

Promoting Health Equity by Increasing the Representation of Minorities in Secondary and Post-Secondary Education in the United States*

Priscilla Auguste, MHS^{1,2,3}, Melissa Salm, MA^{1,2,4}, Emma Herbach MS^{1,2,5}, Crystal Garcia, MPH^{1,5}, Kalkidan Abebe, MD^{1,3}, Foluso Ishola, MBChB, MSc^{1,2,6}, Florentino Saenz Rios, BS^{1,7}, Derrick Bary Abila, BSc^{1,2,8}

¹Underrepresented Minorities Student Advocacy Group, ²Consortium of Universities for Global Health Trainee Advisory Committee, ³Ross University School of Medicine, ⁴UC Davis Department of Anthropology, ⁵University of Iowa Department of Epidemiology, ⁶McGill University Faculty of Medicine, ⁷University of Texas Medical Branch, ⁸Makerere University College of Health Science

*Authors listed in order of writing contribution. Correspondence/Senior Author: Priscilla Auguste, priscillaauguste@mail.rossmed.edu.

Bio: The Underrepresented Minorities Student Advocacy Group is a 1-year conjoint effort of students who came together to discuss issues of diversity in secondary and post-secondary institutions. Priscilla Auguste is the Chair of the Consortium of Universities for Global Health Trainee Advisory Program (CUGH TAC) and oversaw the overall project development efforts. Emma Herbach, a CUGH TAC member, also led the group by helping to provide oversight, guidance and feedback through the moderating of communications, organization, and facilitation of group efforts.

BACKGROUND

Global health is an emerging field of research and practice that prioritizes the achievement of health equity for people worldwide. The irony is that in the United States students from communities of color, low-income backgrounds, and first-generation college families are underrepresented in a wide array of training programs for professions that promote health equity, including scientific professions. In this report, we refer to the sum of professions promoting health equity as the “global health workforce.” In the medical field, for example, racial and ethnic minorities constitute a disproportionately low number of medical students, physicians, and medical school faculty of all ranks.^[24] In fact, underrepresented minorities (URM) comprise fewer than six percent of the 1 million active physicians in the United States (US).^[1-5] The problem extends to other scientific fields, as well. The National Science Foundation (NSF) determined that racial and ethnic minorities constitute less than 17% of employed scientists and engineers in the US.^[27] This is an astonishing conundrum

considering that it has been well established that a racially and ethnically diverse workforce is critical to advancing the health status of all populations. This is largely due to the fact that increased diversity in the workforce also increases the number of global health workers who focus on underserved communities.^[23] Furthermore, a diversity of viewpoints improves cultural competencies, contributes to the development of more effective interventions, and is invaluable at the level of critical decision-making with regards to the direction of global health research and the implementation of interventions.^[18] As such, the current underrepresentation of racial/ethnic minority groups in our workforce poses a serious ethical and operative problem for global health that warrants greater attention.

Barriers to achieving racial and ethnic diversity in the global health workforce are established early in the educational pipeline, beginning with inequities in school funding, access to quality education, and adequate preparation for higher education. In the US today, students of color and students from low-income families receive less state and local funding in their school districts compared to districts in more affluent neighborhoods that serve fewer students of color.^[26] This is troubling because decades of research show that many students of color start primary school academically behind their peers.^[12] As students continue down the educational pipeline, they face even more barriers. For example, college admission standards implicitly grant biased preference to students from privileged backgrounds with resources to participate in extracurricular activities, standardized test preparation, and prestigious learning opportunities like unpaid internships.^[21,23,32] In other words, economic disadvantage and early educational inequities pose critical obstacles to minoritized students' overall likelihood to enter and complete higher education.^[21,33] Once at the college level, limited exposure to global health training opportunities, both on- and off-campus (e.g. international experiences), can leave URM students in the dark about post-graduate education and practical learning opportunities that may fit their interests and lead them into the global health workforce. Should an URM student overcome these obstacles and attempt to break into the field as a graduate student or trainee, the lack of diverse faculty in global health poses yet another barrier to both recruitment and retention.^[27] Escalating fiscal pressures, coupled with increasing costs of tuition, further make it difficult for institutions to meet the financial needs of students from lower socioeconomic levels.

SOLUTIONS

We propose solutions for the barriers encountered at the various phases of the educational pipeline. These phases include: 1) retention in primary and secondary education, 2) preparation for post-secondary education, 3) retention in post-secondary education and 4) recruitment to graduate education. Within each phase, we reiterate the issues and propose

solutions for various stakeholders (from individual faculty/mentors to institutions) to take action. Finally, we recommend areas for further research that could aid in addressing these issues.

