the leading cause of cancer death among Hispanic men (18%), followed by colorectal (11%), and liver (10%) cancers. Among Hispanic women, the leading cause of cancer death is breast cancer (15%), followed by lung (13%), and colorectal (10%) cancers.

TABLE 3. Fixed-Interval Trends in Cancer Incidence and Death Rates, 2000 to 2009

		MALE		FEMALE	
		HISPANIC	NON-HISPANIC WHITE	HISPANIC	NON-HISPANIC WHITE
All sites	Incidence	-1.7*	-1.0*	-0.3*	-0.2*
	Death	-2.3*	-1.5*	-1.4*	-1.3*
Lung & bronchus	Incidence	-2.9*	-1.7*	-0.6	0.0
	Death	-3.3*	-2.0*	-1.0*	-0.4*
Prostate	Incidence	-2.4*	-2.2*		
	Death	-3.8*	-3.3*		
Female breast	Incidence			-0.2	-1.0*
	Death			-1.6*	-2.0*
Colorectum	Incidence	-2.3*	-3.5*	-2.4*	-2.8*
	Death	-1.9*	-3.0*	-2.0*	-3.0*
Stomach	Incidence	-2.5*	-2.2*	-2.2*	-1.9*
	Death	-4.0*	-3.8*	-3.0*	-3.6*
Liver & intrahepatic bile duct	Incidence	2.6*	4.0*	2.0*	2.5*
	Death	1.5*	2.6*	1.0*	1.5*
Uterine cervix	Incidence			-3.6*	-1.6*
	Death			-3.2*	-2.0*
Gallbladder	Incidence	-3.4*	-0.6	-1.1*	-1.1*
	Death	-3.3	-1.5*	-2.1	-2.1*

*The average annual percent change from 2000 to 2009 is significantly different from zero ($P < 0.05$).



*Includes intrahepatic bile duct.

FIGURE 3. Trends in Cancer Incidence Rates Among Hispanics by Site and Sex, 1992 to 2009.

Similar to cancer incidence, cancer mortality rates are lower among Hispanics overall and for the 4 major sites (Table 2). The lung cancer mortality rate among Hispanic men (30.8 per 100,000) is less than one-half that among NHW men (68.0); among women, the rate for Hispanics (14.0) is one-third that of NHWs (43.1). In contrast, death rates among Hispanics for cancers of the stomach, liver and intrahepatic bile duct, and gallbladder are up to twice those of NHWs, particularly among women.

Overall cancer mortality rates declined among Hispanics by 2.3% per year among men and 1.4% per year among women from 2000 to 2009, compared with annual declines of 1.5% and 1.3% among NHW men and women, respectively (Table 3). Similar to patterns in NHWs, death rates declined among Hispanic men and women for all sites listed in Table 3 (gallbladder was not significant) except liver and intrahepatic bile duct, for which there were annual increases of 1.5% and 1.0% among men and women, respectively.

The 4 Major Cancer Sites

Female Breast

Breast cancer is the most commonly diagnosed cancer and the second leading cause of cancer death among Hispanic women in the United States, with a total of 17,100 new invasive breast cancer cases and 2,400 breast cancer deaths expected to occur in 2012. Age-standardized breast cancer incidence and mortality rates in Hispanics are 30% to 40% lower than those in NHWs, largely due to differences in reproductive patterns. Reproductive characteristics associated with a lower breast cancer risk, such as younger age at first birth and higher parity, are more common in Hispanic than NHW women.^{38,39}

Within the Hispanic population, the burden of breast cancer varies substantially according to country of origin and differences in culture, degree of acculturation, and duration of residence.^{5,40} John et al reported that among Hispanic women residing in the San Francisco Bay area in

