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Attracting, Admitting, Supporting, and Graduating a Diverse Nursing Student Body

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[title] UC Davis Health's Playbook for Attracting, Admitting, Supporting, and Graduating a Diverse Nursing Student Body

[highlight] The aim of the multifaceted educational effort is to effectively impact care delivery by graduating equity-minded nurses and health care professionals.

[summary/abstract]

Summary

Nationally, the nursing workforce does not represent the populations it serves. The University of California Davis Betty Irene Moore School of Nursing has prioritized the recruitment, retention, and graduation of diverse groups of students who have the skill, knowledge, and desire to ameliorate health disparities and promote health equity. Attracting a diverse student body begins with outreach and pathway programs. The school approaches admissions to its degree programs holistically. Graduating equity-minded nurses and health care providers requires dynamic student support and curriculum reform. Here, the authors address some of the challenges encountered in these efforts, including overcoming assumptions and implicit biases of those with decision-

making power. The school has focused its health equity, diversity, and inclusion efforts on pathway programs, holistic admissions processes, student success, and curriculum reform. The authors describe how academic institutions can start their own equity-driven nursing student programs.

Key Takeaways

- Health equity, diversity, and inclusion efforts should develop and support robust pathway programs, holistic admissions processes, student success, and curriculum reform.
- Admitting, supporting, and graduating equity-minded nurses and health care providers requires an interrelated approach, where no single effort can be truly successful without the other.

The Challenge

At more than 4 million strong, nurses are uniquely poised to lead the way in tackling health disparities in the United States. *The Future of Nursing 2020-2030: Charting a Path to Health Equity (FON 2020-30)* stated, "The composition of the population of prospective nurses and the ways they are supported through their education are important factors in how prepared the future nursing workforce will be to address the social determinants of health and health equity."

Diversity is a driver of excellence in higher education and health care. Benefits of diversity include innovation and problem-solving, both of which are desperately needed as we confront

complex health care issues and systemic inequities resulting in health disparities.[2,3] A representative health professions workforce means that patients have a higher likelihood of racially concordant care, which is linked to higher patient satisfaction, improved health outcomes, and more engagement with the health care system.[4,5] Research indicates that racial and ethnic minority health care professionals are more likely to work in medically underserved communities, accept Medicaid insurance, care for uninsured patients, and return to their own community to serve.[4,6]

However, a major challenge we must address is that the nursing workforce does not currently mirror the populations we serve. The 2022 Nursing Workforce Survey[7] reports an overrepresentation of White-identified active RNs (80% in 2022) when compared to the 2020 U.S. Census data for White alone population (61.6%).[8] While 6.9% of RNs identified as Hispanic or Latino/a/x in 2022 survey,[7] this is well below the 18.7% reported in the 2020 U.S. Census.[8] Notwithstanding these disparities, the 2022 nursing survey results represent the most diverse group of respondents since the first such survey in 2013.[7]

The Goal

In 1996, the State of California passed Proposition 209, which prohibits the University of California and other state entities from using race, ethnicity, or sex as criteria in public employment, public contracting, and public education. We have been compliant with Prop 209 since the Betty Irene Moore School of Nursing was founded in 2009 — 14 years prior to the June 2023 U.S. Supreme Court Affirmative Action decision on *Students for Fair Admissions v Harvard* and *Students for Fair Admissions v University of North Carolina.* We focus on ways to

ensure we have diverse and representative perspectives within our School, while complying with state mandates that we do not admit or hire using race, ethnicity, or sex as criteria. In alignment with our strategic plan for health equity, diversity, and inclusion, a priority for the Betty Irene Moore School of Nursing is to recruit, retain, and graduate a diverse group of students who have the skill, knowledge, and desire to ameliorate health disparities and to promote health equity (Figure 1).

PRODUCTION: PLEASE BEGIN FIGURE 1

[title] **Figure 1. The Four-Part Process to Recruit, Retain, and Graduate Equity-Minded Nurses and Health Care Providers**

[caption] The four components of the process to enhance the diversity of the nursing student body at the UC Davis Betty Irene Moore School of Nursing are outreach, admissions, student success, and graduating equity-minded nurses. This concept envisions a nursing workforce that deeply understands and embraces health equity, social justice, anti-racism, and cultural humility such that these concepts ultimately become normalized, regardless of the setting or population. Source: The authors

PRODUCTION: PLEASE END FIGURE 1

The Execution

As of November 2023, we matriculate into three clinical programs: the Master's Entry Program in Nursing, the Master of Health Services Physician Assistant program, and the Doctorate of Nursing Practice – Family Nurse Practitioner. Additionally, we annually matriculate an

interdisciplinary cohort of PhD in Nursing Science and Healthcare Leadership students. The examples given below impact students across all our programs (Figure 2).