Retention in Primary & Secondary Education

Promote greater levels of equity in K-12 education

Federal & State Education Departments:

- Strategically allocate federally-controlled school funding to increase capacities among state education departments to improve public education systems, boost spending in underserved school districts, reward local funding efforts for addressing inequalities in finance, allocate state dollars based on district need, and reduce interstate variation in school spending.^[14]

Primary & Secondary Education Institutions:

- Decrease racial/ethnic imbalance between the teacher and student population and design education programs to help teachers meet the challenges of culturally diverse educational environments.^[36]
- Scale-up individualized tutorial programs for disadvantaged students who fall behind to increase their chances of graduating high school.^[6]

Preparation for Post-Secondary Education

Improve preparation for higher education generally

Secondary Education Institutions:

- Institute school counseling programs to support URM in advanced placement courses.^[28]
- Form collaborations between high schools and universities from the same geographical regions to coordinate outreach efforts intended to reach or recruit future students/trainees and increase their exposure to the wide variety of professional and academic fields.^[13]
- Build partnerships between education and the media industry to develop and disseminate culturally appropriate messages encouraging academic persistence and achievement of academic degrees.^[19]

Expose students to the field of global health

Secondary Education Institutions:

- Hire racially/ethnically diverse educators qualified to teach a curriculum that is oriented towards global health and its subfields at the middle and high school levels.
- Expose middle and high school students to the various global health fields early on through medicine and public health career days, volunteer and/or internship opportunities, field trips, and after school programs. ^[21]
- Partner with global health organizations such as the Consortium of Universities for Global Health to increase awareness of Global Health opportunities and programs with students.

Retention in Post-Secondary Education

Create a welcoming environment

Faculty/Mentors:

- Cultivate among URM students a sense of academic belonging and provide social-emotional support. ^[23]

Form inter-institutional collaborations

Post-secondary institutions:

- Share best practices with other institutions regarding how to maintain and increase URM retention. ^[13,18, 32]
- Collect input from administrators and faculty on how to identify gifted URM students, nurture their professional development and educational enrichment, and coordinate inclusive curricula that meet a diversity of student needs. ^[32]

Increase faculty and institutional diversity

Post-secondary institutions:

- Hire racially/ethnically diverse faculty members who can serve as mentors who have an understanding of barriers that URM students face. ^[32]

- Support faculty in their endeavors to promote the diversity research agenda through funding and recognition. ^[13]
- Give an open floor for institutional diversity-related activities that address issues such as cultural competency training. ^[29]

Address student economic hardships and financial difficulties

Post-secondary institutions:

- Create workshops or programs that are designed to help students attain financial literacy. ^[21]
- Dedicate scholarship funding to reduce financial burdens that preclude increased minority student recruitment and retention.

Members of the Global Health Workforce:

- Appeal to Senate and House representatives on behalf of URM students when it comes to educational funding for individuals as well as full programs. ^[18]

Recruitment to Graduate Education

Revise the admissions process

Under/Graduate institutions:

- Prioritize diversity by using qualitative metrics such as an applicant's ability to overcome adversity and service to their community or society as a whole rather than selecting for achievements accessible to those with the financial or social means ^[18, 21]
- Develop a clear and persuasive statement on why diversity is desirable for both the program and the profession. ^[13]
- Consider searching for neutral ways of achieving racial/ethnic diversity. ^[13]
- Support and conduct research that demonstrates the effects of diversity. ^[13]

Members of the Global Health Workforce:

- Volunteer for mentorship roles for students at the post-secondary level to provide guidance and help increase awareness.

Further research

- Create a way to evaluate the effectiveness of educational pipeline programs so that they can become stronger and more efficient. ^[29]
- Conduct a literature review of current programs with information regarding their success in order to learn how to find models of increasing academic achievement to create more effective programs. ^[18, 19]
- Research what impact school debt has on a URM student/trainee's decision to pursue, apply, and or matriculate in higher degree level programs. ^[19]
- Research the barriers to academic achievement for URM students at all educational levels in order to better understand how to make impacts along the pipeline. Such barriers include cultural, linguistic, and societal. ^[19]
- Conducting more thorough research to assess the best qualitative metrics to use or the extent to which they should be used in admissions. ^[19]

ACKNOWLEDGEMENTS

The Underrepresented Minorities Student Advocacy Group would like to thank Keith Martin, Executive Director of CUGH and the CUGH Workforce Subcommittee for their guidance and contribution to our efforts.

