



TODAY'S CHANGES FOR SERVING TOMORROW'S DIVERSE COMMUNITIES:  
**INCREASING THE LATINO PHYSICIAN WORKFORCE NOW**



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**INCREASING THE LATINO PHYSICIAN WORKFORCE NOW**

PREPARED BY: **THE LATINO CENTER FOR HEALTH AT THE UNIVERSITY OF WASHINGTON**

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CORRESPONDING AUTHOR:

**LEO S. MORALES, M.D., PH.D.**

PROFESSOR AND CO-DIRECTOR, LATINO CENTER FOR HEALTH  
ASSISTANT DEAN, OFFICE FOR HEALTHCARE EQUITY, UW MEDICINE  
UNIVERSITY OF WASHINGTON

EMAIL: [LSM2010@UW.EDU](mailto:LSM2010@UW.EDU)

PHONE: (206) 685-3583



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WE DEDICATE THIS STUDY TO ALL FUTURE LATINO PHYSICIANS AND THE COMMUNITIES THEY SERVE IN THE STATE OF WASHINGTON.



“In order to decrease racial disparities in health care, we need advocates and policy change efforts to increase the number of Latino physicians. The lack of Latino physicians for the Latino population, which is the fastest growing minority in Washington state, results in disproportionately poor health outcomes for our community.”

- Miriana Duran, Latina,  
international medical graduate and public health researcher



## LATINO PHYSICIAN WORKFORCE STUDY ADVISORY COMMITTEE

**LAURA FLORES-CANTRELL, JD**, is the executive director at the Andy Hill Cancer Research Endowment with the Empire Health Foundation. Over the last 20 years, her professional experience has focused on strategies to reduce health disparities and improve access to care for communities of color, youth in foster care, homeless, and other underserved populations. As Deputy Director at the Northwest Regional Primary Care Association, a regional association of safety net clinics, she worked with migrant and community health centers in Washington, Idaho, Oregon, and Alaska.

**REPRESENTATIVE EILEEN CODY, BSN**; State Representative, 34th Legislative District, WA State Legislature. Representative Eileen Cody was a neuro-rehab nurse for 40 years. She has represented the 34th legislative district in the WA State House of Representatives since 1994. Rep. Cody currently serves as chair of the House Health Care & Wellness Committee, where she has worked for improved patient safety, mental health parity, public health services, and to restore the universal purchase of vaccines.

**KRISTIN CONN, MD**, is a family medicine physician and Medical Director of Diversity and Inclusion for the Washington Permanente Medical Group. In this role, Dr. Conn is accountable for promoting cultural intelligence and fostering an inclusive and welcoming environment for both patients and staff. She works with leadership throughout the organization to integrate diversity into all aspects of operations.

**BOB CRITTENDEN, MD**, practiced as a family physician for over 28 years in Seattle with urban underserved populations, worked for the state legislature, has been a Robert Wood Johnson Health Policy Fellow with Senator George Mitchell, was special assistant to Governor Gardner for health, is a Former Cambia Grove Advisor in Residence and is a Professor Emeritus in the Departments of Family Medicine and Health Services at the University of Washington. His work on projects at the local, state and national levels focuses on improving the access and effectiveness of health services for all populations. Most recently, he served as Gov. Jay Inslee's Senior Health Policy Advisor, where he was instrumental in the implementation of the ACA in Washington State and the successful Medicaid Transformation Waiver.

**JEFFREY HANEY, MD**, is the Clinical Education Director of Family Medicine and Interim Chair for the Department of Medical Education and Clinical Sciences at Washington State University School of Medicine. He has practiced family medicine for nearly 20 years.

**SENATOR CURTIS KING, MBA**; State Senator for the 14th Legislative District, WA State Legislature. Sen. Curtis King has represented South Central Washington's 14th Legislative District since 2007. He is a member of the Senate Transportation Committee on which he currently serves as the Ranking Minority Member.

**RUSSELL MAIER, MD**, is the Associate Dean for Graduate Medical Education at Pacific Northwest University of Health Sciences, serving as an advisor and resource supporting Graduate Medical Education (GME), Continuing Medical Education (CME), and Inter-professional Education (IPE). He has a long history of working in residency education including as a faculty member and program director, Designated Institutional Official (DIO), and advocate at the regional and national level. Dr. Maier also serves as the Washington State Medical Association representative to the Washington State Governor's Health Workforce Council.





**LUÍS MANRIQUEZ, MD**, is an Assistant Clinical Professor at the WSU Elson S. Floyd College of Medicine where he leads Health Equity development efforts in the Department of Academic and Community Partnerships. Dr. Manriquez is a family physician in practice with BAVI Health in Spokane. He is passionate about eliminating health inequities and making Washington the healthiest and most equitable state in the nation.

**JUDY PAUWELS, MD**, is a family physician and professor at the University of Washington (UW) in Seattle. She is Associate Director of Program Development & Accreditation for the WWAMI Family Medicine Residency Network. Previously, she was program director at the UW Family Medicine residency program for 10 years, after being at Tacoma Family Medicine for six years. She currently works in the UW WWAMI Network as the developing program consultant, organizes regional faculty development, and provides program and institutional support services.

**KARINA HELENA YAMIN PÉREZ, MD**, is a physician born, raised, and trained in Venezuela. She is a member of the Washington State International Medical Graduate Association.

**GABRIELLE PETT, MHA**, is the Senior Director for Business Affairs for Graduate Medical Education at the University of Washington's School of Medicine.

**SENATOR EMILY RANDALL, BA**; State Senator 26th Legislative District, WA State Legislature. Sen. Randall has represented the 26th legislative district since 2018. She's worked for ten years in health care and education fundraising and advocacy. One of her legislative goals is to remove health care barriers for Washingtonians.

**ROGELIO RIOJAS, MHA**, has served as President and CEO of Sea Mar Community Health Centers since 1978. Sea Mar is a health and human services non-profit organization committed to providing quality, comprehensive health, human, housing, educational and cultural services to diverse communities, specializing in service to Latinos. He has served on the University of Washington Board of Regents since being appointed by Governor Jay Inslee in 2013.

**REPRESENTATIVE JOE SCHMICK, BS**; State Representative 9th Legislative District, WA State Legislature. Rep. Schmick is the ranking minority member on the House Health Care and Wellness Committee.

**MARÍA SIGÜENZA, BA**, is the executive director for the Washington State Commission on Hispanic Affairs. Prior to joining CHA, she served the state to promote equity, inclusion, and diversity at the Department of Licensing and the Department of Social and Health Services. She also worked in clinical settings for the Washington State Health Care Authority, Sea Mar Community Health Centers, and Skagit Valley Hospital.

**SUSAN M. SKILLMAN, MS**, is the Senior Deputy Director of the University of Washington Center for Health Workforce Studies, Investigator with the Collaborative for Rural Primary Care, Research, Education, and Practice (RuralPREP) and Investigator with the WWAMI Rural Health Research Center. Ms. Skillman is on the Advisory Board for the Washington State Center of Excellence in Allied Health, and was recently chair of the U.S. Delegation to the International Health Workforce Collaborative.





**REPRESENTATIVE JAVIER VALDEZ, MPA;** State Representative 46th Legislative District, WA State Legislature. Rep. Valdez is from Eastern Washington and is the proud son and grandson of farmworkers and laborers. He serves on the House Education, Civil Rights & Judiciary, and Transportation committees.

**VERÓNICA N. VÉLEZ, PHD,** is an Associate Professor in Secondary Education and the Founding Director of Western Washington University's (WWU) Education and Social Justice Minor. In 2017, she was one of six faculty across Washington State awarded The Ormsby Award for Faculty Citizenship to recognize exemplary service in the public interest for her efforts to create systems through which institutionally underrepresented and underserved students can access higher education.

**GRACIELA VILLANUEVA, MBA,** is the Recruiting Director for the Yakima Valley Farm Workers Clinic, with 20 years of direct experience recruiting physicians and other advanced practice clinicians to rural areas of Washington State. She is currently the vice president of the Yakima School Board.

**ALEX WEHINGER, BA,** is the Associate Director for Legislative and Political Affairs at the Washington State Medical Association. Prior to this, she was a session aide with the Washington State Senate Democrats.





## STUDY TEAM MEMBERS

**GINO AISENBERG, PHD, MSW**, Associate Professor at the University of Washington School of Social Work, is a bilingual/bicultural Latino mental health researcher and strongly committed to authentic partnerships with community organizations. From 2013-2020, Dr. Aisenberg served as Associate Dean for Diversity and Student Affairs in the Graduate School. He is the founding co-Director of the Latino Center for Health at the University of Washington. Dr. Aisenberg received his MSW and PhD from the University of Southern California.

**ANTOINETTE ANGULO, MPH**, is a public health practitioner and activist in Seattle, WA, and the Community Partnerships Specialist of the Latino Center for Health. Having worked with Latinx populations in the U.S. and in Latin America for nearly 20 years in clinical and community health settings, she is experienced in developing, implementing, and evaluating programs and multimedia health promotion strategies including radio novelas, liberation theatre, photovoice, and digital storytelling. She is passionate about community building for health and is committed to addressing social inequities through leadership, capacity building, advocacy, and health promotion and research.

**MIRIANA DURAN, MD, MPH**, is a Research Coordinator in the Department of Health Services at the University of Washington. She is an International Medical Graduate from Mexico who decided to change her career path to research in order to have a greater impact on the communities she serves. She is devoted to reducing health disparities among the Latino population by working on public health programs that are culturally tailored to address their health needs.

**MIKAELA FREUNDLICH ZUBIAGA, MPH**, is the Program Operations Specialist at the Latino Center for Health. As a trilingual public health practitioner, she has worked with a variety of populations in different research settings, including Somali-American girls in Seattle and female sex workers in Tijuana, Mexico. Mikaela is committed to uprooting social inequities and promoting systemic change through community based organizing, research, and mutual aid.

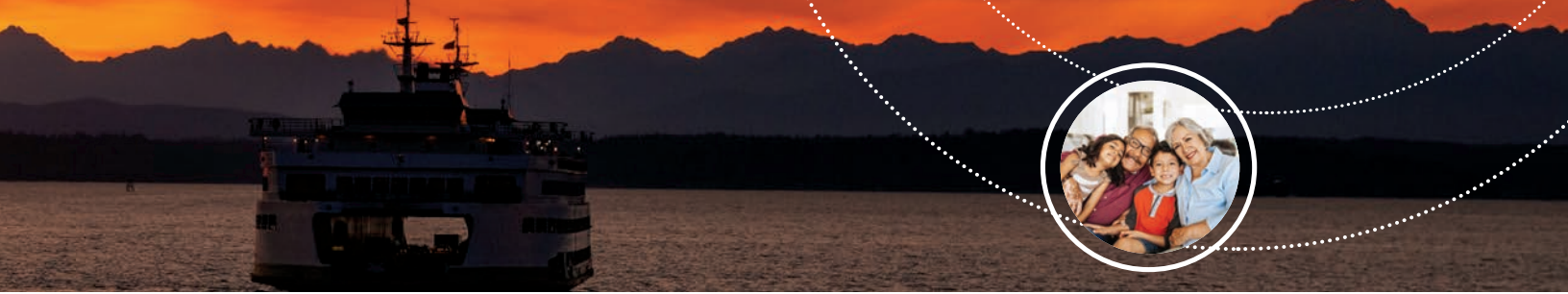
**NATASHA LUDWIG-BARRON, PHD(C), MPH**, is a doctoral candidate in Epidemiology at the University of Washington and a Graduate Student Assistant for the Latino Center for Health, with over 10-years of local and global health research experience. As a Chicana, she is a lifelong advocate for higher education among under-represented students and supports grassroots community health groups. Her research interests include HIV/AIDS, substance use, and the social determinants of health, with the goal of improving the health and wellbeing of marginalized communities.

**DAVID MENDOZA, JD**, is the Director of Legislative and Government Affairs for Front and Centered, a WA statewide coalition of organizations and groups rooted in communities of color and people with lower incomes focused on environmental justice. From 2014 through 2017, David served as a Senior Policy Advisor in the Seattle Mayor's Office of Policy and Innovation. Prior to working in the Mayor's office, he served as a Policy Counsel for the House Democratic Caucus in Olympia, WA. David serves as a policy consultant to the Latino Center for Health.

**LEO SERGIO MORALES, MD, MPH, PHD (PI)**, is Assistant Dean for Healthcare Equity, Quality and Research at UW Medicine and Co-Director of the Latino Center for Health at the University of Washington. His research focuses on racial/ethnic and socioeconomic disparities in health and the measurement of patient reported outcomes in diverse population settings. Dr. Morales received his MD and MPH from the University of Washington and PhD from the Rand Graduate School.







**ANDREA OLIVA, MPH**, is a second-year Master's degree student in Epidemiology at the University of Washington's School of Public Health and a Research Assistant for the Latino Center for Health. Her research interests include environmental health and health disparities among vulnerable populations, particularly the impact of social, psychological, and environmental stress on the health of the Latino population.

**KISNA PRADO, BS**, is a Research Coordinator for the Latino Center for Health and the primary Research Coordinator for the Latino Physician Workforce Study. She is an aspiring public health practitioner whose interest in the field was sparked by her time working with the rural, farmworking community of Knights Landing, CA during which she was exposed to the stark lack of resources faced by this community, including access to healthcare, transportation, and nutritious food that was impacting their quality of life. Witnessing these health inequities fueled her passion for working alongside Latinx communities to develop strategies and programs for improving their health outcomes.

**MAGGIE RAMIREZ, PHD, MS**, is an Assistant Professor in the Department of Health Services at the University of Washington School of Public Health. As a faculty member at the University of Washington, she was selected in the inaugural cohort of the CATALYST K12 Scholar Program, which trains early-career investigators in the innovative methods of learning health system science and patient-centered outcomes methodology. Dr. Ramirez is studying how to design, implement, and evaluate health information technology to accelerate adoption of evidence-based care for elderly Latinos and their family caregivers. Dr Ramirez is a native of Yakima Valley and received her undergraduate degree in engineering from the University of Washington, MS from University Michigan and PhD from USC. She is a Faculty Affiliate of the Latino Center for Health

**DARON RYAN, MPH**, is a Research Coordinator with the Latino Center for Health. She began her career in public health as a community health worker and family case manager in Pierce County. With a special interest in stress and social determinants of health, Daron has since been involved in addressing Latino mental health disparities through community-engaged research and promoting the health of low-wage industry workers.

**VERÓNICA N. VÉLEZ, PHD**, is an Associate Professor in Secondary Education and the Founding Director of Western Washington University's (WWU) Education and Social Justice Minor. In 2017, she was one of six faculty across Washington State awarded The Ormsby Award for Faculty Citizenship to recognize exemplary service in the public interest for her efforts to create systems through which institutionally underrepresented and underserved students can access higher education. Dra. Velez received her undergraduate degree in psychology from Stanford University and MS and PhD MA and PhD in Social Science and Comparative Education with a specialization in Race and Ethnic Studies from UCLA.





## ACKNOWLEDGEMENTS

We thank Bob Crittenden, MD, for his generous mentorship and support preparing this report. Also, we thank Representative Javier Valdez and Senator Emily Randall for their introducing and championing legislation to provide proviso funding for this study, Latino Physician Workforce Study. We also thank Amie Sheppard for her help with editing this report and graphic design.

