

**EXPLORATION OF FACTORS AFFECTING REPRESENTATION
OF MINORITIES IN DERMATOLOGY**

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ABSTRACT

This paper examines the reasons underlying the underrepresentation of minority students in the field of dermatology. There continues to be both unconscious and implicit bias against African-American and Hispanic students in regards to dermatology residency. This demographic of students are generally dissuaded from pursuing this specialty for reasons that are enumerated in this piece of work. Incorporating evidence from governmental data, articles, journals, and opinions of leaders within the field of dermatology this paper will demonstrate that there is indeed a form of institutional racism that permeates this field of medicine particularly. The paper will proceed to explore potential solutions to these issues in the hope that the field will become more accessible to minority students in the future.

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CHAPTER 1: FACTORS AFFECTING REPRESENTATION

The evolution of dermatology has been expanding for thousands of years. There are over 4,000 skin diseases that affect billions of people across the world. Of all the skin disorders an estimate of 30% of outpatient health care systems incorporate a wide variety of diagnostic, therapeutic, and aesthetic resources (Ferreira et al., 2020). The first discovery of skin disorders is documented in early Hippocratic writings as well as Egyptian papyrus. It included hand washing hygiene, management of wounds, physical examination, and clinical reasoning. In the 18th and 19th centuries, dermatology became a specific specialty topic in medical school curriculums with specialized journals that focused on the study, diagnostic tools, methods, and treatment plans. Use of dermoscopy, phototherapy, cryosurgery, and specialized dermatologic surgery were all initiated during these time periods. In the current 20th and 21st century, the field of dermatology has evolved further with aesthetic procedures as well as telemedicine with consistently changing technology (Ferreira et al., 2020).

Dermatology is currently the second least diverse medical specialty, after orthopedics, with only a tiny fraction of doctors identifying as underrepresented in medicine (UIM) (Akhiyat et al., 2020). The Association of American Medical Colleges has defined underrepresented in medicine (UIM) as students of ethnic and racial populations that are underrepresented in the medical profession compared to the numbers within the general population (Lester & Taylor, 2021). One question that comes to mind is why minority physicians are either not interested or dissuaded from entering this fascinating and innovative field of medicine. The lack of physician diversity most

probably affects patient health outcomes. Multiple barriers exist that UIM students must penetrate to achieve careers in dermatology. These include economic factors which lead to decreased access to educational opportunities, stereotypes, cultural barriers, systemic bias, and discrimination. The lack of role models and mentorship is another serious factor. Negative impact on population health that results from the absence of diversity is an additional consideration that will be explored. Finally, the conclusion will address issues regarding minority recruitment by offering ideas to remedy this major problem.

The field of dermatology continues to fall behind other specialties in recruiting minorities, especially Black and Brown applicants. Inadequate representation of UIM groups within dermatology can partially be explained by socioeconomics and demographics. The disparity begins early during formative and early adulthood years where young children in socioeconomically disadvantaged neighborhoods lag behind in math and science. If the foundations for success are not laid down early in a child's development, then they will assuredly have greater difficulty achieving the level of competency required for advanced careers in STEM fields. From my own experience tutoring children in North Philadelphia, the necessary allocation of economic resources to hire teachers and to provide educational materials to these economically depressed and marginalized communities is simply inadequate. In the school I volunteered at, I observed very little organization in the classrooms, and it was not unusual to hear teachers screaming over distracted groups of rambunctious children. Lesson plans were almost impossible to carry out and this was reflected in students' homework. Fourth and fifth grade students are frequently reading and writing at first and second grade levels at best. A major problem is staffing shortage and burn out of educators.

This issue is not isolated to North Philadelphia but is a problem across the United States in majority Black and Brown communities. According to analysis performed by The Education Trust, districts across the country with the highest proportion of students of color on average receive 16 percent less state and local revenue than districts with the fewest students of color. This equates to approximately 2700 dollars lost per student (Morgan, 2022). This is ironic in that the communities which need the most support are given the least aid due to lower tax revenues. Unfortunately, due to decades of racially charged policy discrimination involving gerrymandered school districts, students of lower socioeconomic status are prevented from attending higher performing schools. This problem has not improved much over the last five to ten years (Crampton, 2018).

One potential solution could be to design housing policies around economic school integration so that lower income students could still attend higher echelon schools. This would begin to diminish the achievement gap between higher and lower income individuals. This in turn creates a more equitable society in terms of future employment, neighborhood residence, and health. These policies include expanding the low-income housing tax credit, housing voucher policies which target high-performing schools, mortgage assistance programs that promote school integration, and eliminating tax incentives to reward the purchase of homes in high-income school districts (Crampton, 2018).

Another solution would be to simply allocate more funding to education in disadvantaged communities. Several states such as Massachusetts, Minnesota, and New Jersey have already implemented fiscal policy changes to this effect as well as raises for educators in

these communities. They have also invested heavily in programs like Head Start, a pre-K program that helps low-income students prepare adequately for future school years. Such changes have helped propel these states to higher ranks in reading and math for their students (Inequality in public school funding: key issues & solutions for closing the gap, 2020). Increasing federal funding for education can be useful despite accounting for only 10 percent of all education funding (Morgan, 2022). Title 1 aims to deliver additional resources to students experiencing poverty and should be redesigned to allow for more oversight and targeted spending in high-need districts to minimize waste and increase utility of the money spent (Inequality in public school funding: key issues & solutions for closing the gap, 2020). More fundings from local, state, and federal sources will ultimately improve the quality of education that students receive by allowing schools to hire more qualified teachers and offer more extracurricular activities as well as provide resources such as textbooks, computers, and other educational related materials. Even providing breakfast programs has been demonstrated to help increase attendance and improve students' concentration.

Currently, the situation looks bleak regarding overall funding for many socioeconomically disadvantaged districts which are often predominantly Black and Brown. However, with increased recognition and effort American society should be able to begin to eliminate discriminatory policy replacing it with more equitable and inclusive ones that will ultimately benefit all Americans. In doing this we will begin to see changes in the current trends which show minority populations rising in America yet their representation in the health care workforce remaining stagnant. This is especially true for Black male physicians whose representation within the physician workforce remains

essentially unchanged since 1940. Even the representation of black women in medicine only grew 2.7 percent (Ly, 2022).

