

Latino Physicians in the United States, 1980–2010: A Thirty-Year Overview From the Censuses

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Abstract

Purpose

To update and extend a 2000 study on the California Latino physician workforce, the authors examined the Latino physician workforce in the 30-year time frame spanning 1980 to 2010, comparing changes in the rates of physicians per 100,000 population for the Latino and non-Hispanic white (NHW) populations in the United States as a whole and in the five states with (in 2010) the largest Latino populations.

Method

The authors used detailed data from the U.S. Census (Public Use Microdata

Samples for 1980–2010) to identify total population, total number of physicians, and Spanish-language ability for both the Latino and NHW populations. They examined nativity for only Latinos.

Results

At the national level, the NHW physician rate per 100,000 of the NHW population increased from 211 in 1980 to 315 in 2010 while the Latino physician rate per 100,000 of the Latino population dropped over the same period from 135 to 105. With small variations, the same trend occurred

in all five of the states examined. At the national and state levels, Latino physicians were far more likely to speak Spanish than NHW physicians. Over the 30-year period, the Latino physician population has evolved from being primarily foreign born to being about evenly split between foreign born and U.S. born.

Conclusions

The Latino physician shortage has worsened over the past 30 years. The authors recommend immediate action on the national and local level to increase the supply of Latino physicians.

Editor's Note: A Commentary by J.P. Sánchez, N.I. Poll-Hunter, and D. Acosta appears on pages 849–853.

The supply of physicians in the United States may not be sufficient to keep pace with the increasing demand for health services which is stemming from two independent dynamics. The first is the aging of American society, particularly baby boomers; research indicates that by 2020, the aging of baby boomers will place a significant burden on the current physician supply.¹ The second is the inclusion of up to 35 million more Americans in the insurance pool due to the implementation of the Affordable Care Act.² In its recent compilation of state-level reports, *Recent Studies and Reports on the Physician Shortage in the US*, the Association of American Medical Colleges has noted that

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nearly every state is facing a physician shortage.³ Absent from these published concerns regarding the overall physician workforce has been any discussion of the Latino physician supply—even though the Latino population is projected to increase from 51 million in 2010 to 129 million by 2060.⁴

Latinos have been underrepresented in the nation's physician workforce for years. Over a decade ago (in 2000), one of us, along with several coauthors, published a study of the Latino physician supply in California. Using California medical board licensure data, Hayes-Bautista and his colleagues⁵ documented this underrepresentation for that state in 1999. The lack of Latino representation is not merely a diversity issue; it is an issue of practice patterns and of patient access to language-concordant and culturally competent care. Study after study has shown that Latino physicians are far more likely than non-Hispanic white (NHW) physicians to practice in largely Latino areas.^{6–8} California relicensure survey data indicate that underrepresented minority (URM) physicians—in particular, Latinos, African Americans, and Native Americans—were much more likely than NHW physicians to practice in medically

underserved areas and health professional shortage areas with high proportions of URM populations.⁶ A separate study has demonstrated that Latino and African American physicians in California were more likely to care for Latino and African American populations than were other physicians.⁷ Finally, among physicians in Colorado, Latino physicians were more likely than NHW physicians to practice in heavily Hispanic and low-income areas.⁸

Moreover, Latino and African American patients are far more likely than their NHW counterparts to report receiving care from, respectively, Latino and African American physicians.⁹ Language may be a factor in how Latino patients select a physician.¹⁰ Research shows that Latino patients with limited English proficiency make far fewer physician visits than those with better English proficiency,¹¹ and when they do make office visits, they comprehend less and run an increased risk of adverse medical reactions.¹² Additionally, according to another survey, “language concordance [is] significantly associated with a lower likelihood of confusion, frustration, and language-related poor quality rating, and [is] positively associated with patient-reported overall quality of care.”¹³