This project was supported by Washington State Proviso Funding (see Engrossed Substitute House Bill (ESHB) 1109 – Section 606, page 328 <http://lawfilesexternal.wa.gov/biennium/2019-20/Pdf/Bills/Session%20Laws/House/1109-S.SL.pdf?q=20200808074623>).



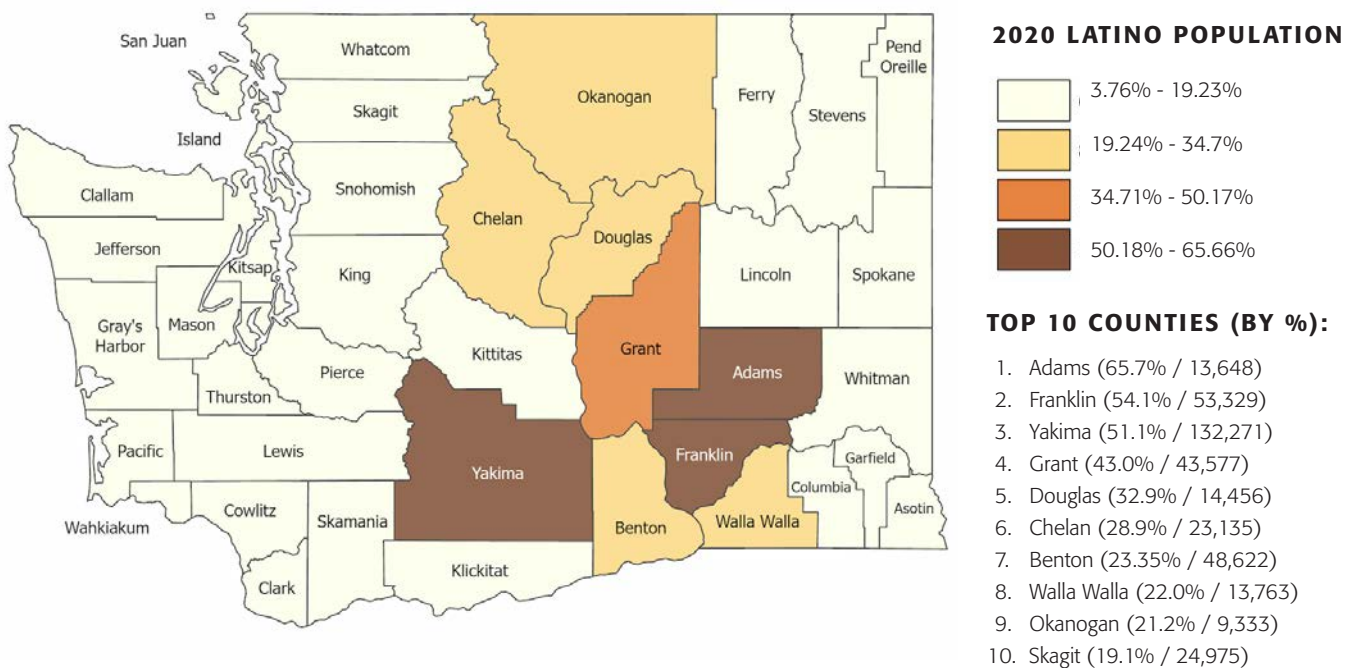


## BACKGROUND

The Latino population is the most numerous and among the fastest growing ethnic minority groups in Washington state (WA).

In 1980, Latinos numbered 120,016 and accounted for 2.9% of the state’s population and by 2000, the Latino population had grown to 441,510 and 7.5% of the state’s population.<sup>1</sup> In 2019, the Hispanic population in Washington numbered 999,898, comprising 13.3% of the state’s population.<sup>1</sup> Nationally, Washington’s Latino population ranks 13th largest among all U.S. states. By 2040, the state’s Latino population is projected to number 1,610,731, accounting for 17% of the state’s population.<sup>2</sup> The following map visualizes the current concentration of the Latino population across WA by county (Map 1). The highest concentrations are found in the central and eastern sections of the State, in counties such as Yakima, Adams, and Franklin.

**MAP 1: 2020 LATINO POPULATION IN WASHINGTON STATE**



**DATA SOURCE:**

ESRI 2020 / 2025 Demographic Projections based on analysis of the U.S. Census, American Community Survey





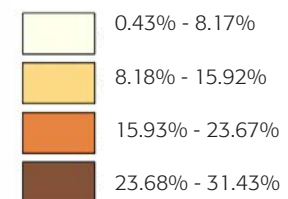
Data reveals that Latinos in WA are most concentrated in areas where individuals are more likely to be employed as agricultural labor.

As Map 2 shows, the highest concentration of Latinos in the State is found in counties with the highest density of individuals working in agricultural industries. In fact, 7 out of the top 10 counties in density of agricultural labor correspond to the counties with the highest concentration of Latinos in the state.

**MAP 2: 2020 POPULATION EMPLOYED IN AGRICULTURAL INDUSTRIES IN WASHINGTON STATE**



**2020 AGRICULTURAL INDUSTRIES**



**TOP 10 COUNTIES (BY %):**

1. Adams (31.43% / 2,639)
2. Grant (22.66% / 9,407)
3. Garfield (20.08% / 212)
4. Lincoln (18.36% / 766)
5. Okanogan (16.68% / 3,040)
6. Douglas (16.31% / 3,318)
7. Franklin (15.64% / 6,255)
8. Yakima (15.6% / 16,722)
9. Klickitat (12.86% / 1,054)
10. Chelan (11.92% / 4,728)

**DATA SOURCE:**

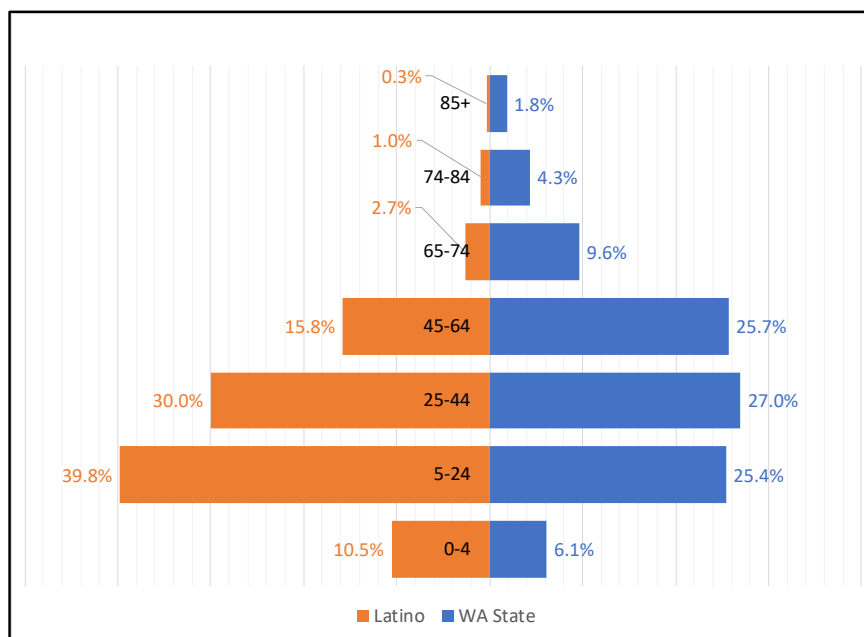
ESRI 2020 / 2025 Demographic Projections based on analysis of the U.S. Census, American Community Survey

An important attribute of WA's Latino population is its youthfulness. Compared with a median age of 38.3 years in the state as a whole, the median age among Latinos in the state is 25.6 years. Furthermore, Latinos have a larger share of pre-school (0-4) and school age children (ages 5-24) compared to the state as a whole (Figure 1) and although only 13% of the state's population, 20.6% of the state's children 5-18 years and 17.1% of young adults 19-24 years are Latino.<sup>2</sup> These data highlight the importance of Latino youth for the state's future healthcare workforce and indeed, the state's overall workforce and economic welfare.





**FIGURE 1: AGE PROFILES FOR LATINO AND STATE POPULATIONS, WA (2018)**



Among Latinos, men make up 52% of the population, perhaps reflecting the disproportionate presence of migrant working-age men in the state.<sup>2</sup> Almost a third (32%) of the state’s Latinos are foreign-born, and of those, the majority (80%) are from Mexico.<sup>3</sup> Approximately two-thirds of Latinos (66%) in WA report speaking a language other than English at home (primarily Spanish), and of those, 26% report limited English proficiency.<sup>3</sup> In 2019, 8.0% of Latinos in WA were less than 25 years of age, 28.8% of Latinos between 25-64 years, and 3.7% 65 and older were uninsured compared with 3.6%, 7.7% and 0.5% of Whites in the state of the same age groups.<sup>4</sup> Among foreign-born Latinos in WA, an estimated 45% lacked health insurance in 2014, compared with 10% of US-born Latinos.<sup>3</sup>

The COVID-19 pandemic has starkly revealed the the social and healthcare inequities present in our state. For example, as of early September 2020, 43% of COVID-19 cases in the State are among Latinos, though Latinos are only 13% of the population, as compared with 37% of cases among non-Latino Whites, though they are 68% of the population. Many of these cases are occurring in counties like Yakima, a largely Latino farm-working community, which recently experienced the highest rate of COVID-19 in WA, double the state rate.<sup>5</sup> In this pandemic, community advocates have identified the scarcity of trusted bicultural and bilingual Latino healthcare providers as an important barrier to quality care that is linguistically and culturally competent.





Nationally, the number of Latino physicians has been reported to be declining relative to the growing Latino population from 135 per 100,000 in 1980 to 105 per 100,000 in 2010. A recent report from the UCLA Latino Policy and Politics Initiative found that in 2014, Latino physicians comprised 4.7% of all physicians in California, while Latinos represented 38.4% of the state's population.<sup>5</sup>

### **REPORT GOALS AND OBJECTIVES.**

This report was supported and funded by the state legislature and grew from the expressed desire of a local Latino healthcare providing organization wanting to know the status of the Latino physician workforce in WA. The overall goals of this report are to describe the current Latino physician workforce in WA and to develop policy recommendations to meet the State's growing need for Latino physicians. Specifically, this report will: (1) provide an estimate of the number of practicing Latino physicians in WA; (2) provide a profile of Latino physicians that includes their age, gender, medical and surgical specialties, training and certifications, language access and geographic distribution; (3) highlight educational opportunities for future generations of Latino physicians; and (4) present strategic policy recommendations to increase the Latino physician workforce to better meet the health needs of Latino communities in urban and rural communities throughout Washington State and advance health equity.

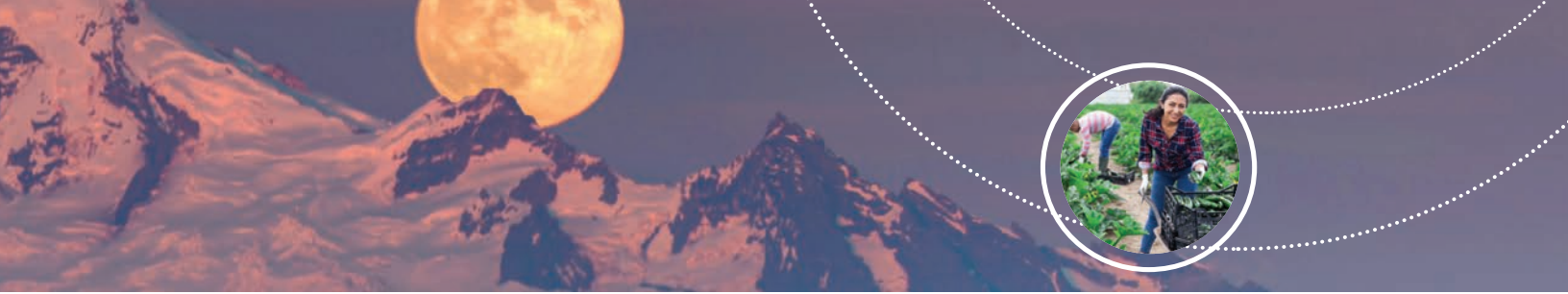
### **STUDY TEAM.**

The study team consisted of faculty and staff of the Latino Center for Health. This included faculty and staff from the Schools of Medicine (Morales), Social Work (Aisenberg, Angulo, Ryan, Freundlich, Prado) and Public Health (Ramirez, Ludwig-Barron, Duran, Ryan) at the University of Washington. Also, included in a consultant role was a faculty member from the School of Education, Western Washington University (Vélez).

### **ADVISORY COMMITTEE.**

A study advisory committee was recruited to 1) inform interpretation of the data results; 2) guide the formulation of policy recommendations; 3) and inform the symposium planning, communications plan and dissemination. Advisory committee members were selected from key geographic legislative areas in Washington state and across various sectors of the policy space including health workforce development (pre-medical pipeline, undergraduate medical education, and graduate medical education), healthcare delivery and elected officials. The advisory committee met four times over the course of the project, leading up to the symposium and dissemination of the report.





## METHODS

### DATA SOURCES.

The primary source of data was the Washington Medical Commission (WMC) physician survey. All physicians applying for relicensing are invited to complete the survey on a voluntary basis. The WMC does not administer the survey to resident physicians and physicians who apply for initial licensing. The survey includes questions on physician demographic characteristics, medical training, specialty board certifications, and practice characteristics. For this report, we included surveys collected from 20,720 physicians between April 2017 to March 2019 with an overall response rate of 75%. After excluding retired physicians (n=1,699) and those no longer practicing medicine in the State of Washington (n=4,290), our analytical dataset included 14,731 physicians.

Census data from American Community Survey 5-Year Estimates (2014-2018), and 2020/2025 data projections from the Environmental Systems Research Institute (ESRI) were used to estimate WA Latino population demographics by county, including race/ethnicity, sex, age, labor force in agricultural industries, language preferences, and internet accessibility. Population projections (2020/2040) provided by the WA Office of Financial Management were used to estimate ratios of Latino physicians to population projections. Geospatial data preparation for maps on the WA Latino physician workforce included physician practice addresses, which were then converted into latitude, longitudinal and Military Grid Reference System (MGRS) coordinates for data merging and mapping. To highlight educational pathways to the medical field, location and demographic information of WA educational institutions (e.g., community colleges, 4-year universities) that visualize access to postsecondary education for Latino youth were accessed through ESRI's Community Analyst, a cloud-based interactive mapping platform specifically designed for visualizing community-based, social demographic data across different locales.

### ANALYTICAL METHODS.

We used descriptive statistical and geospatial methods to estimate the number of practicing Latino physicians in WA and to create a profile of Latino physicians including their geographic distribution relative to the state's Latino population. In addition, we applied geospatial methods to highlight educational access for Latino youth within WA state. We conducted a univariate analysis of demographic and practice characteristics of Latino physicians and a bivariate analysis of the demographic and practice characteristics comparing Latino physicians to Non-Latino physicians. All data were managed using statistical software packages Stata version v16, R Studio v1.2.5019, ArcGIS v10.7.1, and ESRI *Community Analyst*.