During the 2018-2019 medical school year in the United States, 6.2% of graduates were Black, 21.6% were Asian, 5.3% were Spanish, Latino, or Hispanic, and 54.6% were Caucasian (Brieva et al., 2021). According to the United States Census Bureau in 2021, Black or African Americans people comprise 13.6% whereas Caucasians make up 75.8% of the population. (Quick Facts United States, 2021). The disparity that exists in racial representation within medical schools is obvious in relation to the total population of the United States. It is projected that the United States will become a majority-minority nation by 2043 and by 2060 will be 15% Black and 31% Hispanic (Brieva et al., 2021). The American medical system has regressed in terms of minority recruitment despite the increased populations of minorities. Among all groups Black and Hispanic adults are less likely to graduate and earn a bachelor's degree or higher education in science, technology, engineering, and mathematics (STEM). Of all employed adults in STEM, there are only 9% of Black employed workers (Fry et al., 2021). Fewer minorities seeking careers in medicine can also be explained by the rising costs of medical education which supports the assertion that our medical system is structured in a way that benefits the rich and limits the poor in gaining access to careers in medicine. In general careers in medicine appear to be gated for those in the highest tax bracket. Unfortunately, due to the United States' systemically racist history there is a vast wealth gap between Caucasian and Black/Brown families. Caucasian across America have the highest level of median and mean family wealth consisting between \$188,200- \$983,400. Black families' wealth is 15% less than White families consisting between \$24,100-\$142,500. Thus,

there is inequality in the distribution of wealth within each racial and ethnic group (Bhutta et al., 2020). Blacks and Hispanics remain at the bottom of the socioeconomic totem pole and have certainly not made drastic strides in improving this metric. Thus, Black and Hispanic families face significant hurdles to entering professional school simply due to economic constraints such as the skyrocketing cost of higher education. Even in allied health professionals the cost of loans for education can be prohibitive in terms of the eventual remuneration.

The additional costs that are added on to medical students who wish to apply into dermatology residencies such as expenses for away rotations in which students are expected to spend thousands of dollars on airfare, lodging and food, it becomes clear why low-income students are especially hesitant to invest additional resources. Dermatology has the most expensive residency application process with the average cost per US senior medical school applicant at 10,781 dollars which is secondary to the fact that the typical medical student applies to 91 programs which is the highest number for any medical specialty (Rojek, 2018). The recent fear of potentially going unmatched despite spending the extra money is a major barrier to entering dermatology for less advantaged students. One strategy that could be used to dismantle this includes having application limits. This prevents students from over applying which would save them a significant amount of money. It will also decrease the number of applications each program receives 3- to 5-fold if a cap of 20 programs is implemented. Each applicant will then be able to approach the process more thoughtfully in choosing the best program for them (Secrest et al., 2021). Also, the programs will know that they are being seriously considered and can then select those for interviews more judiciously. Another strategy is limiting the number

of away rotations students are allowed to complete. While experiencing another program is beneficial, the expectation that students should do away rotations disadvantages poorer medical students.

As costs keep increasing and the wealth gap continues to expand between racial divides, the economically vulnerable will continue to face additional roadblocks to acquiring financial stability and social unrest begins to foster. Structural racism in America continues to excessively burden the most economically vulnerable individuals who are primarily Black and Brown. By making things unattainable for them financially and limiting access to adequate educational resources, these groups will be unable to break out of the vicious cycle of poverty. Thus, it appears to be quite evident that Black and Hispanic families are disproportionately disadvantaged when considering solely economic metrics. Since there is a connection between wealth and power, it seems that these two groups are finding it increasingly difficult to move up the social ladder. Even within medicine there is economic disparity between races. White male physicians and scientists are paid significantly more than women of all races and men of color. This pay gap persisted even after controlling for factors such as specialty, work hours, and years of experience (Redford, 2021). It is important to address and work to eliminate these kind of inequalities as they are unethical and unjust. One begins to wonder if the fundamental explanation for this issue rests with the individual or society. Is there maybe a subconscious urge of the majority to maintain economic superiority over the minority? If so, could racism be a possible explanation for why this may be true? Regardless of the root cause, this problem continues to burden poorer individuals the most and has negative consequences for our country. As the wealth gap continues to increase between racial

planes, the people who tend to suffer the most from high acuity illness are Black and brown populations since they have the least financial resources and are most likely to be uninsured limiting access (Hill et al., 2022). When access is limited due to financial constraints sick patients forego visiting a physician and their health further deteriorates eventually to the point where they may require emergency care. This ultimately creates a more expensive treatment course and burdens the health care system unnecessarily since the costs could have been partially avoided had the patient been able to see a doctor to prevent the condition in the first place or treat at a less advanced level of disease.

Other than economic reasons there are more nuanced societal effects on why women and the underrepresented in medicine groups end up not pursuing careers in STEM. There is the concept of stereotype threat which basically states that one may perform stronger or weaker on a task due to their understanding that a stereotype exists in reference to their race (Spencer et al., 1999). The classic example is where women underperform on math tests when there is a high stereotype threat but when that stereotype threat is removed women perform just as well as equally qualified men (Spencer et al., 1999). Is it possible that black men are not pursuing careers in medicine because they rather play sports or make music? They are more likely to see their peers achieve success in these roles because our society highlights Black and brown excellence in sports and music constantly. There needs to be more portrayals of successful black men and women in all professional careers to encourage Black youth to achieve success in professions they may have never considered. It is not surprising that individuals from UIM populations in medical school decide against pursuing careers in dermatology when they do not see people who look like them in the field. Is there potentially an unconscious

bias at play or indeed a form of institutional racism? Is structural racism associated with health outcomes of Black and brown people? Is the lack of UIM faculty role models a contributing factor? Or is there genuinely less interest in careers in medicine among these historically marginalized groups? These are the questions I turn to now.

