WICHE
Western Interstate Commission for Higher Education

Policy Insights

Closing the Degree Gap: The West's Contributions

WICHE's annual series, Benchmarks*, provides information on the West's progress in improving access to, success in, and financing of higher education. Our* Benchmarks *indicators can be found at www.wiche.edu/benchmarks. This* Policy Insight *is a supplement to the* Benchmarks *series, offering a deeper analysis of how to meet projected educational attainment goals. But rather than calculating the additional college credentials needed for each state individually to reach the 60 percent goal set out by the Lumina Foundation, we estimate the number of credentials each WICHE state needs to produce in order for the West as a region to meet its share of the 8.4 million additional credentials needed by 2025, taking into account states' current levels of educational attainment and projected population change over time.*

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The target years for achieving state goals typically range from 2020 to 2030. Stakeholders in many states are pressing hard to convince legislators and the general public that meeting the goals will lead to more prosperity – a state with higher wages for struggling workers, an improved ability to address a variety of middle- to high-skill shortages currently felt in the employment market, and a more competitive, knowledge-based economy that will foster job growth from within and attract business and industry from outside. Woven through all of these activities is the assertion that higher education is a public good as well as a private one: that the state (and nation) will prosper as a result of achieving college attainment goals.

This brief focuses on Lumina Foundation's "Big Goal" and the Western states, specifically, the U.S. members of the Western Interstate Commission for Higher Education (WICHE).[1] Nearly five years after Lumina established its Big Goal – that 60 percent of the country's 25- to 64-year-olds should attain a college degree or high-quality certificate by 2025 – how many additional college credentials are needed to meet it? And how many of them should be produced by the Western states?

For the U.S., in order to capture the attainment of those individuals with sub-baccalaureate credentials for this analysis, we incorporated the percentage of 25- to 64-year-olds with diplomas or certificates from vocational, technical, trade, and business schools beyond high school from the Survey of Income and Program Participation (SIPP). The SIPP estimates that 12 percent of adults aged 25 to 64 have earned these diplomas and certificates. Unfortunately, SIPP is unable to distinguish certificates that help recipients earn a living wage from those that do not; this analysis therefore includes all certificates.

It is important to note that not all of these credentials are of equal value, but there is as yet no clear means of making such distinctions. Sub-baccalaureate certificates are typically categorized by the length of the program. Best estimates suggest that certificates of one year or longer pay off significantly better than shorter programs, but an approach based only on the length of the program is hardly infallible.[2] In our zeal to boost education attainment, we must focus our efforts on vocational credentials that are associated with positive labor market outcomes. The following methods were used to determine the U.S. gap that needs to be closed by 2025, showing that 8.4 million additional credentials are needed (Table 1).

Table 1. Calculation of the Gap in U.S. Educational Attainment by 2025

Current percentage of adults with undergraduate college credentials (2012)	51.4
Average annual percent change from 2005 to 2012	0.28
Projected percent of adults with undergraduate credentials in 2025	55.1
Projected 25 to 64 year olds in 2025	171,508,588
Additional degrees needed to meet goals (60%-55.1%)*171.5 million	**8,405,718**

By attempting to account for vocational certificates and diplomas in the working-age adult population (the best way possible with current data), the overall U.S. gap is substantially lower than Lumina Foundation's original figure of 23 million, which at the time it was estimated only accounted for associate degrees and higher. Since the initial analysis was conducted by the National Center for Higher Education Management Systems in 2008, Lumina

and the postsecondary policy community at large have also recognized high-value certificates and diplomas and their impact in meeting current and future workforce demands.

Because of the vast disparities in current educational attainment across the 50 states, it is unreasonable to expect each state should reach the 60 percent attainment goal by 2025. It is also unrealistic to suggest that each state should improve its college degree production at the same rate. The percentage of working-aged adults with college credentials ranges from 29.8 percent in Arkansas and Nevada to 54.8 percent in Massachusetts. In the West Nevada has the lowest percentage and North Dakota has the highest (49.4 percent).

States where the population is poorly educated should be able to make a larger contribution to meeting the Lumina goal because they have more room to improve than more educated states do. The growth of the 9th grade population – the largest pipeline of students entering college – is another important consideration. Ninth graders are chosen for this analysis because high school graduation is such an important factor in college access. Increasing high school graduation rates enables more students to enter college. States with rapidly growing numbers of 9th graders, such as Nevada and Utah, should accelerate their degree production at higher rates than states with flat or shrinking numbers of 9th graders. For the purposes of this paper, current education levels and projections of 9th graders are both taken into account, when estimating the additional college graduates each state should produce to meet the national attainment goal.

We made the following calculations to determine the degree production needed by each state to close the nation's gap of 8.4 million degrees by 2025 (using Arizona as an example). The calculations are based on each state's current share of degree production and then adjusted for different educational attainment levels and population projections.

