The State of Skin of Color Centers in the United States: A Cross-Sectional Survey Study

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PRACTICE POINTS

- Skin of color centers in the United States work to reverse the paucity of research, education, and training in skin of color dermatology and promote the diversification of residents and faculty.
- Skin of color centers expand access to culturally competent and inclusive care for diverse patient populations.

Skin of color centers (SoCCs) in the United States have helped increase the racial/ethnic diversity of and cultivate cultural competence in practicing dermatologists as well as increase skin of color (SoC) research and education to improve patient care. The objective of this cross-sectional survey study was to provide an in-depth analysis of SoCCs and SoC specialty clinics (SoCSCs) in the United States, including their patient care focus, research, and program diversity. As the US population diversifies, it is important to highlight the programmatic, research, and educational work of existing SoCCs so that they can continue to be supported and so efforts are made to encourage the establishment of future centers at academic medical institutions across the United States.

Ithough individuals with skin of color (SoC) are expected to become at least half of the US population by the year 2044, there remains a paucity of education and exposure to treatment of patients with SoC at many dermatology residency programs across the country. One way to improve SoC education has been the formation of specialized clinics, centers, and programs. The first SoC center (SoCC)

was established in 1999 at Mount Sinai–St. Luke's Roosevelt in New York, New York²; since then, at least 13 additional formal SoCCs or SoC specialty clinics (SoCSCs) at US academic dermatology programs have been established.

Skin of color centers serve several important purposes: they improve dermatologic care in patients with SoC, increase research efforts focused on SoC dermatologic conditions, and educate dermatology resident and fellow trainees about SoC. Improving dermatologic care of patients with SoC in the United States is important in providing equitable health care and improving health disparities. Studies have shown that patient-physician racial and cultural concordance can positively impact patient care, increase patient trust and rapport, and improve patient-physician communication, and it can even influence patient decision-making to seek care.3,4 Unfortunately, even though the US population continues to diversify, the racial/ethnic backgrounds of dermatologists do not parallel this trend; Hispanic and Black physicians comprise 18.9% and 13.6% of the general population, respectively, but represent only 4.2% and 3.0% of dermatologists, respectively.5-7 This deficit is mirrored by resident and faculty representation, with Black and Latino representation ranging from 3% to 7%.8-10

Many SoCC's engage in research focused on dermatologic conditions affecting patients with SoC, which is vital to improving the dermatologic care in this underserved population. Despite increasing recognition of the importance of SoC research, there remains a paucity of clinical trials and research specifically focused on or demonstrating equitable representation of SoC. 11,12

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The eTables are available in the Appendix online at www.mdedge.com/dermatology.

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The education and training of future dermatologists is another important area that can be improved by SoCCs. A 2008 study involving 63 chief residents showed that approximately half (52.4% [33/63]) of graduating dermatology residents reported receiving SoC-specific didactics, sessions, or lectures, and 30.2% (19/63) reported having a dedicated rotation where they gained specific experience treating patients with SoC.¹³ A later study in 2022 (N=125) found that 63.2% of graduating dermatology residents reported receiving SoC-specific didactics, sessions, or lectures, and only 11.2% reported having a dedicated rotation where they gained experience treating patients with SoC.¹⁴ These findings suggest that in the last 14 years, formal SoC education—specifically SoC clinical training—has not increased sufficiently.

We conducted a cross-sectional survey study to provide an in-depth analysis of SoCCs and SoCSCs in the United States, including their patient care focus, research, and program diversity.

Methods

We conducted an investigator-initiated, multicenter, cross-sectional survey study of all SoCCs in the United States and their respective academic residency programs. Fifteen formal SoCCs and/or SoCSCs were identified by dermatology program websites and an article by Tull et al² on the state of ethnic skin centers. All programs and centers identified were associated with a dermatology residency program accredited by the Accreditation Council for Graduate Medical Education.