For the Latino physician geospatial analysis, we merged data from the American Community Survey 5-Year Estimates (Years 2014-2018) and the Washington State Medical Commission. When mapping community density to the number of physicians practicing in a given community, we considered the following characteristics: Latinos per county, Spanish-speaking individuals (at least 5-years of age) per county, Latino physicians per county, languages spoken by physicians relative to patients, location of clinical practice, and physicians' hours worked per clinical site (per month). Physicians provided up to 3 addresses for their practice locations with the number of monthly hours worked at each address. Of the 462 Latino physicians, we were unable to map 5% of the physician locations due to unknown, partial or out-of-state addresses. Most physicians reported one practice location (64%), with fewer splitting their time between two (18%)





and three (13%) practice locations. We used Health Resources and Services Administration (HRSA) designated health professional shortage area (HPSA) thresholds, which includes a designation threshold of 1 physician to 3,500 persons, or approximately, 28 physicians to 100,000 persons. For the number of clinical hours provided by each Latino physician, we defined 160 hours per month as our parameter representing 100% FTE and applied interquartile ranges to establish thresholds for “Full-time” >80% FTE (i.e., >127 hrs/month), “Part-time” 10-80% FTE (i.e., 16-127 hrs/month), “Less than part-time” <10% FTE (1-15 hrs/month), and “Unknown time,” where an address was provided, but number of hours was unspecified. Table 1 provides a summary of the number of hours self-reported by Latino physicians by month, according to their clinical practice location.

**TABLE 1: SUMMARY OF LATINO PHYSICIAN WORK HOURS BY CLINICAL SITE**

	<b>FULL-TIME FTE &gt; 80%</b>	<b>PART-TIME FTE 10% - 80%</b>	<b>LESS THAN PART-TIME FTE 1% - 19%</b>	<b>ZERO HOURS OR UNKNOWN</b>
<b>SITE 1 (n=432)</b>	<b>212</b>	<b>184</b>	<b>27</b>	<b>9</b>
<b>SITE 2 (n=147)</b>	<b>9</b>	<b>91</b>	<b>37</b>	<b>10</b>
<b>SITE 3 (n=65)</b>	<b>2</b>	<b>32</b>	<b>26</b>	<b>5</b>

Note. Assuming the 100% FTE per month is approximately 160 hours at a given clinic, we used IQR to establish the following cut-points: “Full-time” >80% FTE (i.e., >127 hrs/month), “Part-time” 10-80% FTE (i.e., 16-127 hrs/month), “Less than part-time” <10% FTE (1-15 hrs/month), and “Unknown time,” represented 0 hrs/month or the number of hours is missing.

In addition to the WA Latino physician workforce maps, we visualized the geographic location of postsecondary institutions relative to the Latino high school (15-19) and college-aged population (20-24) by county across the State. To prepare these maps, ESRI’s 2020/2025 demographic data was analyzed using Community Analyst, which also provided geocoded sites for different types of postsecondary institutions, including 4-year universities, community colleges, and technical colleges. We collapsed technical and community colleges into one category and coded separately for Hispanic Serving Institutions (HSI), defined as accredited, degree-granting, not-for-profit institutions of higher education with at least 25% Latino undergraduate student enrollment. Eligibility designation as an HSI is provided under Title V of the Higher Education Act. Though community colleges are typically not included within HSI classifications, we coded for all postsecondary institutions serving a significant Latino student population in WA to more fully assess to what degree Latinos are being served by the higher education landscape in the State.







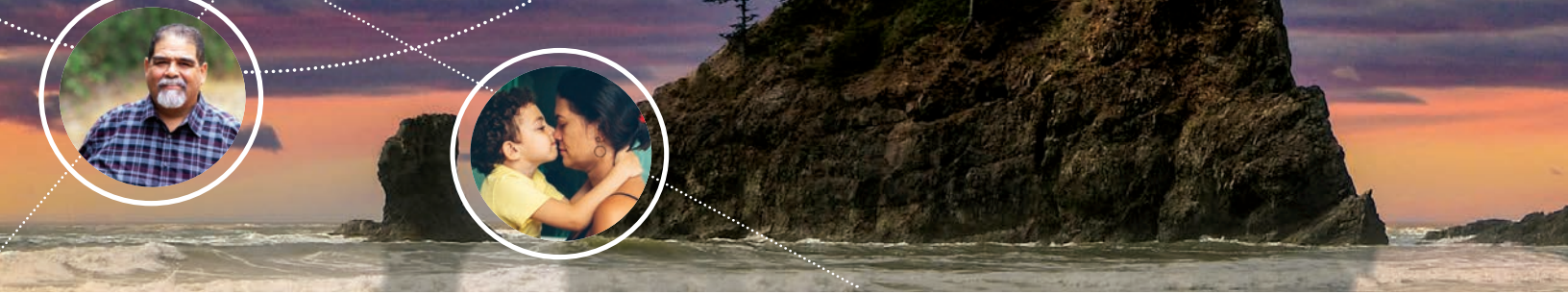
### **LATINO PHYSICIAN WORKFORCE PROJECTIONS.**

The ratio of Latino and White physicians per 100,000 Latino and White population, respectively, were estimated using results from the WMC physician survey and estimates of the Latino and White population between 2020 and 2040 from the WA Office of Financial Management.<sup>6</sup> Three sets of projections were estimated: the first based on maintaining the 2020 Latino physician to Latino population ratio through 2040; the second, increasing the number of Latino physicians needed to reach parity with the current ratio of White physicians to White population ratio; and third, estimating the Latino physician to population rate under scenario with 3%, 5%, 10% and 20% increases every 5 years.

### **DISSEMINATION PLAN.**

This study's results and policy recommendations will be disseminated through a final report to be presented at a 2-day Latino health symposium held virtually on October 8 & 9, 2020 at the University of Washington. The symposium will include invited guest speakers, policy makers, university leadership, community advocates and health board representatives. Representatives from the University of Washington's six health profession schools were invited to participate (dentistry, medicine, nursing, pharmacy, public health and social work) as well as representatives from the Washington State University School of Medicine and Pacific Northwest Health Sciences University, Osteopathic College of Medicine. In addition, this report will be disseminated to elected officials, University leadership, leaders of Latino health providing organizations and other stakeholders. Both the Executive Summary and full report will be available on the website of the Latino Center for Health.



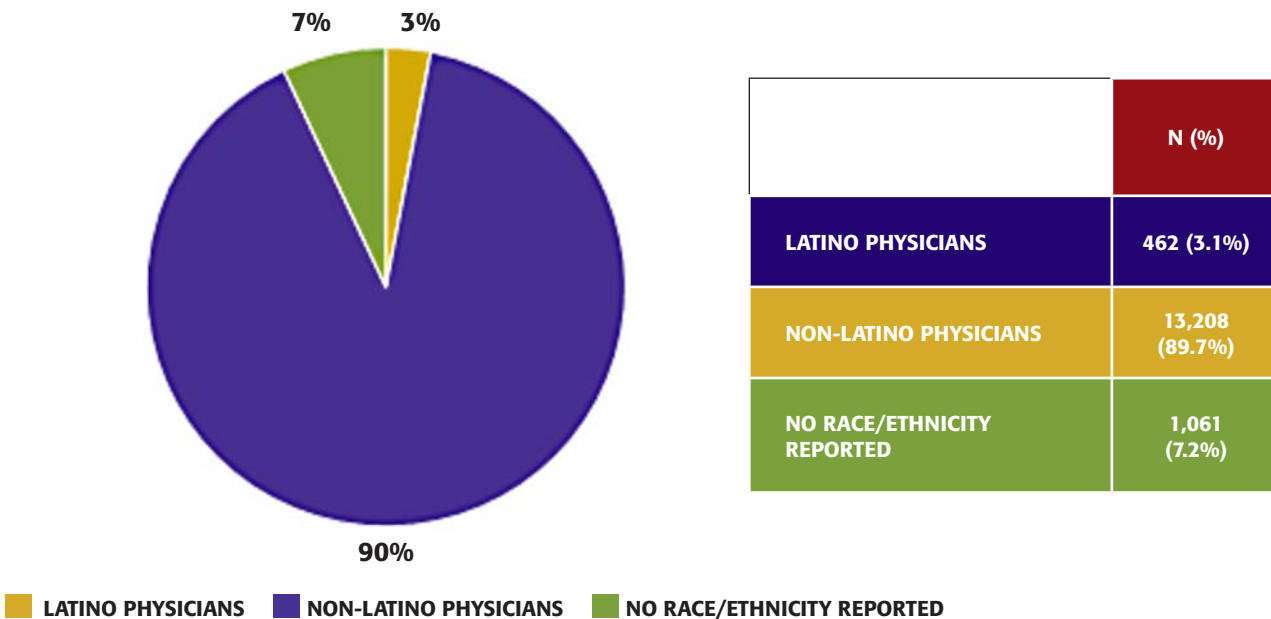


## MAJOR FINDINGS

### LATINO PHYSICIAN SUPPLY IN WASHINGTON STATE

Of the 14,731 physicians who reported being in active practice within Washington State, 462 (3.1%) self-identified as Latino (Figure 1).

**FIGURE 1: COMPOSITION OF LATINO AND NON-LATINO PHYSICIANS IN WASHINGTON STATE**



### DEMOGRAPHIC CHARACTERISTICS

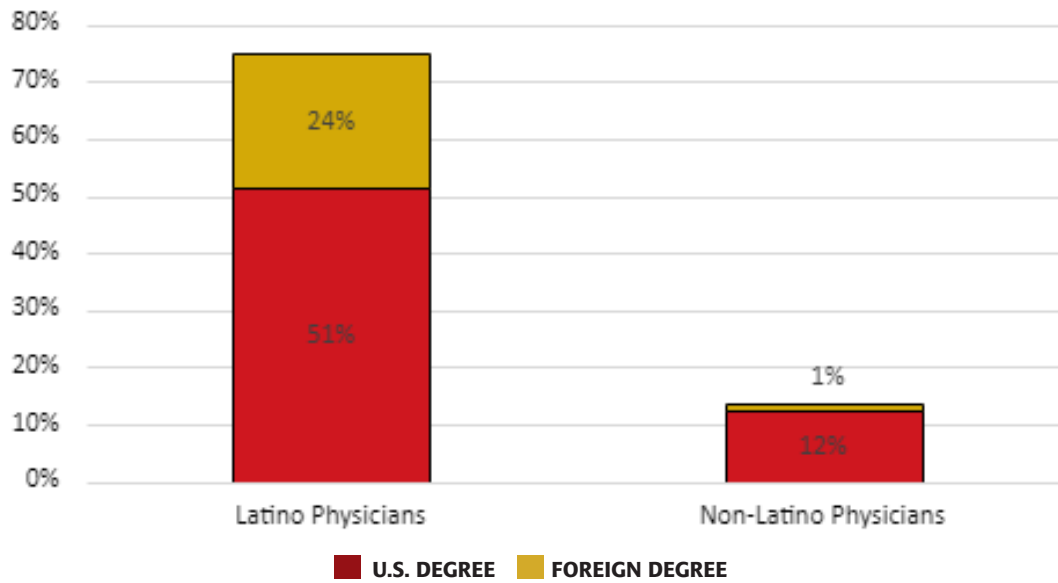
Among Latino physicians, 40.0% are female and the average age is 47.9 years (SD=10.6). Compared with non-Latino physicians, Latino physicians are significantly younger (M=50.6 years, SD=11.6;  $p > .001$ ).

As Figure 2 depicts, Latino physicians are significantly more likely than non-Latino physicians to report speaking Spanish well enough to communicate with patients (75.1% (347/462) vs. 13.7% (1,805/13,208);  $P < .001$ ). Among Latino physicians, 94.0% (110/117) of those with a foreign degree speak Spanish well enough to communicate with patients. These data show that Latino physicians generally, and foreign-trained Latino physicians in particular, are an important physician group for providing linguistic access to care for Spanish-speaking Washingtonians.





**FIGURE 2: PROPORTION OF LATINO AND NON-LATINO PHYSICIANS IN WASHINGTON STATE THAT REPORTED SPEAKING SPANISH WELL ENOUGH TO COMMUNICATE WITH PATIENTS, BY COUNTRY MEDICAL DEGREE WAS OBTAINED.**



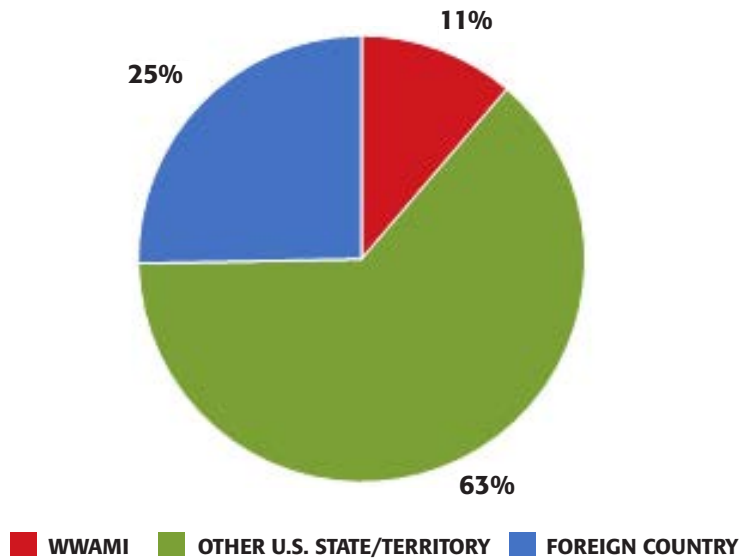
	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
FEMALE, N (%)	188 (40.7%)	5366 (40.6%)	0.977
AGE, MEAN SD	47.9 (10.6%)	50.6 (11.6)	< 0.001
SPEAKS SPANISH, N (%)	347 (75.1%)	1805(13.7%)	< 0.001
U.S. DEGREE	237 (51.3%)	1619 (12.3%)	< 0.001
FOREIGN DEGREE	110 (23.8%)	186 (1.4%)	< 0.001



### MEDICAL TRAINING

Among Latino physicians in WA, 11.3% (52/462) obtained their medical degrees in the WWAMI region, 63.4% (293/462) in another U.S. State or territory, and 25.3% (117/462) in a foreign country (Figure 3). Of the 52 Latinos who obtained their medical degree in the WWAMI region all did so at the University of Washington. Washington State University established a medical school in 2015 and accepted its first class 2017, to contribute to the practicing physicians in WA. Pacific Northwest of the Health Sciences graduated its first class in 2012, however, osteopathic medical doctors are not included in the WMC survey – a limitation of this study.