CHAPTER 2: SYSTEMIC RACISM VS CHANGING INTEREST

Some may argue that Black and brown youth are not entering careers in STEM fields because of social media. Are there shifting interests amongst the general youth in their career aspirations? Social media is useful for professional communication; however, the younger generation is using social media to explore an individualized identity through hip hop, gangs, and cyberbullies (Patton et al., 2013). The prospect of increasing wealth quickly at a young age is glorified in rap and hip-hop, one of the most popular genres of music in the US. Music that constantly celebrates the rags-to-riches story in emphatic fashion has an underlying psychological impact of encouraging listeners to also attempt to accomplish this. As rap was born in poor urban communities, it follows that young black men and women would especially be motivated to earn vast sums of money quickly as they are a huge audience for this music. This mindset would deter those from pursuing careers like medicine which take years of hard work and dedication before appreciating significant financial rewards. The application of social media serves to enhance the ability of anyone who wants to “get rich quick” as there are countless stories of people using social media legitimately and illegitimately to attain rapid wealth. A great example of how social media can be used illegitimately can be seen in the documentary film Fake Famous where individuals essentially fake their “followers” and “likes” and eventually people think they are wealthy, famous influencers. One of the subjects who remained in the experiment started landing real acting jobs. The omnipresence of social media in our society most definitely serves as a powerful distraction to anyone who uses it and is known to increase the risk of developing mental health problems such as depression and anxiety (Tween and teen health, 2022). In the documentary Fake Famous, feelings of

depression and anxiety develop within the participants as the experiment continues.

Ultimately, parents have a strong responsibility to monitor and limit a child's time spent on this resource since unfettered access to these forums stunts children's neurological development by negatively impacting their psychological well-being and distorting their sense of reality. A 2018 Pew Research Center survey of around 750 13- to 17-year-olds discovered that around 45 percent of them were online almost constantly and 97% use some form of social media platform (Tween and teen health, 2022).

Although social media has advantages such as increasing connectivity between individuals, it often has the opposite effect of creating more social isolation. Medicine is a field where human connection is valued and cherished but the reprogramming of our socialization system will most likely affect this moving forward. This is happening this with the expansion of telehealth and tele-dermatology. The personal touch can be lost with telehealth, but there are positives that should be acknowledged such as telehealth's ability to enable physicians to strengthen continuity of care, extend access outside of normal clinic hours, and ease the impact of clinician shortages in rural areas and among underserved populations (Harmon, 2021). Additionally, there are studies that suggest social media may be beneficial in exposing and stimulating interest in minorities for careers in STEM. The majority of forty-six adults who self-reported as ethnic minorities stated that meeting a STEM professional of their same gender and ethnicity would effectively encourage them to pursue STEM, but an even larger majority of this same group stated that media exposure to STEM professionals whom they could relate to physically would be just as effective, if not more so, in influencing their decision to pursue a career in STEM (Kricorian et al., 2020).

CHAPTER 3: EDUCATIONAL RESOURCES TO PROMOTE SUCCESS

Although there is no clearly inherent racial bias within the field of dermatology itself, there is undoubtedly an implicit bias against minorities that have historically kept people of color out of dermatology. One element to examine as it relates to dermatology residency is the expectation to complete research. It is stated on many programs' recruitment pages that research is something that applicants are expected to have engaged in prior to applying and to continue while in residency. However, medical research in America has a dark history that has created a profound sense of mistrust amongst minorities, particularly African-Americans. Despite mandates by the federal government to ensure inclusion of women and minorities in all federally funded research, Blacks participate less frequently than Whites. African Americans are more likely than Whites to believe that research findings will be used to reinforce negative stereotypes about their ethnic group or will expose them to unnecessary risks (Scharff et al., 2010). This is yet another example of how stereotype threat manifests itself in the American health care system.

Since 1619 when the first enslaved people were brought to the British Colony of Virginia until the end of the Civil War in 1865, Black people were brutalized with violent medical treatment and experimentation against their will. American medical schools would even use living slaves as “anatomical material” and were advertised as such to recruit medical students (Nuriddin et al., 2020). Other examples of the abhorrent abuses of the medical research community include the story of James Marion Sims, widely known as the “father of gynecology.” He routinely experimented on enslaved women

without anesthesia and after 29 unsuccessful surgeries on one patient he finally was successful in repairing a vesico-vaginal fistula (Khabele et al., 2021). There are also the University of Pennsylvania prison experiments performed by Albert Kligman. He conducted skin care experiments on primarily black inmates in the Holmesburg prison without their consent and was able to patent Retin-A, an acne cream, from his experiments and profited enormously off the royalties (Hornblum, 1998). In 2021, the University of Pennsylvania publicly apologized and took Kligman's name off some honorifics like an annual lecture series and professorship (Anthony, 2022). Perhaps the most damaging and well-known medical research injustice, the United States Public Health Service Study of Untreated Syphilis at Tuskegee left a legacy of mistrust. The experiment was conducted in Alabama from 1932-72, and deceived and bribed 600 black subjects into participating in research that observed the progression of syphilis without treatment even though a cure existed. It had the full support of the US Public Health Service and the medical and scientific communities. President Clinton issued a formal apology on behalf of America to survivors of the experiment (Bhopal, 1998).

Therefore, engaging in research, may not be as appealing to minority students given these findings. While research is essential for the furtherance of scientific knowledge it is crucial that we are aware of how it impacts the communities it purportedly is meant to help. There is something deeply unethical about testing medications on minority groups and then financially barring these groups from acquiring the good due to the exorbitant costs of the drug when it finally becomes available.

The hardline requirement of research should be eliminated since it acts as another barrier to UIM acceptance into dermatology residencies. For instance, besides the unethical history of medical research, Black and brown students might find it difficult to find someone willing to do research with them because of implicit bias against their race and the lack of mentorship in the field. By eliminating this expectation in dermatology, we would be removing an additional barrier for minorities wishing to pursue dermatology. Increasing racial diversity in dermatology would probably also improve access to research opportunities for future minority applicants interested in research-focused careers within dermatology.

