

The STRIVE Initiative: A Resident-Led Mentorship Framework for Underrepresented Minority Medical Students

Quentin R. Youmans, MD
Jennifer A. Adrissi, MD
Adesuwa Akhetuamhen, MD
Khalilah L. Gates, MD

Aashish K. Didwania, MD
Diane B. Wayne, MD
Linda I. Suleiman, MD

ABSTRACT

Background Underrepresented minority (URM) trainees face unique challenges in academic medicine. Near-peer mentorship is an under-described method to support URM trainees.

Objective We created and evaluated the Student to Resident Institutional Vehicle for Excellence (STRIVE) program in a large urban medical school and associated residency programs.

Methods All URM residents were invited to participate in the STRIVE mentorship program consisting of 3 pillars of programming: medical school curriculum review sessions, panel discussions, and social events for medical students. The program was evaluated through participation rates and a 7-item survey delivered in May 2019 after 3 years of implementation.

Results The STRIVE initiative conducted 25 events. Thirty-five of 151 eligible (23%) URM residents participated as mentors for an average of 50 of 110 eligible (45%) URM medical students annually. Resident mentors participated for an average of 3 to 4 hours each year. Twenty of 32 eligible resident mentors (63%) completed the survey. Ninety-five percent (19 of 20) of survey respondents agreed that STRIVE made them a better mentor; 90% (18 of 20) reported that they would have appreciated an equivalent program during their medical school training; and 75% (15 of 20) agreed that the program helped them address the challenges of underrepresentation in medicine.

Conclusions Over a 3-year period, STRIVE required a modest amount of resident time and was valued by the URM residents and medical students who participated in the program.

Introduction

Mentorship aids in professional development, career guidance, and research advancement,¹ and promotes job satisfaction for mentors.² Trainees identify mentorship as having a positive impact on well-being.³

Some groups may especially benefit from mentorship. Black, Hispanic, American Indian, Alaska Native, Native Hawaiian, and Pacific Islanders are underrepresented in medicine.⁴ Underrepresented minority (URM) medical students face unique burdens due to lack of support, discrimination, and lack of cultural representation.⁵ These challenges persist during graduate medical education (GME) as micro-aggressions and bias, feelings of pressure to be ambassadors for their race, and trouble negotiating professional and personal identities.⁶ URM residents provide unique guidance to URM students because of shared life experiences. Although innovations such as promoting research opportunities⁷ and intentional

environments of faculty support and mentorship⁸ have been developed, little is known about the role of mentorship by residents.

We developed the Student to Resident Institutional Vehicle for Excellence (STRIVE) program to provide academic, social, and professional support while equipping students with examples of resilience, a community to discuss implicit bias, and strategies to address the burdens of medical training. Because we are unaware of any prior reports of URM near-peer mentorship programs, we present a detailed program description of STRIVE and evaluate its feasibility.

Methods

STRIVE was created at Northwestern University (NU) Feinberg School of Medicine (FSM), a medical school based at a large urban academic medical center in Chicago, Illinois, that educates approximately 650 medical students and trains 1200 residents and fellows each year. The STRIVE program was founded in 2016 by an internal medicine resident (Q.R.Y.). As a medical student at FSM, he recognized that, while there were many URM residents in NU's GME

DOI: <http://dx.doi.org/10.4300/JGME-D-19-00461.2>

Editor's Note: The online version of this article contains the STRIVE Process Map.

programs, URM medical students had limited exposure to them.

Beginning in 2016, URM residents were identified using records of self-reported race and ethnicity from the GME office at the McGaw Medical Center of NU, which sponsors all training programs accredited by the Accreditation Council for Graduate Medical Education (see online supplemental material for the STRIVE process map). Information regarding STRIVE (including structure, expectations, and program history) was disseminated through e-mail to URM trainees at the beginning of each academic year (AY). URM students were identified through the Office of Diversity and Inclusion at FSM with assistance from the business coordinator (approximately 10 hours per year). At the beginning of each AY, an e-mail was sent to URM students welcoming participation.