**FIGURE 3: WHERE LATINO PHYSICIANS OBTAINED MEDICAL DEGREE**



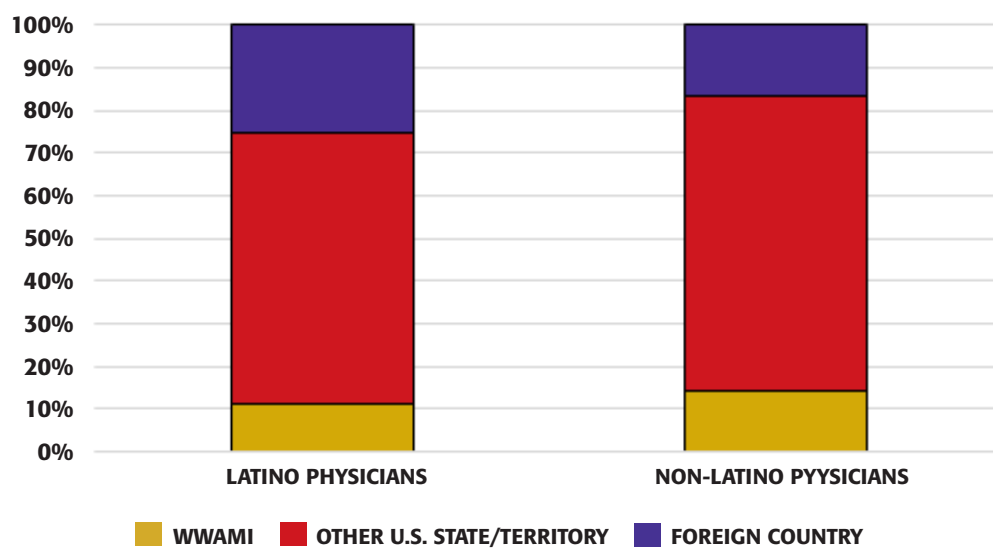
	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
WWAMI, N (%)	52 (11.3%)	1,879 (14.2%)	0.072
OTHER U.S. STATE/TERRITORY, N (%)	293 (63.4%)	9,156 (69.3)	< 0.01
FOREIGN COUNTRY, N (%)	117 (25.3%)	2,173 (16.5%)	< 0.001





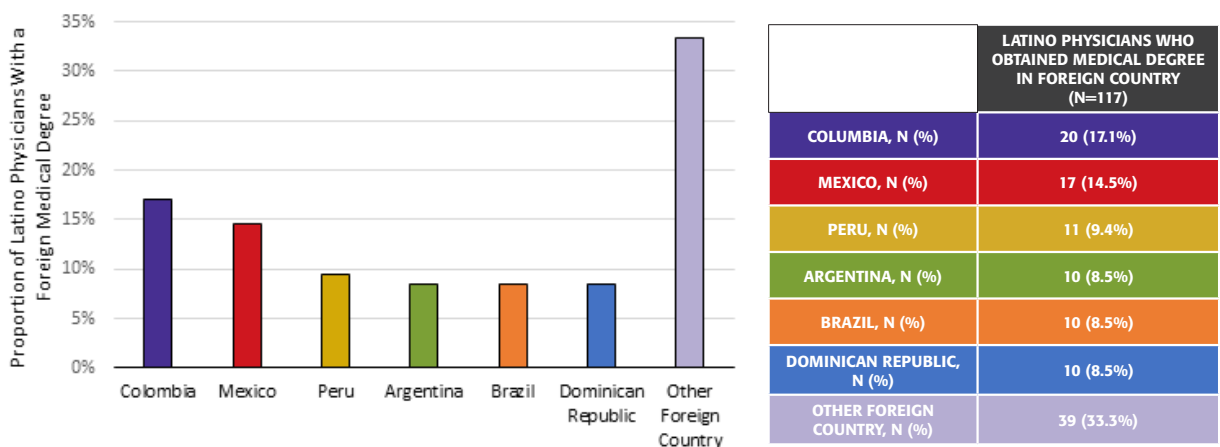
Foreign-trained physicians are an important community of Latino physicians for our State. Our data show that more than one in four Latino physicians in WA received their medical degree in a non-US medical school, compared with less than 1 in 5 non-Latino physicians obtained their medical in a foreign country (25.3% (117/462) vs. 16.5% (2,173/13,208); P<.001) (Figure 4).

**FIGURE 4. WHERE PHYSICIANS OBTAINED MEDICAL DEGREE, BY LATINO ETHNICITY**



Among the 117 foreign educated Latino physicians in our data, the majority obtained their medical degrees in Latin America including Colombia (n=20), Mexico (n=17), Peru (n=11), Argentina (n=10), Brazil (n=10), and Dominican Republic (n=10) (Figure 5). Nurturing exchange programs with medical schools in these countries may be a means to further increase the number of Spanish-speaking physicians practicing in WA.

**FIGURE 5. FOREIGN COUNTRY WHERE LATINO PHYSICIANS OBTAINED A MEDICAL DEGREE**

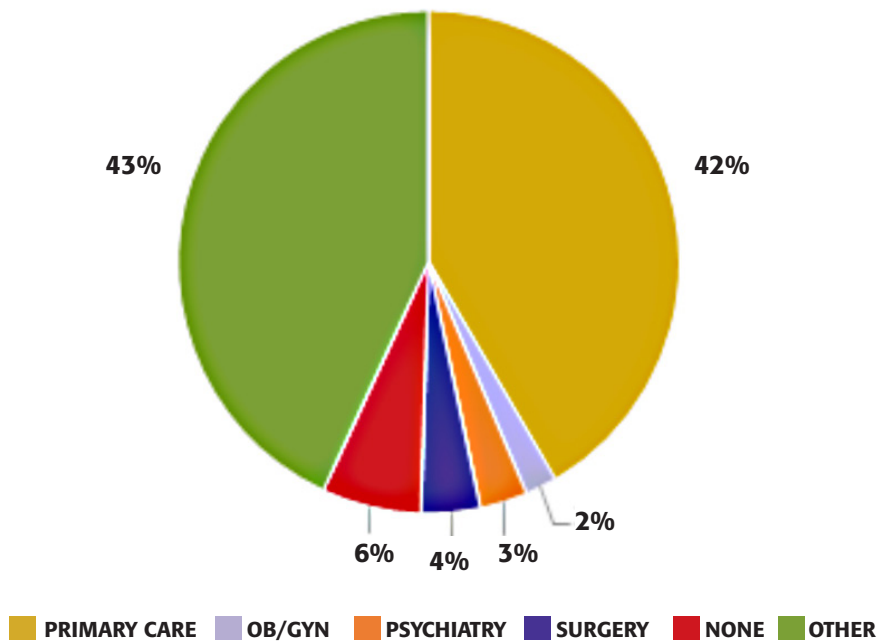




**ABMS BOARD CERTIFICATION**

Among Latino physicians, 84.6% (392/462) reported being ABMS board certified. There were no significant differences between Latinos and non-Latinos in terms of board certification. Among Latino physicians with ABMS board certification, 42% (163/392) reported a primary care specialty (i.e., family medicine, pediatrics, and internal medicine), 2% OB/GYN, 3.1% psychiatry and 3.8% surgery (Figure 6). A significantly higher proportion of Latino physicians with board certification reported a primary care specialty compared with non-Latino physicians (36%; 4,197/11,536; P<.05).

**FIGURE 6. PRIMARY SPECIALTY OF LATINO PHYSICIANS WITH BOARD CERTIFICATION**



Among Latino physicians board certificated in a primary care specialty, 55% (89/163) reported family medicine, 17% (28/163) reported pediatrics, and 28% (46/163) reported internal Medicine. More Latino physicians reported specialization in family medicine compared with non-Latino physicians (45.9%; 1,926/4,197; P<.05).





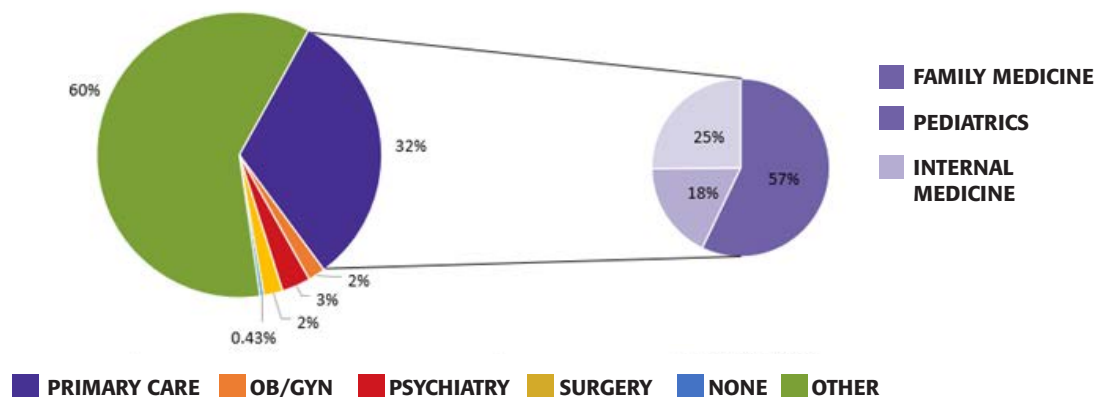
	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
BOARD CERTIFIED, N (%)	392 (84.6%)	11,536 (87.3%)	0.114
PRIMARY CARE, N (%)	163 (41.6%)	4,197 (36.4%)	< 0.05
OB/GYN, N (%)	8 (2.0%)	367 (3.2%)	0.203
PSYCHIATRY, N (%)	12 (3.1%)	406 (3.5%)	0.628
SURGERY, N (%)	15 (3.8%)	308 (2.7%)	0.165
NONE, N (%)	25 (6.4%)	579 (5.0%)	0.228
OTHER, N (%)	169 (43.1%)	5,679 (49.2%)	< 0.05

	LATINO PHYSICIANS (N=163)	NON-LATINO PHYSICIANS (N=4,197)	P VALUE
FAMILY MEDICINE, N (%)	89 (54.6%)	1,926 (45.9%)	< 0.05
PEDIATRICS, N (%)	28 (17.2%)	706 (16.8%)	0.503
INTERNAL MEDICINE, N (%)	46 (28.2%)	1,565 (37.3%)	0.215

### AREA OF PRACTICE

Among Latino physicians, 32% (147/462) reported practicing primary care field (Figure 7) and among these physicians, 57% (84/147) reported practicing family medicine, 18% (26/147) reported practicing pediatrics, and 25% (37/147) reported practicing internal medicine. There were no significant differences between Latinos and non-Latinos in terms of principal areas of practice.

**FIGURE 7. PRINCIPAL AREA OF PRACTICE FOR ALL LATINO PHYSICIANS**





**FIGURE 7. PRINCIPAL AREA OF PRACTICE FOR ALL LATINO PHYSICIANS (CONTINUED)**

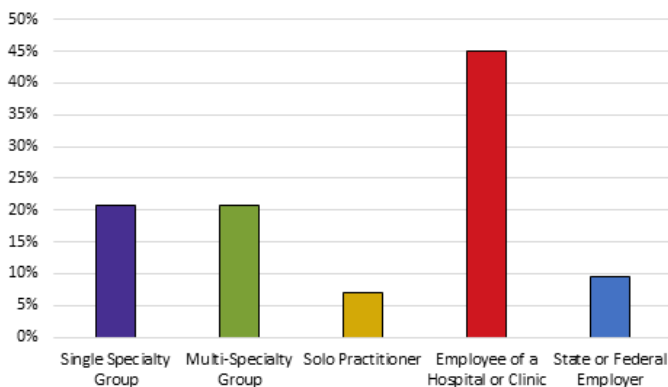
	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
PRIMARY CARE, N (%)	147 (31.8%)	3,802 (28.8%)	0.157
OB/GYN, N (%)	9 (2.0%)	378 (2.9%)	0.244
PSYCHIATRY, N (%)	15 (3.3%)	477 (3.6%)	0.679
SURGERY, N (%)	10 (2.2%)	201 (1.5%)	0.271
NONE, N (%)	2 (0.4%)	46 (0.4%)	0.762
OTHER, N (%)	279 (60.4%)	8,304 (62.9%)	0.278

	LATINO PHYSICIANS (N=147)	NON-LATINO PHYSICIANS (N=3,802)	P VALUE
FAMILY MEDICINE, N (%)	84 (57.1%)	1,996 (52.5%)	.268
PEDIATRICS, N (%)	26 (17.7%)	569 (15.0%)	0.365
INTERNAL MEDICINE, N (%)	37 (25.2%)	1,237 (32.5%)	0.061

**PRACTICE ARRANGEMENTS**

Latino physicians reported practicing under a variety of practice arrangements (Figure 8). Latino physicians were significantly less likely than non-Latino physicians to report practicing in single specialty groups (21% (96/462) vs. 25% (3,351/13,208); P<.05) and were significantly more likely than non-Latino physicians to practice as an employee of a hospital or clinic (45% (208/462) vs. 39% (5,190/13,208); P<.05).

**FIGURE 8. PROPORTION OF LATINO PHYSICIANS CONDUCTING PATIENT-RELATED ACTIVITIES BY TYPE OF PRACTICE ARRANGEMENT**



	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
SINGLE SPECIALTY GROUP, N (%)	96 (20.8%)	3,351 (25.4%)	< 0.05
MULTI-SPECIALTY GROUP, N (%)	96 (20.8%)	3,252 (24.6%)	0.056
SOLO PRACTICIONER N (%)	32 (6.9%)	902 (6.8%)	0.935
EMPLOYEE OF HOSPITAL OR CLINIC, N (%)	208 (45.0%)	5,190 (39.3%)	< 0.05
STATE OR FEDERAL EMPLOYER, N (%)	44 (9.5%)	1,363 (10.3%)	0.580



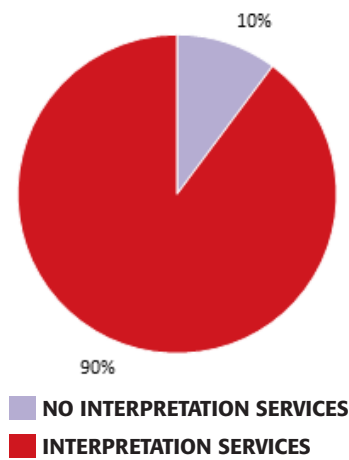




**SERVICE TO PATIENTS WITH LIMITED-ENGLISH PROFICIENCY**

Most Latino physicians reported the availability of language interpretation services in their practice (90% (415/462) and among those with language interpretation, 77% (321/415) reported that Spanish interpretation was available (Figure 9). Latino physicians were more likely to report the availability of interpretation services in their practices compared with non-Latino physicians (86%; 11,356/13,208;  $p < .05$ ).

**FIGURE 9. PROPORTION OF LATINO PHYSICIANS REPORTING THAT INTERPRETATION SERVICES IN ANY LANGUAGE WERE AVAILABLE AT THEIR PRACTICE**

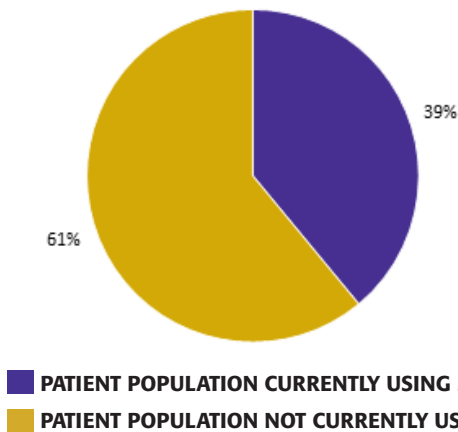


	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
INTERPRETATION SERVICES IN ANY LANGUAGE, N (%)	415 (89.8%)	11,356 (86.0%)	< 0.05
SPANISH INTERPRETATION, N (%)	321 (77.4%)	8,751 (77.1%)	0.891

**SERVICE TO LOW-INCOME PATIENTS**

Overall, 39% of Latino physicians (180/462) and 37% of non-Latino physicians (4963/13,208) reported at least some patients in their practice were insured by Medicaid/Apple Health. However, among physicians serving patients with Medicaid/Apple Health coverage, Latino physicians were more likely to report 40% or more of their patients with Medicaid/Apple Health coverage than non-Latino physicians (35% (63/180) vs. 24% (1185/4963);  $P < .01$ ).

