



Equal Representation in Health Science Degree Pathways: Dual Credit as an On-Ramp for Black and Hispanic Students

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Introduction

This project grew out of the need for a tangible way to examine equity, access, and representation across community college health professions certificate and degree programs. The focus of this work was to assess how well dual credit functions as an on-ramp into the health professions for Black and Hispanic students. Dual credit is a large and growing share of the enrollment headcount for many community colleges (see [Data Dashboard](#)); examining the efficiency of dual credit on-ramps holds opportunity, as it may positively impact enrollment. For this project, archived data was accessed from the 2019–2020 health science graduation cohorts from all health professions certificate and degree programs at a small rural community college (SRCC) with less than 5,000 enrollments on two campuses. The importance of creating effective on-ramps, the challenges of gathering and disaggregating data, and the potential factors contributing to underrepresentation are presented below.

Importance of On-Ramps to Diversify Health Professions

Patients report receiving better care and being more satisfied with their care if they believe their clinician understands their cultural background (Matthews et al., 2021; Radl-Karimi et al., 2022; Sullivan, 2020) and provides language-concordant care (Diamond et al., 2019). Alongside the importance of graduating healthcare professionals who represent the population of the care recipients (and the community college service area), the health professions correlate with high-wage opportunities (Frogner & Schwartz, 2021). A descriptive analysis of data from the 2011–2018 Bureau of Labor Statistics across nine health occupations found that non-Hispanic people practicing as licensed vocational nurses (LVNs), healthcare aides, and healthcare technicians consistently made more than Hispanic people; this identified a wage gap of over \$15,000 across the nine health occupations sampled (N=76,606 respondents). Continuing on, Asian/Pacific

Islander people consistently made more than Black people, demonstrating a wage gap of \$34,664 across the same nine health occupations. These data lay the groundwork for understanding the role and efficacy of existing on-ramps into health professions education by racially-minoritized students. In addition, this work connects the impact of access to the dual credit on-ramp to wage disparities of the future healthcare workforce.

Gathering & Disaggregating Data

A case study methodology was utilized to gather 2019–2020 archival data on health science graduates from a rural community college setting. Graduation data (program of study, ethnicity, gender) were collected from an internal data system and data from high schools (grade level, ethnicity, gender) in the college's service area were collected from an external archive called the Texas Education Agency. While enrollment is crucial to community colleges, program enrollments and completions are rarely disaggregated with equity in mind. Community college programs, especially those in the health professions, lead to varying economic outcomes and earnings post-graduation. Therefore, it is important to examine representation in programs that lead to higher wages as part of equity efforts at community colleges. Disaggregating program enrollments by race and ethnicity offers a way for faculty to examine equity in access and representation (who is and who is not enrolled) and completions firsthand. Disaggregating data to examine these factors may also create a sense of urgency around the issue and identify specific areas for improvement if disparities are present (e.g., where representations are mismatched with the service area demographic and/or which high schools could be better served by dual credit offerings).