REFERENCES

- [1] AAMC. Faculty Diversity in U.S. Medical Schools: Progress and Gaps Coexist [Internet]. AAMC. 2016 [cited 2020 Feb 27]. Available from: <https://www.aamc.org/data-reports/analysis-brief/report/faculty-diversity-us-medical-schools-progress-and-gaps-coexist>
- [2] AAMC. Executive Summary [Internet]. AAMC. 2019 [cited 2020 Feb 27]. Available from: <https://www.aamc.org/data-reports/workforce/report/diversity-medicine-facts-and-figures-2019>
- [3] AAMC. Fostering Diversity and Inclusion [Internet]. AAMC. 2019 [cited 2020 Feb 27]. Available from: <https://www.aamc.org/data-reports/workforce/interactive-data/fostering-diversity-and-inclusion>
- [4] AAMC. US Physician Workforce Data [Internet]. AAMC. 2019 [cited 2020 Feb 27]. Available from: <https://www.aamc.org/data-reports/workforce/report/diversity-medicine-facts-and-figures-2019>
- [5] AAMC Executive Committee. Underrepresented in Medicine Definition [Internet]. AAMC. 2004 [cited 2020 Feb 27]. Available from: <https://www.aamc.org/what-we-do/mission-areas/diversity-inclusion/underrepresented-in-medicine>
- [6] Ander R, Guryan J, Ludwig J. Improving Academic Outcomes for Disadvantaged Students: Scaling Up Individualized Tutorials. 2016. 2016;24.
- [7] Bouye KE, McCleary KJ, Williams KB. Increasing Diversity in the Health Professions: Reflections on Student Pipeline Programs. 2018;12.
- [8] Cenma M. What's the Difference? Global Health Defined [Internet]. Global Health NOW. 2017 [cited 2020 Mar 6]. Available from: <https://www.globalhealthnow.org/2017-09/whats-difference-global-health-defined>

- [9] Census Bureau. 2010 Census Shows America's Diversity [Internet]. Census.gov. 2011 [cited 2020 Feb 27]. Available from:
https://www.census.gov/newsroom/releases/archives/2010_census/cb11-cn125.html
- [10] Daniels J. Building Global Health Capacity at a Minority-Serving Institution in the Bronx: The Potential Role of PhotoVoice and the Geo-Social Pathway Framework in This Endeavor. *Int Q Community Health Educ*. 2018 Oct;39(1):19–30.
- [11] Duffus WA, Trawick C, Moonesinghe R, Tola J, Truman BI, Dean HD. Training Racial and Ethnic Minority Students for Careers in Public Health Sciences. *American Journal of Preventive Medicine*. 2014 Nov 1;47(5, Supplement 3):S368–75.
- [12] Fryer RG. The Black-White Test Score Gap Through Third Grade. *American Law and Economics Review*. 2006 Jul 13;8(2):249–81.
- [13] Gabard DL. Increasing Minority Representation in the Health Care Professions [Internet]. 2007 [cited 2020 May 11]. Available from:
<https://www.ingentaconnect.com/content/asahp/jah/2007/00000036/00000003/art00008>
- [14] Gamson, Kathryn A. McDermott, Douglas S. Reed. The Elementary and Secondary Education Act at Fifty: Aspirations, Effects, and Limitations. RSF: The Russell Sage Foundation Journal of the Social Sciences. 2015;1(3):1.
- [15] Geller PA. Increasing racially and ethnically underrepresented women in medical school through an innovative program. *Int J Med Educ*. 2017 May 24;8:187–9.
- [16] Goodman MS, Plepys CM, Bather JR, Kelliher RM, Heaton CG. Racial/Ethnic Diversity in Academic Public Health: 20-Year Update. *Public Health Rep*. 2020 Jan;135(1):74–81.
- [17] GRE. GRE Guidelines for the Use of Scores (For Institutions) [Internet]. 2018 [cited 2020 Mar 6]. Available from:
https://www.ets.org/gre/institutions/admissions/using_scores/guidelines/
- [18] Grumbach K, Mendoza R. Disparities In Human Resources: Addressing The Lack Of Diversity In The Health Professions. *Health Affairs*. 2008 Mar 1;27(2):413–22.