**FIGURE 10. PROPORTION OF LATINO PHYSICIANS' PATIENT POPULATION CURRENTLY USING MEDICAID/APPLE HEALTH**



	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
HAS PATIENTS THAT USE MEDICAID/APPLE HEALTH, N (%)	180 (39.0%)	4,963 (37.6%)	0.546
1-19% OF PATIENTS, N (%)	57 (31.7%)	2,010 (40.5%)	< 0.05
20-39% OF PATIENTS, N (%)	60 (33.3%)	1,768 (35.6%)	0.528
≥ 40% OF PATIENTS, N (%)	63 (35.0%)	1,185 (23.9%)	< 0.01

■ PATIENT POPULATION CURRENTLY USING MEDICAID/APPLE HEALTH  
 ■ PATIENT POPULATION NOT CURRENTLY USING MEDICAID/APPLE HEALTH



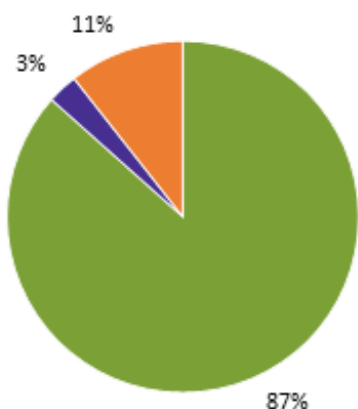


### UTILIZATION OF TELEHEALTH/TELEMEDICINE SERVICES

The WMC survey was conducted prior to the onset of the COVID-19 pandemic and thus do not reflect the rapid expansion of telehealth services caused by the pandemic. However, these data may provide a baseline for future studies measuring the impact of the pandemic on telehealth services offered by Latino physicians.

Overall, only 62 of 462 (13%) Latino physicians reported that their practice provided telehealth/telemedicine services (Figure 11), and among these 62 physicians, only 49 reported providing telehealth services themselves. Furthermore, of the 62 practices offering telehealth, 23 did not offer these services to WA patients. Therefore, pre-pandemic, access to Latino physicians via telehealth services was extremely limited.

**FIGURE 11. PROPORTION OF LATINO PHYSICIANS PROVIDING TELEHEALTH/TELEMEDICINE SERVICES**

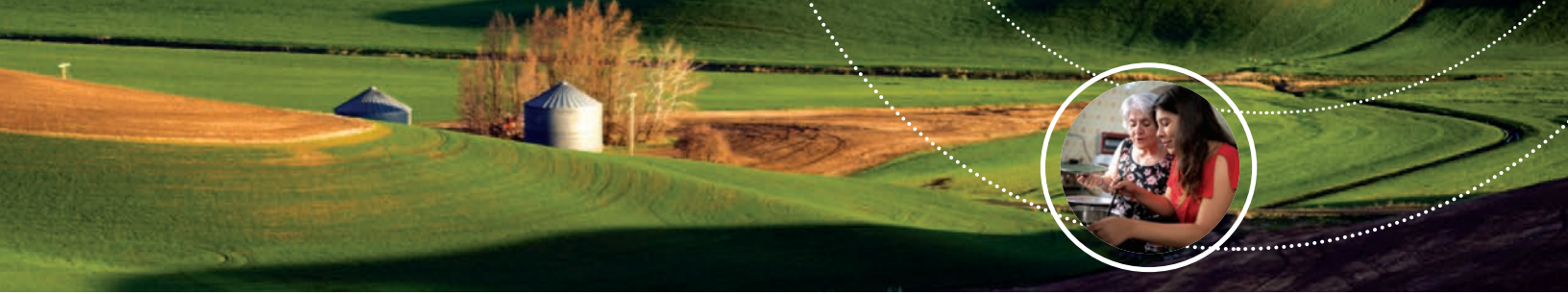


- DOES NOT PROVIDE TELEHEALTH/TELEMEDICINE SERVICES
- PROVIDES TELEHEALTH/TELEMEDICINE SERVICES, BUT 0 HOURS PER WEEK
- PROVIDES TELEHEALTH/TELEMEDICINE SERVICES AT LEAST 1 HOUR PER WEEK

	LATINO PHYSICIANS (N=462)	NON-LATINO PHYSICIANS (N=13,208)	P VALUE
DOES NOT PROVIDE TELEHEALTH/TELEMEDICINE SERVICES, N (%)	400 (86.6%)	11,355 (86.0%)	0.711
PROVIDES TELEHEALTH/TELEMEDICINE SERVICES, BUT 0 HOURS PER WEEK, N (%)	13 (2.8%)	375 (2.8%)	0.974
PROVIDES TELEHEALTH/TELEMEDICINE SERVICES AT LEAST 1 HOUR PER WEEK, N (%)	49 (10.6%)	1,478 (11.2%)	0.695

	LATINO PHYSICIANS (N=62)	NON-LATINO PHYSICIANS (N=1,853)	P VALUE
0% OF TELEHEALTH/TELEMEDICINE POPULATION WERE PATIENTS LOCATED IN WA STATE, N (%)	23 (37.1%)	524 (28.3%)	0.131
1-99% OF TELEHEALTH/TELEMEDICINE POPULATION WERE PATIENTS LOCATED IN WA STATE N (%)	24 (38.7%)	662 (35.7%)	0.630
100% OF TELEHEALTH/TELEMEDICINE POPULATION WERE PATIENTS LOCATED IN WA STATE, N (%)	15 (24.2%)	667 (36.0%)	0.056

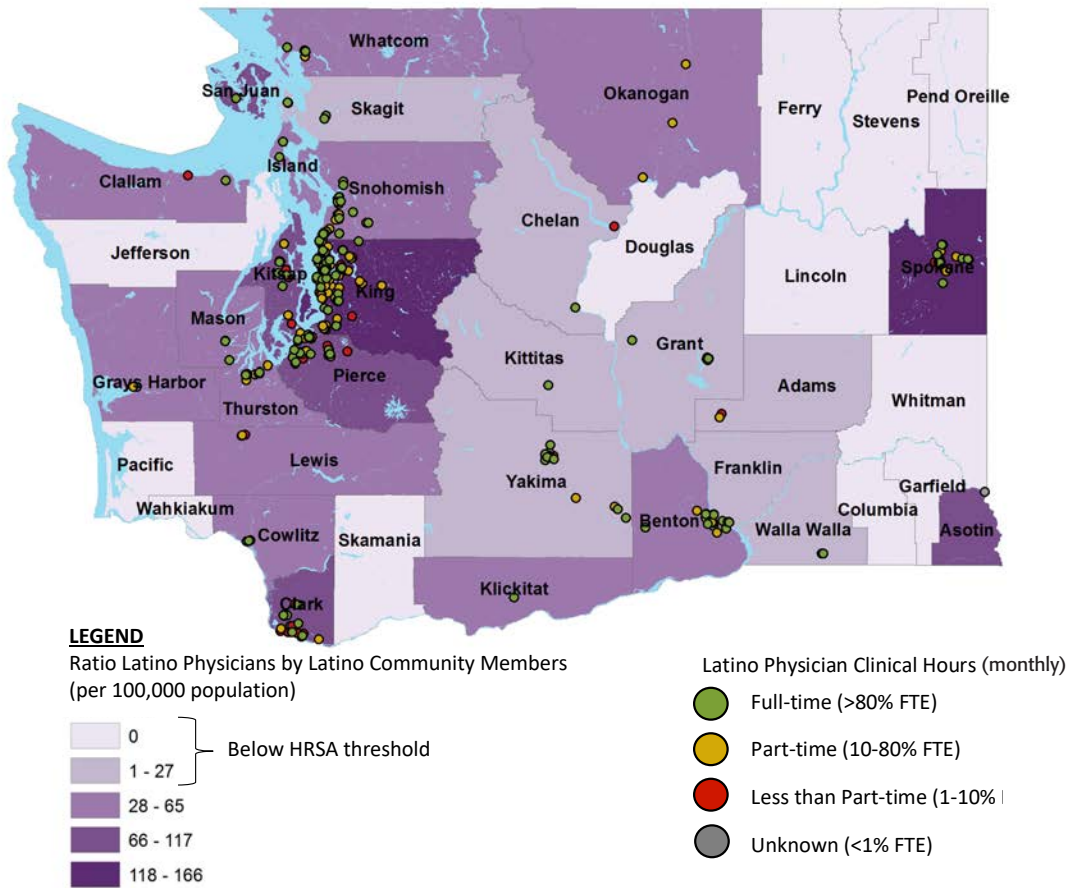




## GEOGRAPHIC ANALYSIS OF LATINO PHYSICIANS

In this section of the report, we provide a geospatial analysis of Latino physicians in WA. Map 3 shows the geographic location of Latino physicians in WA and the ratio of Latino physicians to Latino population by county. Map 3 also includes the number of hours worked per physician. We find larger concentrations of Latino physicians in Snohomish, King, Pierce and Spokane counties. In contrast, smaller concentrations of Latino physicians exist in the state’s central and eastern counties. This is significant because WA’s central and southcentral rural counties have the highest proportions of Latinos. Twelve of the state’s counties have no Latino physicians and 9 counties have fewer than 1 Latino physician per 3,500 Latino residents, falling below the federal Health Resources and Services Agency’s designated health professional shortage area (HPSA) ratio of 1 physician per 3,500 residents, or 28 physicians to 100,000 population.

**MAP 3: SUMMARIZES THE RATIO OF LATINO PHYSICIANS TO 100,000 LATINOS PER WASHINGTON COUNTY BY NUMBER OF CLINICAL HOURS REPORTED PER SITE**

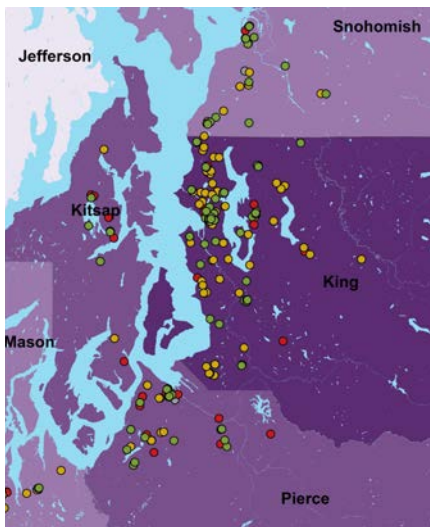


Note: We use 160 hours per month as our parameter representing 100% FTE and applied interquartile cut-points for “Full-time” >80% FTE (i.e., >127 hrs/month), “Part-time” 10-80% FTE (i.e., 16-127 hrs/month), “Less than part-time” <10% FTE (1-15 hrs/month), and “Unknown” hours, where an address was provided but not the number of hours worked at the address. Table 1 provides a summary of the number of hours self-reported by Latino physicians by month, according to their clinical practice location.

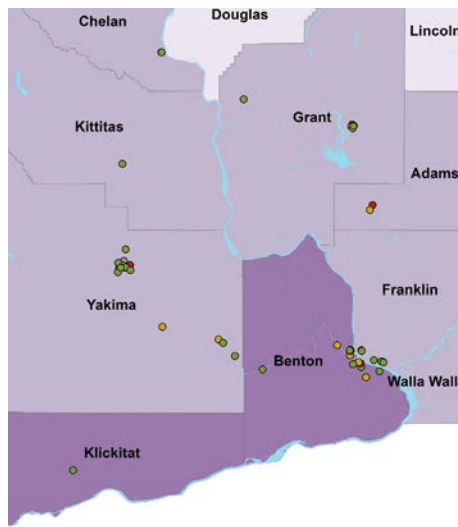




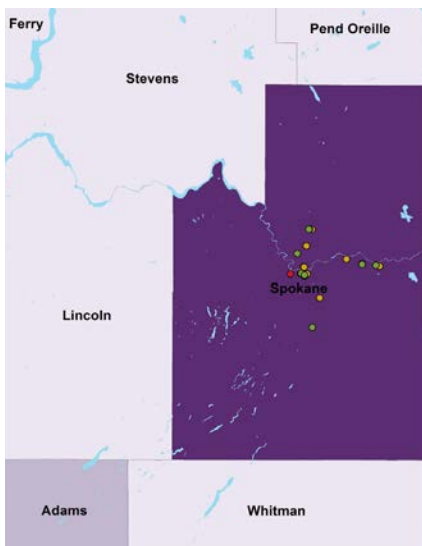
Map 4 reveals there are multiple Latino physicians in the greater Seattle region, however, more than half provide part-time or less than part-time care per practice site. Yakima County, a largely agricultural area in WA, has the greatest number of Latino residents in WA outside greater Seattle (n=132,271) and among the largest concentration of Latinos in Washington (51% Latino). Map 5 shows that most of the relatively few Latino physicians in the Yakima Valley area are located in small communities along the Interstate 82-corridor. Most Latino physicians in Eastern Washington are concentrated in the vicinity of Spokane (Map 6). By contrast, the surrounding four counties (i.e., Pend Oreille, Stevens, Lincoln and Whitman Counties) have no Latino physicians, meaning Latinos in these counties must travel to Spokane to access bilingual/bicultural providers or they may forgo medical care. Similarly, in Central Washington approximately half of all Latino physicians practice part-time or less to serve the more than 77,000 Latino residents in Douglas, Chelan, Grant and Kittitas Counties. An additional 12 Latino physicians would be needed in Central Washington to meet national guidelines of 1 physician per 3,500 population.



**MAP 4:** METRO WASHINGTON ACCORDING TO THE RATIO OF LATINO PHYSICIANS TO 100,000 LATINOS AND THE NUMBER OF CLINICAL HOURS REPORTED BY LATINO PHYSICIANS



**MAP 5:** YAKIMA VALLEY ACCORDING TO THE RATIO OF LATINO PHYSICIANS TO 100,000 LATINOS AND THE NUMBER OF CLINICAL HOURS REPORTED BY LATINO PHYSICIANS



**MAP 6:** EASTERN WASHINGTON ACCORDING TO THE RATIO OF LATINO PHYSICIANS TO 100,000 LATINOS AND THE NUMBER OF CLINICAL HOURS REPORTED BY LATINO PHYSICIANS



**MAP 7:** CENTRAL WASHINGTON ACCORDING TO THE RATIO OF LATINO PHYSICIANS TO 100,000 LATINOS AND THE NUMBER OF CLINICAL HOURS REPORTED BY LATINO PHYSICIANS





Table 2 shows the number and share of Latino residents per county, the number of Latino physicians, the ratio of Latino physicians to Latino residents (per 100,000 population), and the number of additional Latino physicians needed to meet the HRSA guideline of 28 physicians per 100,000 residents. In Yakima County, for example, nearly half of the population is Latino (49%) and the ratio of Latino physician to Latino population is 21:100,000. In order to meet the HRSA guideline, 9 additional Latino physicians are needed. In Franklin County, 52% of the population identify as Latino and the Latino physician to Latino population ratio is 13 per 100,000, less than of half the HRSA recommendation.