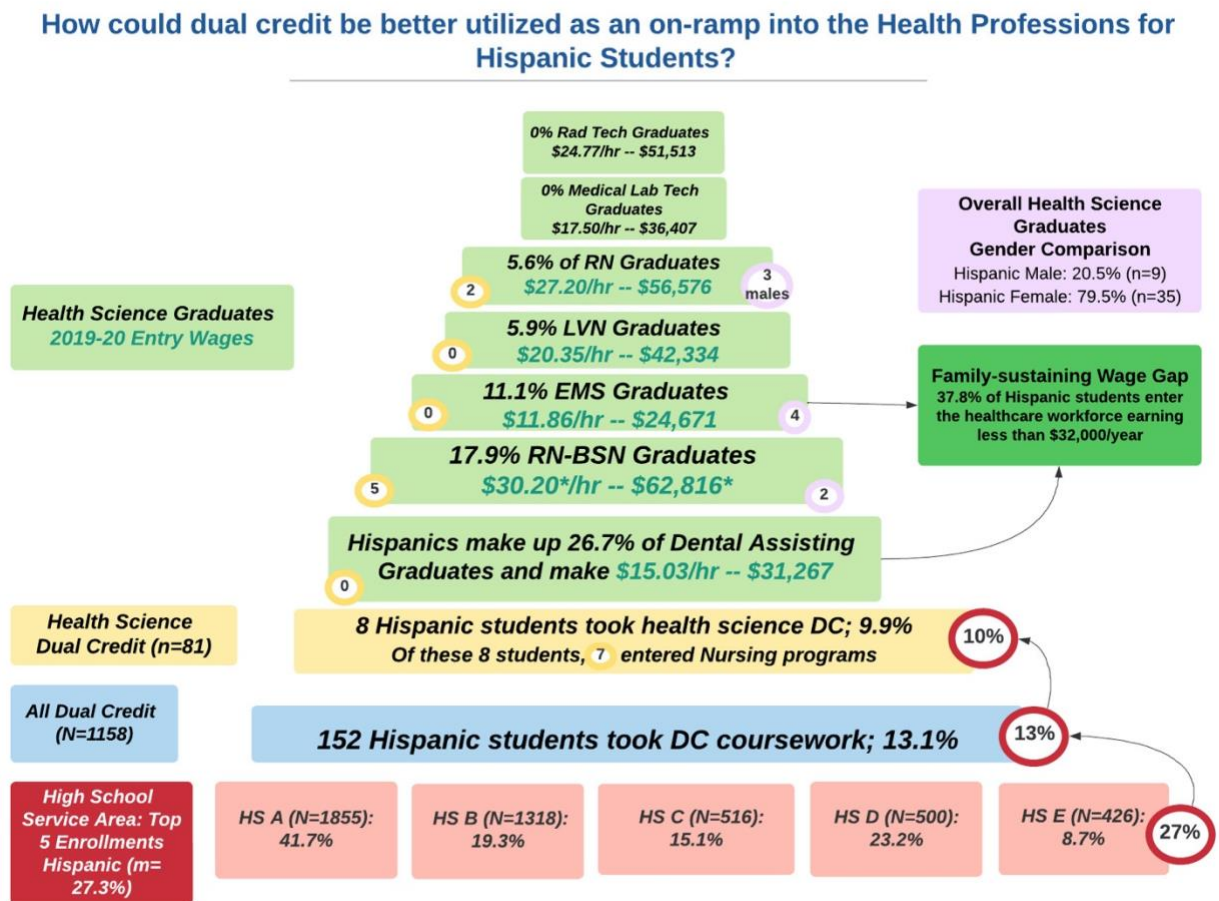
To get a deeper understanding of the role race and ethnicity play in health science program enrollment and completion and to understand the path of the racially-minoritized student pursuing a health professions certificate or degree at a rural community college, an analysis of archival race and ethnicity data was performed on all graduating cohorts from the 2019–2020 academic year at SRCC. Challenges were encountered in data collection and analysis, included getting access to accurate data through multiple college-level student tracking systems and retrieving incomplete and/or incorrect student data (race/ethnicity, gender, program of study). For this study, the administrative leader of institutional effectiveness was helpful in navigating the data landscape to mitigate the existing data challenges. In the case of incongruent data gathered from the college-level student tracking system, program-level data that were reported to accrediting bodies were utilized. Also related, this work revealed that race/ethnicity and gender were not historically gathered on the non-credit students pursuing certificates in the health sciences.

High-Level Findings

There are 22 high schools in the SRCC service area. There exists limited access to dual credit courses in the health sciences in the college service area; 7.1% of the dual credit offerings were in the health sciences (including health science program prerequisites). Only 3.5% of Black high school students took dual credit classes and less than 1.2% were enrolled in dual credit in the health sciences (Figure 2).