STRIVE's leadership structure was devised to promote sustainability. The first president of STRIVE (Q.R.Y.) was responsible for program execution for 2 years. In the third year, leadership responsibilities transitioned to the second president (J.A.A.) for a 2-year term. Each year, URM residents who are interested in leadership roles are identified to build a pipeline of succession. The current vice president of STRIVE (A.A.) has committed to serve as president for the fifth year of the program. STRIVE resident leaders work closely with URM student groups to develop content and timing of sessions.

What was known and gap

Near-peer mentorship is an under-described method to support underrepresented minority (URM) trainees who face unique challenges in academic medicine.

What is new

A Student to Resident Institutional Vehicle for Excellence (STRIVE) program in a large urban medical school and associated residency programs.

Limitations

The use of a single institution with a small number of students and residents limits the study's generalizability. The resident survey was developed without testing for validity evidence.

Bottom line

STRIVE required a modest amount of resident time and was valued by the URM residents and medical students who participated in the program.

Residents organize regular sessions (approximately 8 each AY), including course reviews, panel discussions, and social events with particular consideration of the medical student experiences as well as schedule limitations of GME trainees. While many one-to-one mentoring relationships arose organically, most sessions were intentionally designed as group sessions. Academic sessions occurred in classrooms and involved first- or second-year, organ-based content, while social events involved all classes to foster community. The business coordinator in the NU Office of Diversity and Inclusion assisted with administrative tasks such as reserving rooms and ordering food. Resident mentors were invited to

TABLE 1
STRIVE Pillars of Programming

Pillar	Description	Examples
Curriculum review sessions	Students shared course syllabi with resident mentors who conducted 2-hour review sessions on topics related to their specialty. Sessions were intended to focus on clinical content relevant to current coursework. Complete curricular alignment was not required.	URM internal medicine residents reviewed the cardiovascular module for first-year medical students before the module examination.
Panel discussions	Led by URM residents on topics related to clinical training and career planning. FSM has assigned faculty members from each residency program who serve as formal student career advisors. The purpose of STRIVE career discussions was to provide resident perspectives in addition to faculty resources already available.	- Success in the Clinical Years: Preparing second-year medical students for the transition to the clinical phase of education. - Picking a Specialty: Providing information and personal experiences to aid third-year students with specialty selection. - Medical Student to Intern: Advice for fourth-year students prior to graduation.
Social events	Off-campus events promoting trusting relationships and building a community of emotional and professional support.	- Annual welcome event setting a tone of inclusivity and comfort. - End-of-the-year event celebrating successful completion of the academic year.

Abbreviations: URM, underrepresented minority; FSM, Feinberg School of Medicine; STRIVE, Student to Resident Institutional Vehicle for Excellence.

BOX Representative Resident Peer Mentor Survey Comments^a

- “STRIVE is an outlet to discuss the unspoken rules and experiences of being a minority in medicine.”
- “Connected me with several colleagues I would not have met otherwise which have had both immediate and long-lasting input on my career as a physician. STRIVE has reinforced the necessity of great mentorship and accountability for progressing our position as underrepresented minorities in medicine.”
- “I like being part of the group and having the opportunity to mentor, but unfortunately since I am not at the downtown campus, it makes it hard to attend and participate in the events.”
- “It is so rewarding (and almost therapeutic) to be able to give advice to younger students. . . I feel like I’m making a meaningful difference in their lives and helping them go into residency with confidence.”
- “Perhaps a minority women in medicine event might be helpful since there are additional challenges that women in medicine particular face. Or even just to build more comradery amongst the URM women.”

^a Examples of comments in response to “How has STRIVE impacted your trainee experience?” and “Other comments/suggestions.”

events via e-mail and participated as their training schedules allowed. Session content and timing were adjusted yearly based on student feedback. An important component of all sessions was maintaining an informal environment in which students felt comfortable expressing themselves openly and addressing any issues in the learning environment. Sample sessions are shown in TABLE 1.

STRIVE received initial funding from the NU Linzer Grant for Faculty Innovation in Diversity and Equity under an umbrella initiative that received \$19,000 over a 2-year period with a commitment from the GME Office to continue funding at this level as a budget line item. Funds support food and space costs and a modest stipend for mentors (\$100 gift card). Residents received the stipend if they participated in at least one mentorship event. Residents were not compensated for attending social events.