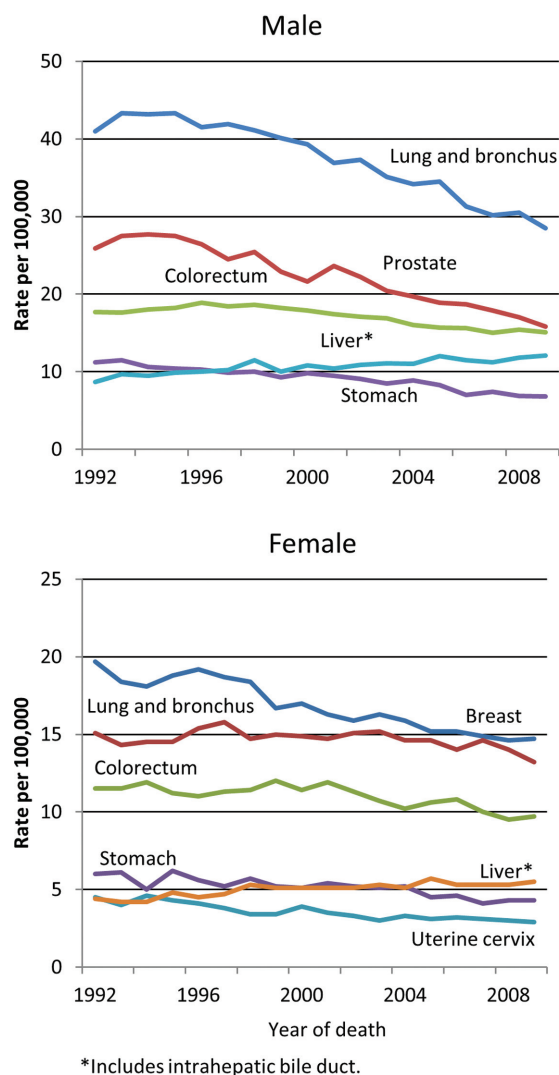


FIGURE 4. Trends in Cancer Death Rates Among Hispanics by Site and Sex, 1992 to 2009.

California, the risk of breast cancer was 50% lower in foreign-born than US-born women, and the risk in foreign-born women increased with duration of residence, degree of acculturation, and younger age at migration.⁴⁰ Pinheiro et al noted that breast cancer incidence rates (per 100,000 females) among Hispanic women in Florida, most of whom were first-generation migrants, varied from 50.5 in Mexican women to 77.9 in Cuban women and 82.3 in Puerto Rican women.⁵ These rates were substantially higher than those reported in the corresponding countries of origin (26.4 in Mexico, 31.2 in Cuba, and 50.4 in Puerto Rico).⁵

Although breast cancer incidence rates in Hispanics are lower than those in NHWs, Hispanics are more likely to be diagnosed at an advanced stage of the disease. This is likely due to more limited access to mammography⁴¹ and delayed follow-up after an abnormal mammogram.^{42,43} Hispanics are also less likely to receive adjuvant radiation therapy after breast-conserving surgery.⁴⁴ These differences in access to

care may be reflected in the slightly lower 5-year breast cancer survival rate in Hispanics (86.4%) compared with NHWs (88.6%). Intervention programs that follow patients throughout treatment in order to enhance communication between the surgeon, oncologist, and patient have been shown to reduce disparities in breast cancer care.⁴⁵

Between 2000 and 2009, breast cancer incidence rates decreased from 97.2 (per 100,000) to 93.0 among Hispanic women and from 138.1 (per 100,000) to 128.4 among NHWs, although the trend among Hispanics was not statistically significant. Reasons for these declines may include a reduction in the use of postmenopausal hormone therapy as well as a smaller pool of prevalent tumors for detection by mammography.⁴⁶⁻⁴⁸ During the corresponding time interval, breast cancer death rates decreased by 1.6% per year in Hispanic women and by 2.0% per year in NHW women, largely due to improved detection and treatment,⁴⁹ as well as a reduction in incidence rates.⁵⁰

Colorectum

An estimated 5,900 Hispanic men and 4,800 Hispanic women will be diagnosed with cancers of the colorectum in 2012 (Fig. 1). Colorectal cancer (CRC) incidence rates among Hispanic men and women are 12% to 16% lower than those among NHWs, whereas mortality rates are 23% to 26% lower (Table 2). However, rates among Hispanics in the United States are higher than those among residents of Puerto Rico and Spanish-speaking countries in South and Central America,⁵¹ likely due to acculturation and the adoption of unhealthy behaviors associated with CRC risk, such as physical inactivity. For example, compared with

TABLE 4. Five-Year Cancer-Specific Survival Rates (%), 2002 to 2008

	HISPANIC	NON-HISPANIC WHITE
Male		
All sites	65.1	66.5
Prostate	92.9	93.9
Lung & bronchus	14.4	16.0
Colorectum	63.7	65.7
Stomach	27.5	24.8
Liver & intrahepatic bile duct	18.8	18.2
Melanoma of the skin	76.6	87.0
Female		
All sites	67.2	66.1
Breast	86.4	88.6
Colorectum	63.5	64.3
Lung & bronchus	20.4	20.7
Uterine cervix	74.6	70.7
Stomach	28.4	30.8
Liver & intrahepatic bile duct	18.6	16.4
Melanoma of the skin	88.3	92.3

Source: Surveillance, Epidemiology, and End Results (SEER) 18 registries, excluding the Alaska Native Registry; all cases followed through 2009.