**TABLE 2: WA COUNTIES WITH THE GREATEST NEED FOR LATINO PHYSICIANS**

COUNTY	LATINOS	% LATINOS	LATINO PHYSICIANS	RATIO OF LATINO PHYSICIANS TO LATINO COMMUNITY (PER 100,000 PPL)	LATINO PHYSICIANS NEEDED*
ADAMS	12,246	63.0%	3	24	1
CHELAN	21,074	27.8%	3	14	3
DOUGLAS	12,948	31.3%	0	-	4
FRANKLIN	47,907	52.8%	6	13	8
GRANT	39,171	41.3%	7	18	4
SKAGIT	22,677	18.3%	5	22	2
WALLA WALLA	12,789	21.2%	3	23	1
YAKIMA	121,944	48.9%	26	21	9
<b>TOTAL: 32</b>					

\*Applies a HRSA health professional shortage area threshold, which includes a ratio of physicians to 100,000 persons at 1:3,500.





### SPANISH-SPEAKING PHYSICIANS

The need for Spanish speaking physicians in WA is acute. According to the American Community Survey 5-Year Estimates (2014-18), approximately 65% of Latinos over 5-years of age in WA speak Spanish in their home. Research suggests that language concordance between physicians and patients results in better medical care through fewer medical errors, increased understanding of illness and the treatment plan, adherence to the treatment plan, and satisfaction with care.<sup>7</sup> For example, in one study of diabetes, patients with limited English proficiency who had a language-discordant physician had higher odds of poor glycemic control compared to those who had a language-concordant physician, even after controlling for potential demographic and clinical confounders.<sup>8</sup>

Map 8 shows the location of Spanish bilingual/bicultural physicians in WA as well as the ratio of Spanish bilingual/bicultural physicians per 100,000 Spanish-speaking individuals. We refer to Spanish bilingual Latino physicians as bicultural/bilingual physicians. In WA, Spanish-speaking communities (individuals >5-years of age) are largely concentrated in the Yakima Valley region including Adams (51%), Franklin (43%), Grant (35%) and Yakima (39%) counties. By contrast, the greatest numbers of bilingual/bicultural physicians are concentrated in Snohomish, King, Pierce and Spokane counties, with relatively few bilingual/bicultural doctors in Central and Eastern WA. Of the 39 counties in WA, 13 counties lack any bilingual/bicultural physicians and an additional 7 counties have fewer than needed to reach the HRSA designated threshold for health professional shortage area (HPSA) of 28 physicians to 100,000 population (Table 3).

**MAP 8: SUMMARIZES THE RATIO OF BILINGUAL, LATINO PHYSICIANS PER 100,000 SPANISH-SPEAKING LATINOS BY COUNTY.**





**TABLE 3: WA COUNTIES WITH THE GREATEST NEED FOR BILINGUAL, LATINO PHYSICIANS**

COUNTY	SPANISH-SPEAKING INDIVIDUALS	% SPANISH-SPEAKING INDIVIDUALS	BILINGUAL, LATINO PHYSICIANS	RATIO OF BILINGUAL, LATINO PHYSICIANS TO SPANISH SPEAKERS (PER 100,000 PPL)	BILINGUAL, LATINO PHYSICIANS NEEDED*
CHELAN	16,967	23.9%	3	18	2
DOUGLAS	10,445	27.1%	0	-	3
FRANKLIN	37,333	45.4%	4	11	7
GRANT	30,094	34.5%	6	20	3
SKAGIT	15,632	13.4%	2	13	3
YAKIMA	88,548	38.7%	21	24	4
<b>TOTAL: 22</b>					

\*Applies a HRSA health professional shortage area threshold, which includes a ratio of physicians to 100,000 persons at 1:3,500.



## LATINO PHYSICIAN WORKFORCE PROJECTIONS

Table 4 shows the populations projections for the WA state from 2020-2040.<sup>2</sup> As a share of the state's total population, the White population decreases from 67% to 57% between 2020 and 2040, whereas the Latino population increases from 13% to 17% over the same time period.

**TABLE 4: WA STATE POPULATION PROJECTIONS, 2020-2040**

YEAR	PROJECTED WA POPULATION 2020-2040	PROJECTED WA WHITE POPULATION 2020-2040 (N)	PROJECTED WA WHITE POPULATION 2020-2040 (%)	PROJECTED WA LATINO POPULATION 2020-2040 (PER 100,000 PPL)	PROJECTED WA LATINO POPULATION 2020-2040 (%)
2020	7,649,844	5,147,427	67%	1,029,352	13%
2025	8,104,910	5,249,533	65%	1,171,235	14%
2030	8,512,446	5,305,595	62%	1,315,527	15%
2035	8,895,922	5,324,248	60%	1,464,647	16%
2040	9,235,561	5,303,796	57%	1,610,731	17%

Based on results from the WCS physician survey, the ratio of White physicians to White population is 277 per 100,000. By contrast, the ratio of Latino physicians to Latino population is 45 per 100,000, or approximately 1/6th the level of representation of White physicians in the state.







**FIGURE 12: LATINO PHYSICIAN WORKFORCE PROJECTIONS 2020-2040**

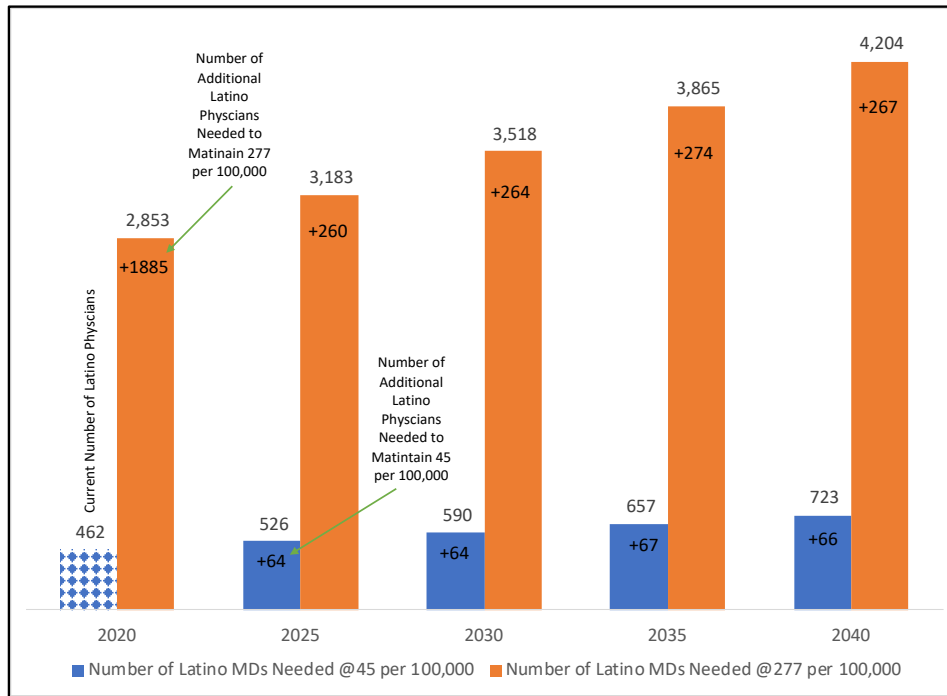


Figure 12 shows the estimated number of Latino physicians needed every 5 years to maintain a physician to population ratio of 45 per 100,000 (blue bars), the current level of Latino physician representation in WA, and 277 per 100,000 (orange bars), the current level of White physician representation, between 2020 and 2040. To increase the representation of Latino physicians from their current level of 45 per 100,000 to 277 per 100,000 would require adding 1,885 additional Latino physicians – an impossible task given the number of Latino physicians in the nation. To maintain a ratio of 277 per 100,000 from 2020 to 2040 would require adding 260 more Latino physicians by 2025, 264 more by 2030, 274 more by 2035 and 267 more by 2040.

To maintain the current representation level of Latino physicians in the state of 45 per 100,000 between 2020 and 2040, 64 Latino physicians will be recruited by 2025, 64 additional Latino physicians by 2030, 67 more by 2035 and 66 more by 2040. These simple projections may underestimate the actual need because they do not take into account the loss of Latino physicians from the State due to relocation. On the other hand, our data do not account for the 75% response rate or include osteopathic trained physicians (D.O.), and in this regard, may overestimate the needed number of Latino physicians. AAMC data (2019) show there are 1,362 active D.O. physicians in WA, but data on their racial/ethnic diversity was unavailable (AAMC. 2019 State Physician Workforce Data Report. Washington, DC: AAMC; 2019) to us for this report.<sup>9</sup>



## MEETING THE DEMAND FOR LATINO PHYSICIANS

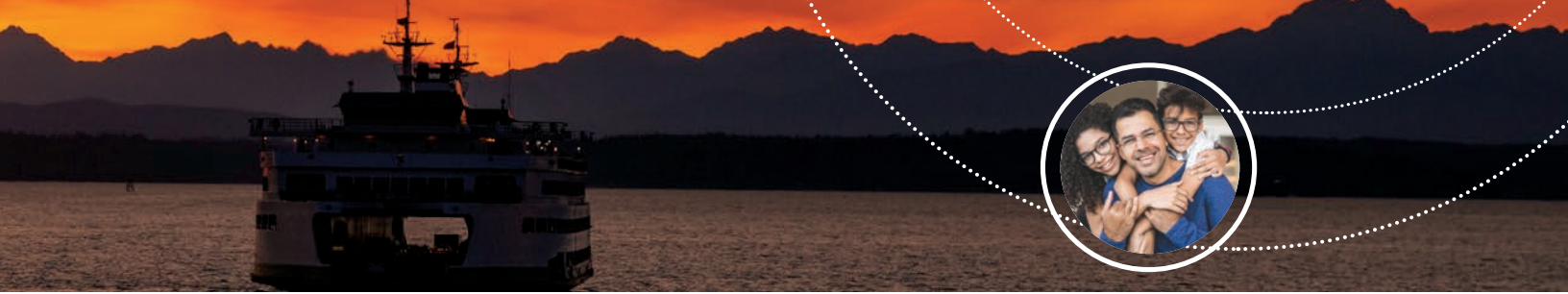
Findings from this report reveal that at current enrollment rates of Latino medical students, WA medical schools will fail to reach parity with the State's growing Latino population in the foreseeable future. For reference, the total number of Latino medical students enrolled in the State's two allopathic (University of Washington and Washington State University) and one osteopathic (Pacific Northwest University) medical schools in 2019-2020 was 143 constituting 7.3% of the State's 1,958 medical students. At this rate of enrollment, the representation Latino physicians relative to the Latino population in the State will decline over time due to the projected growth Latino population. Nationally, competition for graduating Latino physicians will increase as the US Latino population grows and medical schools continue to struggle to provide culturally responsive education and training and matriculate Latino medical students. Finally, foreign medical graduates remain a small and underutilized source of Latino physicians for WA.

## PREMEDICAL EDUCATIONAL ECOSYSTEM

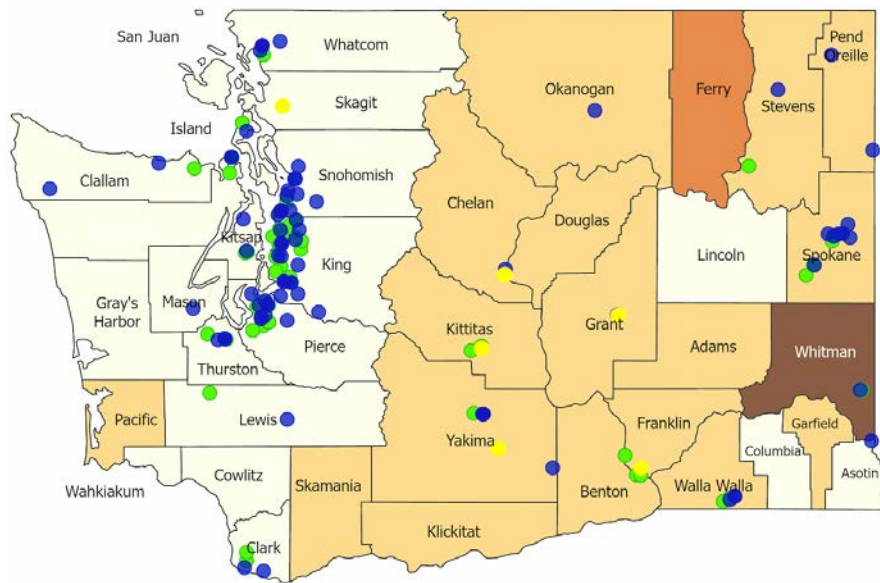
Addressing the need for Latino physicians in WA state must begin by growing and strengthening the pre-medical educational ecosystem. Such focus is of salient importance when you consider the youthfulness of the Latino population in WA, where investments in public school STEM education in Latino communities can critically support the State's future healthcare workforce as well as WA's overall long-term economic welfare. With access to high-performing schools and social support programs to meet the needs of their families, today's Latino youth can become the State's future Latino physician workforce. However, the State's current education and social support systems are failing to meet the needs of Latinos communities in our State. We see this failure by examining the Latino educational pipeline, which highlights critical transitions between elementary school, high school, college, and graduate school. In WA state, or every 100 Latino students entering the K-12 system, only 69 graduate high school. Of those 69 high school graduates, only 16 go on to complete a bachelor's degree, 5 go on to complete a graduate degree and 0.5 go on to complete a doctorate of professional school degree. By comparison, for every 100 Whites students entering the K-12 system in WA, 93 graduate high school, 36 complete a bachelor's degree, 14 complete a graduate degree and 2 complete a doctorate or professional school degree.<sup>10</sup> The net effect of these educational disparities is the underdevelopment of a large and growing talent pool reflected by the lack of adequate numbers of Latino physicians needed to meet the needs of our state's communities.

The following GIS maps (Map 9 and 10) were designed to visualize the distribution and concentration of Latino high school (15-19) and college-aged (20-24) youth across the state, as well as post-secondary institutions (e.g. 4-year universities, community colleges, and HSI), to determine whether education deserts<sup>11</sup> exist for WA Latino students. Across both age groupings, it is evident that there is paucity of postsecondary institutions in the areas of highest concentration of Latino youth across the State.