1. Arizona currently produces **2.4 percent** of the nation's associate and bachelor's degrees.[2]

2. Prior to any adjustment, if Arizona were to maintain its current proportion of the nation's degree production, it would need to produce **202,677 additional degrees** by 2025 (2.4 percent times 8.4 million).

3. Two index scores were created for each state in order to adjust its contribution to the national goal, given its projected population growth and current levels of educational attainment.

   - *Educational attainment – adjusted index*. Percent of young adults aged 25- to 34-year-olds with an associate's degree or higher in the U.S. divided by the same percentage for the state (U.S. 40.9 percent/ Arizona 34.6 percent = **1.18**). Arizona's young adult population is less educated than the U.S. average, which yields an index value greater than 1.0. States that have a young adult population that's more educated than the U.S. average have index scores that are less than 1.0.[3]

   - *Projected growth of 9th graders – adjusted index*. Projected cumulative percentage growth of 9th graders (who may be eligible to enter postsecondary institutions from 2013 to 2025) from 2009-10 to 2021-22, divided by the same calculation for the U.S. (Arizona 102 percent/U.S. 101 percent = **1.01**). The number of 9th graders in Arizona is projected to grow at a slightly higher rate than in the U.S. as a whole. States that are projected to grow faster than the U.S. average have index scores that are greater than 1.0, and states projected to grow more slowly have index scores lower than 1.0.

4. The adjustments for the state contribution to the national goal are then applied to the baseline degree production estimate from step 2. For example, Arizona's proportion of the nation's 8.4 million degree gap is calculated as the baseline degree production (202,677) times the educational attainment index (1.18) times the projected growth of 9th graders index (1.01). The outcome is that **221,824 additional degrees** need to be produced by Arizona by 2025.

5. Arizona currently produces 72,373 undergraduate credentials annually.[4] To make consistent (linear) progress toward the target, Arizona's production of undergraduate credentials needs to increase **2.8 percent annually**.

The calculations for each state are shown in Table 2. The average annual percentage increases in degree production needed in the Western states range from 2.5 percent in North Dakota to 3.1 percent in Nevada.

Racial/Ethnic Gaps

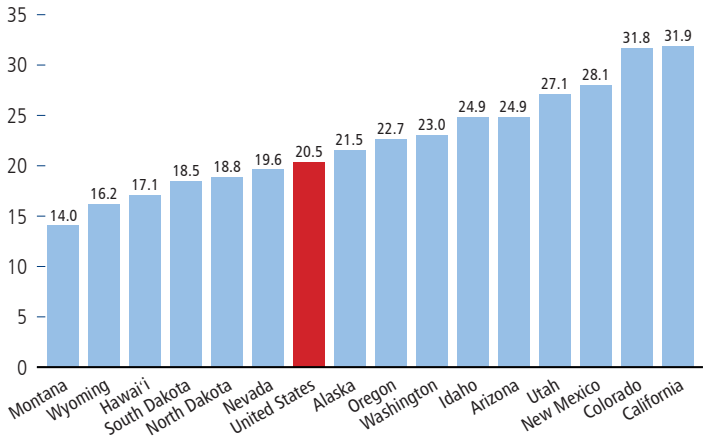
The national and state goals are ambitious, even under normal circumstances. Nationally, and particularly in the West, the fastest-growing populations have not fared so well in postsecondary education. Moreover, many of the most populated Western states currently have the largest gaps in college attainment between whites and underrepresented minorities (Blacks, Hispanics, and Native Americans). Figure 1 displays the gap between Whites and minorities in the percentage of adults aged 25- to 64-years-old with an associate degrees and higher, by state, with the Western states highlighted in yellow. (These college attainment figures do not include certificate-holders because the data are not available by race/ ethnicity.) California and Colorado have the largest racial/ ethnic inequities in the nation, followed closely by New Mexico, Utah, and Idaho.

Table 2. Calculations for State Contributions to Lumina's Goal for the U.S.

State	Historical Data & Adjustment Factors						After Adjustments		
	Percent of U.S. Credentials Produced	Additional Credentials to Close U.S. Gap by 2025, Prior to Adjustment	Percent of Young Adults Age 25 to 34 with College Degrees - Associate and Higher (2012)	Young Adult College Attainment Compared to U.S., Index Value*	9th Graders, Projected Cumulative Growth, 2010-2022	Growth in 9th Graders Compared to the U.S., Index Value**	Additional Credentials to Close U.S. Gap by 2025, After Adjustment***	Additional Credentials Annually to Make Linear Progress Toward Goal	Average Annual Percent Increase in Credential Production
Alaska	0.2%	12,974	32.2%	1.27	104%	1.02	14,890	164	2.9%
Arizona	2.4%	202,677	34.6%	1.18	102%	1.01	221,824	2,438	2.8%
California	11.3%	949,255	39.7%	1.03	97%	0.96	944,919	10,384	2.6%
Colorado	1.5%	129,381	45.8%	0.89	108%	1.06	126,626	1,391	2.6%
Hawai'i	0.4%	30,455	40.8%	1.00	101%	1.00	30,514	335	2.6%
Idaho	0.5%	44,020	35.0%	1.17	110%	1.09	49,730	546	2.9%
Montana	0.3%	23,146	41.7%	0.98	105%	1.03	23,323	256	2.6%
Nevada	0.5%	41,430	29.8%	1.37	114%	1.12	51,633	567	3.1%
New Mexico	0.7%	57,042	31.3%	1.31	106%	1.04	67,031	737	3.0%
North Dakota	0.3%	23,434	49.4%	0.83	106%	1.04	21,929	241	2.5%
Oregon	1.3%	105,317	39.4%	1.04	101%	1.00	107,273	1,179	2.6%
South Dakota	0.3%	24,106	42.1%	0.97	106%	1.05	24,333	267	2.6%
Utah	1.4%	115,639	41.5%	0.99	120%	1.18	125,516	1,379	2.8%
Washington	2.3%	194,637	41.6%	0.98	104%	1.03	195,889	2,153	2.6%
Wyoming	0.2%	17,237	34.2%	1.20	115%	1.14	20,097	221	3.0%
Nation	**100.0%**	**8,405,718**	**40.9%**	**1.00**	**101%**	**1.00**	**8,405,718**	**92,371**	**2.5%**
West	**23.4%**						**2,025,525**	**22,259**	**2.7%**

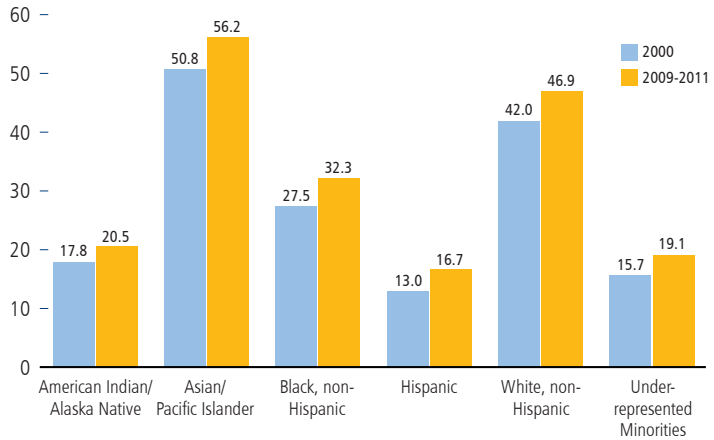
Note: Data relate to sub-baccalaureate credentials, except for the percent of young adults with associate's degrees or higher and the associated index. See also footnote 3.
* U.S. Educational Attainment divided by State Attainment. A higher value means a lower state attainment rate than the U.S.
** A higher value means higher state growth in 9th graders than the U.S.
*** Number of degrees needed prior to adjustment, multiplied by the average of the two index values
Sources: NCES IPEDS; U.S. Census Bureau, American Community Survey Public Use Microdata Sample; WICHE, *Knocking at the College Door*, 2012.

Figure 1. Gaps in College Attainment Between Whites and Underrepresented Minorities, by State (2009-2011)



Source: U.S. Census Bureau, 2009-2011, American Community Survey Public Use Microdata Sample.

Figure 2. Percent of Adults Aged 25-64 with College Degrees, by Race/Ethnicity (Western States), 2000 and 2009-2011



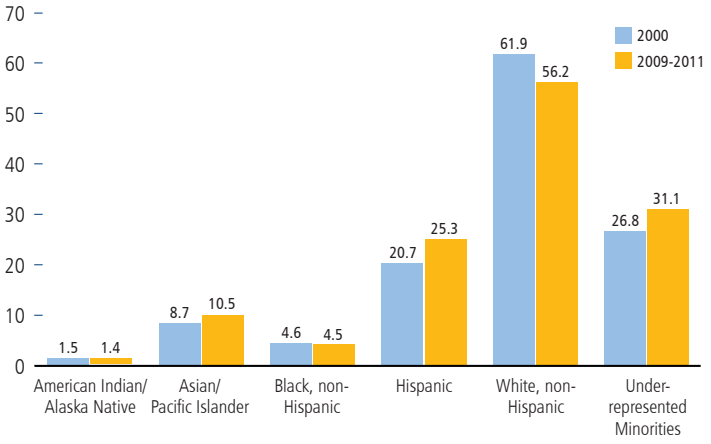
Source: U.S. Census Bureau, 2009-2011, American Community Survey Public Use Microdata Sample.

In the West, from 2000 to 2009-2011[5], college attainment increased for all racial/ethnic populations (Figure 2). However, there remains a 30 percentage point gap between Whites and Hispanics, by far the West's largest minority population, and over the decade the gap actually widened, with Whites increasing by nearly 5 percentage points and Hispanics only 4 percentage points. The same is true for all underrepresented minorities.

The widening inequities between Whites and underrepresented minorities in the West is even more problematic than it may seem because minorities are representing a larger portion of the working-age population. Over the past decade, Whites declined from 62 percent of the working-age population to 56 percent, while underrepresented minorities grew from 27 to 31 percent (Figure 3), due to the more rapid growth of the Hispanic population (the racial/ethnic group with the lowest rates of educational attainment in the West).

While there are dramatic demographic shifts in the West's working-age population, it is even more pronounced in

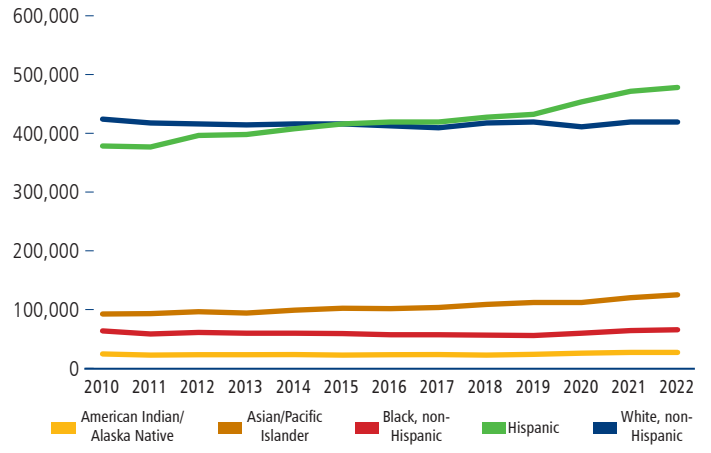
Figure 3. Percent of Adults Aged 25-64, by Race/Ethnicity (Western States), 2000 and 2009-2011



Source: U.S. Census Bureau, 2009-2011, American Community Survey Public Use Microdata Sample.

the traditional pipeline to college. Figure 4 displays the projections of 9th graders by race/ethnicity. These are the students who must graduate from high school and then enroll in postsecondary institutions at higher rates, in order for the West to contribute to the national goal. Very soon, Hispanics will represent the majority of 9th grade students in the region. Currently, Hispanics graduate from high school and enroll in college at much lower rates than Whites.

Figure 4. Projections of 9th Graders by Race/Ethnicity, WICHE States, 2010 to 2022



Source: WICHE, *Knocking at the College Door,* 2012.

Conclusion

In the West raising the college attainment level of working-age adults is as important to economic prosperity and the health and social welfare of its residents as it is in any other region in the U.S. Each of the Western states has an important role to play to move the region and nation forward. This analysis is not intended to suggest that states should set aside the goals they have set for themselves in favor of these targets. It simply helps map out a set of expectations for raising regional educational attainment that reflects the current conditions in each state by not asking for superhuman efforts from the states that find themselves furthers behind, while expecting continued improvement from those that are starting from a higher level. To the extent that states with more ambitious goals are able to achieve those goals, both the nation and the West will be even more globally competitive, but such exceptional success should not substitute for the actions necessary by all states to achieve the national goal. The analysis also implies that, even though public policies enacted on state levels will be instrumental in reaching our nation's educational attainment goals, states should also be looking to their regional neighbors for the contributions they will make to broader success in raising attainment levels. In the process, states need better information and can profit from collective debate and discussion to understand the types of credentials that help ensure living wage opportunites, especially at the sub-baccalaureate level. Finally, while specific demographic conditions vary from state to state, it is clear that closing the racial/ethnic gaps in college attainment is critical in the West – more so than for other regions – if we are to contribute our share to the nation's goal.

This issue of *Policy Insights* was prepared by Patrick Kelly, senior associate, National Center for Higher Education Management Systems (NCHEMS).

Endnotes

[1] WICHE's newest member, the U.S. Pacific territories and freely associated states, and its one active member, the Commonwealth of the Northern Mariana Islands, is not included in this report, due to lack of Census-based data. For the future WICHE will attempt to identify an alternative population data source for them.

[2] Bosworth, Brian, *Certificates Count: An Analysis of Sub-Baccalaureate Certificates* (Complete College America, 2010) <http://www.completecollege.org/docs/Certificates%20CountFINAL%2012-05.pdf>

[3] National Center for Education Statistics, Integrated Postsecondary Education Data System.

[4] We used 25- to 34-year-olds for the index (as opposed to 25- to 64-year olds) because this age-group represents the vast majority of students who will enroll in postsecondary education between now and 2025.

[5] National Center for Education Statistics, Integrated Postsecondary Education Data System.

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