TABLE 5. Leading Causes of Death Among Hispanics and Non-Hispanic Whites, United States, 2009

	HISPANIC				NON-HISPANIC WHITE			
	RANK	NUMBER OF DEATHS	PERCENT OF TOTAL DEATHS	DEATH RATE*	RANK	NUMBER OF DEATHS	PERCENT OF TOTAL DEATHS	DEATH RATE*
ALL AGES								
Cancer	1	29,935	21.1	114.8	2	457,189	23.5	177.4
Heart disease	2	29,611	20.9	124.2	1	485,779	25.0	180.9
Accidents (unintentional injuries)	3	10,654	7.5	26.1	5	91,416	4.7	40.7
Cerebrovascular diseases	4	7,065	5.0	29.5	4	101,703	5.2	37.8
Diabetes	5	6,311	4.5	25.6	7	47,851	2.5	18.4
All causes		141,576	100.0	523.1		1,944,606	100.0	748.1
CHILDREN AGES 1-14 YEARS								
Accidents	1	656	30.1	4.8	1	1,668	33.0	5.1
Cancer	2	315	14.5	2.4	2	673	13.3	2.1
Congenital anomalies (birth defects)	3	193	8.9	1.3	3	422	8.4	1.3
Assault (homicide)	4	147	6.8	1.1	4	258	5.1	0.8
Pneumonia and influenza	5	97	4.5	0.7	5	179	3.5	0.5
All causes		2,176	100.0	16.0		5,048	100.0	15.5

*Rates are per 100,000 and age-adjusted to the 2000 US standard population.

Source: US Mortality Data, National Center for Health Statistics, Centers for Disease Control and Prevention, 2012.

CRC incidence rates among men living in Puerto Rico, rates among men living in the United States are 8% higher among Hispanics and 45% higher among NHWs. However, CRC incidence and mortality rates are increasing in Puerto Rican men⁵¹ whereas they are decreasing among mainland Hispanics and NHWs (Table 3). Rates also vary substantially between Hispanic subgroups. A study of Florida residents found that CRC death rates among Cuban women were twice those among Mexican women and 33% higher than those among Puerto Rican and NHW women.¹²

Although there is some evidence that there may be a genetic component to the lower CRC risk among Hispanics,⁵² wide geographic variation indicates that behavioral differences also strongly influence risk. CRC is rare in developing countries but common in affluent countries, where diets tend to be higher in fat, refined carbohydrates, and animal protein and where levels of physical activity are low.⁵³ Factors that increase the risk of CRC include a personal or family history of polyps or CRC, chronic inflammatory bowel disease, inherited syndromes, obesity, diabetes, consumption of red and processed meat, smoking, and alcohol consumption.⁵⁴⁻⁵⁷ Factors that protect against CRC include occupational or recreational physical activity⁵⁸; the use of antiinflammatory drugs⁵⁹; milk and calcium consumption⁶⁰; and screening, through the detection and removal of polyps before they develop into cancer.⁶¹ Obesity and diabetes disproportionately affect the Hispanic community, which may have implications for future CRC risk. During 2007-2008, the Hispanic population had the highest proportion of overweight adults (body mass index [BMI] of 25 or higher): 77.9% compared with 66.7% of NHWs. The prevalence of obesity (BMI of 30 or higher) among Hispanics (38.7%) was second only to

that among blacks (44.1%).⁶² A prospective analysis of racial/ethnic differences in the association between diabetes and CRC in the Multiethnic Cohort found Hispanics to have the highest proportion of diabetics (21.6%) and the strongest association between diabetes and regional stage disease.⁶³

Hispanics are less likely than NHWs to be diagnosed with early stage CRC (Fig. 5), most likely due to lower rates of screening and less access to medical care; among individuals aged 50 years and older, the rate of current fecal occult blood testing or endoscopy use was 47.0% in Hispanics compared with 61.5% in NHWs.⁶⁴ However, survival rates for the 2 groups are similar. A recent study of colon cancer outcomes in Los Angeles that included 5082 Hispanic patients found that although Hispanics were less likely than whites to be diagnosed with localized disease, their median survival time was longer for every stage of diagnosis.⁶⁵ Another California study that included almost 15,000 Hispanic patients with CRC reported an overall survival of 73 months for Hispanic patients versus 62 months for white patients, despite double the proportion of patients with a low SES noted among Hispanics.³¹ An analysis of SEER data reported that 5-year survival rates for Hispanics and NHWs were similar for proximal tumors, but higher for Hispanics for distal tumors (50.0% vs 44.9%).⁶⁶

Lung and Bronchus

An estimated 4,700 Hispanic men and 4,200 Hispanic women will be diagnosed with lung cancer in 2012 (Fig. 1). Lung cancer is the leading cause of cancer death among Hispanic men and the second leading cause of cancer death among Hispanic women. Lung cancer death rates among Hispanic men are one-half those of NHW men, and the rates among Hispanic women are one-third those of NHW