[19] HRSA: Council on Graduate Medical Education. Minorities in Medicine [Internet]. U.S. Department of Health and Human Services, Public Health Service, Health Resources and Services Administration; 2005 [cited 2020 Feb 27]. Available from: <https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/graduate-medical-edu/reports/archive/1998-May.pdf>

[20] Jackson JR. Graduation and Academic Placement of Underrepresented Racial/Ethnic Minority Doctoral Recipients in Public Health Disciplines, United States, 2003-2015: Public Health Reports [Internet]. 2018 Nov 30 [cited 2020 Feb 27]; Available from: <https://journals.sagepub.com/doi/10.1177/0033354918814259>

[21] Kahn MJ, Sneed EJ. SECOND THOUGHTS Promoting the Affordability of Medical Education to Groups Underrepresented in the Profession: The Other Side of the Equation. 2015;4.

[22] Koplan JP, Bond TC, Merson MH, Reddy KS, Rodriguez MH, Sewankambo NK, et al. Towards a common definition of global health. *The Lancet*. 2009 Jun 6;373(9679):1993–5.

[23] Krawczyk N, Claudio L. Outcomes of Global Public Health Training Program for US Minority Students: A Case Report. *Annals of Global Health*. 2017 Oct 14;83(3–4):605.

[24] Lett LA, Murdock HM, Orji WU, Aysola J, Sebro R. Trends in Racial/Ethnic Representation Among US Medical Students. *JAMA Netw Open*. 2019 Sep 4;2(9):e1910490–e1910490.

[25] Mason BS, Ross W, Ortega G, Chambers MC, Parks ML. Can a Strategic Pipeline Initiative Increase the Number of Women and Underrepresented Minorities in Orthopaedic Surgery? *Clin Orthop Relat Res*. 2016 Sep 1;474(9):1979–85.

[26] Morgan I, Amerikaner A. Funding Gaps 2018: An Analysis of School Funding Equity across the U.S. and within Each State [Internet]. Education Trust; 2018 [cited 2020 May 11]. Available from: <https://eric.ed.gov/?id=ED587198>

[27] National Science Foundation. Women, Minorities, and Persons with Disabilities in Science and Engineering: 2019 [Internet]. National Center for Science and Engineering Statistics: Table 9-6 Employed scientists and engineers, by highest degree level,

occupation, ethnicity, and race. 2017 [cited 2020 Mar 6]. Available from:
<https://nces.nsf.gov/pubs/nsf19304/data>

[28] Ohrt JH, Lambie GW, Ieva KP. Supporting Latino and African-American Students in Advanced Placement Courses: A School Counseling Program's Approach. *Professional School Counseling*. 2009 Oct;13(1):2156759X0901300.

[29] Page KR, Castillo-Page L, Wright SM. Faculty diversity programs in U.S. medical schools and characteristics associated with higher faculty diversity. *Acad Med*. 2011 Oct;86(10):1221–8.

[30] RUSM. Ross University School of Medicine and Oakwood University partner to increase physician diversity in the US [Internet]. Ross University School of Medicine. 2019 [cited 2020 Mar 6]. Available from:
<https://medical.rossu.edu/about/news/ross-university-school-of-medicine-and-oakwood-university-partner-to-increase-physician-diversity-in-the-us>

[31] Sánchez JP, Peters L, Lee-Rey E, Strelnick H, Garrison G, Zhang K, et al. Racial and Ethnic Minority Medical Students' Perceptions of and Interest in Careers in Academic Medicine. *Academic Medicine*. 2013 Sep;88(9):1299–1307.

[32] Toretzky C, Mutha S, Coffman J. Breaking Barriers for Underrepresented Minorities in the Health Professions. 2018;28.

[33] Tranter S, Gaul C, McKenzie S, Graham K. Initiatives aimed at retaining ethnically diverse student nurses in undergraduate programmes: An integrative review. *Journal of Clinical Nursing*. 2018;27(21–22):3846–57.

[34] University of California, San Francisco. Diversity, Equity and Inclusion [Internet]. Global Health Sciences UCSF. 2019 [cited 2020 Feb 27]. Available from:
<https://globalhealthsciences.ucsf.edu/about-us/diversity-equity-and-inclusion>

[35] Upshur CC, Wrighting DM, Bacigalupe G, Becker J, Hayman L, Lewis B, et al. The Health Equity Scholars Program: Innovation in the Leaky Pipeline. *J Racial and Ethnic Health Disparities*. 2018 Apr 1;5(2):342–50.

[36] Villegas AM, Lucas T. Educating Culturally Responsive Teachers: A Coherent Approach. SUNY Press; 2002. 274 p.

[37] WHO. Global Health Workforce Statistics [Internet]. World Health Organization. 2018 [cited 2020 Feb 27]. Available from: <https://www.who.int/hrh/statistics/hwfstats/en/>