The delivery of health care in Spanish by Spanish-speaking medical providers is an old practice in the United States. In December 1600, just two years after Juan de Oñate founded the first settlements in what is New Mexico in 1598, the first person identified as a physician, Fray Damián Escudero, arrived to set up practice.¹⁴ A physician and surgeon accompanied Vázquez de Coronado's 1540–1542 expedition to what is now Texas.¹⁴ Over 200 years later in 1760, a military surgeon, Pedro Durán, tended the wounds of two combatants who fought a duel in the settlement of San Fernando (now San Antonio); Durán's payment was guaranteed by the alcalde or magistrate of the town.¹⁵ In Florida, Governor Bernardo de Gálvez assisted George Washington by leading 7,000 Spanish-speaking forces to attack the British fleet anchored at Pensacola in 1781. Among them were 16 surgeons and "hospital personnel" who tended the wounded and dying.¹⁶ The first European-trained medical provider in California arrived in 1769; he was a Spanish-speaking naval surgeon called Pedro Prat, who accompanied the first Spanish-speaking colonists of that state.¹⁷ In 1898, the Medical Board of California licensed 15 Spanish-surnamed physicians (out of a total of more than 5,000 licensed that year) to practice in California. Of that number, 8 had graduated from medical schools in Mexico and Spain and, hence, must have been Spanish speaking.¹⁸

The Latino population in the United States has been influenced by successive waves of immigrants from Mexico, the Caribbean, and Latin America ever since the incorporation of Spanish-speaking territories in the 19th century. The children of Mexican and Latin American immigrants who arrived in the mid-1960s will drive Latino population growth in the 21st century.¹⁹

As mentioned, in their 2000 study, Hayes-Bautista and colleagues⁵ documented a shortage of Latino physicians in California at the end of the 20th century. These authors projected that, unless medical schools greatly increased the admission of Latino medical students, the shortage would worsen as the Latino population grew.⁵ In this report, we present a 10-year update—expanded to look at dynamics of the Latino physician supply over the 30-year period from 1980 to 2010 nationally,

as well as in five states with large Latino populations: California, Florida, Illinois, New York, and Texas.

Method

Analyses are based on data from the Public Use Microdata Sample (PUMS) of the U.S. Census from 1980 to 2010 that were obtained from the databases of the University of Minnesota.²⁰ Two sources of PUMS data are available for information on the U.S. physician and general populations: The first is the 1980, 1990, and 2000 data, which used the longer census survey that was conducted on 5% of the population every 10 years; the second is the American Community Survey (ACS) data, which is a smaller survey conducted on 1% of the population every year. The U.S. Census Bureau affirms that "subject matter specialists have reviewed the factors that could affect differences between ACS and decennial census estimates and they have determined that ACS estimates are similar to those obtained from past decennial census sample data for most areas and characteristics."²¹ The authors examined, for both the Latino and NHW populations, the following data: total population, total number of physicians, and Spanish-language ability. They examined nativity for only Latinos.

All personal data in the PUMS are self-reported. In this report, a "physician" is anyone who reported his or her employment as "physician and surgeon." Because of the nature of self-report, the physician totals may differ from the numbers who are actually employed as physicians and maintain active medical licensure. The PUMS data have traditionally differed from the American Medical Association (AMA) Masterfile. According to Staiger and colleagues' comparison of AMA Masterfile and U.S. Census Bureau data between 1979 and 2008, the census data suggest as many as 12% additional younger physicians (ages 25–34) and 10% fewer active physicians (age 55 or older).²² Our report focuses on those who self-reported as NHW or Latino (i.e., "Hispanic" in census terminology). For a fuller explanation of the choice of terms "non-Hispanic white" and "Latino," please refer to Hayes-Bautista's 2004 book.²³

We used the 1980, 1990, and 2000 long-form census data and the 2010 ACS

census data to create the basic unit of analysis, which is the rate of physicians per 100,000 population in the NHW and Latino populations. Other self-reported physician characteristics derived from the data include languages spoken and nativity (U.S. born [USB] or foreign born [FSB]). We report these data at the national (U.S.) level and, as mentioned, for the five states with the largest Latino populations in 2010: California, Florida, Illinois, New York, and Texas.