[title] Figure 2. Strategy for Diversifying the Nursing and Health Care Provider Workforce

[caption] Various programs and initiatives are developed to support each of the components of the four-part process. For example, a two-week [Summer Health Institute for Nursing Exploration and Success](#) (SHINES) supports the outreach component by engaging with local high school and early community college students regarding health care careers. Efforts to support the component of graduating equity-minded nurses include curriculum reform featuring social drivers of health such as poverty, anti-racism, social justice, and cultural humility.

Source: The authors

How we attract a diverse student body: Outreach and Pathway Programs

Robust and inclusive outreach surmounts the argument that the lack of student-body diversity is due to an inadequate pool of diverse applicants. Many minority nursing professional organizations emphasize their missions to develop a diverse nursing workforce. The Betty Irene Moore School of Nursing sends nursing faculty and student delegates to the National Black

Nurses Association, National Association of Hispanic Nurses, and Health Professionals Advancing LGBT Equality (GLMA) conferences. We work closely with local chapters of these organizations and the Philippine Nurses Association and Hmong Nurses Association to mentor, support, and recruit future nurses. Collaboration with, support of, and outreach within these organizations better informs our understanding of how to recruit and support students from underrepresented backgrounds.

We invest in nursing pathway programs engaging and linking high school students to health professions training. Pathway programs enhance academic performance and increase the likelihood that underrepresented and disadvantaged students will enroll in health professions schools.[9,10] In partnership with local nursing professional organizations, non-profits, high schools, and community colleges, in 2022 one of the authors (PA-B) led the School of Nursing in developing the two-week Summer Health Institute for Nursing Exploration and Success (SHINES). The SHINES program prepares local high school and early community college students to make professional and academic decisions about whether to pursue nursing or another health care career, what nursing pathways would suit their needs, and how to successfully achieve their academic aspirations. With two cohorts, we have served 82 participants and continue to follow them longitudinally (Table 1).

PRODUCTION: PLEASE BEGIN TABLE 1

[title] Table 1. The SHINES Program Participants

Cohort	Date	Participants	Highlight
Cohort 1	Summer 2022	N = 37 34 high school students 3 community college students	4 have interned at UC Davis

| Cohort 2	Summer 2023	N = 47 41 high school 6 community college students	16 have signed up to participate in health care related work experience or health care certification program.

Source: The authors

How we admit a diverse student body: Holistic Admissions

The Betty Irene Moore School of Nursing applies a holistic admissions approach across our degree programs. This comprehensive process takes into account a wide array of applicant characteristics, including academic metrics such as grade point average and years of health care experience, combined with evaluation of contributions prospective students may bring to learning environments, such as potential for innovation and complex problem-solving.[1] In addition, we consider factors such as experience and commitment to serve medically underserved or rural communities; military family or other public service background; proficiency in multiple languages; or being a first-generation college student. This holistic admissions approach is designed to achieve a fair and equitable student selection process. We present in rough chronology specific elements of our holistic process:

- In 2014, we developed and have since adhered to a Clear Admissions Statement. Our statement begins with the following: "The Betty Irene Moore School of Nursing is committed to building and sustaining a diverse academic community of faculty, staff and

students and to assuring that access to education and preparation is open to learners from all segments of society."

- While we do evaluate traditional academic metrics, from the School's inception in 2009, we chose not to utilize standardized exams such as Test of Essential Academic Skills (TEAS) or Graduate Record Evaluation (GRE) for admissions. In 2021, the University of California resolved to do away with all standardized admission exams.[12]

- Over time we have developed a transparent Admissions Committee structure that encourages input from faculty during all phases of each cycle. We ensure the Admissions Committee is adequately staffed and we use a consensus model for making admissions recommendations.

- Initial and ongoing unconscious bias training is required for all faculty serving on the admissions committee. Training explores assumptions that may influence decision-making. While these assumptions include the traditional "isms" — racism, sexism, elitism, ableism, cisgenderism, heterosexism — the training also includes education on other subtler biases, which may result in less diverse matriculation. The training describes biases about personality tropes, gatekeeping, what constitutes an "ideal nurse," and in-group membership biases (e.g., nursing versus another health profession).