We tracked the number of events and student and resident participation to determine acceptability of STRIVE. In May 2019, resident mentors were asked to complete a 7-item online survey using a Likert-type scale (range 1–5 from strongly disagree to strongly agree) developed by the authors without additional testing to assess attitudes toward STRIVE.

This program evaluation was deemed exempt from review by the NU Institutional Review Board.

Results

The STRIVE program coordinated 25 events over the course of 3 AYS. Annually, an average of 15 residents

TABLE 2

STRIVE Resident Peer Mentor Demographics (n = 35)

Characteristic	n (%)
Sex	
Female	23 (66)
Race	
Black/African American	32 (91)
Hispanic	3 (9)
Native American	0 (0)
FSM alumni	7 (20)
Postgraduate year ^a	
1	16 (45)
2	10 (28)
3	3 (9)
4	3 (9)
5	3 (9)
Specialty	
Anesthesiology	4
Dermatology	2
Emergency medicine	3
Family medicine	1
Internal medicine	3
Neurology	3
Obstetrics and gynecology	4
Ophthalmology	1
Orthopedic surgery	1
Otolaryngology	1
Pediatrics	4
Psychiatry	2
Radiation oncology	1
Radiology	1
General surgery	4

Abbreviations: STRIVE, Student to Resident Institutional Vehicle for Excellence; FSM, Feinberg School of Medicine.

^a Represents the year that the mentor began participating in STRIVE.

(range 13–17) were recruited to function as peer mentors. Thirty-five of an average of 151 (23%) eligible residents per year participated over 3 AYS. Thirty-two of 35 (91%) self-identified as Black/African American, and 3 of 35 (9%) self-identified as Hispanic. Seven resident mentors (20%) were graduates of FSM. Residents represented a broad range of specialties (TABLE 2) and participated an average of 3 to 4 hours each year. An average of 50 URM medical students of 110 eligible (45%) participated annually. Average student attendance at each event grew from 8 in the first AY to 15 in the third AY. To date, 8 resident mentors have completed GME, and 3 of those have been recruited to faculty positions at NU.

TABLE 3
STRIVE Attitudes Assessment Survey Results (n = 20 Mentors)

Statement	Strongly Disagree, n (%)	Disagree, n (%)	Neither Agree nor Disagree, n (%)	Agree, n (%)	Strongly Agree, n (%)
STRIVE has made me a better mentor.	0 (0)	0 (0)	1 (5)	11 (55)	8 (40)
STRIVE has helped me deal with the challenges of underrepresentation in medicine.	0 (0)	0 (0)	5 (25)	4 (20)	11 (55)
I have benefited professionally from participating in the STRIVE program.	0 (0)	0 (0)	4 (20)	6 (30)	10 (50)
STRIVE has strengthened my desire to enter academic medicine.	0 (0)	2 (10)	2 (10)	7 (35)	9 (45)
I would recommend becoming a mentor in the STRIVE program to future underrepresented minority graduate medical trainees.	0 (0)	0 (0)	0 (0)	4 (20)	16 (80)
I would have appreciated STRIVE (or an equivalent program) during my medical school training.	0 (0)	0 (0)	2 (10)	6 (30)	12 (60)
STRIVE has contributed positively to my overall wellness as a trainee.	0 (0)	0 (0)	2 (10)	5 (25)	13 (65)

Abbreviation: STRIVE, Student to Resident Institutional Vehicle for Excellence.

After excluding the co-authors of this article, 32 residents were eligible for the program evaluation survey, and 20 of 32 (63%) completed it. URM residents reported high satisfaction with their role as a near-peer mentor. Specifically, 95% (19 of 20) of respondents agreed that STRIVE made them a better mentor; 75% (15 of 20) agreed that the program helped them deal with challenges of underrepresentation in medicine; 90% (18 of 20) reported they would have appreciated an equivalent program during medical school training; and 90% (18 of 20) reported that STRIVE positively affected their overall wellness as a trainee (TABLE 3). Representative resident comments provide additional information about these themes (BOX).

Discussion

The STRIVE program recruited URM medical students and residents for a near-peer mentoring, institution-wide program with high satisfaction reported by the participating residents. The program has been sustained and is entering its fifth year.