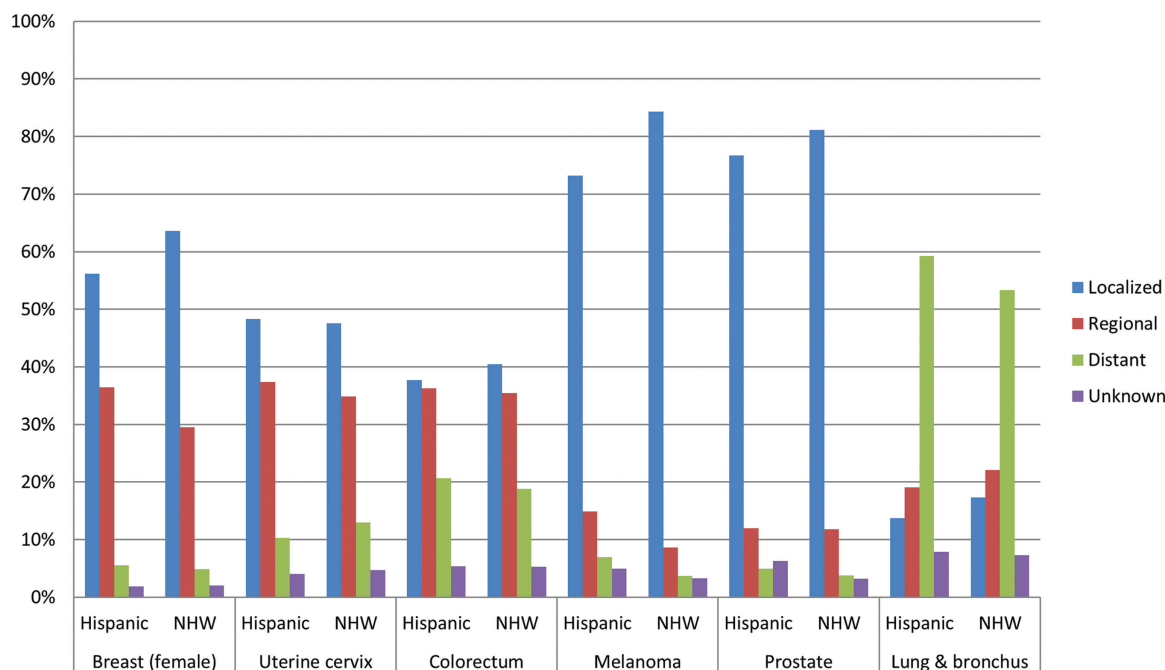


FIGURE 5. Stage Distribution Among Hispanics and Non-Hispanic Whites (NHWs) for Selected Cancers, 2005 to 2009.

women (Table 2). In the United States overall, cigarette smoking accounts for about 87% and 70% of lung cancer deaths in men and women, respectively.⁶⁷ The lower lung cancer rates in Hispanics are because of traditionally lower rates of cigarette smoking¹⁰ and because Hispanics who do smoke are less likely to be daily smokers.⁶⁸ Acculturation appears to increase smoking rates among female, but not male, Hispanic immigrants.⁶⁹ Among smokers of 20 or fewer cigarettes per day, Hispanics have a risk of lung cancer that is approximately one-half to one-third that of whites.⁷⁰ Lower lung cancer susceptibility among Hispanics may be related to DNA repair gene variants.^{71,72} Lung cancer incidence rates within Hispanic subpopulations vary substantially according to historic differences in smoking patterns.⁵ Lung cancer death rates for Cuban men are approximately 30% higher than those of Mexican or Puerto Rican men.¹²

From 2000 to 2009, lung cancer incidence rates declined faster in Hispanic men (2.9% per year) than in NHW men (1.7% per year). Among women during this time period, incidence rates were stable in both Hispanics and NHWs. From 2000 to 2009, death rates for lung cancer declined by 3.3% per year among Hispanic men and by 1.0% per year among Hispanic women compared to decreases of 2.0% per year and 0.4% per year in NHW men and women, respectively. The larger declines in death rates among men reflect earlier and higher rates of smoking cessation compared with women; the smoking patterns of US women lag about 20 years behind those of men.

Hispanic patients with lung cancer are more likely to be diagnosed at a distant stage of disease than NHWs (59% vs 53%) (Fig. 5); however, they are also diagnosed with a

higher proportion of histologically favorable tumors.⁷³ Overall and stage-specific lung cancer survival rates are higher for Hispanics than NHWs regardless of foreign or US nativity.⁷³

Prostate

An estimated 15,400 Hispanic men will be diagnosed with prostate cancer in 2012 (Fig. 1). The prostate cancer incidence rate during 2005 to 2009 was 124.9 (per 100,000) in Hispanics and 143.2 in NHWs (Table 2); these rates decreased similarly from 2000 to 2009, by 2.4% and 2.2% per year for Hispanics and NHWs, respectively (Table 3). The prostate cancer death rate is slightly lower in Hispanic (17.8 per 100,000) than NHW men (21.9 per 100,000). From 2000 to 2009, death rates decreased by 3.8% per year in Hispanics and by 3.3% per year in NHWs (Table 3).