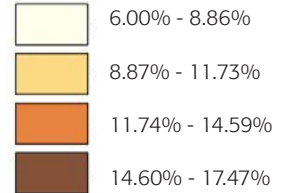




**MAP 9: 2020 LATINO YOUTH (AGES 15-19) AND WA POSTSECONDARY INSTITUTIONS**



**2020 LATINO YOUTH AGES 15-19**



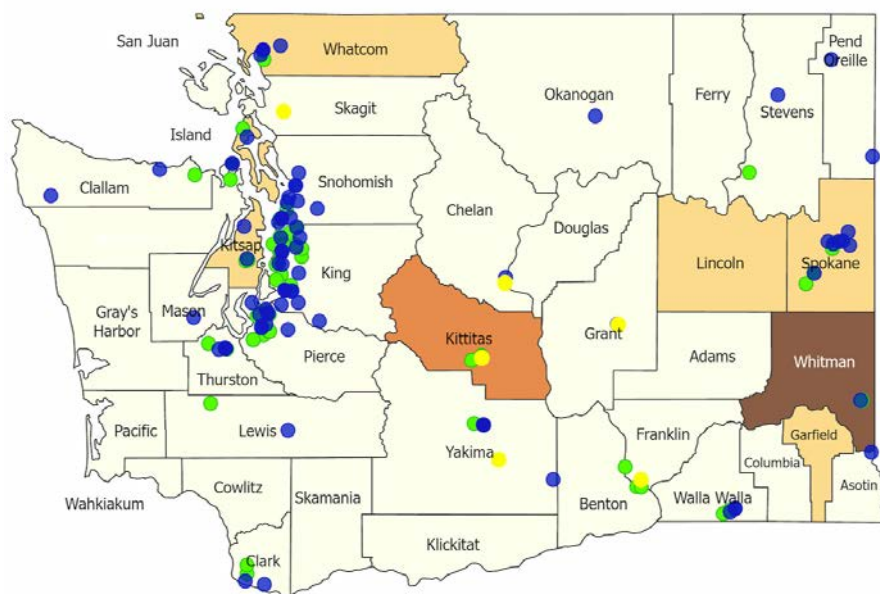
**COLLEGES & UNIVERSITIES**

- Community & Technical Colleges
- 4-Year Universities
- HSI Institutions

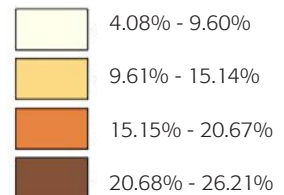
**TOP 10 COUNTIES:**

1. Whitman (17.47%)
2. Ferry (11.78%)
3. Klickitat (11.02%)
4. Stevens (10.88%)
5. Kittitas (10.80%)
6. Garfield (10.61%)
7. Spokane (9.62%)
8. Pend Oreille (9.51%)
9. Okanogan (9.34%)
10. Franklin (9.30%)

**MAP 10: 2020 LATINO YOUTH (AGES 20-25) AND WA POSTSECONDARY INSTITUTIONS**



**2020 LATINO YOUTH AGES 20-24**



**COLLEGES & UNIVERSITIES**

- Community & Technical Colleges
- 4-Year Universities
- HSI Institutions

**TOP 10 COUNTIES:**

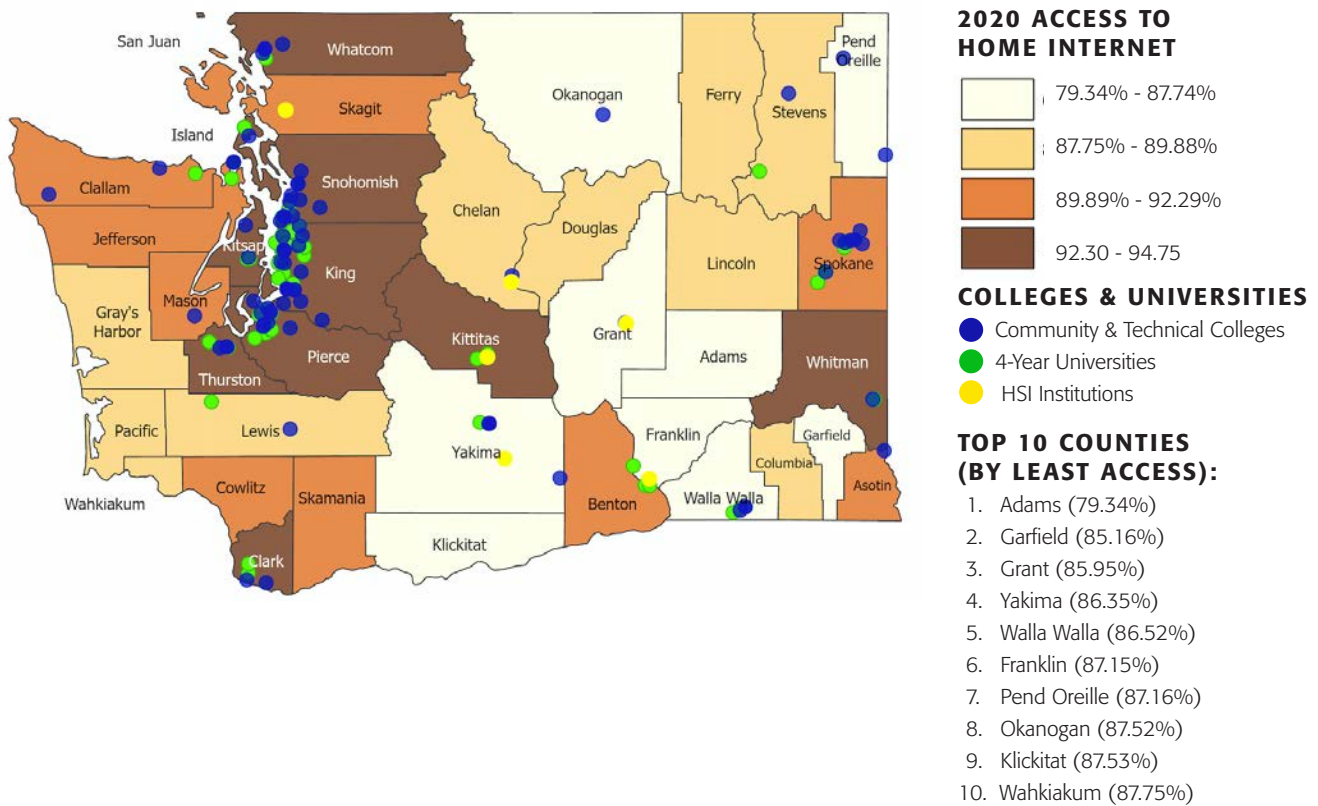
1. Whitman (26.21%)
2. Kittitas (17.26%)
3. Island (11.86%)
4. Kitsap (11.25%)
5. Garfield (10.61%)
6. Lincoln (10.26%)
7. Spokane (10.21%)
8. Whatcom (9.62%)
9. Columbia (9.60%)
10. Pacific (9.23%)





Given that few universities and community colleges are found in areas with the highest concentration of Latino youth, it was important to assess whether online education was a viable option for increasing access to pre-medical educational opportunities. Map 11 shows that the concentration of households with no access to internet are greatest in areas with the highest concentration of Latinos (Map 1).

**MAP 11. 2020 ACCESS TO HOME INTERNET BY COUNTY**





## MAJOR RECOMMENDATIONS

The shortage of Latino physicians in Washington state can only be addressed through a multi-faceted and comprehensive approach. We present the following recommendations to facilitate short-term and long-term changes necessary to be responsive to the sizeable and increasing population of Latinos in urban and rural communities throughout WA state.

### A. STRENGTHEN THE PRE-MEDICAL EDUCATION ECOSYSTEM

#### POLICY GOAL:

Expand the number of well-prepared Latino/URM (Underrepresented Minority) applicants to WA medical schools.

#### RECOMMENDATIONS:

1. Strengthen K-12 public STEMM education in schools located in Latino/URM communities.
2. Strengthen health professions pipeline programs between community colleges to 4-year colleges and universities.
3. Create STEMM educational partnerships between minority serving institutions (MSI) in WA and 4-year colleges and universities.
4. Create post-baccalaureate programs based at WA medical schools. Post-baccalaureate programs that begin after an undergraduate degree and are designed to support the transition to professional school and success in completing it.

### B. INCREASE ADMISSIONS OF WA LATINO APPLICANTS TO MEDICAL SCHOOL

#### POLICY GOAL:

Increase the number of WA Latino students admitted to medical school to attain population parity.

#### RECOMMENDATIONS:

1. WA medical school admission committees commit to informing themselves about the changing demographics of the State and the urgent need to increase the number of bilingual and bicultural Latino physicians.
2. WA medical school admissions committees review and align their policies and practices to be responsive to the healthcare needs of Latino communities in the State.
3. Medical schools set a goal to reach population parity by 2025, at which time approximately 14.5% of the State's population will be Latino.





## C. EXPAND LOAN REPAYMENT AND STIPEND PROGRAMS

### POLICY GOAL:

Recruit and retain Latino/URM medical students and trainees.

### RECOMMENDATIONS:

1. The state legislature create scholarships for entering Latino/URM medical students covering tuition (e.g., tuition waivers) and cost of living in exchange for post-residency service in underserved communities for designated years of service.
2. The state legislature create stipend support for Latino/URM trainees in residency to assist with early loan repayment and other living expenses (e.g., child care, interview travel) that lead to a full repayment award and service post-residency.
3. Hospitals and healthcare organizations expand loan repayment opportunities for graduating Latino/URM residents in exchange for practice in underserved communities.

## D. DIVERSIFY GRADUATE MEDICAL EDUCATION PROGRAMS

### POLICY GOAL:

Increase the number of practicing Latino/URM physicians with linguistic and cultural backgrounds congruent with Latino communities in WA.

### RECOMMENDATIONS:

1. Create a pathway for international medical graduates (IMG) to enter WA residency programs, prioritizing IMG candidates that meet the linguistic and cultural needs of Latino and other underserved communities in the State.
2. WA state residency programs set a goal to reach population parity by 2025, at which time approximately 14.5% of the State's population will be Latino.

## E. LEVERAGE THE EXISTING LATINO/URM HEALTHCARE WORKFORCE

### POLICY GOAL:

Increase the number of well-prepared Latino/URM applicants to WA medical schools following non-traditional pathways.

### RECOMMENDATIONS:

1. Healthcare organizations including community health centers (CHC) and medical schools should create coordinated and integrated programs for Latino/URM employees with needed lived experience and linguistic skills to pursue medical school.





## **F. CREATE A LATINO PHYSICIAN ORGANIZATION FOR WASHINGTON**

### **POLICY GOALS:**

Increase the visibility of Latino physicians; create networking and mentoring opportunities for Latino physicians, trainees and medical students; and create opportunities for advocacy by Latino physicians.

### **RECOMMENDATIONS:**

1. Create and support the first statewide Latino physician organization as either (1) a new standalone organization (e.g., California Latino Medical Association); (2) a caucus within the Washington State Medical Association; or (3) a Washington chapter of the National Hispanic Medical Association.

## **G. EXPAND LATINO/URM HEALTH PROFESSIONS RESEARCH AND POLICY INFRASTRUCTURE**

### **POLICY GOALS:**

Inform physician and other health professions workforce policy for WA.

### **RECOMMENDATIONS:**

1. Add detailed race/ethnicity identifiers to the Medical Commission provider survey.
2. Add questions about language proficiency (for non-English language speakers) to the Medical Commission provider survey.
3. Establish and convene a Governor's statewide advisory committee on healthcare workforce diversity responsible for providing annual reports to legislators and university boards of regents on measured progress.
4. Conduct a statewide health professions workforce diversity needs assessment to be administered on a 2-4 year cycle.





“The barriers that exist are significant but so is the incredible talent and potential in our communities. The findings in this report provide a data informed, collaborative path forward that will benefit all of us who are committed to caring for Washington’s diverse population.”

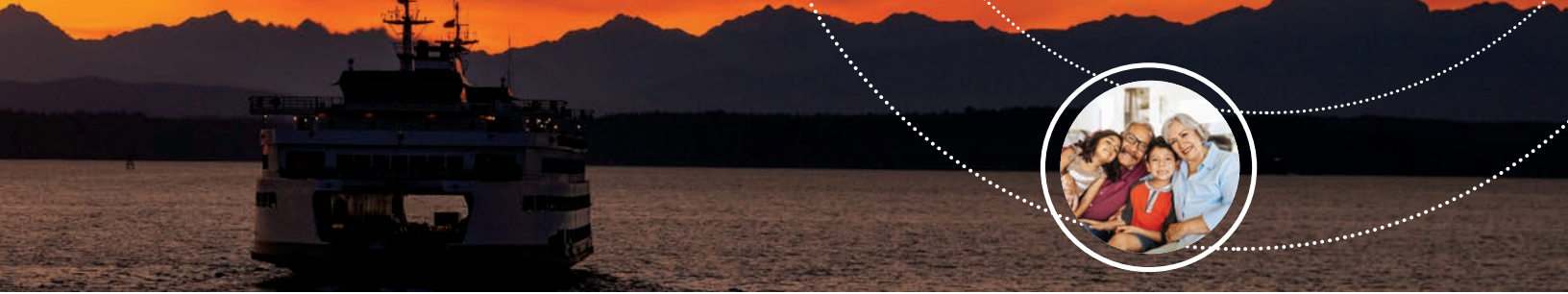
- Kristin Conn, MD, Medical Director, Equity, Diversity and Inclusion, Washington Permanente Medical Group



THIS REPORT OF THE LATINO PHYSICIAN WORKFORCE STUDY HIGHLIGHTS THE CRITICAL SHORTAGE OF LATINO PHYSICIANS WITHIN WASHINGTON. It details the demographics of physicians in the State, their areas of practice as well as their geographical distribution. Also, it highlights the population data of Latinos, their age distribution and concentrations in counties across the State. Analyses reveals significant findings crucial to understanding the issue of the scarcity of Latino physicians--those trained in medical schools in the State and region and those practicing in the State. At present, WA state is not admitting, educating and training adequate numbers of Latino individuals as physicians to achieve parity with its increasing population of Latinos. To provide linguistically and culturally responsive health care to Latinos requires a sustained investment of time, resources and funding across stakeholders in the State, including University officials, elected officials and legislators, and across the educational ecosystem from K-12, colleges, including community colleges, and medical schools. This report calls for a comprehensive and coordinated approach to this serious need. A fragmentary and uncoordinated response dooms the State to persistent and costly disparities and inequities in the access and utilization of health care services by Latinos. The recommendations presented in this report provide a clear pathway to address the shortage of Latino physicians in a comprehensive manner. Some are in the short-term, including medical schools establishing and meeting a goal to enroll Latino students to reflect the percentage of Latinos by 2025; others will require a longer term commitment to advance health equity. It is imperative that, collectively, we work diligently and with urgency to increase the Latino physician workforce in Washington state NOW.







“Growing up in Eastern Washington, I feel fortunate to be working in Yakima, yet the population has changed over the decades since I was little. As a residency director, and now medical school faculty, I have worked to recruit a more diverse group of trainees, hard to do with such a small pool. The Latino Physician Workforce efforts give me hope that we will make concrete changes to increase the number of Latinx physicians. It may be 20 years from now, but that is much faster than two centuries!”

- Russell Maier, MD, Associate Dean for Graduate Medical Education, Pacific Northwest University of Health Sciences

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9. American Association of Medical Colleges. State Physician Workforce Data Report. Washington, DC: AAMC; 2019. <https://www.aamc.org/data-reports/workforce/report/diversity-medicine-facts-and-figures-2019>. Accessed August 27, 2020.
10. U.S. Census Bureau. 2014-2018 American Community Survey 5-year estimates. <https://www.census.gov/data.html>. Accessed March 4, 2020.
11. Hillman NW. Geography of College Opportunity: The Case of Education Deserts. *American Educational Research Journal*. 2016;53(4):987-1021. doi:10.3102/0002831216653204.