A 42-item questionnaire was sent via email to the directors of these centers and clinics with the intent to collect descriptive information about each of the SoCCs, the diversity of the faculty and residents of the associated dermatology department, current research and funding, diversity and inclusion initiatives, and trainee education from March through April 2020. Data were analyzed using Excel and SPSS statistical software to obtain descriptive statistics including the mean value numeric trends across programs.

This study underwent expedited review and was approved by the University of Southern California (Los Angeles, California) institutional review board (IRB #HS-20-00113). Patient consent was not applicable, as no information was collected about patients.

Results

Fourteen directors from SoCCs/SoCScs completed the questionnaire (93.3% response rate). Most centers were located in urban areas (12/14 [85.71%]), except for 2 in rural or suburban settings (Table). Most of the SoCCs/SoCScs were located in the South (5/14 [35.71%]), followed by the Northeast (4/14 [28.57%]), West (3/14 [21.43%]), and Midwest (2/14 [14.29%])(Table). Six (42.86%) of the programs had a SoCSC, 3 (21.43%) had a formal SoCC, and 5 (35.71%) had both. Across all centers, the most common population seen and treated was Black/African American followed by Hispanic/Latino and

Skin of Color Centers and/or Specialty Clinics in the United States

Institution	Geographic location	Year established
Northeast		
Boston University	Boston, MA	2012
Brigham and Women's Hospital	Boston, MA	2015
Massachusetts General Hospital Multi-Ethnic Skin and Pigmentary Disorders Program ^a	Boston, MA	2014
Mount Sinai West	New York, NY	1999
Weill Cornell Medicine	New York, NY	2019
South		
Howard University	Washington, DC	1906 ^b
Johns Hopkins University	Baltimore, MD	2009
University of Miami	Miami, FL	2002
University of Alabama at Birmingham	Birmingham, AL	2019
Wake Forest University	Winston-Salem, NC	1996 ^b
Midwest		
Northwestern University	Chicago, IL	2005
University of Iowa	Iowa City, IA	2016
West		
University of California, Davis	Sacramento, CA	2015
University of California, San Francisco	San Francisco, CA	2018
University of Southern California	Los Angeles, CA	2018

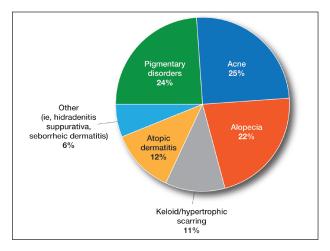
^aThis program did not participate in the survey for this study.

Asian, respectively. The most commonly seen dermatologic conditions were acne, pigmentary disorders, alopecia, and atopic dermatitis (Figure). The most common cosmetic practice performed for patients with SoC was dermatosis papulosa nigra/seborrheic keratosis removal, followed by laser treatments, skin tag removal, chemical peels, and neuromodulator injections, respectively.

Faculty and Resident Demographics and Areas of Focus— The demographics and diversity of the dermatology

^bHoward University, a historically black college or university, was started in 1906. It formally became a dermatology department in 1975 and is regarded as the first informal skin of color center. The first formal skin of color center was established in 1999 at Mount Sinai in New York. New York

Information regarding the year the skin of color centers/clinics were established was reported by the survey respondents; thus, the dates reported in other sources/department websites may vary.



Top dermatologic conditions treated in skin of color centers and skin of color specialty clinics. The values for each of the diagnoses (ranked 1 [least common] through 6 [most common]) were added for each individual diagnosis. The sum total for each condition was divided by the total number of potential points (6 conditions x 6 ranking points for each) to determine the percentage for each diagnosis.

faculty and residents at each individual institution also were assessed. The average number of full-time faculty at each institution was 19.4 (range, 2–48), while the average number of full-time faculty who identified as underrepresented in medicine (URiM) was 2.1 (range, 0–5). The average number of residents at each institution was 17.1 (range, 10–31), while the average number of URiM residents was 1.7 (range, 1–3).

The average number of full-time faculty members at each SoCC was 1.6 (range, 1–4). The majority of program directors reported having other specialists in their department that also treated dermatologic conditions predominantly affecting patients with SoC (10/14 [71.43%]). The 3 most common areas of expertise were alopecia, including central centrifugal cicatricial alopecia (CCCA); cutaneous lupus; and traction alopecia (eTable 1).