There are inconsistencies in the literature regarding differences between Hispanic and NHW prostate cancer patients in terms of tumor characteristics and treatment patterns. A recent analysis of SEER data reported that compared with NHWs, Hispanic men were more likely to present with poorly differentiated prostate cancer and less likely to receive pelvic lymph node dissection during radical prostatectomy, particularly patients at younger ages.⁷⁴ In contrast, an earlier study using SEER-Medicare linked data found no differences in tumor grade, but did find increased odds of active surveillance as the initial management of prostate cancer among Hispanics that was not explained by clinical characteristics or life expectancy.⁷⁵ Two small, single-institution studies by Lam et al demonstrated similar pathologic stage and surgical success rates between Hispanic and

white patients who underwent radical prostatectomy for prostate cancer.^{76,77}

Of all racial/ethnic groups in the United States, black men have by far the highest prostate cancer incidence and death rates; death rates for blacks (54.9 per 100,000) are more than twice those of Hispanics and whites.⁷⁸ An analysis of CaPSURE (Cancer of the Prostate Strategic Urologic Research Endeavor) study participants with localized prostate cancer found that although Hispanic patients had demographic characteristics and disease stage similar to blacks (10% with advanced disease vs 4% for NHWs), their 3-year disease-free survival following prostatectomy was the highest of all 3 groups: 86% versus 83% among NHWs and 69% among blacks.⁷⁹ Proposed explanations for this apparent discrepancy include genetic and dietary differences, as well as cultural characteristics.^{80,81}

Cancer Sites With Higher Rates for Hispanics

Although Hispanics have lower rates than NHWs for most cancers, they are at higher risk for cancers of the stomach, liver, cervix, and gallbladder. Stomach, liver, and cervical cancers are all associated with infectious agents. The proportion of new cancers associated with infectious agents in Latin America (17.0%) is 4 times that in North America (4.0%).⁸² The risk of these cancers among US Hispanics is particularly high among first-generation immigrants.^{83,84}

Stomach (Gastric Cancer)

An estimated 1,700 Hispanic men and 1,300 Hispanic women will be diagnosed with gastric cancer in 2012. Gastric cancer incidence and mortality rates are declining similarly in Hispanics and NHWs (Table 3), although rates among Hispanics remain about double those of NHWs (Table 2). Gastric cancer continues to be common throughout much of Central and South America, in contrast to the United States and Northern Europe, where it has become rare. There is, however, considerable variability in gastric cancer risk within Latin America. Mortality rates in Puerto Rico, Cuba, and Mexico are more similar to those in the United States, compared with rates in Chile and Costa Rica, which are 4 to 5 times higher.⁸⁵

Chronic infection with *Helicobacter pylori* (*H. pylori*) is the strongest risk factor for noncardia gastric cancer, although it is inversely associated with the risk of gastric cardia cancer.⁸⁶ Incidence rates of gastric noncardia adenocarcinoma among Hispanics are almost 3-fold those of NHWs.⁸⁷ Variations in gastric cancer incidence worldwide reflect the distribution of *H. pylori* infection, although only 5% of seropositive individuals will develop the disease.^{88,89} The prevalence of *H. pylori* infection is higher in lower income countries and among individuals of lower SES.⁹⁰ The transmission of *H. pylori* is facilitated by the crowded

living conditions and relatively poor sanitation common in the countries of origin of many Hispanic immigrants. Approximately 50% of children in Mexico are infected by age 10 years and an estimated 66% of the adult Mexican population is seropositive.⁹¹ In the United States, infection rates among Hispanics are 2 to 4 times those in whites and decline among successive generations.^{92,93} For example, compared with second-generation Hispanics, the prevalence is approximately 10 times higher among foreign-born Hispanics and 3 times higher among first-generation Hispanics.⁹⁴ Gastric cancer risk varies among Hispanics by nativity consistent with these patterns.⁹⁵ *H. pylori* seroprevalence levels in the United States are declining in NHWs, but remain stagnant in Mexican Americans.⁹⁶

Additional risk factors for gastric cancer include smoking,⁹⁷ the high consumption of salt and salt-preserved foods, and probably grilled or barbecued meat and fish.⁹⁸ High alcohol consumption may increase risk.⁹⁹ Some studies have shown that fruits and nonstarchy vegetables, particularly allium vegetables (eg, garlic, onions, and leeks), are protective against gastric cancer.⁹⁸ Obesity increases the risk of cardia but not noncardia gastric adenocarcinoma.¹⁰⁰ Only 15% of gastric cancers among Hispanics develop in the cardia, compared with 41% among NHW.⁸⁷