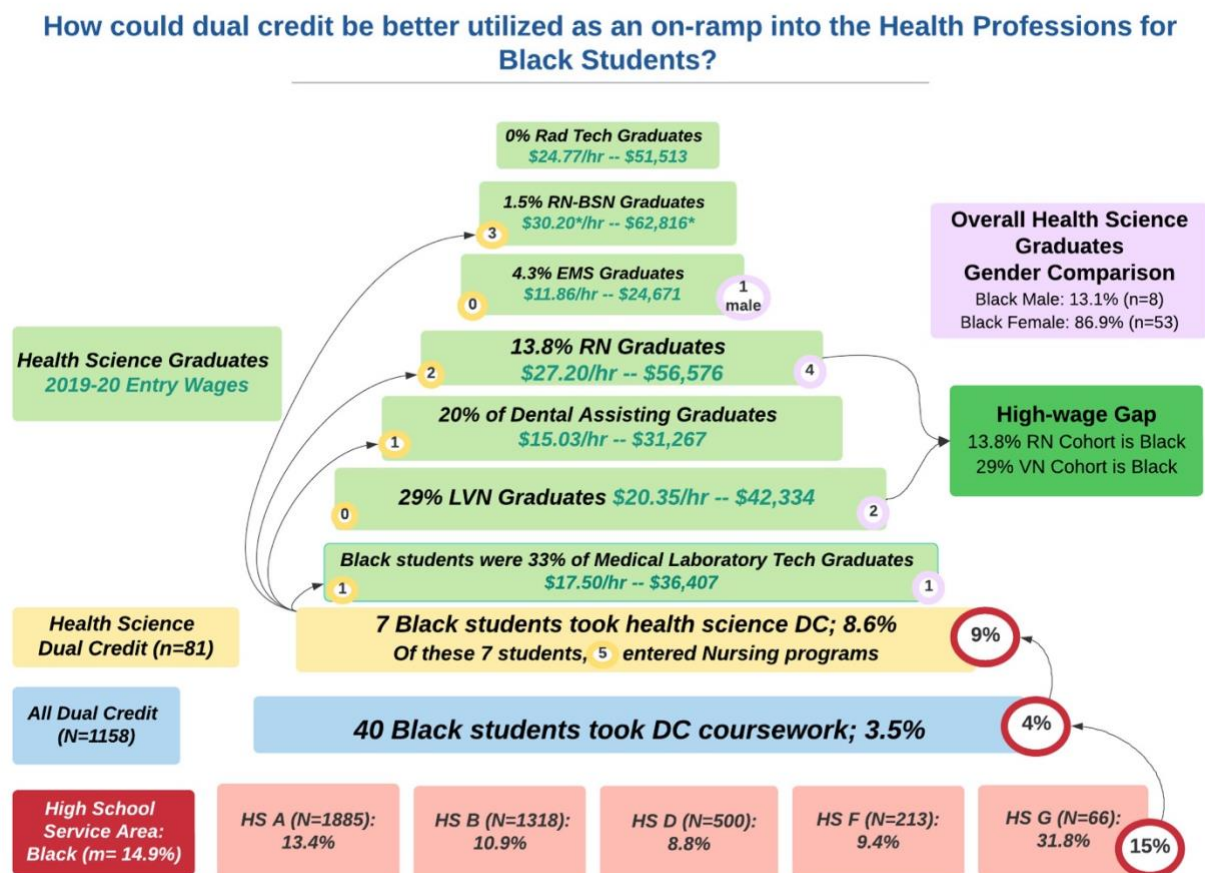
The low representation of Black and Hispanic students was also evident in health science programs at SRCC (Figures 1 & 2). Black and Hispanic students were not well represented in higher-wage health professions programs: only 5.6% of RN graduates and 17.9% of RN-BSN graduates were Hispanic, and 13.8% of RN graduates and 1.5% of RN-BSN graduates were Black. More Black graduates entered the nursing field through the vocational nursing certificate program making only \$42,000/year versus their registered nursing peers who made \$57,000/year. In addition, only 13.1% of Hispanic and 4.2% of Black health science certificate and degree graduates at SRCC were former dual credit students (see infographic on the Hispanic student pathway). However, for students who gained access to dual credit, their story is much different. Eight Hispanic students participated in health science dual credit and seven Black students participated in health science dual credit. Of these students, 87.5% (n=7) of Hispanic and 71.4% (n=5) of Black graduates who took a health science dual credit course entered the field of nursing.