## THEMATIC ANNOTATED BIBLIOGRAPHY:

### UNDERREPRESENTED MINORITIES

**BARR, D.A., GONZALEZ, M.E., WANAT, S.F. (2008). THE LEAKY PIPELINE: FACTORS ASSOCIATED WITH EARLY DECLINE IN INTEREST IN PREMEDICAL STUDIES AMONG UNDERREPRESENTED MINORITY UNDERGRADUATE STUDENTS. *ACADEMIC MEDICINE*. 83(5), 503-511.**

In this study, the authors investigate the possible factors at play that cause a decline in the interest in medical careers for underrepresented minority (URM) groups during their undergraduate years. According to researchers approximately half of the 68 participants interviewed from the original pool of 368 incoming freshman at Stanford who desired to become physicians, experienced decreases in interest in continuing the premed route. Per Barr and peers, URM students exhibited a more significant decline in interest than their non-URM peers.

The authors note that decline in interest among URM students was influenced by courses taken, loss of motivation, too much time or work involved, as well as advising, contact with physicians, and a shift in interests. The study recommends better advising for URM students, investing in more formalized and extensive peer support systems, and creating mentorship opportunities with practicing physicians. Furthermore, the study also recommends having other institutions gather similar data to assess more specific needs relative to conditions at different institutions.

**GREER, T., KOST, A., EVANS, D.V., NORRIS, T., ERICKSON, J., MCCARTHY, J., ALLEN, S. (2016). THE WWAMI TARGETED RURAL UNDERSERVED TRACK (TRUST) PROGRAM: AN INNOVATIVE RESPONSE TO RURAL PHYSICIAN WORKFORCE SHORTAGE. *ACADEMIC MEDICINE*. 91(1), 65-69.**

Greer and peers examine the response to physician shortages in rural areas in the west by looking into the Targeted Rural Underserved Track (TRUST) program. According to the authors, the TRUST program is about using a targeted admissions process which combines new as well as preexisting programs. Part of this process involves creating linkages, which include repeated preclinical visits, clerkships, and electives at the student's Trust Continuity Community (TCC). The program was piloted in Montana in 2008 and was later expanded to include TRUST students at all states in the WWAMI region by 2015. Of the 123 students accepted, 33 students had graduated at the time this report was published. Approximately 90.9% or, 30 students, entered residencies in needed regional specialties.

The authors recommend the implementation of a stout evaluation program, obtaining institutional funding to support and augment programmatic elements, and further developing links with rural residency programs based in rural communities. Furthermore, the authors also note the importance of tracking data beginning with matriculation and leading to eventual practice. In addition, the authors further recommended encouraging rurally focused residencies to pair with the TRUST website and promote further field trips for TRUST students to regional residencies in need.

**SNYDER, C.R., FROGNER, B.K, SKILLMAN, S.M. (2018). FACILITATING RACIAL AND ETHNIC DIVERSITY IN THE HEALTH WORKFORCE. *JOURNAL OF ALLIED HEALTH*. 47(1), 58-65.**

Snyder and peers offer an analysis of current issues specific to facilitating racial and ethnic diversity in the health workforce. The authors explore demographic changes in the health care workforce, with a specific emphasis on racial and ethnic diversity. They also explore evidence on the effectiveness of programming that is meant to promote racial and ethnic diversity





in the U.S. health workforce. Findings from this study suggest that although there is more diversity in the workforce, people of color are often represented in higher proportion in lower-skilled, entry level health occupations.

The authors recommend a more substantial assessment and evaluation process. Furthermore, they also note the need to move beyond reporting and monitoring participation and focus more on programmatic goals and assess to what end these goals are met. Snyder and peers also offered several areas of need of further exploration, including pipeline programs, the impact of increasing faculty diversity, as well as addressing the retention of people of color once they enter the profession.

## LATINO PHYSICIANS

**RÍOS-ELLIS, B., FRATES, J. (2005). THE LATINO HEALTHCARE PROFESSIONALS PROJECT: RESPONDING TO THE DIVERSE NEEDS OF THE 21ST CENTURY. THE JOURNAL OF HEALTH ADMINISTRATION EDUCATION. 22(2), 171-187.**

Rios-Ellis and Frates write about the Latino Healthcare Professionals Project based out of California State University at Long Beach. This analysis centers the larger conversation on community need for Latino healthcare professionals, issues facing Latinos in higher education, and impediments to Latino students' ability to complete a four-year degree. The LHPP itself serves as pipeline program to encourage completion of curriculum, attain high academic performance, pursue a graduate degree, and subsequently attain employment in the healthcare field. Findings from this study illustrate how support and reinforcement deliver tangible gains as each cohort listed in the study graduated with a higher GPA than they had upon entering the program. Similarly, the study does also note challenges in long-term viability and sustainability due to diminished funding sources.

This study offers longitudinal insight about the efficacy of pipeline programs at the undergraduate level. Rios-Ellis and Frates also allude to systemic challenges in retaining program funding and how this may also impact or disturb the flow of Latino medical school candidates. One critical point addressed is that the effectiveness of the program owes a great deal to rejection of the "one size fits all" model of service delivery. The authors further suggest that more specific data from professional and educational organizations on underrepresented minority (URM) enrollment in health administration educational program by ethnic group will be helpful in crafting program priorities.

**SANCHEZ, J.P., POLL-HUNTER, N.I., ACOSTA, D. (2015). ADVANCING THE LATINO PHYSICIAN WORKFORCE—POPULATION TRENDS, PERSISTENT CHALLENGES, AND NEW DIRECTION. ACADEMIC MEDICINE, 90(7), 849-853.**

Sanchez, Poll-Hunter, and Acosta offer an analysis on developing the Latino physician workforce at the national level. The study notes the rapid demographic shift in Latino population growth and subsequent challenges with health care issues specific to the Latino community. The study also traces and evaluates historical and contemporary issues with increasing the Latino Physician workforce.

The authors note that development will require a multi-pronged approach that includes cultivating more Latino medical residents, encouraging the next generation of Latino medical school applicants and matriculants, expanding curricula and training, prioritizing Latino inclusion in the academic medicine workforce, rebuilding federal diversity initiatives, and fostering cooperative efforts between academic health centers and Latino professional organizations. These measures will be critical in helping meet the need of an underserved demographic.





**VARGAS BUSTAMANTE, A., MARTÍNEZ, L.E., BALDERAS-MEDINA ANAYA, Y. (N.D.). CALIFORNIA'S PHYSICIAN SHORTAGE WHITE PAPER. UCLA LATINO POLICY & POLITICS INITIATIVE. RETRIEVED FROM [HTTPS://LATINO.UCLA.EDU/WP-CONTENT/UPLOADS/2019/12/LPPI-CPS-WHITE-PAPER-DESIGN-LAYOUT-REDUCED.PDF](https://latino.ucla.edu/wp-content/uploads/2019/12/LPPI-CPS-White-Paper-Design-Layout-Reduced.pdf)**

Vargas Bustamante and peers outline methods for how to address the Latino Physician shortage in California in this white paper published through the University of California at Los Angeles Latino Policy & Politics Initiative. This white paper synthesizes a set of reports that have been produced through the California Latino Physicians Crisis project. The authors conclude that in order to address the matter, it is important to address three key points, namely, to increase physician admissions for Underrepresented Minority Students (URMs), increase primary care residencies, and expanding international medical graduate (IMG) placements in the near term.

The authors identify sets of recommendations specific to the three points addressed. Policy recommendations for increasing URM students include an increase for financial resources available, address academic disadvantages, improve navigation resources, and monitor, evaluate, and disseminate best practices. Likewise, policy recommendations for increasing primary care residencies include prioritizing residency programs, create and sustain funding, recruit and retain trainees, and incentivize medical students who pursue primary care by providing financial support. Similarly, suggestions for expanding IMG placements in California include expansion of the existing pool of IMGs, support IMG training programs, and encourage IMGs to practice in linguistically underserved communities.

**VARGAS BUSTAMANTE, A., FÉLIX BELTRÁN, L. (2019). LATINO PHYSICIAN SHORTAGE IN CALIFORNIA: THE PROVIDER PERSPECTIVE. UCLA LATINO POLICY & POLITICS INITIATIVE. RETRIEVED FROM [HTTPS://LATINO.UCLA.EDU/WP-CONTENT/UPLOADS/2019/03/LPPI\\_THE\\_PROVIDER\\_PROSPECTIVE.PDF](https://latino.ucla.edu/wp-content/uploads/2019/03/LPPI_The_Provider_Prospective.pdf)**

Vargas Bustamante and Felix Beltran offer an analysis that discusses the barriers as well as sources of support for medical school applicants identified by a sample of Latino pre-med students and medical school applicants. According to the authors, main barriers include, 1) financial cost, 2) academic disadvantages, 3) navigation, 4) underrepresentation in the medical field, and 5) limitations associated with citizenship status. Likewise, according to participants in this study, medical school admissions committees appear to be more inclined to offer admission to applicants from colleges that are deemed more prestigious, limiting spaces available for applicants from minority serving institutions like California State University (CSU) system or community colleges.

Vargas Bustamante and Felix Beltran offer a set of recommendations to ameliorate the current challenge in physician training. Recommendations include, 1) increase financial resources, 2) address academic disadvantages, 3) improve navigation resources, and 4) monitor, evaluate, and disseminate best practices. The authors further assert that additional funding, policies, and programs are needed to address the present deficit in Latino physicians as current scale of programming is still limited.

## **INTERNATIONAL MEDICAL GRADUATES**

**DOWLING, P.T., BHOLAT, M.A. (2012). UTILIZING INTERNATIONAL MEDICAL GRADUATES IN HEALTH CARE DELIVERY: BRAIN DRAIN, BRAIN GAIN, OR BRAIN WASTE? A WIN-WIN APPROACH AT UNIVERSITY OF CALIFORNIA, LOS ANGELES. PRIMARY CARE: CLINICS IN OFFICE PRACTICE. 39(4), 643-648.**

This report details the use of a program at the University of California at Los Angeles to aid International Medical Graduates (IMGs) in obtaining family medicine residency training to help shore up the need for more physicians. As the article notes,





Latinos were 37% of California’s population at the time the report was published, while only being 5.5% of the physician workforce. To address the community need, this program allows for IMGs to enter the workforce and attain the needed skills to utilize their medical training, while programming an obligatory 2-3-year stint in federally designated underserved communities in California.

According to the authors, the program has placed 54 graduates in residency programs, and all but one graduated from the program. The program addresses the question of “brain waste” while simultaneously providing a cohort of physicians who are more likely to provide family medicine services. This is an important consideration as this project helps expand the pool of possible medical practitioners in sorely needed areas. To ensure success with the program, the authors suggest providing IMGs tools to compete for the GME needed for licensure to practice. The underlying argument is that investing in IMGs in turn helps place them in communities they already reside in.

**FERNANDEZ-PENA, J.R. (2012). INTEGRATING IMMIGRANT HEALTH PROFESSIONALS INTO THE US HEALTH CARE WORKFORCE: A REPORT FROM THE FIELD. JOURNAL OF IMMIGRANT MINORITY HEALTH. 14(3), 441-448.**

Fernandez-Pena offers a report about the Welcome Back Initiative (WBI) that was launched in 2001. The WBI has implemented a work model in 10 cities to help International Medical Graduates enter the US healthcare workforce. Per the author’s report, over 10,700 immigrant health professionals have been served by WBI, 66% of whom did not work in the health sector previously. Furthermore, 21% of participants passed a licensing exam, and 87 were connected to residency programs. Findings suggest that the WBI is positioned to help fill workforce gaps with qualified, culturally responsive, practitioners that the current medical education apparatus is unable to currently meet.

In addition to adding another pool of potential medical providers to address shortages, the program also identified areas of concern among IMGs by addressing English Language Proficiency, lack of familiarity with US Health systems, a loss of professional identity resulting from relocation to the U.S., and time and economic issues, which may impact IMGs’ ability to participate and follow through.

## **WORKFORCE ANALYSIS**

**BERG, A.O., NORRIS, T.E. (2006). A WORKFORCE ANALYSIS INFORMING MEDICAL SCHOOL EXPANSION, ADMISSIONS, SUPPORT FOR PRIMARY CARE, CURRICULUM, AND RESEARCH. ANNALS OF FAMILY MEDICINE, 4(1).**

This study describes the results of a physician workforce analysis that examined physician-to-population ratios, rural-urban geographic distribution, physician demographics, and physician graduation from the University of Washington or affiliated residency programs. Per the results, in 2005, the 5 states in the Washington/Wyoming/Alaska/Montana/Idaho (WWAMI) region ranked lowest in the US in the number of publicly supported medical school and residency slots per capita. This has great implication for provision of medical care in the Pacific Northwest and in rural locations within the region. From 1996 to 2005, the percentage of University of Washington medical students in pursuit of careers in primary care dropped from 60% to 30%. This workforce analysis is valuable in attaining the information needed to dictate future decisions about medical school admission, primary care pathways, class size, curriculum, and research. Furthermore, the data gathered also allows for adaptation and responsiveness to community need within the WWAMI region.





**FERNÁNDEZ, A., PEREZ-STABLE, E.J. (2015) ¿DOCTOR, HABLA ESPAÑOL? INCREASING THE SUPPLY AND QUALITY OF LANGUAGE-CONCORDANT PHYSICIANS FOR SPANISH-SPEAKING PATIENT. JOURNAL OF GENERAL INTERNAL MEDICINE, 30(10), 1394-1396.**

Fernandez and Perez-Stable examine both the need and the possible trajectory for increasing the supply and quality of language-concordant physicians for patients who speak Spanish. As the authors note language barriers are an impediment to proper care and may lead to patient dissatisfaction, worse clinical outcomes, less trust of physicians, and lower comprehension among patients. Likewise, linguistic barriers may also invoke apprehension, a sense of wasted time, difficulty with providing high quality care, and communication frustration.

To help increase supply of Spanish-speaking physicians the authors recommend that the health care systems should certify Spanish-speaking skills for physicians before they can care for people. Second, that the supply of Spanish-speaking physicians can be expanded by considering Spanish fluency as part of the criteria for admission to medical school. The authors also recommend that there should be an infrastructure in place to incentivize certified speakers of local languages in demand. Likewise, and examination of clinical cultural competence is important to ensure appropriate communication.

**XIERALI, I.M., NIVET, M.A. (2018). THE RACIAL AND ETHNIC COMPOSITION AND DISTRIBUTION OF PRIMARY CARE PHYSICIANS. JOURNAL OF HEALTH CARE FOR THE POOR AND UNDERSERVED, 29(1), 556-570.**

Xierali and Nivet examine workforce demographics and distribution of primary care physicians in the United States. The authors employ a retroactive study of direct patient care physicians in 2012. Per results from this study underrepresented minority (URM) physicians are more likely to practice in underserved areas in contrast to non-URM peers. This dynamic played out regardless of practice specialization.

The study recommends increasing physician workforce diversity to address physician shortages in different underserved communities. Furthermore, besides increasing representation from URM communities, this process may also help reduce geographic maldistribution of the overall physician workforce. Likewise, diversifying the workforce may also help address health disparities among racial and ethnic groups. The authors also recommended disaggregating data further to harness insights that may lead to better policy and national physician workforce strategizing.







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