Assessment of Diversity Outcomes in American Medical School Admissions: Applying the Grutter Legitimacy Principles

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Abstract: In the last 30 years, except for female participation, the enrollment of Latinx, African Americans, Native Americans, Alaskan natives, and disadvantaged students in medical school has been constant; however, increasing enrollment of these minority populations is feasible, if admissions committees make two changes in approach. First, the traditional belief that matriculation merit is a linear function of past academic performance must be rejected. Second, once the threshold needed to complete medical school in four years and to pass licensing examinations at the first attempt has been met, all candidates are equally qualified, and matriculation decisions must be based, in part, on societal interests. In Grutter vs. Bollinger, the United States Supreme Court determined that graduate admission committees can and should consider societal interests. Each admission decision represents a substantial government investment in each student, as the Medicare Act directly subsidizes much of the cost of medical education. As Grutter explained, there is a societal interest in the public having confidence in, and access to, the medical school training that will prepare tomorrow’s medical, professional, and political leaders. Our analysis suggests that medical school admissions are biased towards academic achievement in matriculants, beyond acceptable thresholds for graduation and licensure. We believe medical schools must shift their admissions strategies and consider noncognitive factors in all candidates as determinative once minimum acceptable academic standards have been met.

Keywords: Grutter vs. Bollinger; undergraduate grade-point average (GPA); Medical College Admission Test (MCAT) score; widening access; social justice; diversity and inclusion; medical school admissions; legitimacy principles; non-cognitive

1. Introduction

Medical student selection shapes the quality and character of the medical profession. The process therefore has an outsized importance in the public perception of the healthcare system’s legitimacy. Recognizing this dynamic, many nations have expressed an intention to widen the participation of underrepresented groups among the ranks of physicians. Despite a variety of underlying strategies, legal regimes, and social conditions, success has been scant. We propose that this is due to a conceptual paradigm that misconceives trainee quality and sees it in opposition to diversity. Using the United States as a case study, we briefly review the development of this ideology and then examine the underlying evidence for past academic performance as a measure of medical school performance. Finally, we offer a new framework for understanding priorities in trainee selection.
2. Background

While open, active opposition against widening access is unusual, opposition lies in institutional beliefs and norms regarding diverse students lacking the resources, incentive, and, cumulatively, the academic preparation to be successful [1]. Such beliefs have a long legacy within American medical education. The Flexner report was transformative, emphasizing academic standards and basic science curricular elements to professionalize the discipline. In addition to review of applicants’ prior academic performance, it would also spur the widespread adoption of standardized entrance exams. While studies of medical student attrition better supported a threshold effect than a linear relationship between past academic achievement and graduation as early as the 1960s [2], medical schools have tended to prefer selecting among the highest scorers [1,3]. The report also acknowledged the importance of minority representation in the medical field. However, as Flexner’s critics have noted, and the report itself conceded, adopting its whole body of recommendations would have the perverse effect of reducing participation from marginalized groups unless there were significant efforts to address underlying inequities in the social structure [4]. Both points were largely ignored, and in consequence the majority of medical schools supporting female and African American enrollment closed. In consequence, sharp improvements in the quality of medical care coincided with steep declines in medical training for females, minorities, and individuals from low-income households.

This trend would not be challenged for several decades, until the advent of the Civil Rights movement in the 1960s. While programs were initially designed to correct historic injustices, emergent evidence later highlighted the intrinsic benefits of diverse learning environments [5]. Regardless, these efforts have proved a significant flashpoint for public controversy. A UK initiative to broaden access to higher education was denounced as the work of “Trotskyists”; senior politicians tellingly insisted, “Academic merit and potential should be the only factors in deciding university admissions” [6,7]. Though such policies are now widespread in the UK, actual improvement in recruitment has proved difficult [1]. In Canada, where medical schools have attempted to address the problem with a similar policy program, the perceived prestige of higher grade-point average (GPA) and Medical College Admission Test (MCAT) scores is noted as a major barrier to effective implementation [8,9]. A study of Danish medical school admissions found that applicants from diverse backgrounds performed equally as well as more traditional students on attributes-based admissions procedures, but significantly worse when cognitive tests were the primary determinant [10]. This rhetoric is borrowed even where it does not obviously apply. In Japan, a scandal to reduce female participation in medical school chose to do so by manipulating entrance exam scores [11]. That the conspirators cloaked their actions in the guise of concerns around academic excellence rather than many other possible points of intervention speaks to the power of this narrative.