- We practice routine evaluation of gaps in application pool demographics as compared to those offered admission. When gaps are noted, we conduct a third-party review. That review is administered by an additional faculty person versed in admissions, but not part of the decision-making process in question. The third-party reviewer's mandate is to evaluate whether that gap was based on unconscious bias by the reviewers or a deficiency

in the admissions process and provide appropriate recommendations for future amelioration of our admission processes.

- Periodically we assess admissions outcomes across our programs. In 2019, we conducted an internal review of inter-rater reliability among those committee members who recommended whether or not a student should be admitted. This provided insights about how our faculty viewed the admissions committee charge and allowed us to "right-set" expectations for admissions reviewers. In 2020, we conducted two pilot studies in our Master's Entry Program in Nursing and the MHA Physician Assistant studies program. We examined our early admissions processes to determine what factors contribute to students not advancing through the admissions cycle. Both studies affirmed the importance of rigorous pre-health advising on best practices for applying for health professions programs.[3,4] In response, we worked closely with the UC Davis Pre-health advising team to provide real-time group advising from our admissions team and annual tours of our school. We developed a series of videos providing guidance on how to complete common application elements made available on our website.

Progress with respect to these programs is provided in Table 2 and Table 3.

PRODUCTION: PLEASE BEGIN TABLE 2

Table 2. MEPN Admission and Graduation, Metrics

Academic Year	Number of Applicants	Number Accepted	Underrepresented: African American/Black, Hispanic, Native American/Alaskan Native, Pacific Island/Hawaii Native	Age Range	Graduation Rate
2022	338	47	59.6% (28/47)	21-55	Class of 2023
2021	266	47	42.6% (20/47)	23-53	91.5% (43/48)
2020	244	47	27.7% (13/47)	23-43	96% (46/47)
2019	293	48	33.3% (16/48)	22-48	100% (48/48)
2018	248	48	31.3% (15/48)	21-41	98% (47/48)

Source: The authors

Table 3. PA Admission, Graduation, Metrics

Year	Number of Applicants	Number Accepted	Underrepresented: African American/Black, Hispanic, Native American/Alaskan Native, Pacific Island/Hawaii Native	Age	Graduation Rate
2022	2787	62	32.3 % (20/62)	22-42	Class of 2024
2021	2542	65	43.1% (28/65)	21-45	Class of 2023
2020	2154	64 (66*)	29.7% (19/64)	22-51	95.4% (63/66)
2019	1823	65 (67*)	27.7% (18/65)	23-59	97.0% (65/67)
2018	1910	65	40.0% (26/65)	23-41	98.4% (64/65)

* Student enrollment never exceeded the maximum entering class size approved by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) of 65 students. Due to attrition from the prior class, acceptance numbers are higher for the year.

Source: The authors

How we graduate a diverse student body: Student Success Programs

Our approach to student success is based upon equity pedagogy, which acknowledges that students have many ways of learning, processing information, and interacting with course material.[15] Services we offer include The Learner Performance Team (LPT) which launched in 2020. The LPT is a school committee of educational experts and experienced faculty who collaborate with students to develop individualized learning plans. Our LPT process, modeled

after educational research models and best practices in health professions education, [16] aims to help each referred student achieve their goals. As of March 2023, the LPT had worked with a total of 51 students. All students are referred to the LPT after failing any course (n=17) but students may be referred for other reasons as well (n=34). Of the students referred after course failure, 9 had successfully graduated, 5 were still enrolled at the time of data collection and 3 had withdrawn from the program. It is important to note that withdrawal from the program may have been due to circumstances beyond academic performance. Of the 34 students referred to the LPT for reasons other than course failure, 19 successfully graduated from their respective programs, 14 were still enrolled at the time of data collection, while only 1 student was unsuccessful in completing their program. Of the 4 students who were ultimately unsuccessful and left the school, none were underrepresented minorities and only 1 was economically disadvantaged. Feedback from participating students included comments such as: "I truly appreciated the honest and understanding support that I received from [LPT]. It really helped to receive that from faculty during hard times."

Another student support example is our Online Learning Assistant (OLA) program — also launched in 2020 — where alumni are employed as study group facilitators. The aims of OLA are to improve learning effectiveness, encourage varied practice techniques, promote evidence-based learning strategies, make it easier for students to participate in study groups through clear expectations and sign-up mechanisms, and create supportive and inclusionary learning environments. As of March 2023, we tracked more than 130 enrollments in the OLA program: 12 in 2020; 16 in 2021, and 108 in 2023. The metrics are tracked as enrollments, not attendance; therefore, if a student signs up for 4 OLA groups, they are counted in the data as 4, not 1. Overall

student satisfaction with the OLA program was 4.27 on a 5-point Likert scale (31% response rate). Students find benefits of OLA to include personal contact with and support from OLAs, collaboration with peers, and active engagement with material (e.g., drawing out concepts and working through examples).

How we graduate equity-minded health care providers: Curriculum Reform

Students and faculty alike have called for health professions curricula that address health inequities and advance health equity.[5,18,19] As part of our commitment to quality improvement, we have been attentive to the degree to which we prepare students to mitigate health disparities and advance health equity. We use the term *equity-minded nurses* to define the qualities nurses need to have to advance health equity. The concept, as described by author KA-B, is that equity-minded nurses so deeply understand and embrace health equity, social justice, anti-racism, and cultural humility that these concepts emerge as normalized, automatic and default thought processes no matter the setting or population.[20] At the School of Nursing, our goal is to provide robust curricula that graduates equity-minded nurses and health professionals. All students enrolled in Betty Irene Moore School of Nursing programs take at least one course that focuses on these topics. However, we searched the literature for a tool that would provide guidance on how to develop and evaluate whether students graduated with the knowledge, skills and desire to advance health equity but found none. Therefore, we developed the Integrated Curriculum Assessment for Inclusion, Representation, and Equity (I-CAIRE) tool that assists in evaluating and then integrating health equity concepts into new or existing curricula. This tool was reviewed by 12 interprofessional experts on health equity and is currently under review for publication. We hope that this tool can help provide metrics to evaluate the quality of health

professions curricula related to health equity. Some examples of efforts currently in place that inculcate a deep understanding of the diverse populations we serve, include an annual poverty simulation and a California Central Valley Road Trip.[21] Data gathered from two cohorts of MEPN students indicated an increase in understanding of poverty, and participants agreed the poverty simulation stimulated their thinking. Students reported key learnings taken away from the experience included a better understanding of the scarcity of resources, the lived experience of poverty, and how to apply their lessons learned to their future nursing practice.[21.1] A clinical professor (who directs the road trip program) and colleagues evaluated 222 students, faculty, administrators, and community members who participated in the Central Valley Road Trip between 2017–2019.[21] On a scale of 1–10 (with 10 as the most positive rating) participants found the road trip exceptionally useful (m=9.22; SD=1.33) and agreed that the program met the strategic goal to "reimagine education by cultivating diverse, transdisciplinary, life-long learners who lead transformation in health care to advance well-being and equity for all" (m=9.62; SD =0.84).

The Hurdles

Our challenges included overcoming assumptions and implicit biases among those with decision-making power, along with existing institutional practices that perpetuate inequitable education and health care outcomes. An example of tension in implementation included a need and desire to maintain sufficient licensure pass rates to maintain program accreditation. While accreditation requirements and licensure pass rates make it infeasible to discount traditional academic metrics of success, there may be underlying assumptions that applicants with more diverse backgrounds and life experiences are less able to succeed academically. Standardized tests — including health

professions licensure examinations — have a long history of bias against learners from underrepresented backgrounds in their development and refinement.[22] Further, success on multiple choice exams does not consistently equate with clinical ability.[23, 24] Over the past 5 years, our PANCE pass rates have remained steady except for a brief dip during the height of the Covid-19 pandemic, and our NCLEX pass rates have increased.

Similarly, the perennial problem of "admitting the right students" is a continued discussion. Much of the research on metrics to predict student success in prelicensure health professions programs includes elements such as GPA, and Science GPA.[25] To respond to this hurdle: we are currently undertaking a 5-year retrospective review of our admissions data and linking it to various measures of student success such as, course exam pass rates, graduation rates, NCLEX pass rates, and employment in nursing rates.

Similarly, most of the research and rhetoric on student success in health professions education is predicated on a deficit model: *These students don't have what it takes to be successful.*
We pose an alternate growth and equity model: *How can we best help students — from all backgrounds — succeed?* Data from the LPT found that economically disadvantaged and underrepresented minority students were disproportionately represented in those referred to the LPT after course failure. As we noted previously, none of the 4 students ultimately unsuccessful in completing their program were underrepresented and only 1 was economically disadvantaged, indicating success in supporting students from differing backgrounds to succeed. Overall, we consider none of these programs to be stationary, but in constant flux and refinement. We are continuously innovating to find new and impactful ways to support our students.

The Team

Every faculty and staff member at the Betty Irene Moore School of Nursing has influenced the way we recruit, admit, and graduate equity-minded health care providers. These are ongoing processes and initiatives that have evolved since the school's inception.

Faculty team for Admissions: Dean, Associate Dean for Academics, Associate Dean for Health Equity Diversity and Inclusion, PA program director, Assistant PA program director, MEPN program director, Assistant MEPN program director, DNP program director, PhD program director, Admissions Committee Chair, MEPN, PA, DNP, and PhD admissions sub-committee chairs, faculty who teach in the respective programs.

Staff team for Admissions: Admissions Manager, Student Services Manager, Admissions analysts, Director of Student Success, Marketing and Communications.

The SHINES Team: Directed by the Associate Dean for Health Equity Diversity and Inclusion; a current PhD Student with expertise in K-12 education is the Assistant Director. The team includes a Cultural Humility Expert (faculty member), the Simulations Director, and a Curriculum Designer (PhD Teaching Fellow). The SHINES program, broadly, is also supported by faculty, staff, and students who participate in various portions of the workshop on an ad hoc basis.

The Learner Performance Team: Comprises the Director for Student Success and at least one experienced faculty member who then partner directly with the referred students to develop individualized learning plans.

Curriculum Evaluation and refinement: This is a continuous quality improvement project at the School. The Education Policy and Curriculum Development Committee consists of each program director and is currently led by the Associate Dean for Clinical Practice. Each program director, in turn, chairs a program-specific curriculum sub-committee that includes faculty who teach in the program and student representatives who are elected by each matriculated cohort of students.

The Metrics

As evident from the preceding examples, many of our programs to *recruit* (e.g., SHINES), *retain* (e.g., LPT/OLA), and *graduate* (e.g., I-CAIRE) equity-minded health care providers are still relatively new and evolving. Therefore, we are actively examining metrics to define programmatic success vis-a-vis student success.

We also reach out to students and program participants for their direct feedback; for example, we have received positive responses from the SHINES participants (Figure 3)

PRODUCTION: PLEASE BEGIN FIGURE 3

[title] Figure 3. SHINES Program Participant Survey Responses, Cohort 1 and Cohort 2

[caption] By surveying participants before and after their participation in the two-week Summer Health Institute for Nursing Exploration and Success (SHINES) program, we see that these high school and community college students gain knowledge and self-confidence from the experience. Notes: Cohort 1 = Summer 2022; Cohort 2 = Summer 2023; Likert scale, 0 = strongly disagree, 5 = strongly agree.

Source: The authors

Since the School launched in 2009 we have graduated more than 1,000 students across all of our programs. In addition, the prelicensure students have been successful in passing licensure examinations, including the National Council Licensure Examination (NCLEX), Table 4 and the Physician Assistant National Certifying Examination (PANCE), Table 5.

Table 4. Licensure Examination Pass Rates for MEPN and PA Graduates

	2018/2019		2019/2020		2020/2021		2021/2022		2022/2023	
	# Taken	% Pass	# Taken	% Pass	# Taken	% Pass	# Taken	% Pass	# Taken	% Pass
NCLEX First Time Pass Rate	33	79%	44	84%	48	88%	48	83%	43	93%
PANCE First Time Pass Rate	63	90%	64	70%	63	73%	63	90%	40	95%

Note: Students cannot sit for the National Council Licensure Examination (NCLEX) or the Physician Assistant National Certifying Examination (PANCE) unless they graduated.

Where to Start

- Develop a clear goal for the holistic admissions process.

- Bring together the team. Whether this is an office of admissions, or all faculty, everyone who will partake in evaluating applicants and/or supporting students should be at the table.

- Make decisions about what constitutes a diverse student body at your specific institution. This will include decisions about mission-based diversity goals and whether and how these goals and academic metrics are folded into the institutional-specific process.

- Simultaneously, develop plans for how to support and actively cultivate academic and career success in a diverse student body.

Disclosures

Kupiri Ackerman-Barger, Victoria Ngo, Stephen Cavanagh, David Lubarsky, and Jessica Draughon Moret have no financial interests to disclose.

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