The authors' institution, the University of California, Los Angeles, Office of the Human Research Protection Program, has deemed research using PUMS data from the U.S. Bureau of the Census exempt from ethical review.²⁴

Results

Divergent population trends

Nationally, two dramatically different demographic trends have been at work in the Latino and NHW populations between 1980 and 2010. For Latinos, the trend has been one of rapid growth, from just under 15 million in 1980 to well over 51 million by 2010—a 243% growth in 30 years. In contrast, the NHW population has grown only modestly during that period, from nearly 181 million to just over 200 million, an 11% growth. Table 1 provides growth data for the Latino and NHW populations in the United States and in the five states we studied. While the Latino population increased from 7% of the country's overall population in 1980 to 16% in 2010, the NHW population shrank, from 80% of the overall population to 65% (see Table 1).

Divergent physician per 100,000 trends

At the national level in 1980, there were 211 NHW physicians per 100,000 in the NHW population. By 2010, this rate increased 49% to 315 physicians per 100,000 (see Table 2). The Latino rate shows a very different trend. At the national level in 1980, there were 135 Latino physicians per 100,000 in the Latino population. At that time, the Latino rate of 135 was already 33% lower than the NHW rate of 211. Yet, rather than improving over the subsequent 30 years, the Latino physician rate worsened. By 2010, there were only 105 Latino physicians per 100,000 in the Latino population, a drop of 22% from 1980—a stark contrast from the 49% increase

Table 1

Non-Hispanic White (NHW) and Latino Populations in the United States and in Each of the Five U.S. States With the Highest Latino Populations, 1980 to 2010^a

Area	Group	1980, no. (% of total population for area)	1990, no. (% of total population for the area)	2000, no. (% of total population for the area)	2010, no. (% of total population for the area)
United States (50 States)	NHW	180,553,980 (80)	188,013,404 (76)	197,506,428 (70)	200,279,883 (65)
	Latino	14,775,080 (7)	21,836,851 (9)	35,204,480 (13)	50,729,570 (16)
California	NHW	15,849,420 (67)	17,064,555 (57)	16,430,382 (48)	15,488,862 (41)
	Latino	4,575,860 (19)	7,550,042 (25)	10,928,470 (32)	14,091,992 (38)
Florida	NHW	7,468,100 (76)	9,476,460 (73)	10,599,057 (66)	11,055,318 (59)
	Latino	871,640 (9)	1,551,135 (12)	2,673,654 (17)	4,253,268 (23)
Illinois	NHW	8,933,780 (78)	8,545,146 (75)	8,523,966 (69)	8,260,315 (64)
	Latino	648,440 (6)	872,631 (8)	1,527,145 (12)	2,037,316 (16)
New York	NHW	13,182,960 (75)	12,445,328 (69)	11,954,061 (63)	11,443,293 (59)
	Latino	1,688,180 (10)	2,137,715 (12)	2,854,991 (15)	3,434,485 (18)
Texas	NHW	9,376,980 (66)	10,305,045 (61)	11,111,852 (53)	11,652,630 (46)
	Latino	3,015,100 (21)	4,281,320 (25)	6,653,338 (32)	9,533,031 (38)

^aThe authors obtained these data from Ruggles S, Alexander JT, Genadek K, Goeken R, Schroeder MS, Sobek M. Integrated Public Use Microdata Series: Version 5.0 [machine-readable database]. Minneapolis, Minn: University of Minnesota; 2010. There are two sources of Public Use Microdata Samples: 1980, 1990, and 2000 census long-form data and 2010 American Community Survey (ACS) data which replaced the census long-form data. The U.S. Census Bureau affirms that “subject matter specialists have reviewed the factors that could affect differences between ACS and decennial census estimates and they have determined that ACS estimates are similar to those obtained from past decennial census sample data for most areas and characteristics.”²¹

in NHW physicians over the same period. In 2010, the Latino physician per population rate was 67% lower than the NHW rate of 315 (see Figure 1).

State-by-state variation

Trends in the five individual states we studied reflect the national trend with only minor variations. While the

NHW physician per population rate increased from 1980 to 2010 in each of the five states, the Latino physician per population rate generally worsened (see Table 2). In none of the five states was the Latino rate equivalent to the NHW rate, yet each state presented a different picture of disparity. In 2010, the Latino rate in Florida, at 236 per 100,000, was the closest to the NHW rate of 279, barely 15% lower. In Illinois, the rate was second closest to the NHW rate with a Latino rate of 110 per 100,000—lower than the state NHW rate of 300 by 63%. New York’s rate of 117 Latino physicians per 100,000 was lower than the New York NHW rate of 455 by 74%. The Texas rate of 78 Latino physicians per 100,000 was 75% lower than the Texas NHW rate of 310. California had the greatest disparity, with a Latino physician rate of 50 per 100,000, a full 87% lower than the NHW rate in California of 390.