Alternative views asserting the value of diversity have at best co-existed with this more traditional formulation of excellence as academic linearity. More precisely, this seems to evidence a trust gap between declared policies around diversity, equity, and inclusion (DEI) versus the perception of both administrators and the general public. Public perception of DEI efforts has been relatively less explored in the medical literature. Doing so may offer important insights. Medical education is a subsidized endeavor in most countries, thereby representing an expression of governmental policy. According to the systems theory of political science, in liberal democracies such systems are dependent on public trust [12]. In policy-making, trust has been shown to reduce transaction costs [13]. High trust conditions increase compliance with new processes and regulations because participants accept them as both credible and sincere, thereby improving efficacy [14]. Such a dynamic led administrators at the University of Michigan to employ innovative tactics like the 1% solution to achieve significant improvements in student and faculty diversity during the 1980s. [15,16]. The converse of this principle is readily observed in the hidden curriculum of medical education: faculty members without confidence in DEI initiatives undermine them through non-compliance [17]. These dynamics become even more apparent when considering the case of the United States.
In comparison to the contretemps of the international experience, the American iteration magnifies the issues in ways that lend themselves to study. Its DEI efforts in higher education have been extensively litigated in a series of Supreme Court rulings in 1978, 2006, and 2016 [18–22]. This forced all parties to articulate their reasoning at length. Each plaintiff centered their claim on the notion that because they had better prior academic performance than some accepted students, they were necessarily more meritorious. The most important of these cases in shaping the general population’s attitude towards the role of diversity in medical education was Bakke vs. University of California [18]. The Supreme Court’s decision set the tone for subsequent debate around the topic, stressing fairness for the individual applicant and rhetorically positioning academic merit as a force at odds with the desire for diversity. Most crucially, it accepted the premise that the candidate’s prior academic performance rendered him a more meritorious candidate for admission.

Currently, medical school admission decision-making focuses almost exclusively on individual justice. The admissions committee’s work primarily consists of determining the applicant’s academic merit and personal qualifications. The goal is to be objective, and as fair as possible to the individual. Undergraduate academic transcripts are examined, Medical College Admission Test scores considered, and letters of recommendation reviewed. Reinforced by habit and litigation alike, the belief that matriculation “worthiness” is primarily a linear function of past academic performance prevails [3]. By this logic, the candidate with the higher grade point average (GPA) and/or MCAT score is better qualified, and, hence, more meritorious. Indeed, most graduate admissions litigation is rooted in a claim that the qualification determination was faulty. The matriculating institution’s interest in considering race or other non-cognitive factors has been insufficient justification for any significant deviation from strict academic linearity [18,19].

In a 2003 decision, Grutter vs. Bollinger, [21] the Supreme Court evaluated the University of Michigan Law School’s admissions policies. They determined a broader, more holistic admission analysis was warranted, beyond merely academic achievement. The legitimacy principles articulated in the Grutter [21] decision provide guidance for achieving those goals in medical school admissions and enhancing the learning environment.

The Grutter Court stated, “In order to cultivate a set of leaders with legitimacy in the eyes of the citizenry, it is necessary that the path to leadership be visibly open to talented and qualified individuals of every race and ethnicity. All members of our heterogeneous society must have confidence in the openness and integrity of the educational institutions that provide this training. As we have recognized, law schools “cannot be effective in isolation from the individuals and institutions with which the law interacts.” Access to legal education (and thus the legal profession) must be inclusive of talented cultures and qualified individuals of every race and ethnicity, so that all members of our heterogeneous society may participate in the educational institutions that provide the training and education necessary to succeed in America.” (Internal citations omitted) [21].