The near-peer mentoring model has shown success in other resident-to-medical student contexts.^{9,10} To our knowledge, ours is the first program to specifically connect URM residents and medical students for the purposes of mentorship. Prior research connected senior residents with 1 to 2 medical students during their obstetrics and gynecology rotation.⁹ While most medical students in this rotation reported satisfaction with the program, only 18% of residents felt well

connected with their students. STRIVE improves on this model by group-based mentoring that promotes exposure to many potential resident mentors over the course of an AY and allows for organic relationships to arise. An additional study connected first-year medical students with residents to aid in the transition to medical school.¹⁰ While this orientation program fostered communication between students and residents, STRIVE employs defined pillars including curriculum review sessions and panel discussions that promote a more comprehensive experience for students.

A learning environment characterized by a “family atmosphere” has been shown to be a key component to promoting success for URM trainees.⁸ Resident mentors in our program reported positive contributions to their well-being from STRIVE. This may have resulted from the intentionally informal nature of STRIVE, which allowed trainees a safe space to be open and vulnerable about their trials and triumphs.

Institutions must be mindful of the “minority tax” as they consider developing programs like STRIVE (ie, additional responsibilities placed on minorities in the name of diversity).¹¹ The STRIVE program has an impact while potentially mitigating the minority tax through autonomy, flexibility, and ownership. Further study is needed to ensure the minority tax is mitigated in our program over time.

Increased racial and ethnic diversity in the US physician workforce is a recommended strategy to address racial disparities in health care.¹² Eighty percent of resident mentors agreed that STRIVE

strengthened their desire to enter academic medicine. Early results from STRIVE show successful recruitment of 38% of eligible residents as faculty. Although we cannot directly tie this to participation in STRIVE, time and further study will show whether the program enhances URM faculty recruitment.

This study's generalizability to other institutions is limited by the use of a single institution with a small number of students and residents. STRIVE requires resident champions who may be difficult to recruit in the setting of rigorous training experiences. As the resident survey was developed without testing for validity evidence, respondents may not have interpreted questions as intended. Only 63% of URM mentors completed the survey. Finally, we did not formally teach mentorship skills or assess whether a mentor-mentee relationship was perceived by participating students.¹³

Showing reproducibility of the STRIVE model is an important next step. Two institutions have expressed interest, with planning currently underway. In addition, a more rigorous outcome evaluation is planned, including residency Match results, standardized examination scores, and prevalence of burnout and isolation.¹⁴

Conclusions

The STRIVE program successfully connected URM residents and medical students at our institution over a 3-year period via a structured near-peer mentorship model providing support through curriculum review sessions, panel discussions, and social events.