As it stands, there is a dearth of mentorship and advocacy for underrepresented minorities within dermatology and this poses major challenges to increasing diversity in the field. A mentor for a medical student is a role model that helps as a guide for the trainee's personal and professional interest and development. The mentoring relationship is a crucial component in academia as it incorporates elements of other relationships, such as parenting, coaching, and guildmastering (Guston, 1993). One component within dermatology is the hidden curriculum, which is subconscious learning through observing senior dermatologists and colleagues. Through this observation, a medical student can understand and absorb various ethical values and the true art of medicine. One can have emotional support and reassurance through training in mentorship. However, within recent times through the pandemic, there is a lack of mentorship especially in the field of dermatology. Medical students are not able to connect and invest time with senior colleagues in a mentorship. This can also affect a lack of research opportunities for medical students (Hussain et al., 2022).

Finding black mentorship in dermatology is particularly challenging. Among current dermatologists in the general population today, there are only 3% of Black and 4% Hispanic dermatologists even though 12.8% of Americans are Black and 16.3% are Hispanic (Xierali et al., 2020). Although there are not enough race and gender concordant senior faculty to mentor every UIM individual in academia, the objective should be to identify senior faculty mentors who can bridge the cultural divide and mentor junior faculty from all backgrounds. Departments around the country should consider having a formal process for ensuring UIM students have mentors within and/or outside their institution and incorporate an evaluation system to assess the success of these relationships (Okoye, 2020). Although countless studies have highlighted the importance of promoting diversity in the medical workforce, major disparities still exist. UIM academic faculty are promoted at lower rates, and both faculty and trainees report feelings of isolation and lower career satisfaction (Bonifacino et al., 2021). Unintentional microaggressions and bias are often subtle but have shown to affect crucial aspects of the promotion process, including letters of recommendation, evaluations, and grant reviews (Okoye, 2020). Dismantling the institutional racism that clearly exists within medicine and academia will be pivotal in promoting UIM physicians to prominent positions in academic medicine. The creation of effective diversity task forces within academic departments would be beneficial in expanding efforts to both recruit and retain minority candidates. Racial quotas may be necessary to help departments struggling to recruit UIM students albeit controversial. Elite institutions such as University of Pennsylvania have recently implemented diversity tracks that reserve spots within their dermatology residency class for UIM students. Applicants matching in this track are paired with

mentors with experience in Skin of Color, diversity, advocacy, volunteerism, and mentorship of underserved populations (Taylor & Ogunleye, 2022).

The topic of diversity has been brought more to the spotlight from the George Floyd tragedy and others, a subject within this specialty that has been neglected for many years (Brieva et al., 2021). Recently there has been a push for medical programs to recognize the existence of bias and how this influences minority recruitment and treatment of minority staff. Therefore, there should be a concerted effort to enhance minority attainment in dermatology programs especially in urban environments with large Black and brown populations. Increasing recruitment will first and foremost help patients feel more comfortable around medical professionals and thereby improve exchange of information leading to more optimal health outcomes. Unfortunately, many dermatologists feel their education has not prepared them to properly diagnose and manage skin diseases or disorders in persons of color. This health gap needs to be addressed and remedied. Not only should the goal be to incorporate specific topics in lecture but also within the clinical practice. To allow exposure to all various skin of color and different areas of the city or town (Lester & Taylor, 2021). By increasing collaboration among diverse dermatology residents and providers, it will help alleviate health disparities that exist within this specialty. Studies have shown that minority physicians are more likely to care for patients in underserved communities and race-concordant physicians may be better able to relate to their patients because of similar life experiences or interests. A hopefully stronger therapeutic relationship would lead to improved health outcomes for patients. (J.D. et al 2021). In addition to this, raising awareness through the development of diverse health policies which would allow for

increased access to healthcare for historically marginalized groups. Evidence based practice strategies such as identifying and addressing social determinants of health such as poverty, education, and access to health care along with governmental advocacy can further help reduce health disparities and grow the health care system in a more positive way (Buster et al., 2012). Improving access to care could entail expanding insurance coverage and increasing the availability of community health clinics as well as collaborating with local organizations and advocates to help identify and respond to the unique needs of different populations. Collaborating with these groups can also help to build trust and improve the effectiveness of interventions.

Academic departments should focus on expanding diversity by reassessing the residency application and selection process (Lester & Taylor, 2021). Two examples are the dermatology departments of the University of California: San Francisco and the University of Pennsylvania. They are expanding their diversity by completing a holistic review of selecting residents without screening for the US Medical Licensing Examination scores. This is a huge component contributing to the systemic bias within this profession (Lester & Taylor, 2021). With the recent change in how the USMLE Step 1 is graded from a three digit-numerical score to a pass/fail result, it will take a few years before it can be seen how significant an impact this could have on increasing diversity ranks in dermatology or other specialties that in the past typically required exceptionally high USMLE scores to attain positions in residency programs. Step 1 has historically disadvantaged UIM applicants who wish to apply into dermatology since on average they have lower mean Step 1 scores. A 2019 study by the NBME (National Board of Medical Examiners) showed that compared to White males, female students scored 5.9 points

lower, while Asians, Hispanic/Latino, and Black test-takers scored 4.5, 12.1, and 16.6 points lower, respectively, on the USMLE step 1 (Williams et al., 2020). Dermatology departments generally rely on Step 1 to stratify applicants. Though this will be eliminated now that the exam is pass/fail. Emphasis may shift to attaining high Step 2 scores and producing more publications. Interestingly, there is no data to be found stratifying Step 2 scores by race. This will likely change with the increased importance Step 2 has assumed as the only scored medical licensing exam taken in medical school. It will still be necessary to achieve high clinical marks but emphasis on this may change too as some studies suggest these grades are often biased since a large portion of the grade is based on subjective elements rather than objective measures such as a written exam. However, it is important to note that within the past few years many specialties within medicine have started to shift focus to evaluating applicants on a holistic basis. One that considers not only the academic prowess of a student but also the adversity they faced to achieve their current level of success. Whether or not these changes will have any tangible effect on the typical dermatology applicant profiles remains to be seen, but the idea is that there will be an increase in underrepresented medicine applicants to fields like dermatology and orthopedic surgery. Hopefully, these changes do increase the numbers of UIM physicians in all medical fields. This will improve health care delivered in urban settings since these physicians are more likely to practice in disparate and underserved communities (Silver et al., 2019). This would have the additional effect of combating racial insensitivity in medicine.

Racial insensitivity in medicine can be problematic for patients in several ways. An example is if a healthcare provider is racially insensitive, they may not provide the

same quality of care to patients of certain races. This can result in patient not receiving appropriate treatment of diagnoses, which can have serious consequences for their health and well-being. Racial insensitivity can also lead to a lack of trust between healthcare providers and patients from certain racial backgrounds. This can make patients less likely to seek medical care when they desperately need it, leading to worsening health outcomes and increased financial stress on the health care system since prevention is key to lowering health costs.

Efforts have been undertaken to try and improve racial sensitivity in medicine as this could help increase diversity in the health care profession. An innovative initiative for professional educational experience was developed in 2013 by the American Medical Association called Accelerating Change in Medical Education (ACE) (Lomis et al., 2021). Medical students focused on competency approaches throughout their education that focused on an individualized training and enhanced learning environment to better provide safe patient care. Specific elements within the transformational leadership model were expressed and used such as inspirational motivation, idealized influence, individualized consideration, and intellectual stimulation (Lomis et al., 2021). Within the ACE program, students can complete a diversity and inclusion assessment to review for potential bias throughout lectures and modules to better enhance diversity and focus on holistic methods (Lomis et al., 2021). This specific program focuses on mentorship to identify and appreciate diversity and bring awareness to students. Programs such as these have helped promote some progress in creating an atmosphere for minorities to be successful in health care. In a study completed from 1970 to 2018, there was significant growth in faculty size in academic dermatology departments. Nationally, the number of

full-time faculty increased from 167 in 1970 to 1464 in 2018. Although UIM individuals made up a lower overall proportion of dermatologists, women became the majority of both UIM and non-UIM dermatology department faculty (Xierali et al., 2020). While it should be applauded that women are succeeding in dermatology, it should be investigated why in particular black men are not choosing to enter the field. Is this group more disadvantaged when applying into dermatology? Could there exist some implicit bias in the field of dermatology against UIM men? Beyond this, it should also be noted how the UIM relative percent change in representation has not increased commensurate with the burgeoning UIM population from 1970 to 2018. Clearly, this demonstrates that something needs to be done.

One organization known as The Skin of Color Society has taken a huge lead within dermatology by being an innovative leadership organization guiding underrepresented minorities by focusing on three foundational pillars: education, mentorship, and research (Desai et al., 2021). The organization's goal is to increase the amount of diversity within the field of dermatology and improve access to care for skin of color patients. The first step is by going out into the community high schools to help encourage and support students to choose the pathway of medicine. This can help guide younger students to focus more on their education and help them pursue a career. Physicians are able to help by participating in career days in high school and be mentors to minority students (Brieva et al., 2021). The Skin of Color Society can help mentor medical students to bring diversity and cultural awareness to better provide care to all skin of color patients. In addition, patients can also help find a physician through the doctor database. This organization is an invaluable resource to all those who care about

treating skin of color individuals. They hold multiple conferences each year and are currently addressing the racial disparities that exist relating to clinical research. They plan to begin a clinical trial that defines the scope of the problem, challenges impeding progress, and creating recommendations to overcome these barriers (Desai et al., 2021).

There should be a concerted effort on behalf of academic dermatology departments to accept skin of color applicants into residency programs. The selection committee can value cultural awareness and competence. There have been many evident studies that present race-concordant visits as having an increased patient positive affect towards one's health and wellness compared to race-discordant visits. While DEI (Diversity, Equity, and Inclusion) efforts have been ongoing for decades, the current efforts within the field of dermatology have increased in scope and intensity after Bruce Wintroub, MD, and Henry W. Lim, MD, addressed the importance of DEI in 2016 and 2017, respectively. In Dr. Lim's American Academy of Dermatology inaugural address, he highlighted that the face of dermatology should reflect the face of our patients, as he decided to spearhead a diversity initiative (Desai et al., 2021). The AAD now places higher emphasis of DEI and diversity focused sessions at AAD annual meetings have increased from 2.5% in 2013 to 6.8% in 2019 (Seale et al., 2021). This has the effect of influencing more academic dermatology departments to practice holistic review of residency applicants, considering factors such as cultural competence, resilience, and distance traveled (Desai et al., 2021). There is also a deliberate and focused effort to address the inadequate educational training for skin-of color conditions, particularly in Black patients (Buster et al, 2012). Skin of color topics are more frequently and heavily featured in AAD educational activities to address this gap. The goal is to further increase

inclusion of topics on skin of color, such as health disparities, implicit bias, and cultural humility (Desai et al., 2021).

Increasing the ethnic representation among dermatologists can lead to improved patient outcomes for disadvantaged Black and brown populations. One method to accomplish this would be to allocate more state and federal funding to open dermatology residency positions across the United States and reserve spots for UIM students. Minority dermatologists are more likely to practice and provide care to patients of their own race or ethnic group and patients with no health insurance, poor health status, and Medicaid insurance (Pandya et al., 2015). It is imperative that the access to health care be loosened as this will help address the increasing racial health discrepancies in dermatology. There can be increased difficulty in diagnosing disorders in Black skin as many textbooks fail to present many pictures of Black skin with disease as opposed to white skin. Scholars are examining the role of the hidden curriculum in medical and residency training. The hidden curriculum impacts medical education which in turn affects patient care. In the formal curriculum, race is emphasized in patient and equality of care, but overall there is inequality in representation of race throughout school lectures and clinical training (Karnieli-Miller et al., 2011). This leads to the health disparities that exist in our society today especially regarding a visual field such as dermatology. Medical student not taught with pictures and case scenarios representative of the general population will undoubtedly have issues healing these patients in their professional careers.