Incidence data from the Los Angeles County Cancer Surveillance Program and the National Cancer Data Base (NCDB) have shown that Hispanics are more likely to be diagnosed before age 50 years and to present with stage IV gastric adenocarcinoma than NHWs, but also have better overall and stage-specific survival.^{101,102} This may be due to the smaller proportion of cardia tumors among Hispanics, which are predictive of a poorer outcome compared with noncardia subsites.¹⁰¹ A follow-up study evaluating gastric cancer care using NCDB data found that Hispanic ethnicity is associated with receipt of appropriate lymphadenectomy, but inadequate adjuvant multimodal therapy.¹⁰³

Liver

An estimated 3,100 Hispanic men and 1,200 Hispanic women will be diagnosed with liver cancer in 2012. Hispanics have among the highest rates of liver cancer in the United States, second only to Asians.⁷⁸ Liver cancer incidence and death rates are 1.5 to 2 times higher among Hispanics than NHWs, and men of both ethnicities are about 3 times more likely to be affected than women (Table 2). The incidence rate of liver cancer in the United States has tripled since 1975.¹⁰⁴ Among Hispanics, rates increased 2.6% per year in men and 2.0% per year in women from 2000 to 2009, compared with increases of 4.0% and 2.5% among NHW men and women, respectively (Table 3). Similarly, deaths rates during this time period increased by average annual rates of 1.5% and 1.0% among Hispanic

men and women, respectively, and 2.6% and 1.5% among NHW men and women, respectively (Table 3). Liver cancer is one of the most fatal cancer types. The current 5-year survival rate is approximately 18% among both Hispanics and NHWs (Table 4).

Liver cancer is strongly associated with chronic infection with hepatitis B virus (HBV) and/or hepatitis C virus (HCV).¹⁰⁵ There is a 20-fold variation in liver cancer incidence rates worldwide, reflecting patterns of HBV and HCV distribution.¹⁰⁶ In the US, HBV infection is about three times more common in foreign-born than US-born persons, whereas the reverse is true for HCV infection.¹⁰ The increase in liver cancer incidence in the United States has primarily been attributed to increases in HCV-related cancers, a cohort effect reflecting the HCV infection epidemic beginning in the 1960s and peaking in the late 1980s.¹⁰⁷ Estimates from the National Health and Nutrition Examination Survey (NHANES) for 1999 to 2004 indicate that Mexican Americans and NHWs have similar prevalence of infection with HBV and/or HCV.¹⁰⁸ A vaccine for the primary prevention of HBV infection has been available since 1982. The Advisory Committee on Immunization Practices (ACIP) recommends vaccination for all newborns, for children aged younger than 18 years who were not previously vaccinated, and for high-risk adults (health care workers, intravenous drug users, and persons with multiple sexual partners).^{109,110} In response to recent findings that persons with diabetes are at increased risk of HBV infection, the ACIP recently recommended vaccination of unvaccinated adults aged 19 to 59 years with diabetes mellitus (type I or type II) as soon as possible following a diabetes diagnosis.¹¹¹ This new recommendation is particularly relevant for Hispanics due to their high burden of diabetes. The risk of hepatocellular carcinoma is especially high among those infected with HBV at birth. Therefore, screening of pregnant women is recommended, and newborns of infected women should receive both hepatitis B immune globulin and HBV vaccine within 12 hours of birth.¹⁰⁹ Knowledge about HBV and HCV infection, including their association with liver disease and mechanisms of transmission, is low among Mexican adults.¹¹² Interactions between clinicians and their Hispanic patients offer an opportunity for education about HBV immunization, routes of transmission, and clinical sequelae. The treatment of liver disease in individuals with chronic HBV and/or HCV infection may reduce the risk of liver cancer.¹¹³

Alcohol intake is also a known risk factor for liver cancer.¹¹⁴ Although alcohol consumption is generally lower among Hispanics than NHWs,¹⁰ drinking patterns vary by subpopulation. Among men, for example, Cuban American consumption is similar to that of NHWs, while Mexican Americans and Puerto Ricans drink with less frequency, but

at a higher volume.¹¹⁵ Some studies have found that heavy or binge drinking is more common among Mexican American men than NHW men.^{108,116} A recent analysis of nationwide mortality data found that among decedents who died of hepatocellular carcinoma, the prevalence of heavy alcohol use among Hispanics was double that among NHWs.¹¹⁷

Obesity increases the risk of liver cancer via the development of nonalcoholic fatty liver disease and subsequent nonalcoholic steatohepatitis.¹¹⁸ While obesity prevalence among some Hispanic subgroups is similar to that among NHWs, it is substantially higher among Mexican Americans and Cuban Americans.¹⁰

Uterine Cervix

An estimated 2,100 Hispanic women will be diagnosed with cervical cancer in 2012 (Fig. 1). Hispanic women residing in the United States have cervical cancer incidence and death rates that are 50% to 70% higher than those among NHWs (Table 2). However, in the most recent 10 years, both incidence and death rates have been declining more rapidly among Hispanics than NHWs (Table 3), in part because of higher baseline rates. Distant stage disease is diagnosed less frequently among Hispanic than NHW women (10% vs 13%) (Fig. 5) and the overall 5-year survival rate for cervical cancer is higher for Hispanics (74.6%) than for NHWs (70.7%) (Table 4). Data from 18 SEER registries indicate that the survival advantage for Hispanic women is largest for distant disease (25.0% [standard error (SE), 2.3%] among Hispanics vs 16.7% [SE, 1.1%] among NHWs).¹³ This survival benefit has been reported by other studies, and may be related to differences in comorbidities, indeterminate cultural factors, or outmigration of the terminally ill.^{119,120}

Cervical cancer incidence rates vary widely across geographic region and by nativity. Women in Mexico and Central and South America experience approximately triple the cervical cancer incidence and mortality rates of women in the United States, likely due to less access to screening in these countries.^{121,122} A study of Hispanic subgroups in Florida reported that incidence rates for cervical cancer were similar for Cuban and NHW women, but were 50% higher for women of Mexican, Puerto Rican, or other Latino ancestry.⁵ A geographic analysis in the United States found that Hispanic women experience the highest cervical cancer incidence rates of any racial/ethnic group in every region, with the highest rates in the Midwest, likely due to large numbers of new immigrants.¹²³

The major cause of cervical cancer is chronic infection with human papillomavirus (HPV), especially types 16 and 18.¹²⁴⁻¹²⁶ HPV is the most common sexually transmitted infection in women worldwide. First-generation Mexican immigrants have a higher prevalence of HPV infection than US-born Mexican women.¹²⁷ National population-based

survey data for 2003 to 2004 showed that the prevalence of HPV infection among females ages 14 years to 59 years was similar among Mexican Americans and NHWs (24%) and highest among non-Hispanic blacks (39%).¹²⁸ However, cervical cancer incidence rates are slightly higher in Hispanics than in blacks (11.8 per 100,000 vs 10.4 per 100,000, respectively),¹⁵ likely due to lower screening rates in Hispanics, and possibly differences in HPV type and the prevalence of cofactors. High-risk HPV types are twice as common among poor than nonpoor women,¹²⁹ and both black and Hispanic women are more than twice as likely as NHW women to live in poverty.³ An analysis that adjusted for sociodemographic characteristics found that compared with NHW women, Mexican women were less likely, while black women were more likely (difference not significant), to be infected with high-risk HPV types.¹²⁹ Awareness of HPV and its association with cervical cancer is lower among Hispanics than whites,¹³⁰ particularly among more recent immigrants¹³¹ and those who are less acculturated.¹³² Health care interactions provide an opportunity for clinicians to educate Hispanic patients about HPV and cervical cancer, with the potential to increase HPV immunization rates and screening adherence within this high-risk group.¹³³

Differences in requisite environmental and host-related cofactors that influence the persistence of HPV infection and progression to cancer may contribute to the higher burden of cervical cancer among Hispanic and black women. For example, human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS) is associated with a 5-fold increased risk of cervical cancer.¹³⁴ In 2005, the incidence rate of AIDS in the United States was 9 times higher in blacks and 3 times higher in Hispanics than in NHWs.¹³⁵ Additional factors that increase risk include infection with other sexually transmitted diseases,¹³⁶ increased parity,¹³⁷ current and recent use of oral contraceptives,¹³⁸ tobacco smoking,¹³⁹ increased number of sexual partners,¹³⁹ and immunodeficiency disorders.¹⁴⁰

Lower use of screening tests may also contribute to higher rates of cervical cancer among Hispanic women. A recent study of the geographic distribution of cervical cancer found that counties with less screening were associated with higher incidence and mortality rates.¹⁴¹ Use of the Papanicolaou (Pap) test has historically been lower among Hispanic than white women, particularly prior to 1992.¹⁴² Differences in screening utilization may be due in part to differences in SES. Pap test prevalence has been shown to be the same in Hispanic and NHW women after controlling for insurance status.¹⁴³ In 2010, 73.4% of Hispanic women and 77.7% of NHW women reported having had a Pap test within the past 3 years.¹⁰ However, rates vary substantially between subgroups and are lowest among Mexicans and similar to NHWs among Puerto Ricans, Cubans, and Dominicans.¹⁰