Faculty SoC Research—Only a minority of programs had active clinical trials related to SoC (5/14 [35.71%]). Clinical research was the most common type of research being conducted (11/14 [78.57%]), followed by basic science/translational (4/14 [28.57%]) and epidemiologic research (2/14 [14.29%]). The most commonly investigated conditions for observational studies included CCCA, keloids/hypertrophic scarring, and atopic dermatitis (eTable 2). Only 8 of 14 programs had formal SoC research opportunities for residents (57.14%), while 9 had opportunities for medical students (64.29%).

Few institutions had internal funding (3/14 [21.43%]) or external funding (4/14 [28.57%]) for SoC research. Extramural fun ding sources included the Skin of Color Society, the Dermatology Foundation, and the Radiation Oncology Institute, as well as industry funding. No federal funding was received by any of the sites.

Skin of Color Education and Diversity Initiatives—All 14 programs had residents rotating through their SoCC

and/or SoCSCs. The vast majority (12/14 [85.71%]) indicated resident exposure to clinical training at the SoCC and/or SoCSC during all 3 years of training. Residents at most of the programs spent 1 to 3 months rotating at the SoCC/SoCSC (6/14 [42.86%]). The other programs indicated residents spent 3 to 6 months (3/14 [21.43%]) or longer than 6 months (3/14 [21.4%]), and only 2 programs (14.29%) indicated that residents spent less than 1 month in the SoCC/SoCSC.

The majority of programs offered a SoC didactic curriculum for residents (10/14 [71.43%]), with an average of 3.3 SoC-related lectures per year (range, 0–5). Almost all programs (13/14 [92.86%]) invited SoC specialists from outside institutions as guest lecturers. Half of the programs (7/14 [50.0%]) used a SoC textbook for resident education. Only 3 programs (21.43%) offered at least 1 introductory SoC dermatology lecture as part of the preclinical medical student dermatology curriculum.

Home institution medical students were able to rotate at their respective SoCC/SoCSC at 11 of 14 institutions (78.57%), while visiting students were able to rotate at half of the programs (7/14 [50.0%]). At some programs, rotating at the SoCC/SoCSC was optional and was not formally integrated into the medical student rotation schedule for both home and visiting students (1/14 [7.14%] and 4/14 [28.57%], respectively). A majority of the programs (8/14 [57.14%]) offered scholarships and/or grants for home and/or visiting URiM students to help fund away rotations.

Despite their SoC focus, only half of the programs with SoCCs/SoCSCs had a formal committee focused on diversity and inclusion (7/14 [50.0%]) Additionally, only 5 of 14 (35.71%) programs had any URiM outreach programs with the medical school and/or the local community.

Comment

As the number of SoCCs/SoCSCs in the United States continues to grow, it is important to highlight their programmatic, research, and educational accomplishments to show the benefits of such programs, including their ability to increase access to culturally competent and inclusive care for diverse patient populations. One study found that nearly 92% of patients in the United States seen by dermatologists are White. 15 Although studies have shown that Hispanic/Latino and Black patients are less likely to seek care from a dermatologist, 16,17 there is no indication that these patients have a lesser need for such specialty care. Additionally, outcomes of common dermatologic conditions often are poorer in SoC populations.15 The dermatologists leading SoCCs/SoCSCs are actively working to reverse these trends, with Black and Hispanic/Latino patients representing the majority of their patients.

