

## Does Prior Community College Attendance Predict Diversity in Health Professions Schools? *The Case of Physician Assistants*

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### BACKGROUND

Recent evidence suggests that the transition of the entry-level academic degree awarded by institutions for physician assistant (PA) education from the bachelor’s degree to the master’s degree has exacerbated the problem of racial and ethnic diversity among PA applicants and matriculants. The percent of white matriculants in PA programs increased from 76.5 percent in 2002-2003 to 81.8 percent in 2012-2013, while the percent of black matriculants decreased from 6.2 percent to 4.4 percent.<sup>1</sup> This timeframe coincides with a period of marked expansion of the number of PA educational programs, nearly all of which entered the field awarding the master’s degree.<sup>2</sup> The transition to the master’s degree in the PA profession has heightened the need to identify strategies that increase minority recruitment for PA programs. Several programs have modified their admissions interview processes to improve diversity among accepted students.<sup>3</sup> The use of pipeline systems to attract greater numbers of qualified minority applicants early in the educational process has also been considered. Community college (CC) students are an important port of entry to post-secondary education for minority and rural students and those with limited family incomes. Yet, previous studies found that notwithstanding the diversity that CC brings to medical education, CC students face discrimination in the admissions process: CC students had lower acceptance rates to medical school than those with no CC, even after controlling for race/ethnicity, MCAT, and GPA scores.<sup>4</sup> This study explores whether applicants with a CC background contribute to the diversity of matriculants in PA programs and if CC applicants are less likely to be matriculated in PA programs.

### METHODS

We used data from Central Application Service for Physician Assistants (CASPA) for the 2016-2017 application cycle. The CASPA admission system, hosted by the Physician Assistant Education Association (PAEA), is used by 95% of PA programs. CASPA collects detailed information on demographics, prior education, and socioeconomic status. We used four different versions of Carnegie Classification to define five CC pathways depending on the year of graduation from the higher education institutions: HS-CC (attended CC while in high school), First-CC (attended a CC prior to a 4-year university), 4Y-CC (attended a CC while in 4 year college), Post-CC (attended a CC after graduating from 4-year university), and No-CC (never attended a CC). We compared race/ethnicity, gender, rurality, and socioeconomic status using Pearson’s Chi-squared test and adjusted residuals to assess whether applicants and matriculants from CC pathways are more diverse. Binary logistic regressions were used to assess the relationship between CC pathways and matriculation in PA programs. We controlled for other covariates including: applicants’ race/ethnicity, age, gender, undergraduate academic performance (i.e., undergraduate science Grade Points Average (GPA) and baccalaureate total GPA), standardized test performance (i.e., percentiles of Graduate Record Examination (GRE) test for quantitative reasoning, verbal reasoning, and analytical writing components), application strategy (i.e., the relative competitiveness of the least competitive school to which the candidate applied and

### KEY FINDINGS

1. In the 2016-2017 application cycle, 75% of matriculants attended CC at some point along their college pathway.
2. First CC matriculants and those with Post CC pathways are more likely to be Black or Hispanic and come from a disadvantaged background compared to those with no CC experience.
3. Applicants with a First CC background are less likely to matriculate to a PA program, controlling for applicant demographics, academic performance, and application strategy.

the number of applications), rurality (geographic area of hometown), and socioeconomic status variables for being from an economically- or environmentally-disadvantaged background.

## FINDINGS

Among the 8,577 matriculants in the 2016-2017 application cycle, 75% attended CC at some point along their college pathway: 2,313 (27%) were from HS-CC pathway, 1,079 (13%) were from First-CC pathway, 1,231 (14%) were from 4Y-CC pathway, 1,825 (21%) were from Post-CC pathway. Four percent of the matriculants were Black and nine percent were Hispanic. One out of four indicated they were from an isolated rural area or small town and 12% reported their family income was economically disadvantaged. Matriculants from the First-CC pathway and Post-CC pathways were significantly more likely to be Black or Hispanic, and more likely to have a disadvantaged socio-economic status. After adjusting for demographics, application strategy, academic performance, rurality and socioeconomic status, First-CC applicants had 17 percent lower odds of matriculating into any PA program, compared to No-CC applicants. This difference is statistically significant ( $p < 0.001$ ). There is no statistically significant difference on the odds of matriculation between HS-CC, 4Y-CC and No-CC applicants. Interestingly, Post-CC applicants had 13 percent increased odds of being matriculated into any PA program. We also found that application strategy plays an important role. Those who apply to highly competitive programs have 21% lower odds of matriculating and each additional application is associated with 9% increased odds of matriculating. Asian applicants had 27 percent lower odds of matriculation, adjusting for all other factors, while Hispanic applicants had 18 percent increased odds of matriculation. Socio-economic characteristics and rural backgrounds are not significantly associated with matriculation status.

## CONCLUSION

Community colleges are an important pathway to the PA profession with three out of four matriculants having one or more forms of CC experiences. When all other factors are equal, including academic performance, demographics, and application strategy, those who attended community college as the first entry into higher education following high school were 18 percent less likely to matriculate into a PA program. This could have important implications for the diversity of the PA pool.

## POLICY IMPLICATIONS

Diversifying the PA profession remains a challenge with little movement in recent years in terms of racial/ethnic diversity. HRSA may want to consider policies and programs that encourage increased coordination between community colleges and PA programs given the large role community colleges play in diversifying the PA profession. By engaging more in career development activities at local community colleges, PA faculty can help increase student interest in the profession and help ensure those interested in a PA career are well prepared applicants.

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