CHAPTER 4: POPULATION HEALTH IMPACT RESULTING FROM LACK OF DIVERSITY

Dermatologic health disparities including skin cancer and atopic dermatitis are commonly seen in Black race and multi racial backgrounds. The 5 year melanoma survival rate for Black people is 74.1% compared to 92.9% in White patients. However, it is common that certain dermatologic disorders are not diagnosed in a timely manner. Factors that affect health outcomes beyond race include urban population settings, health insurance, and access to healthcare (Buster et al., 2012). This is evidence that inequality in treatment exists between races in dermatology. Another example of structural racism that exists in dermatology is the correlation between residential Black segregated people with pediatric atopic dermatitis (Lester & Taylor, 2021). Environmental injustice clearly affects the skin as communities of color are disproportionately victimized by environmental hazards and are more likely to live in areas with heavy pollution and are more likely to die of environmental causes. The burdens of pollution, toxic waste, and poisoned resources are not distributed equally across society (Patnaik et al., 2020). Pediatric atopic dermatitis has multifactorial causes, but environment is a major player in the pathogenesis of this disease.

A cross-sectional study of 19 Black patients including a survey and focus group was done April through June 2015 regarding Black adult patients being treated in a skin of color clinic (SOCC) at Northwestern University Feinberg School of Medicine in Chicago, Illinois. These patients felt that their SOCC dermatologists were better trained to take care of skin of color patients compared to non-SOCC dermatologists. Patients felt

that the SOCC had greater respect, trustworthiness, and understanding regarding black skin and hair (Gorbatenko-Roth et al., 2019). SOCC dermatologists provide a unique beneficial care to skin of color patients, care that incorporates interpersonal style and specific knowledge about black skin. Care satisfaction would increase if there were more SOCC dermatologists along with enhanced residency training about cultural competency, cost-conscious care, and communication skills (Gorbatenko-Roth et al., 2019).

An area in which cultural competency is incredibly important involves black hair. Black hair provides a sense of identity and community, especially those with tightly coiled hair. The embodiment theory is a common cultural anthropology posits of which we both *have* and *are* bodies (Jones & Heath, 2021). The idea is that we engage the world through the lens of our unique body and are molded by that experience. This further translates into how people view others' perceptions of their own bodies and provides a context for how individuals interact with each other. This socio-cultural dynamic plays out in the outpatient office where patients of color may presume that a non-person of color may not understand their concerns as well as a provider with whom there is a sense of shared identity. The ability to effectively collaborate may sometimes be lost if the provider is not culturally aware and just one or two wrong words can ruin a patient's visit and faith in future interactions resulting in poor health outcomes.

While non-UIM dermatologists can be excellent when it comes to diagnosing and treating people of color, when treatments fail to work for a black woman or man, she or he is more likely to believe they were not adequately treated if the doctor is a race other than theirs. However, by becoming more race-cognizant and sensitive to their specific

issues both UIM and non UIM dermatologists can improve the care they deliver to all their patients.

CHAPTER 5: EMBRACING DIVERSITY AND BIOETHICAL PRINCIPLES TO IMPROVE THE FUTURE OF DERMATOLOGY AND HEALTHCARE

Unfortunately, it is often apparent that individuals of color feel that they matter less because of their skin tone and that certain doctors do not understand their individual plight as well as others of the same race might. Frequently, Black women would express frustration with how hard it is for them to find Black dermatologists to treat their hair ailments. By increasing skin of color recruitment in dermatology we can begin to change this sad reality. Medicine should adhere to the core ethical principles of beneficence, nonmaleficence, autonomy, and justice. By adhering to these essential tenets, physicians can build meaningful and honest relationships with their patients which translates to clinically superior care.

A physician's goal should be first and foremost establishing trust with a patient since this is what allows for an ideal patient-physician relationship where information and ideas are easily conveyed, and time is optimized. However, due to years of racial oppression and unethical experiments done on Black and brown people, it is no surprise there exists a profound distrust amongst minorities for the medical system. Events like the United States Public Health Service Study of Untreated Syphilis at Tuskegee and the University of Pennsylvania prison experiments create a painful legacy for how America has treated its most vulnerable populations.

Systemic and structural racism not only hurts skin of color individuals but also damages the health and happiness of the collective society. As we continue to integrate varying cultures and races together, there will be a greater need to have a physician

workforce that mirrors the populations they serve. While there is a push in the medical field to increase diversity amongst the ranks of physicians, there still seems to exist inherent biases or rather a difficulty to realize internal and collective bias especially within the field of dermatology. By identifying these biases and addressing them, there can be change in the right direction toward greater inclusivity. Despite all this, there may be less interest in medicine in general amongst Black and brown youth as cultural changes continue to shape the future generations. Studies are ongoing to determine the long-term impact Covid-19 will have on medical field recruitment. The pandemic has had a disproportionate economic impact on minority communities. Many people of color, particularly those in low-income or hourly wage jobs, have lost their jobs or faced reduced hours because of the pandemic leading to higher levels of financial insecurity with increased risk for homelessness and food insecurity. This shock could further depress the numbers of minority students entering the field of medicine since they already had less economic resources, and many also lost family members and thus lost the social and psychological support necessary to get into and complete medical school.

In conclusion, the field of dermatology has historically been lacking in diversity, particularly when it comes to underrepresented minorities. This lack of diversity can have serious consequences for these groups, as they may not have access to the same quality of care as the majority population. It is therefore important for the field of dermatology to prioritize diversity and inclusion, to ensure that all patients have access to the best possible care. This is not just a matter of fairness, but also of ethical responsibility. By taking steps to increase diversity within the field, dermatologists can better serve their patients and uphold the principles of urban bioethics.

BIBLIOGRAPHY

- Akhiyat S, Cardwell L, Sokumbi O. (2020). Why dermatology is the second least diverse specialty in medicine: How did we get here? *Clinical Dermatology*, 38(3), 310-315. Doi:10.1016/j.clindermatol.2020.02.00
- Anthony, E. (2022, October 7). Philadelphia apologizes for experiments on Black inmates. *The Associated Press*. <https://www.npr.org/2022/10/07/1127406363/Philadelphia-apologizes-for-experiments-on-black-inmates>
- Bhopal, R. (1998). Spectre of racism in health and health care: lessons from history and the United States. *BMJ*, 316(7149). Doi:10.1136/bmj.316.7149.1970
- Bhutta, N., Chang, A., Dettling, L., & Hsu, J. (2020). Disparities in wealth by race and ethnicity in 2019 survey of consumer finances. *Board of Governors of the Federal Reserve System*. <https://www.federalreserve.gov/econres/notes/feds-notes/disparities-in-weath-by-race-and-ethnicity-in-the-2019-survey-of-consumer-finances>
- Bonifacino, E., Ufomata, E., Farkas, A., Turner, R., & Corbelli, J. (2021). Mentorship of underrepresented physicians and trainees in academic medicine: a systematic review. *Journal of General Internal Medicine*, 36(4), 1023-1034. Doi: 1007/s11606-020-06478-7

Brieva, P., Brown, S., Desai, S., Downie, J., Hartman, C., Levin, M., Nduaka, C.,

Peebles, R., & Shacknai, J. (2021). Diversity and inclusion in dermatology: the impact of systematic racism in dermatology and opportunities for change.

Practical Dermatology. <https://practicaldermatology.com/articles/2021-mar-supplement/diversity-and-inclusion-in-dermatology-the-impact-of-systemic-racism-in-dermatology-and-opportunities-for-change>

Buster, K., Stevens, E., & Elements, C. (2012). Dermatologic health disparities. National

Library of Medicine. Doi: 10.1016/j.det.2011.08.002

Crampton, D. (2018, October, 19). Gerrymandered school districts perpetuate segregation

by keeping low incoming students out, which is bad for economic growth.

Washington Center for Equitable Growth.

<https://equitablegrowth.org/gerrymandered-school-districts-perpetuate-segregation-by-keeping-low-income-students-out-which-is-bad-for-economic-growth/>

Desai, S., Khanna, R., Glass, D., Alam, M., Barrio, V., French, L., Gohara, M.,

McKinley-Grant, L., Harvey, V., Heath, C., Mariwalla, K., Pentland, A/, Piliang,

M/, Pourciau, C., Taylor, S., Wu, P., Grimes, P., & Lim, H. (2021). Embracing

diversity in dermatology: the creation of a culture of equity and inclusion in

dermatology. *International Journal Women's Dermatology*, 7(4), 378-382.

Doi:10.1016/j.ijwd.2021.08.002

Fry, R., Kennedy, B., & Funk, C. (2021). STEM jobs see uneven progress in increasing gender, racial, and ethnic diversity. *Pew Research Center*.

<https://www.pewresearch.org/science/2021/04/01/stem-jobs-see-uneven-progress-in-increasing-gender-racial-and-ethnic-diversity>

Frenk, J., Chen, L., Bhutta, Z., Cohen, J., Crisp, N., Evans, T., Fineberg, H., Garcia, P.,

Ke, Y., Kelley, P., Kistnasamy, B., Meleis, A., Naylor, D., Pablos-Mendez, A., Reddy, S., Scrimshaw, S., Sepulveda, J., Serwadda, D., & Zurayk, H. (2010).

Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet*. Doi: 10.1016/S0140-6736(10)61854-5

Ginther, D., Schaffer, W., Schnell, J., Masimore, B., Liu, F., Hakk, L., & Kington, R.

(2011). Race, ethnicity, and nih research awards. *National Library of Medicine*. Doi: 10.1126/science.1196783

Ginther, D., Schaffer, W., Schnell, J., Masimore, B., Liu, F., Haak, L., & Kington, R. (

2012). Race, ethnicity, and nih research awards. *Science*, 333(6045), 1015-1019. Doi: 10.1126/science.1196783

Gorbatenko-Roth, K., Prose, N., Kundu, R., & Patterson, S. (2019). Assessment of black

patients' perception of their dermatology care. *JAMA Dermatology*, 155(10), 1129-1134. doi:10.1001/jamadermatol.2019.2063

Guevara, J., Wade, R., & Aysola, J. (2021). Racial and ethnic diversity at medical schools-why aren't we there yet? *The New England Journal of Medicine*, 1732-1734. Doi: 10.1056/NJMp2105578

Guston, D. (1993). Mentorship and research training experience. *Responsible Science: Ensuring the Integrity of the Research Process*. <https://www.ncbi.nlm.gov/books/NBK236193>

Harmon, G. (2021, July, 14). The expansion of telehealth services must be sustained. *American Medical Associates*. <https://www.ama-assn.org/about/leadership/expansion-telehealth-services-must-be-sustained: text=The%20expansion%20of%20physician%2Dbased,health%20outcom%20for%20patients%20everywhere>.

Hill, L., Ndugga, N., & Artiga, S. (2023, March, 15). Key data on health and health care by race and ethnicity. *KFF The Washington Post*. <https://www.kff.org/racial-equity-and-health-policy/report/key-data-on-health-and-health-care-by-race-and-ethnicity/>

Hussasin, K., Patel, N., Fearfield, L., & Roberts, N. (2022). Mentorship in dermatology: a necessity in difficult times. *Clinical and Experimental Dermatology*. 622-623. Doi: 10.1111/ced.15071

Hornblum, A. (1998). Acres of skin human experiments at Holmesburg prison. U.S.

Department of Justice Office of Justice Programs.

<https://www.oip.gov/ncjrs/virtual-library/abstracts/acres-skin/human/experiments/at/Holmesburg/prison>

Inequality in public school funding: key issues & solutions for closing the gap. (2020,

September, 10). School of Education Online Programs Retrieved on: December

29, 2022. <https://soeonline.american.edu/blog/inequality-in-public-school-funding/>

Jones, N & Heath, C. (2021). Hair at the intersection of dermatology and anthropology

conversation on race and relationships. *Pediatr Dermatol.* 158-160. Doi:

10.1111/pde. 1472

J.D., L., Sverdlichenko, I/. Siddiqi, J., & Khosa, F. (2021). Barriers to diversity and

academic promotion in dermatology: recommendations moving forward. *Karger,*

237, 489-492. <https://doi.org/10.1159/000514537>

Karnielli-Miller, O., Vu, R., Frankel, R., Holtman, M., Clyman, S., Hui, S., & Inui, T.

(2011). Which experiences in hidden curriculum teach students about

professionalism? *Aca Med* 86(3), 369-377. Doi:

10.1097/ACM.0b013e3182087d15

Khabele, D., Holcomb, K., Connors, N., & Bradley, L. (2021). A perspective on James

Marion Sims, MD, and antiblack racism in obstetrics and gynecology. *Journal of Minimally Invasive Gynecology*, 28(2), 153-155. Doi: 10.1016/j.jmig.2020.10.027

Kricorian, K., Seu, M., Loez, D., Ureta, E., & Equils, O. (2020). Factors influencing participation of underrepresented students in STEM fields: matched mentors and mindsets. *International Journal of STEM Education*.
<https://doi.org/10.1186/s40594-020-00219-2>

Lester, J & Shinkai, K. (2019). Diversity and inclusivity are essential to the future of dermatology. *MDEdge*. Retrieved from: https://cdn.mededge.com/files/s3fs-public/Lester%20commentary%20CT104002099_0.PDF

Lester, J., Taylor, S. (2021). Resisting racism in dermatology, a call to action. *JAMA Dermatology*. 157(3), 267-268. Doi: 10.1001/jamadermatol.2020.5029

Lomis, K., Santen, S., Dekhtyar, M., Elliott, V., Richardson, J., Hammoud, M., Hawkins, R., & Skochelak, S. (2021). The accelerating change in medical education consortium: key drivers of transformative change. *Academic Medicine* 96(7), 979-988. Doi: 10.1097/ACM00000000000003897

Ly, D. (2022). Historical trends in the representativeness and incomes of black physicians, 1900-2018. *Journal of General Internal Medicine*, 37(5), 1310-1312. Doi:10.1007/s11606-021-06745-1.

Morgan, I. (2022, November 30). An analysis of school funding equity across the U.S.

and within each state. *The Education Trust*. <https://edtrust.org/resource/equal-is-not-good-enough/>

Nuriddin, A., Mooney, G., & White, A. (2020). Reckoning with histories of medical

racism and violence in the USA. *The Lancet*, 396 (10256), 949-951.

[https://doi.org/10.1016/S140-6736\(20\)32032-8](https://doi.org/10.1016/S140-6736(20)32032-8)

Okoye, G. (2020). Supporting underrepresented minority women in academic

dermatology. *International Journal of Women's Dermatology*, 6(1), 57-60. Doi:

10.1016/j.ijwd.2019.09.009

Patnaik, A., Son, J., Feng, A., & Ade, C. (2020, August 15). *Racial disparities and*

climate change. PSCI.[https://psci.princeton.edu/tips/2020/8/15-racial-](https://psci.princeton.edu/tips/2020/8/15-racial-disparities-and-climate-change/)

[disparities-and-climate-change/](https://psci.princeton.edu/tips/2020/8/15-racial-disparities-and-climate-change/)

Patton, D., Eschmann, R., & Butler, D. (2013). Internet banging: new trends in social

media, gang violence, masculinity, and hip hop. *Computers in Human Behavior*, 5

4-59. <https://doi.org/10.1016/j.chb.2012.12.035>

Redford, G. (2021, October, 12.) New report finds wide pay disparities for physicians by

gender, race, and ethnicity. *AAMC News*. <https://www.amc.org/news-insights/new-report-finds-wide-pay-disparities-for-physician-by-gender-race-and-ethnicity>

Rojek, N. (2018, September, 26). It is time to rethink the current dermatology residency application process. *Next Steps in Derm*. <https://nextstepsinderm.com/resident-corner/navigating-residency/its-time-to-rethink-the-current-dermatology-residency-application-process/>

Scharff, D., Mathews, K., Jackson, P., Hoffsuemmer, J., Martin, E., & Edwards, D.

(2010). More than Tuskegee: understanding mistrust about research participation. *Journal Health Care Poor Underserved*, 21(3), 879-897. Doi: 10.1353/hpu.0.0323

Seale, L., Awosika, O., & Lim, H. (2021). Trends in sessions in diversity at the American academy of dermatology annual meetings: 2013-2019. *International Journal of Women's Dermatology*, 7(2), 197-198.

<https://www.sciencedirect.com/science/article/piiS235264752100204>

Secret, A., Coman, G., Swink, J., & Duffy, K. (2021). Limiting residency applications to dermatology benefits nearly everyone. *The Journal of Clinical and Aesthetic Dermatology*, 14(7), 30-32.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8570359>

Silver, J., Bean, A., Slocum, C., Poorman, J., Tenforde, A., Blauwet, C., Kirch, R.,

Parekh, R., Amonoo, H., Zafonte, R., & Osterbur, D. (2019). Physician workforce disparities and patient care: a narrative review. *Health Equity*, 3(1), 360-377. Doi: 10.1089/heq.2019.0040

Spencer, S., Steele, C., & Quinn, D. (1999). Stereotype threat and women's math performance. *Journal of Experimental Social Psychology*, 35(1), 4-28.
<https://doi.org/10.1006/jesp.1998.1373>

Taylor, S & Ogunleye, T. (2022). Diversity & community track (dermatology diversity and community engagement residency position). *Penn Medicine Dermatology*.
Dermatology.upenn.edu/residents/diversity-community-track

Tween and teen health. (2022, February 26,). Mayo Clinic.
<https://www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/teens-and-social-media-use/art-20474437>

Williams, M., Kim, E., Pappas, K., Uwemedimo, O., Marrast, L., Pekmezaris, R., & Martinez, J. (2020). The impact of United States medical licensing exam (USMLE) step 1 cutoff scores on recruitment of underrepresented minorities in medicine: a retrospective cross-sectional study. *Health Science Reports*, 3(2).
<https://doi.org/10.1002/hrs2.161>

- Wilson, B., Murase, J., Sliwka, D., & Botto, N. (2021). Bridging racial differences in the clinical encounter: how implicit bias and stereotype threat contribute to health care disparities in the dermatology clinic. *International Journal Women's Dermatology*, 7(2), 139-144. Doi:10.1016/j.ijwd.2020.12.013
- Xierali, I., Nivet, M., & Pandya, A. (2020). US dermatology department faculty diversity trends by sex and underrepresented- in-medicine status, 1970 to 2018. *JAMA Dermatology* 156(3), 280-287. Doi: 10.1001/jamadermatol.2019.4297
- Quick Facts United States. (2021). U.S. Census Bureau.
<https://www.census.gov/quickfacts/fact/table/US/PST045221>