The Grutter decision [19] clearly articulated the need for a critical mass of diverse students [22] defined not by “checkbox diversity“ [23] or percentages, but by the benefits that a diverse student body brings. Benefits accrue not from the aggregate group of diverse members, but by the unique contributions of each student to the educational milieu. In a non-hostile social environment that lacks a critical mass, diverse members are less likely to express their unique ideas or perspectives [24–26]. In the hostile environment that characterizes most American medical schools [27], diverse students are even less likely to manifest their unique contributions. The parabolic relationship of critical mass means the limited number of racial/ethnic minorities at most schools constrains the educational benefits to all learners [28].

Since Grutter vs. Bollinger, significant shifts in medical school admission strategies have emerged. New assessment techniques include holistic reviews [29,30], multiple mini interviews (MMI) [31], and greater emphasis on humanity and social science preparation [32,33]. The hope that each shift in program emphasis would increase diversity enrollment has not been achieved. There is no evidence that the changes have made any significant difference. Admissions committees consistently believe
that matriculation merit is linearly related to past academic performance; a belief that is not empirically supported when applied beyond a minimum threshold for medical school and licensure success [3]. The use of the mean MCAT scores and undergraduate GPAs of accepted students as a marker of medical school quality by periodicals like U.S. News & World Report is an abuse that further encourages this trend. The resulting rankings raise public and medical school administration expectations that admissions committees select for the highest possible score for every incoming class.

The myth of academic linearity has been a substantial barrier to achieving medical school diversity, but it need not remain so. The goal of training “talented and qualified individuals” from “every race and diversity” as described by Grutter vs. Bollinger [21] can be achieved. The candidate pool with the qualifications to complete medical school is much more diverse than traditional matriculated classes would suggest. Diverse candidates who can complete medical school and pass their licensing examination on the first attempt are just as “qualified” as any other potential enrollee on those criteria. Medical school admissions committees must broaden their admissions criteria to make this judgment if they are to admit diverse student bodies.

3. Materials and Methods

This paper evaluates diversity outcomes produced by American medical school admission practices. Diversity will be defined as women, racial/ethnic minorities, and the economically disadvantaged. The disadvantaged refers to those matriculants whose combined parental income was less than $26,000, a rough approximation of the federal poverty line [34]. The working class shall be defined by the second and third quintiles of parental income (about $26,000–70,000). Combining the disadvantaged and working-class population represents two-thirds of all Americans, about 75% of African American/Blacks, 67% of Latinx, and 40% of Whites [35]. Racial/ethnic minorities refer to African American/Black, Latinx, Pacific Islanders, and Native Americans and Alaskan natives.

The analysis will only seek to answer the question of whether medical school admission is “visibly open” [21] to students who are academically qualified based only on their GPA and MCAT scores. The MCAT and GPA criteria utilized will be limited to that associated with the successful completion of medical school within four years without academic difficulty. In the United States, the GPA is a quantitative translation of its widely-used letter grading system, ranked from 0–4. The highest performance, an “A” grade would receive a 4.0, while every letter grade lower receives one point less. Sponsored in various forms by the American Association of Medical Colleges since the 1940s, the MCAT is a multi-choice standardized test divided into several sections deemed important for medical training. Its use as an admission aptitude test is near universal within the country. The analysis is limited to these two factors because they figure prominently in the Supreme Court medical school admissions cases [18–22], and they are universally significant in admission decision-making regarding granting both interviews and acceptance [36,37]. Our primary analysis will retrospectively analyze the longitudinal demographics of American medical school matriculants to understand whether the above-defined diverse applicants have meaningfully increased in proportion. Medical school matriculation is used as a proxy for graduation due to historically high graduation rates. Our secondary analysis will utilize publicly available outcomes data to investigate whether medical school performance is best modeled as a linear function of prior academic performance. The primary predictors in this analysis will be undergraduate GPA and MCAT score. The primary outcomes will be successful advancement in medical school and graduation rate. Successful advancement shall be defined as the completion of Year 2 in two years and completion of Step 1 USMLE on the first attempt, since the vast majority of students meeting these criteria go on to graduate on time. Comprehensive longitudinal data on medical school graduation rates for MD students remained stable from 1993–1994 through 2012–2013, varying from 82–84% (96% at six years) for all matriculants [38]. