

Cultivating diversity in the advanced practice registered nurse workforce: An exemplar from an advanced practice registered nurse fellowship program

Natalie Raghu, DNP¹, Mary McNamara, DNP², Emily Bettencourt, BS³, & Charles Yingling, DNP⁴

ABSTRACT

Diversity in the nursing workforce is an important driver of patient satisfaction, adherence to care, and quality outcomes. Systemic barriers exist that prevent individuals from underrepresented minority groups entering and advancing in the nursing workforce. To advance the health of the community we serve and with grant support from the Health Resources and Services Administration, we developed a postgraduate advanced practice registered nurse (APRN) fellowship in community health. This program is a partnership between a federally qualified health center and a college of nursing. We developed a deliberate plan to recruit and admit diverse applicants who would continue to practice in our community at the conclusion of their fellowship year. Using targeted recruitment outreach, we identified new-graduate APRNs who were representative of the community we serve. Using holistic review methodology, we interviewed applicants with explicit efforts to mitigate the effects of bias towards race, ethnicity, gender, and academic affiliation. We embraced a quality-improvement ethos that enabled evolution and growth with each iteration of the program. Understanding that intention does not translate to outcomes, we undertook ongoing critique of our methods and engaged diverse resources to improve our processes. Over two admission cycles, our fellowship in community health for new graduate APRNs has demonstrated improvements in strategies to diversify the community health workforce. We will describe our process of nonjudgmental self-critique and a quality-improvement framework that can serve as a strategy to promote diversity, equity, and inclusion in the community health workforce.

Keywords: APRN fellowship; APRN post-graduate education; APRN workforce; community health; workforce diversity.

Journal of the American Association of Nurse Practitioners 00 (2021) 1–8, © 2021 American Association of Nurse Practitioners

DOI# 10.1097/JXX.0000000000000679

Introduction

Diversity in the health care workforce is an important driver of patient satisfaction, adherence to care, and quality outcomes (Gomez & Bernet, 2019). Furthermore, racially concordant care (i.e., care received from a provider who is of a similar racial or ethnic background) may improve satisfaction (Takeshita et al., 2020) and adherence to care (Adamson et al., 2017). However, an array of systemic barriers exist that prevent individuals from

underrepresented minority groups entering the health care workforce in sufficient numbers to be reflective of the population at large. Structural racism is the driver of many of these barriers, including difficulty competing for university admission due to disinvestment in primary and secondary schools, long-standing economic policies that reinforce the cycle of poverty in minority populations, and implicit bias in admissions processes (Sullivan Commission on Diversity in the Health Care Workforce, 2004).

The lack of diversity that affects the health care workforce at large is evident in the nursing profession as well. Despite people of color accounting for more than one third of the US population (US Census Bureau, 2021), the registered nurse (RN) workforce in the United States is largely made up of White people. Approximately 80% of US RNs are White (**Figure 1**). Other racial groups are underrepresented in nursing ranks: 6.2% are Black or African American, 7.5% are Asian, and 0.4% are Native American, 0.5% are Native Hawaiian or Pacific Islander. Ethnically, only 5.3% of US nurses identify as Latinx (Smiley et al., 2019).

¹Medical Director of Advanced Practice Providers, Program Director APRN Fellowship, Erie Family Health Centers, Chicago, Illinois ²Clinical Assistant Professor, Department of Population Health Nursing Science, University of Illinois Chicago College of Nursing, Chicago, Illinois ³Program Administrative Manager, AdvancingPractice Fellowship Program, Erie Family Health Centers, Chicago, Illinois ⁴Clinical Professor & Associate Dean for Professional Practice, Department of Health Behavior and Biological Sciences, University of Michigan School of Nursing, University of Michigan Center for Sexuality and Health Disparities, Ann Arbor, Michigan

Correspondence: Charles Yingling, DNP, University of Michigan School of Nursing, 400 North Ingalls, Ann Arbor, MI 49103; E-mail: ctydnp@umich.edu

Received: 7 July 2021; **revised:** 5 October 2021; **accepted:** 28 October 2021

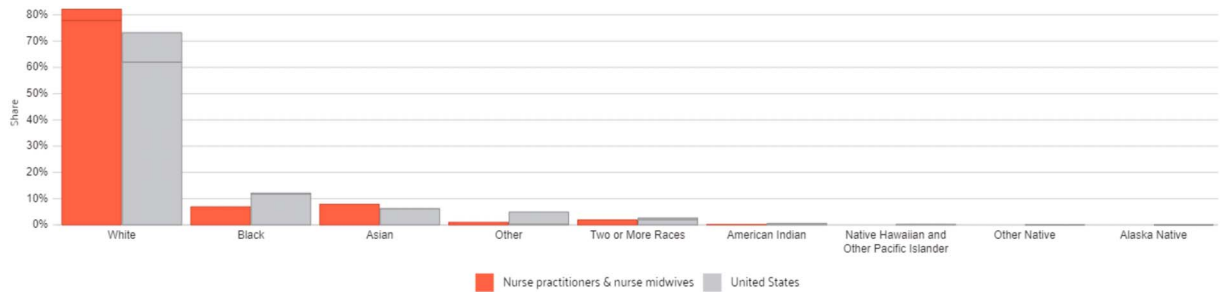


Figure 1. Racial representation of nurses compared with US population (United States Bureau of Labor Statistics, 2021).

The same barriers that make entry into the nursing profession more challenging for people of color also make entry into advanced practice nursing roles challenging. Among the nurse practitioner (NP) and certified nurse midwife (CNM) workforce, Black and Latinx people are significantly underrepresented. Although non-Latinx Black people make up approximately 13% of the US population (US Census Bureau, 2021), only 7% of NPs and CNMs are non-Latinx Black (US Bureau of Labor Statistics, 2021). Similarly, although Latinx people account for approximately 18% of the US population, only 6.3% of NPs identify as Latinx (US Bureau of Labor Statistics, 2021).

Postgraduate education programs for advanced practice registered nurses

Beginning in 2007, the first program of postgraduate clinical education for NPs began as a means to increase the workforce of NPs practicing in federally qualified health centers (FQHCs) (Flinter, 2012). In the subsequent years, these programs increased in numbers throughout the United States to include 111 as of 2021 (National NP Residency and Fellowship Training Consortium, 2021). In 2019, the Health Resources and Services Administration (HRSA) created a funding mechanism to support the growth and creation of these advanced practice RN (APRN) fellowship programs in community health. Although these newly created postgraduate programs are not exclusively academic, there is a risk that admissions practices into these programs could inadvertently perpetuate the lack of diversity that already exists in the APRN workforce.

AdvancingPractice Fellowship

AdvancingPractice is a community-based APRN fellowship program within a FQHC in Chicago, IL. The program was developed with an academic partner, a college of nursing, also located in Chicago, IL. The fellowship is available to family NPs, adult-gerontological NPs, pediatric NPs, and CNMs who have graduated from their academic program within the 18 months preceding the start of the fellowship year. To be considered for fellowship, fellows must be licensed or eligible to be licensed as APRNs in Illinois. This includes successfully passing

national certification examinations prior to the start of the fellowship.

The mission of AdvancingPractice is to cultivate quality care and nursing leadership to improve the health of communities through development and mentorship of APRNs. The two foci of the fellowship are excellence in clinical practice and leadership development. The fellowship faculty is made up of APRNs from both the FQHC and college of nursing who design, deliver, and evaluate the fellowship. Illustrative of the lack of diversity in the nursing workforce, all the faculty are White.

AdvancingPractice was funded by HRSA under the Advanced Nurse Education–NP Residency funding mechanism in July 2019. The first cohort of eight fellows began in July 2020. The second cohort of 10 fellows began in July 2021.

In our community health fellowship, we sought to increase APRN workforce diversity to promote concordant care and advance health equity. To accomplish this, we undertook a deliberate strategy to recruit, admit, retain, and assure completion of qualified candidates from underrepresented minority groups. This report describes our processes and outcomes in these efforts.

Background

There are myriad strategies to diversify the nursing workforce. Community engagement in primary and secondary schools increases knowledge of the nursing profession and presents nursing as a viable career path (Katz et al., 2016; Wircenski et al., 2008). Post-high school recruitment of underrepresented minority students into nursing programs can increase the number of students entering nursing studies (Phillips & Malone, 2014). Academic support programs can promote retention and engagement of nursing students of color (Barbé et al., 2018). Deliberate outreach to nurses of color by postgraduate education programs is another strategy that has been underused and not fully evaluated.

Holistic review

One strategy to diversify the nursing workforce is the process of holistic review. This approach to admissions into schools of nursing seeks to mitigate some of the

Table 1. 2020 demographics

2020 Cohort Applicant Demographics		
	All Applicants (N = 79)	Applicants Selected for Program (n = 8)
Ethnicity/race		
Caucasian	38%	50%
Hispanic	12%	37.5%
Black	5%	12.5%
Multiple ethnicities/races	1%	—
Asian	6%	—
Not Answered	38%	—
Gender		
Female	96.2%	100%
Male	3.8%	0%

effects of bias that can lead an interviewer to perceive minority candidates as unqualified for nursing education. Holistic review has been demonstrated to increase the numbers of underrepresented minority students and does not adversely affect academic outcomes (Zerwic et al., 2018). This approach shifts the focus from determining if an applicant can be successful in nursing education to whether the applicant can enrich the nursing profession and advance health in the community.

Although holistic review is now well-established and studied in nursing education, the clinical literature does not contain any reports of its application in postgraduate APRN fellowship programs. These programs are by their nature a hybrid arrangement of employment and education. Postgraduate APRN fellowship programs use competitive admissions processes that have many similarities to schools and colleges of nursing. So, using successful bias mitigation strategies from academic nursing may be appropriate in postgraduate APRN fellowships.

Procedures

This quality-improvement project was reviewed by both the research committee of the FQHC and the Office for Protection of Research Subjects of the academic partner. In both cases, the work was determined to be quality improvement and exempt from institutional review board oversight.

Year 1 (2020–2021)

Recruitment for the first cohort of fellows began in late 2019. Our recruitment efforts in this cycle focused on fellowship faculty outreach to graduate nursing programs in which they had professional contacts, recruitment of current APRN

students employed at or doing clinical rotations at the FQHC, public information sessions held on-site and virtually, and social media outreach to new graduate APRNs and students completing APRN programs. The application for the first year of the fellowship presented race and ethnicity as an open-ended question for applicants to complete. The resultant applicant pool included 79 applicants whose demographics are presented in **Table 1**.

From the inception of the fellowship, we sought to use holistic review as a strategy to mitigate bias and assure diversity in our fellowship program. Using these principles, we set three minimum standards for applicants to be invited for an interview: a grade point average (GPA) of 3.0/4.0 or higher, graduation from an accredited graduate program, and completion of that program in the 18 months prior to the fellowship start date. All 79 applicants met these criteria and were invited to move forward in the interview process.

The first step of the holistic review process was to establish review triads: two interviewers and one reader. Within each triad, two faculty members interviewed the applicant via video conference using a standardized interview tool. These interviewers were deliberately blinded to the applicant's application materials. The purpose of this step was to mitigate implicit bias the interviewers might have for or against the applicant. Separately, the third faculty member served as the application reader, evaluating the quality of the application materials using a standardized rubric that included four domains: clinical management, role preparedness, systems thinking, and leadership potential. The reader never interacted with the applicant they were reviewing. Each interviewer and reader scored the applicant using a rubric. These scores were aggregated by the fellowship coordinator to assign an overall score to each applicant.

At the conclusion of this process, we identified the 33 highest scoring applicants to move forward in the interview process. The faculty reviewed lower scoring applicants who they had identified as having potential to advance the mission of the fellowship, based on the content from their written applications, recommendation letters, or interviews. We subsequently added two applicants to the finalist pool based on this review. These 35 applicants were then invited for in-person interviews at the FQHC. These interviews were conducted by two faculty members who now had access to the applicants' application materials. At the conclusion of each interview, the interviewers separately categorized the applicant as fully, partially, or not being in alignment with the mission of the fellowship. From these 35 applicants, eight fellows were accepted, and eight alternates were identified. Demographics of the final-selected fellows are presented in **Table 1**.

Quality improvement

As part of our continuous quality-improvement approach, the fellowship faculty met at the conclusion of the admissions process to debrief and plan improvements for the next application cycle. Four key issues emerged. First, throughout the admissions process, members of the fellowship faculty expressed concern over admitting fellows who were graduates of nontraditional graduate programs (e.g., programs that are largely online). Upon reflection on this, we concluded that these programs were often the most accessible for the very candidates we were seeking to recruit. Second, we considered that faculty outreach to graduate programs in which they had personal contacts perpetuates the lack of diversity in higher education. This was based on the reality that our contacts were White individuals, like our faculty. Third, we identified that our data collection of race and ethnicity from the applicants was flawed in that it did not allow consistent reporting. So, we planned to change the presentation of race and ethnicity questions to align with the FQHC's existing processes for new hires. Finally, while we optionally collected applicant gender using an open-ended question, few applicants responded. So, we planned to convert this question to a selection list of gender identities as well as include an open-ended choice to provide a variety of options for response.

Based on the evaluation described above, we engaged two consultants from within our organizations, but who were not involved in the fellowship. These individuals were organizational leaders in diversity, equity, and inclusion (DEI) initiatives. Based on their consultation, we made the following changes. The GPA threshold would be validated by the fellowship coordinator, who is not involved in the selection process. But, information about an applicant's GPA would not be shared with any member of the faculty. Given the potential for bias against certain

graduate nursing programs (e.g., online programs), the name of the applicant's graduate program would be blinded by the fellowship coordinator. To mitigate the effects of gender bias, including bias against gender minority people, pronouns would be blinded from the applications as well. Finally, to further mitigate bias in the interview process, initial interviews would be conducted by telephone rather than video conference.

Year 2 (2021–2022)

In the second year of recruitment, which was entirely virtual due to COVID-19, we incorporated the changes outlined above. We made deliberate outreach to APRN students and recent graduates from underrepresented minority backgrounds. This included recruitment from Historically Black Colleges and Universities and affinity groups for Black and Latinx nurses. We continued outreach to faculty colleagues in graduate programs but made more deliberate efforts to reach out to faculty who have mentoring relationships with students of color. As in year one, we continued outreach via social media and our website.

The COVID pandemic introduced a great deal of uncertainty for APRN students. Many potential applicants reached out to the fellowship coordinator expressing concern that they may not be able to graduate in time to start the fellowship. Additionally, many applicants requested application deadline extensions due to the complicated circumstances of being a practicing nurse and APRN student in the pandemic. We encouraged applicants to apply even if there was uncertainty about their graduation timeline and we extended the application deadline in response to these needs. Ultimately, we had 75 applicants, whose demographics are presented in **Table 2**.

In the second year of the fellowship, we incorporated additional interviewers beyond the fellowship faculty. These interviewers included key stakeholders within the organization, including current fellows and preceptors. Resultant to expanding the interviewer pool, we had a more racially and ethnically diverse group of interviewers. Interview questions were revised to more closely align with the mission of the fellowship and provide a more objective method for interviewers to rank applicants with higher interrater reliability. Incorporating these changes and those described above, we completed the holistic review process (**Figure 2**) for all 75 applicants, continuing with the review triads of two interviewers and one reader.

Using the interviewer and reviewer scores, we identified the highest scoring 35 applicants. We then reviewed lower scoring applicants we had identified as having potential to advance the mission of the fellowship. Consistent with our grant objectives, we paid attention to those applicants who represented the community we serve and could advance the mission of the fellowship based on content from their written application, interview, or recommendations. In this process, an

Table 2. 2021 demographics

2021 Cohort Applicant Demographics		
	All Applicants (N = 75)	Applicants Selected (n = 10)
Ethnicity		
Not Hispanic or Latino	72%	50%
Hispanic or Latino	8%	30%
Undetermined	1%	—
Prefer not to answer	18%	—
Left blank	1%	20%
Race		
White	62%	30%
Black	15%	20%
Asian	14%	10%
Middle Eastern	1%	
Multiple races	1%	10%
American Indian/Black	1%	
Left blank	4%	30%
Other	1%	
Prefer not to answer	1%	
Gender		
Female	93.33%	90%
Male	2.67%	10%
Nonbinary	2.67%	—
Prefer not to answer	1.33%	—

additional five qualified applicants were identified to move forward in the interview process. These 40 applicants were invited for virtual interviews. These interviews were conducted by three faculty members who continued to be blinded to the candidates' applications. The fellowship coordinator could supply an applicant's resume to the interviewers if they requested it. Only the nurse midwife interviewers requested resumes to assess intrapartum experience. At the conclusion of each interview, the interviewers individually categorized the applicant as fully, partially, or not being in alignment with the mission of the fellowship. From these 40 applicants, 10 fellows were accepted, and 10 alternates were identified. Demographics of the final-selected fellows are presented in **Table 2**.

Discussion

Our experience in designing and implementing a postgraduate APRN fellowship exemplifies how, even with intentionality to mitigate bias, it is impossible to fully

remove bias from any process. Over the course of our program development, we identified multiple areas of bias that were only evident in hindsight. Each of these areas was an opportunity to improve. A team that promotes change culture versus stagnation in the face of complex challenges was essential to our continued improvements. We identified four primary areas that can serve to guide other teams who are seeking to promote health equity through workforce diversification.

Internal and external expertise on DEI is an essential element of a successful postgraduate APRN fellowship. These programs are unique in nursing because the participants are both employees and learners. Under our academic practice partnership, we were able to access expertise on DEI strategies because they pertain to both the practice and academic settings. With the benefit of hindsight, we would have accessed those resources at the earliest stages of program inception and design.

The measure of success in diversifying the nursing workforce is to benchmark against the community and

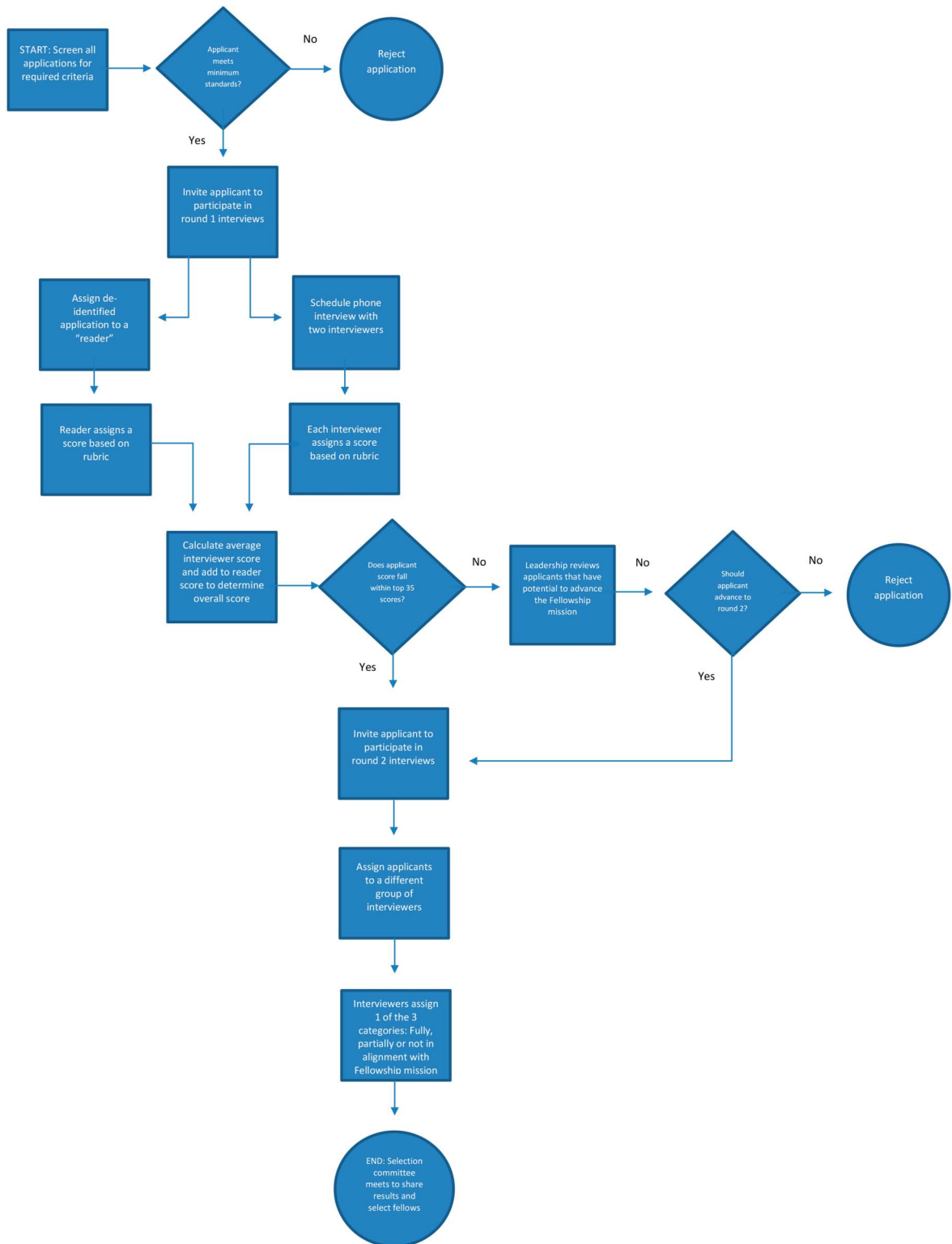


Figure 2. Revised interview process for second cohort of applicants.

not the profession or population at large. Our fellowship serves a community within Chicago that is predominantly Latinx. Ninety-one percent of our patients come from a

racial or ethnic minority background. Seventy-one percent identify as Hispanic or Latinx, with 41% of the overall population preferring to receive care in Spanish. Thirteen

percent of our population is Black. In the first year of our fellowship, three of our eight fellows identified as Hispanic or Latinx and one identified as Black and non-Hispanic with the remaining four identifying as White and not Hispanic. Our second fellowship cohort was more diverse, although that increased diversity did not necessarily reflect the population we serve. With changes in demographic data collection, we gained precision in reporting the backgrounds of our fellows. Of our 10 fellows, three identified as having Hispanic ethnicity. Racially, three fellows identified as White, two identified as Black, one identified as Asian, and one identified as multiple racial backgrounds. Three fellows declined to disclose their racial identities. It is not possible to draw a causal relationship between these demographic changes and our holistic review processes. However, we intend to continue the process outlined in **Figure 2** for the third year of the fellowship.

Although any APRN can provide exceptional care to patients from different backgrounds, linguistically or racially concordant care can promote additional gains (Adamson et al., 2017; Diamond et al., 2019; Takeshita et al., 2020). Two primary outcomes occur when the APRNs working within a community come from that or a similar community. First, the realities of structural racism have perpetuated societal positions of power for White people. Notably, health care leaders (e.g., APRNs, physicians) have long occupied these positions of power within society. At the community level, a population of people of color receiving their care from a predominantly White workforce reinforces the systems that afforded White people more access to these professions in the first place. Second, community members can conceptualize a “possible self” (Early, 2017) as an APRN when their provider comes from a similar background. This can serve to diversify the workforce further by exposing young people of color to careers in nursing.

The team leading the design and implementation of the fellowship represented leaders in the profession who were predominantly White cisgender women. With awareness that this homogenous identity introduces bias, we sought out a Fellowship Advisory Council (FAC) that incorporated people from diverse racial and professional backgrounds. The FAC includes representatives from clinical operations, quality improvement, and medicine. In the coming year, we intend to incorporate community representatives into the FAC. The FAC has provided a great depth of resources to promote the change culture we embrace. Specifically, the FAC has provided faculty members with different perspectives that have both informed and improved the fellowship. A key feature of the relationship between the FAC and the faculty is a mutual willingness to embrace continuous critique of our processes while refraining from criticism and judgment. For any team seeking to develop an APRN fellowship, a thoughtfully constructed FAC that complements the faculty is an invaluable tool in promoting DEI strategies.

In the course of developing and implementing the fellowship, we became aware of biases, both novel and commonplace, that had the potential to adversely affect the mission of the fellowship. In our quality-improvement efforts after the first application cycle, we identified a significant amount of institutional bias on the part of the faculty. Specifically, faculty members had strong preferences for or against graduates of certain institutions. Through thoughtful deliberation, we concluded that graduates of prestigious schools and nontraditional schools can have varying degrees of alignment with our fellowship mission. So, in the second round of applications, we undertook deliberate efforts to mitigate the effects of this bias.

With the best intentions to diversify the nursing workforce, some may look to the obvious traits of race, ethnicity, and gender identity when considering fellowship applicants. Without looking beyond these traits, there is a significant risk of tokenism, which is both detrimental to the fellow and the community. Holistic review mandates that we consider not just if the applicant can be successful in the fellowship but rather advance the mission and vision of the fellowship. Whether one has a bias for or against applicants from minority backgrounds, it is essential to consider these traits as pieces of a larger picture of the applicant. Our faculty reported that the standardized rubrics, mapped to the mission of the fellowship, were a helpful tool to look beyond the obvious traits of the applicants.

Conclusion

To advance the health of the community we serve, we developed a postgraduate fellowship program with a deliberate plan to recruit and admit diverse applicants who would continue to practice in our community at the conclusion of their fellowship year. We embraced a quality-improvement ethos that enabled evolution and growth with each iteration of the program. Understanding that intention does not translate to outcomes, we undertook ongoing critique of our methods and engaged diverse resources to improve our processes and will continue to do so. Holistic review coupled with deliberate DEI strategies that informed action are effective approaches to improve community health while working to dismantle structural racism.

Authors' contributions: *N. Raghu and C. Yingling contributed to the program design, implementation, evaluation, and preparation of this manuscript. M. McNamara and E. Bettencourt contributed to the program implementation, evaluation, and preparation of this manuscript. All authors provided final approval of the completed manuscript.*

Competing interests: *The authors report no conflicts of interest.*

Funding: This program is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$3.3 million. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.

References

- Adamson, A. S., Glass, D. A., & Suarez, E. A. (2017). Patient-provider race and sex concordance and the risk for medication primary non-adherence. *Journal of the American Academy of Dermatology*, 76(6), 1193–1195. <https://doi.org/10.1016/j.jaad.2017.01.039>
- Barbé, T., Kimble, L. P., Bellury, L. M., & Rubenstein, C. (2018). Predicting student attrition using social determinants: Implications for a diverse nursing workforce. *Journal of Professional Nursing*, 34(5), 352–356. <https://doi.org/10.1016/j.profnurs.2017.12.006>
- Diamond, L., Izquierdo, K., Canfield, D., Matsoukas, K., & Gany, F. (2019). A systematic review of the impact of patient-physician non-English language concordance on quality of care and Outcomes. In *Journal of General Internal Medicine* (Vol. 34, 1591–1606. Springer New York LLC. <https://doi.org/10.1007/s11606-019-04847-5>
- Early, J. S. (2017). This is who I want to be! Exploring possible selves by interviewing women in science. *Journal of Adolescent and Adult Literacy*, 61(1), 75–83. <https://doi.org/10.1002/jaal.635>
- Flinter, M. (2012). From new nurse practitioner to primary care provider: Bridging the transition through FQHC-based residency training. *Online Journal of Issues in Nursing*, 17(1), 6. <https://doi.org/10.3912/OJIN.Vol17No01PPT04>
- Gomez, L. E., & Bernet, P. (2019). Diversity improves performance and outcomes. *Journal of the National Medical Association*, 111(4), 383–392. <https://doi.org/10.1016/j.jnma.2019.01.006>
- Katz, J. R., Barbosa-Leiker, C., & Benavides-Vaello, S. (2016). Measuring the success of a pipeline program to increase nursing workforce diversity. *Journal of Professional Nursing*, 32(1), 6–14. <https://doi.org/10.1016/j.profnurs.2015.05.003>
- National Nurse Practitioner Residency and Fellowship Training Consortium. (2021). Primary care and psychiatric mental health NP and NP/PA postgraduate residency and fellowship training programs across the country nurse practitioner (NP) postgraduate training programs. In *Health right* (Vol. 360). Lyon Martin Health Services. www.nppostgradtraining.com
- Phillips, J. M., & Malone, B. (2014). Increasing racial/ethnic diversity in nursing to reduce health disparities and achieve health equity. *Public Health Reports*, 129(Suppl 2), 45–50. <https://doi.org/10.1177/003335491412915209>
- Smiley, R. A., Lauer, P., Bienemy, C., Berg, J. G., Shireman, E., Reneau, K. A., & Alexander, M. (2019). The 2017 national nursing workforce survey. *Journal of Nursing Regulation*, 9(3), S1–S88. [https://doi.org/10.1016/S2155-8256\(18\)30131-5](https://doi.org/10.1016/S2155-8256(18)30131-5)
- Sullivan Commission on Diversity in the Health Care Workforce. (2004). *Missing persons: Minorities in the health professions*. Washington, DC: The Sullivan Commission. <https://www.aacn-nursing.org/Portals/42/News/Sullivan-Report.pdf>
- Takeshita, J., Wang, S., Loren, A. W., Mitra, N., Shults, J., Shin, D. B., & Sawinski, D. L. (2020). Association of racial/ethnic and gender concordance between patients and physicians with patient experience ratings. *JAMA Network Open*, 3(11), e2024583. <https://doi.org/10.1001/jamanetworkopen.2020.24583>
- US Bureau of Labor Statistics. (2021). *Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity*. <https://www.bls.gov/cps/cpsaat11.htm>
- US Census Bureau. (2021). *US Census-Geography Profile*. <https://data.census.gov/cedsci/profile?q=United States&g=0100000US>
- Wircenski, J., Wircenski, M., & Nimon, K. (2008). Cultivating nursing career connections in K-12 education: A vital force in priming the post-secondary nursing education pipeline. *Journal for Nurses in Staff Development*, 24(5), E1–E7. <https://doi.org/10.1097/01.NND.0000320687.57308.1d>
- Zerwic, J. J., Scott, L. D., McCreary, L. L., & Corte, C. (2018). Programmatic evaluation of holistic admissions: The influence on students. *Journal of Nursing Education*, 57(7), 416–421. <https://doi.org/10.3928/01484834-20180618-06>