Figure 1. Dual Credit Pathway for Hispanic Students at SRCC



Note. HS=high school, DC=dual credit, RN=registered nursing, LVN=licensed vocational nursing, EMS=emergency medical services, BSN=Bachelor of Science in nursing

Figure 2. Dual Credit Pathway for Black Students at SRCC



Note. HS=high school, DC=dual credit, RN=registered nursing, LVN=licensed vocational nursing, EMS=emergency medical services, BSN=Bachelor of Science in nursing

Considerations

While the grand mission of community colleges is to serve members of their communities, programs in the health professions have competitive admissions and commonly have high percentages of out-of-district applicants who convert to students. This changes the dynamic of graduating health professionals, resulting in fewer graduates who “look like” those being treated in the local hospitals. For example, Black residents made up 6.2% of the county served by SRCC, 8.0% of the college enrollment, and 16.5% of health professions graduates in 2019–2020; yet 82.1% of the Black health professions graduates were out-of-district. For Hispanic residents, the same was true, causing a mismatch between representation in the service area and graduates from the health professions programs. Hispanic residents made up 14.2% of the county, 12.7% of the college enrollment, and 12.9% of health professions graduates in 2019–2020; yet 36.4% of the Hispanic health professions graduates were out-of-district.

Another finding from this analysis is that Black and Hispanic health professions graduates were not well represented in high-wage, high-demand careers. During 2019-2020, 0% of Radiologic Technology graduates were Black or Hispanic, compared to 100% of graduates identifying as White, non-Hispanic (see Black student infographic and Hispanic student infographic). The Registered Nurse to Bachelor of Nursing (RN-BSN) program is the highest-earning degree granted in the health professions program at SRCC. A lack of representation was evident in this program as well, with only 1.5% of Black students earning an RN-BSN degree, suggesting lower levels of access to jobs with an average annual earning potential of \$62,816 for Black students compared to their peers from other racial and ethnic backgrounds.

Barriers

This SRCC case study revealed that access to dual credit is a barrier to health science programs. Of the 22 high schools in the college service area, only 65.4% of the high schools offer courses that function as prerequisites for the health professions programs, and even fewer schools (23.3%) offer health professions courses leading to a certificate in emergency medicine. At the dual credit course level, only 7.1% of the dual credit offerings are health sciences (including health science program prerequisites). Barriers for racially-minoritized students include lack of academic preparation, program admissions requirements (including prerequisites), cost, program length, and limited exposure to healthcare careers (Toretzky et al., 2018). Effectively utilizing dual credit coursework as an on-ramp into the health professions can address the majority of the aforementioned barriers (including exposure to healthcare careers, academic preparation, and admissions requirements) and could arguably impact the length of the program in some cases (i.e., emergency medicine), broadening access to high-wage, high-demand healthcare careers.

An examination of admissions criteria that add weight to in-district applicants may assist in addressing the issue of healthcare graduates “looking like” their future patients; applying that principle to the college program examined in this case study would potentially hold open more seats for Hispanic students in the district seeking health professions education. Addressing the culture of admissions competition and communicating to prospective students that in-district applicants will be given preference may encourage a more diverse applicant pool to apply and attract those students who had otherwise given up hope.

Additional On-Ramps

Workforce development facets of community colleges serve as an additional on-ramp into the health sciences. This college’s workforce division offers a non-credit bearing version of the certified nurse assistant (CNA) program in the high school setting. Forming collaborations between non-credit and credit students could prove to be instrumental in addressing the underrepresentation of minority students in health professions education programs by providing more on-ramps to credit programs. In this case, more data is necessary to understand this potential pathway. This project uncovered an opportunity to collect race and ethnicity data on non-credit students and utilize a system that allows for tracking non-credit students on their journey into the credit pathway.

In summary, the project shed light on opportunities for improvement in access and completion of health science programs for Black and Hispanic students, including increasing access to dual credit

in the health sciences across the college service area to create advising tools for high school counselors that highlight *how* dual credit courses begin a pathway into the health professions and examine ways to remove barriers (admissions processes, program length, prerequisite coursework) that enable Black and Hispanic students to pursue higher-wage health professions. While generalization is an understood limitation of the case study methodology, the tools and processes developed through this exercise can be utilized by peer institutions to complete a similar examination that may lead to practice/policy changes based on local context. Of continued interest is how dual credit can impact the wage gap, calling for an examination of why racially-minoritized students enter the nursing profession at a higher rate through the lower-wage vocational nurse pathway. As a final takeaway, this project reveals a tangible way to examine equity, access, and representation in the health professions that may be applied for increasing representations among other subgroups of the student population.

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Texas Success Center

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