Physicians and language

The U.S. Census asks respondents, “Does this person speak a language other than English at home?” If the answer is “yes,” the U.S. Census then asks the respondent, “What is this language?”²⁵ Over the 30-year period we examined, Latino physicians have been far more likely to speak Spanish than NHW physicians.

Table 2

Non-Hispanic White (NHW) Physicians per 100,000 NHW Population and Latino Physicians per 100,000 Latino Population in the United States and in Each of the Five U.S. States With the Highest Latino Populations, 1980 to 2010^a

Area	Group	1980, no. of physicians 100,000 per group in area	1990, no. of physicians 100,000 per group in area	2000, no. of physicians 100,000 per group in area	2010, no. of physicians 100,000 per group in area
United States (50 States)	NHW	211	270	296	315
	Latino	135	141	119	105
California	NHW	321	365	359	390
	Latino	47	55	49	50
Florida	NHW	214	265	306	279
	Latino	452	364	329	236
Illinois	NHW	184	245	277	300
	Latino	173	158	108	110
New York	NHW	279	380	417	455
	Latino	135	175	159	117
Texas	NHW	219	279	308	310
	Latino	89	93	93	78

^aThe authors obtained these data from Ruggles S, Alexander JT, Genadek K, Goeken R, Schroeder MS, Sobek M. Integrated Public Use Microdata Series: Version 5.0 [machine-readable database]. Minneapolis, Minn: University of Minnesota; 2010. There are two sources of Public Use Microdata Samples: 1980, 1990, and 2000 census long-form data and 2010 American Community Survey (ACS) data which replaced the census long-form data. The U.S. Census Bureau affirms that “subject matter specialists have reviewed the factors that could affect differences between ACS and decennial census estimates and they have determined that ACS estimates are similar to those obtained from past decennial census sample data for most areas and characteristics.”²¹

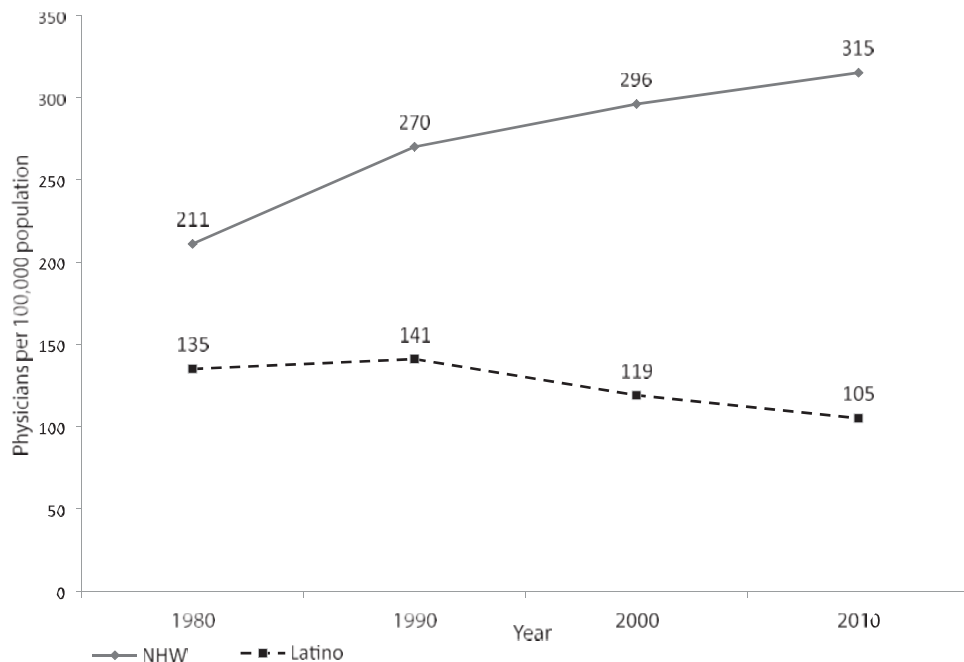


Figure 1 Thirty-year trend of non-Hispanic white (NHW) physicians per 100,000 NHW population and Latino physicians per 100,000 Latino population in the United States, 1980–2010. Source: Ruggles S, Alexander JT, Genadek K, Goeken R, Schroeder MS, Sobek M. Integrated Public Use Microdata Series: Version 5.0 [machine-readable database]. Minneapolis, Minn: University of Minnesota; 2010.

Figure 2 shows the Spanish-speaking ability of Latino and NHW physicians from 1980 to 2010, in the United States and in the five states studied. With minor variations, the pattern is similar in each: According to the 2010 PUMS data, the vast majority of Latino physicians (ranging from 69% to 92%) identified themselves as Spanish speaking while a tiny minority of NHW physicians (1%–6%) thus identified themselves. No significant change in this vast differential in language capacity has occurred over the past 30 years, either nationally or in any of the five states.

Nativity trends

Medical education makes a distinction between a physician educated in a U.S. medical school (a U.S. medical graduate or USMG) and a physician educated in a medical school located outside the United States (an international medical graduate or IMG, previously a foreign medical graduate or FMG). The PUMS data provide no information about the medical schools attended by those who self-identified as physicians, but do provide information about the nativity of these physicians, each of whom has self-reported as either USB or FB. We caution the reader against assuming that all FB physicians are necessarily also IMG physicians. All FB physicians were born outside the United States, but some

may have immigrated as young children and attended a U.S. medical school and are therefore USMGs. Likewise, some USB physicians may have attended medical school outside of the United States and would be considered IMGs. Because school data are not part of the PUMS, we can report only the nativity of individuals, not the locations of the schools they attended.

Overall, the majority of Latino physicians in the United States (75%) in 1980 were FB, and a minority (25%) were USB. In subsequent years, the proportions changed such that by 2010, the FB Latino physician majority fell to 51%, whereas Latino physicians self-reporting as USB grew from a quarter to nearly a half—49% (see Table 3). We observed two variations in this trend among the five states we examined. One variation was to start with an overwhelming majority of FB Latino physicians in 1980 and end with a simple majority of FB Latino physicians in 2010; for example, in 1980, 93% of Florida's Latino physicians were FB; in 2010 only 62% were FB. This variation also occurred in New York. The other variation was for FB Latino physicians to move from being a majority in 1980 (e.g., 53% in California) to being a minority by 2010 (42%). This trend, from majority to minority, occurred in Texas and Illinois over the 30-year time span.

Discussion

In the NHW population, an aging population with increased access to care—not population growth—will account for an increased demand for health care services and providers. In fact, the NHW population is projected to shrink in the next 50 years, from 200 million in 2010 to 179 million by 2060.⁴ The increased need for health care services among the Latino population, however, will be driven by sheer population growth. In fact, as mentioned, some projections indicate that the Latino population will nearly triple in size, from 51 million in 2010 to 129 million by 2060.⁴

Our analysis of the PUMS data shows that over the past 30 years the rate of NHW physicians per 100,000 in the NHW population has risen by 49%. In stark contrast, the Latino physician rate has *decreased* by 22%. In 2010, the Latino physician rate was 67% lower than the NHW rate. During the years in which the rate of Latino physicians—most of whom speak Spanish—has fallen, the United States has experienced a 233% *increase* in the number of Spanish-speaking households.²⁶ The incompatibility of these two trends should cause alarm and provoke immediate action in the medical education and health care insurance worlds and among government health care agencies and patient advocacy groups.