Faculty and Resident Demographics and Areas of Focus—Although there are increased diversity efforts in dermatology and the medical profession more broadly, there still is much work to be done. While individuals with SoC now comprise

more than 35% of the US population, only 12% of dermatology residents and 6% of academic dermatology faculty identify as either Black or Hispanic/Latino. 5,8,10 These numbers are even more discouraging when considering other URiM racial groups such as Pacific Islander/Native Hawaiians or Native American/American Indians who represent 0% and 0.1% of dermatology faculty, respectively.^{8,10} Academic programs with SoCCs/SoCSCs are working to create a space in which these discrepancies in representation can begin to be addressed. Compared to the national 6.8% rate of URiM faculty at academic institutions, those with SoCCs/SoCSCs report closer to 10% of faculty identifying as URiM. 18 Moreover, almost all programs had faculty specialized in at least 1 condition that predominantly affects patients with SoC. This is of critical importance, as the conditions that most commonly affect SoC populations—such as CCCA, hidradenitis suppurativa, and cutaneous lupus—often are understudied, underfunded, underdiagnosed, and undertreated. 19-22

Faculty SoC Research—An important step in narrowing the knowledge gap and improving health care disparities in patients with SoC is to increase SoC research and/or to increase the representation of patients with SoC in research studies. In a 2021 study, a PubMed search of articles indexed for MEDLINE using the terms race/ethnicity, dyschromia, atopic dermatitis, and acne was conducted to investigate publications pertaining to the top 3 most common chief concerns in patients with SoC. Only 1.6% of studies analyzed (N=74,941) had a specific focus on SoC.¹² A similar study found that among the top 5 dermatology-focused research journals, only 3.4% of all research (N=11,003) on the top 3 most common chief concerns in patients with SOC was conducted in patients with SoC.²³ Research efforts focused on dermatologic issues that affect patients with SoC are a priority at SoCCs/SoCSCs. In our study, all respondents indicated that they had at least 1 ongoing observational study; the most commonly studied conditions were CCCA, keloids/hypertrophic scarring, and atopic dermatitis, all of which are conditions that either occur in high frequency or primarily occur in SoC. Only 35.71% (5/14) of respondents had active clinical trials related to SoC, and only 21.43% (3/14) and 28.57% (4/14) had internal and external funding, respectively. Although research efforts are a priority at SoCCs/SoCSCs, our survey study highlights the continued paucity of formal clinical trials as well as funding for SoC-focused research. Improved research efforts for SoC must address these deficits in funding, academic support, and other resources.

It also is of great importance for institutions to provide support for trainees wanting to pursue SoC research. Encouragingly, more than half (57.14%) of SoCCs/SoCSCs have developed formal research opportunities for residents, and nearly 64.29% have formal opportunities for medical students. These efforts to provide early experiences in SoC research are especially impactful by cultivating interest in working with populations with SoC and hopefully inspiring future dermatologists to engage in further SoC research.

SoC Education and Diversity Initiatives—Although it is important to increase representation of URiM physicians in dermatology and to train more SoC specialists, it is imperative that all dermatologists feel comfortable recognizing and treating dermatologic conditions in patients of all skin tones and all racial/ethnic backgrounds; however, many studies suggest that residents not only lack formal didactics and education in SoC, but even more unsettling, they also lack confidence in treating SoC. 13,24 However, one study showed that this can be changed; Mhlaba et al²⁵ assessed a SoC curriculum for dermatology residents, and indeed all of the residents indicated that the curriculum improved their ability to treat SoC patients. This deficit in dermatology residency training is specifically addressed by SoCCs/SoCSCs. In our study, all respondents indicated that residents rotate through their centers. Moreover, our study found that most of the academic institutions with SoCCs/SoCSCs provide a SoC didactic curriculum for residents, and almost all of the programs invited SoC specialists to give guest lectures. This is in contrast to a 2022 study showing that 63.2% (N=125) of graduating dermatology residents reported receiving SoC-specific didactics, sessions, or lectures. 14 These findings highlight the critical role that SoCCs/SoCSCs can provide in dermatology residency training.

Although SoCCs/SoCSCs have made considerable progress, there is still much room for improvement. Namely, only half of the respondents in our study indicated that their program has formally incorporated a SoC textbook into resident education (eTable 3). Representation of SoC in the textbooks that dermatology residents use is critically important because these images form the foundation of the morphologic aids of diagnosis. Numerous studies have analyzed popular dermatologic textbooks used by residency programs nationwide, finding the number of SoC images across dermatology textbooks ranging from 4% to 18%. 26,27 The use of standard dermatology textbooks is not enough to train residents to be competent in diagnosing and treating patients with SoC. There should be a concerted effort across the field of dermatology to encourage the development of a SoC educational curriculum at every academic dermatology program, including SoC textbooks, Kodachromes, and online/electronic resources.