References

1. Sambunjak D, Straus SE, Marušić A. Mentoring in academic medicine: a systematic review. *JAMA*. 2006;296(9):1103–1115. doi:10.1001/jama.296.9.1103.
2. Lee CD, del Carmen Montiel E. The correlation of mentoring and job satisfaction: a pilot study of mental health professionals. *Community Ment Health J*. 2011;47(4):482–487. doi:10.1007/s10597-010-9356-7.
3. Daskivich TJ, Jardine DA, Tseng J, Correa R, Stagg BC, Jacob KM, et al. Promotion of wellness and mental health awareness among physicians in training: perspective of a national, multispecialty panel of residents and fellows. *J Grad Med Educ*. 2015;7(1):143–147. doi:10.4300/JGME-07-01-42.
4. Deville C, Hwang WT, Burgos R, Chapman CH, Both S, Thomas CR. Diversity in graduate medical education in the United States by race, ethnicity, and sex, 2012. *JAMA Intern Med*. 2015;175(10):1706–1708. doi:10.1001/jamainternmed.2015.4324.
5. Orom H, Semalulu T, Underwood W. The social and learning environments experienced by underrepresented minority medical students: a narrative review. *Acad Med*. 2013;88(11):1765–1777. doi:10.1097/ACM.0b013e3182a7a3af.
6. Osseo-Asare A, Balasuriya L, Huot SJ, Keene D, Berg D, Nunez-Smith M, et al. Minority resident physicians' views on the role of race/ethnicity in their training experiences in the workplace. *JAMA Netw Open*. 2018;1(5):e182723. doi:10.1001/jamanetworkopen.2018.2723.
7. Fernandez A, Chen V, Quan J, Martinez A, Flowers L, Aronson L. Evaluation of a medical student research and career development program to increase diversity in academic medicine. *Acad Med*. 2019;94(8):1220–1228. doi:10.1097/ACM.0000000000002760.
8. Elks ML, Herbert-Carter J, Smith M, Klement B, Knight BB, Anachebe NE. Shifting the curve: fostering academic success in a diverse student body. *Acad Med*. 2018;93(1):66–70. doi:10.1097/ACM.0000000000001783.
9. Sobbing J, Duong J, Dong F, Grainger D. Residents as medical student mentors during an obstetrics and gynecology clerkship. *J Grad Med Educ*. 2015;7(3):412–416. doi:10.4300/JGME-D-14-00667.1.
10. Scott SE, Cook S, Farmer MA, Kim SK, Pomfret RW, Samardzic K, et al. The rising physicians program: a novel approach for mentoring medical students. *Mil Med*. 2019;184(5–6):e164–e167. doi:10.1093/milmed/usy289.
11. Rodríguez JE, Campbell KM, Pololi LH. Addressing disparities in academic medicine: what of the minority tax? *BMC Med Educ*. 2015;15:6. doi:10.1186/s12909-015-0290-9.
12. Sequist T. *Addressing Racial Disparities in Health Care: A Targeted Action Plan for Academic Medical Centers*. Washington, DC: American Association of Medical Colleges; 2009.
13. Taylor JS, Faghri S, Aggarwal N, Zeller K, Dollase R, Reis SP. Developing a peer-mentor program for medical students. *Teach Learn Med*. 2013;25(1):97–102. doi:10.1080/10401334.2012.741544.
14. Deas D, Pisano E, Mainous A, Johnson NG, Singleton MH, Gordon L, et al. Improving diversity through strategic planning: a 10-year (2002–2012) experience at the Medical University of South Carolina. *Acad Med*. 2012;87(11):1548–1555. doi:10.1097/ACM.0b013e31826d63e0.



All authors are with Northwestern University Feinberg School of Medicine. **Quentin R. Youmans, MD**, is a Cardiology Fellow, Division of Cardiology, Department of Medicine; **Jennifer A. Adrissi, MD**, is a Neurology Resident, Department of Neurology; **Adesuwa Akhetuamhen, MD**, is an Emergency Medicine Resident, Department of Emergency Medicine; **Khalilah L. Gates,**

MD, is Assistant Professor of Medicine and Medical Education, Department of Medicine; **Aashish K. Didwania, MD**, is Associate Professor of Medicine and Medical Education, Vice Chair for Education, Department of Medicine; **Diane B. Wayne, MD**, is Professor of Medicine and Medical Education, Vice Dean for Education, Chair of the Department of Medical Education; and **Linda I. Suleiman, MD**, is Assistant Professor of Orthopaedic Surgery, Director of Diversity and Inclusion, McGaw Medical Center of Northwestern University and Department of Orthopaedic Surgery.

Funding: This study was funded by the Linzer Grant for Faculty Innovation in Diversity and Equity at Northwestern University and McGaw Medical Center of Northwestern University.

Conflict of interest: The authors declare they have no competing interests.

This work was previously presented at the AAMC GBA | GDI | GIP Joint Spring Meeting, Chicago, Illinois, April 9–12, 2019, and NRMP Transition to Residency, Chicago, Illinois, October 3–5, 2019.

The authors would like to thank Anita Munoz, business coordinator in the Northwestern University Feinberg School of Medicine Office of Diversity and Inclusion, for her support helping to coordinate STRIVE activities.

Corresponding author: Quentin R. Youmans, MD, Northwestern University Feinberg School of Medicine, 676 N Saint Clair Street, Suite 2330, Chicago, IL 60611, 847.440.4246, quentin-youmans@northwestern.edu

Received June 27, 2019; revisions received November 25, 2019, and December 9, 2019; accepted December 9, 2019.