Gallbladder

There will be an estimated 600 cases of gallbladder and other biliary cancers diagnosed among Hispanic men and women in 2012. Information on gallbladder cancer in the scientific literature is scant relative to other cancers due to its rarity, particularly in economically developed countries. In the United States, gallbladder cancer accounts for only 0.2% of all cancer cases among NHWs and 0.5% of cases among Hispanics. Incidence and mortality rates among Hispanics are about twice those of NHWs (Table 2). It is one of the few cancers that occurs more often in women than in men; Hispanic women have the highest burden of any race/ethnicity.¹⁵ Gallbladder cancer typically presents with vague symptoms, resulting in a late stage at diagnosis and poor prognosis; 5-year survival rates are 21.7% among Hispanics and 17.8% among NHWs.¹³ Incidence rates are decreasing by 1.1% per year among Hispanic and NHW women, by 3.4% per year among Hispanic men, and are stable in NHW men (Table 3). Death rates are decreasing in all 4 groups, although the trend in Hispanics is not statistically significant.

Although generally rare, the incidence of gallbladder cancer varies tremendously worldwide, particularly among women, and is very high in some regions.^{144,145} Rates are among the highest in the South American countries of Ecuador, Colombia, Uruguay, and Chile.^{144,146} Notably, gallbladder cancer is the most common cause of cancer death among Chilean women, exceeding breast and cervical cancers.¹⁴⁶ A study of the wide geographic variation of gallbladder cancer within Chile found that mortality rates were associated with both genetic factors and poverty.¹⁴⁶ In the United States, likely due to their countries of origin, Hispanic women living in California and New Mexico have the highest incidence of gallbladder cancer (along with American Indians in New Mexico), with rates that are 3-fold to 5-fold those of NHW women residing in these states.¹⁴⁴

Chronic gallstones is the strongest known risk factor for gallbladder cancer.¹⁴⁴ However, whether the condition causes malignancy directly or acts as a cofactor is unknown because the presence of the stones is neither sufficient nor necessary for cancer development.^{145,147} Gallstones can result from hereditary factors affecting cholesterol secretion in the bile that may be more common among Hispanics than NHWs. Other factors that increase the risk of gallbladder cancer include cholecystitis,¹⁴⁵ obesity (females),¹⁴⁸ diabetes,¹⁴⁹ and the use of hormone replacement therapy.¹⁵⁰

Data Limitations

The projected numbers of new cancer cases and cancer deaths should be interpreted with caution because these estimates are model-based and may vary considerably over

time for reasons other than changes in cancer occurrence, particularly for less common cancer sites. These extraneous factors include the introduction of new modeling techniques and the continuing expansion in cancer registration coverage. In addition, not all changes in cancer trends can be captured by modeling techniques. For these reasons, we discourage the use of these estimates to track changes in cancer occurrence and death over time. Age-standardized or age-specific cancer death rates from the NCHS and cancer incidence rates from SEER are the preferred data sources for tracking cancer trends, even though these data are 3 to 4 years old at the time of availability. Nevertheless, the American Cancer Society projections of the numbers of new cancer cases and deaths provide a reasonably accurate estimate of the contemporary cancer burden among Hispanics in the United States.

Data on cancer incidence and mortality rates in Hispanics have only been available for the past 2 decades. Uniform coding of ethnicity in SEER registries began in 1992. While some states reported Hispanic origin on death certificates as early as 1979, a Hispanic origin item was not added to the US Standard Certificate of Death until 1989, and the revision was not adopted by every state until 1997.²⁷ In SEER registries, Hispanic ethnicity is coded according to medical records or through a match to a Spanish surname list. This method may be less accurate than using self-reported ethnicity and may

result in undercounting Hispanics.¹⁵¹ Mortality data for Hispanics should also be interpreted with caution because of potential inconsistencies in reporting ethnicity on death certificates, although classification has improved substantially over time.²⁷ Furthermore, although “Hispanic” is a term that encompasses an extremely heterogeneous population with varying lifestyle behaviors and cancer risks, conventionally reported Hispanic cancer data in the United States are reported in aggregate, masking important differences between subpopulations.

Conclusions

Although cancer rates are generally lower among Hispanics than NHWs, the risk increases with the duration of US residence, and cancer is the leading cause of death among US Hispanics. While incidence and mortality rates are decreasing, efforts to further this progress must consider the dramatic differences in the cancer burden within Hispanic subpopulations due to differences in demographic, behavioral, and genetic factors related to countries of origin. Effective strategies for decreasing cancer risk among Hispanics include the use of culturally appropriate lay health advisors and patient navigators, as well as targeted, community-based intervention programs to increase screening and vaccination rates and encourage healthy lifestyle behaviors. ■

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