Efforts to increase diversity in dermatology and dermatologic training should start in medical school preclinical curriculums and medical student rotations. Although our survey did not assess current medical student curricula, the benefits of academic institutions with SoCCs/SoCSCs are highlighted by the ability for both home and visiting medical students to rotate through the centers and gain early exposure to SoC dermatology. Most of the programs even provide scholarships and/or grants for URiM students to help fund their rotations, which is of critical importance considering the mounting data that the financial burden of visiting rotations disproportionately affects URiM students.²⁸

Study Limitations—Although we did an extensive search and believe to have correctly identified all

15 formal SoCCs/SoCSCs with a high response rate (93.3%), there are institutions that do not have formalized SoCCs/SoCSCs but are known to serve SoC populations. Likewise, there are private dermatology practices not associated with academic centers that have SoC specialists and positively contribute to SoC patient care, research, and education that were not included in this study. Additionally, the data for this study were collected in 2020 and analyzed in 2021, so it is possible that not all SoCCs, divisions, or clinics were included in this study, particularly if established after 2021.

Conclusion

As the United States continues to diversify, the proportion of patients with SoC will continue to grow, and it is imperative that this racial, ethnic, and cultural diversity is reflected in the dermatology workforce as well as research and training. The current deficits in medical training related to SoC populations and the importance for patients with SoC to find dermatologists who can appropriately treat them is well known.²⁹ Skin of color centers/SoCSCs strive to increase access to care for patients with SoC, improve cultural competency, promote diversity among faculty and trainees, and encourage SoC research and education at all levels. We urge academic dermatology training programs to make SoC education, research, and patient care a departmental priority. Important first steps include departmental diversification at all levels, incorporating SoC into curricula for residents, providing and securing funding for SoC research, and supporting the establishment of more formal SoCCs and/or SoCSCs to help reduce dermatologic health care disparities among patients with SoC and improve health equity.

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APPENDIX

eTABLE 1. Programs With Specialty Clinics for Skin of Color Conditions (N=14)

Dermatologic specialty focus	No. of programs with specialty focus in skin of color
Central centrifugal cicatricial alopecia	8
Cutaneous lupus	8
Traction alopecia	8
Alopecia areata	7
Atopic dermatitis in patients of color	7
Sarcoidosis	7
Acne treatment in patients of color	5
Procedural treatment in patients of color	5
Cosmetic procedures in patients of color	4
Pigmentary disorders	4
Keloids/hypertrophic scarring	3
Seborrheic dermatitis treatments in patients of color	3

eTABLE 2. Faculty Research Areas at SoC Centers and Clinics (N=14)

Dermatologic research focus	No. of programs
Clinical studies	
Central centrifugal cicatricial alopecia	3
Atopic dermatitis	2
Acne	1
Cutaneous T-cell lymphoma	1
Dermatosis papulosa nigra	1
Hidradenitis suppurativa	1
Keloids	1
Psoriasis	1
Skin aging	1
Observational studies	
Central centrifugal cicatricial alopecia	6
Keloids/hypertrophic scarring	5
Atopic dermatitis	4
Alopecia areata	3
Pigmentary disorders	3
Acne treatments in SoC	2
Cosmetic treatments in SoC	2
Hidradenitis suppurativa	2
Procedural treatments in SoC	2
Seborrheic dermatitis treatment in SoC	1
Abbreviation: SoC, skin of color.	

eTABLE 3. Educational Tools Used for Resident Skin of Color Education

Books

Aguh C. 90 Days to Beautiful Hair: 50 Dermatologist-Approved Tips to Un'lock' the Hair of Your Dreams. U&C Publishing; 2019.

Aguh C, Okoye GA, eds. Fundamentals of Ethnic Hair: A Dermatologist's Perspective. Springer; 2017.

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Electronic

VisualDx (https://www.visualdx.com/)