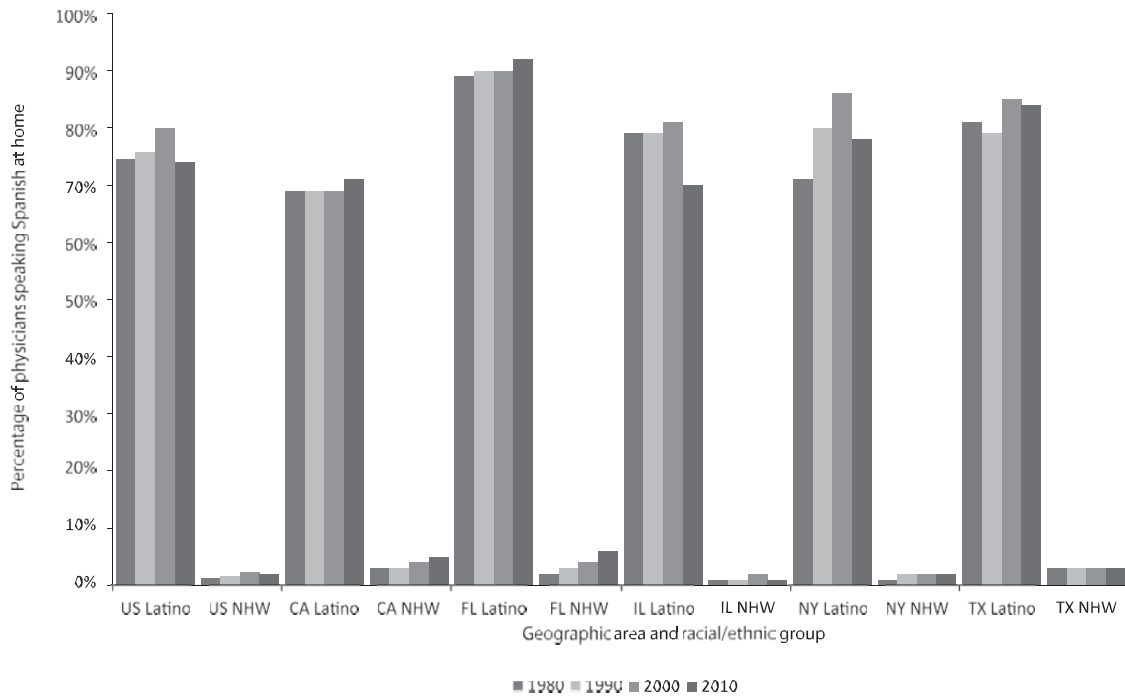


Figure 2 Percentage of non-Hispanic white (NHW) and Latino physicians who reported speaking Spanish at home in the United States (US) and in five states with the largest Latino populations (California [CA], Florida [FL], Illinois [IL], New York [NY], and Texas [TX]), 1980–2010. Source: Ruggles S, Alexander JT, Genadek K, Goeken R, Schroeder MS, Sobek M. Integrated Public Use Microdata Series: Version 5.0 [machine-readable database]. Minneapolis, Minn: University of Minnesota; 2010.

Limitations, implications, and significance

One of the limitations of this study is that the PUMS data are self-reported. The accuracy of the data reported

depends on the accuracy and honesty of the persons completing the U.S. Census; however, we have no reason to suspect that respondents would answer questions inappropriately.

Additionally, this study does not address other serious health- and health-care-related issues (e.g., access to care, health care affordability, the primary care physician pipeline, IMG licensing,

Table 3

U.S.-Born and Foreign-Born Latino Physicians in the United States and in Each of the Five U.S. States With the Highest Latino Populations, 1980 to 2010*

Area	Group	1980, no. (% of total Latino population for the area)	1990, no. (% of total Latino population for the area)	2000, no. (% of total Latino population for the area)	2010, no. (% of total Latino population for the area)
United States (50 States)	U.S. born	5,040 (25)	10,788 (35)	17,783 (42)	25,848 (49)
	Foreign born	14,920 (75)	20,058 (65)	24,201 (58)	26,769 (51)
California	U.S. born	1,020 (47)	2,116 (51)	3,077 (57)	4,057 (58)
	Foreign born	1,140 (53)	2,065 (49)	2,305 (43)	2,902 (42)
Florida	U.S. born	280 (7)	807 (14)	2,187 (25)	3,774 (38)
	Foreign born	3,660 (93)	4,843 (86)	6,597 (75)	6,132 (62)
Illinois	U.S. born	100 (9)	399 (29)	397 (24)	1,414 (63)
	Foreign born	1,020 (91)	984 (71)	1,249 (76)	813 (37)
New York	U.S. born	440 (19)	1,155 (31)	1,685 (37)	1,478 (37)
	Foreign born	1,840 (81)	2,578 (69)	2,863 (63)	2,487 (63)
Texas	U.S. born	1,200 (45)	1,902 (48)	2,871 (47)	4,135 (56)
	Foreign born	1,480 (55)	2,085 (52)	3,288 (53)	3,234 (44)

*The authors obtained these data from Ruggles S, Alexander JT, Genadek K, Goeken R, Schroeder MS, Sobek M. Integrated Public Use Microdata Series: Version 5.0 [machine-readable database]. Minneapolis, Minn: University of Minnesota; 2010. There are two sources of Public Use Microdata Samples: 1980, 1990, and 2000 census long-form data and 2010 American Community Survey (ACS) data which replaced the census long-form data. The U.S. Census Bureau affirms that “subject matter specialists have reviewed the factors that could affect differences between ACS and decennial census estimates and they have determined that ACS estimates are similar to those obtained from past decennial census sample data for most areas and characteristics.”²¹

immigration issues). The PUMS data do not provide information on these topics. Additionally, the provider-to-population ratios reported are rough indicators, only hinting at the difficulties Latinos face in accessing both medical care and medical education. Further, the ratios alone do not allow us to assume that all future generations of Latino physicians will continue to work with predominantly Latino patients or maintain their ability to speak Spanish proficiently. The authors recommend further research in all these areas, particularly in light of recent research demonstrating improved health outcomes and quality of care when language concordance and cultural competence are integrated into the care of Latino patients.^{13,27–29} The data also do not allow for the assessment of the level of cultural competency or Spanish proficiency of patients and physicians, but according to Rosenthal and colleagues,³⁰ physician self-reported Spanish-language proficiency highly correlates with patients' perceptions of their physicians' ability to communicate in Spanish. Research suggests that removing language barriers is essential to reducing health disparities.^{13,30–32} Further research and analysis should be conducted to determine how language-concordant versus -discordant services affect Latino patient health care services and outcomes.

The passage of Medicare and Medicaid in 1965 coincided with a revision of immigration laws that allowed more people to immigrate to the United States legally.^{31,33} Thus, the increase in demand for health care services was met, in part, by an increased number of immigrant physicians, most of whom were Foreign Medical Graduates (IMGs). This overlap resulted in the loss of physicians (i.e., a medical “brain drain”) from the sending countries. In response to the negative effects of this brain drain on the sending countries, the World Health Organization created a code of practice for international recruitment of health professionals.³⁴ Those who spearhead efforts to meet the projected shortage created by an aging population, increased access to care resulting from the ACA, and a growing Latino population should be mindful of creating policies that exacerbate brain drain, especially from nations developing their health care infrastructure.

Future investigation

There is concern that the supply of health care providers will be insufficient to meet the demands resulting from an aging population and increased access to care in the NHW population. Concern about the impending Latino physician shortage should be even greater, particularly with regard to the provision of health care services in Spanish. The consequences of the 2006 Massachusetts health reform law may serve as a warning: Spanish speakers may not fully benefit from simple changes to insurance coverage. After implementing reform in that state, 96% of the NHW population were insured, but only 67% of Latinos with limited proficiency in English were insured.³⁵ Elderly Latino patients face a double threat: Between 2000 and 2007, access to physician services nationally worsened by 5% for Latinos over age 65.³⁶ Further research is necessary to understand why these disparities exist and appear to be worsening for the Latino population.

For nearly 30 years, the Latino rate of physicians per 100,000 of the population has been dropping rather than rising, unlike the NHW rate. Given the significant time required to create practicing physicians, health workforce policy responses should consider immediately establishing primary and secondary education pipeline programs to increase Latino graduation from college and to significantly increase Latino enrollment in the nation's medical schools. Analysis and reform are urgently needed to better understand and address the lack of Latino students applying to and successfully entering medical school. Increasing the language and cultural competence skills of the nation's health care providers and/or allowing IMG physicians to immigrate in a manner that will not negatively affect their home countries' health care needs are two additional measures that may help avoid a health care access and quality crisis for the nation's Latinos.

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