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A virtual dermatology elective for underrepresented in medicine medical students

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To the Editor:

Dermatology has been identified as the second least-diverse medical specialty, with students underrepresented in medicine (UIM) citing barriers including a lack of diversity, early exposure, and UIM mentors in dermatology. In addition, a negative perception of minorities by residency programs and socioeconomic barriers are also impeding factors for UIM students [1]. Further, the lack of a home dermatology program limits early exposure to the field, research opportunities, and mentorship [2]. For UIM students, additional steps are necessary to create equity in the application process. Increased diversity amongst health care workers improves patient care not only for minority and underserved communities, but for all patients [3]. During the American Academy of Dermatology's (AAD) Presidents Conference on Diversity in Dermatology in 2017, three aims were identified to increase diversity in dermatology: improving UIM admission into medical school, increasing interest in dermatology, and facilitating resident recruitment [3].

In the summer and fall of 2020, due to the pandemic the Penn State College of Medicine's (PSCOM) department of dermatology created a one-week non-credited dermatology elective for external medical students interested in our dermatology residency program. In the fall of 2021, the one-week elective was retained and refocused for UIM medical students. We sought to use this virtual elective to create a valuable networking and recruiting

opportunity for UIM students interested in pursuing dermatology. This modality aligns with the aims of the AAD to improve diversity in the field and addresses the financial and scheduling burdens surrounding away-rotations.

In August 2021, eight UIM students recruited from a wide geographic distribution were enrolled in the one-week elective. Elective sessions included image 'unknowns' sessions, interactions with residents, and roundtable discussions on leadership, subspecialty clinics, and research. Mentorship and advising sessions with the residency program director and associate program director (PD/APD) on weekday evenings were arranged. Optional involvement in resident didactics on weekday mornings was also offered. The course culminated in a student-led journal club at noon on the final day discussing seminal articles within the dermatologic literature. Sessions were approximately half-an-hour to one-hour in length, totaling 11 hours for the week.

Student satisfaction was assessed via anonymous surveys in which students rated interest in sessions and the program on a 5-point Likert scale, and open-ended responses were also obtained. Survey instruments were created by the clinician authors of the manuscript and piloted during the 2020 one-week virtual elective. Study data were collected and managed using REDCap (Research Electronic Data Capture), [4]. This study received institutional review board exemption by the Penn State College of Medicine.

Eight UIM medical students were surveyed with a response rate of 75% (N=6). Responses of *Agree* or *Strongly Agree* were combined to indicate student satisfaction. Overall, 100% (6/6) of students found the scheduled sessions (Roundtable discussions, PD/APD Q&A, and journal club) valuable whereas the resident didactics yielded 83.33% (5/6) satisfaction. Students endorsed effective teaching by both residents and faculty (100%; 6/6). All the participants responded *Very Interested* in the Penn State department of dermatology and 50% (3/6) of students found they were able to achieve a meaningful mentor relationship during the elective.

Open-ended feedback yielded similar responses and supported the course as a positive experience geared towards increasing diversity. Student comments endorsed that the program had the potential to increase diversity (3/6; 50%) and to be a valuable activity for future students (2/6: 33.33%). Insight into the program's culture (2/6; 33.33%) and enhancement of understanding and interest about the program (3/6; 50%) were also supported by this format. Specific requests included: extended sessions (3/6; 50%) and a need for one-on-one time between students and faculty/residents (1/6; 16.67%).

Virtual electives were necessitated by the pandemic, but also permit us to address discrepancies in diversity in dermatology by increasing UIM student exposure to the field and mitigating the cost of away-rotations [1]. The COVID-19 public health epidemic has worsened barriers for UIM students because of the cancellation of away-rotations, a valuable networking opportunity for medical students interested in pursuing dermatology [5]. Away-rotations have become as critical to the application process, particularly in competitive specialties, as it gives medical students the opportunity to showcase their clinical skills and fit for the program greater than the standard interview and application process can assess [6].

The away-rotation experience is particularly important for students who lack a home program

and although currently such students can now attend away-rotations, limitations are recently being modified. The average cost of one away-rotation for medical students is about \$958 [7]. With restrictions in place due to the pandemic, students have saved an average of \$6882. If just one away rotation is reinstated, students save an average of \$4322 [8]. The virtual elective aids in mitigating this cost for medical students in dermatology and other specialties while still providing a type of immersion in the program, albeit virtual. The use of teledermatology can also be considered to aid in the immersion of students in the clinical environment [6].

We will make modifications to the virtual elective according to our participant feedback. Because the resident didactics yielded 83.33% (5/6) satisfaction, we will keep those optional moving forward. As well, 50% (3/6) of students found they were able to achieve a meaningful mentor relationship during the elective. This is a specific need for medical students without a home dermatology program to aid in the application process, acquire research opportunities, and obtain letters of recommendation. Thus, an improvement to the course includes the addition of one-on-one sessions to facilitate mentorship, possibly in the form of personal statement or application workshops. By increasing time spent with students and mentors during the week-long elective, we aim to facilitate these goals for students enrolled in the elective.

Overall, our virtual elective allowed UIM students to learn more about dermatology and our training program, without the limitations of in-person electives. This format can be replicated at other institutions with an aim to expand diversity within their specific program.

Potential conflicts of interest

The authors declare no conflicts of interest.

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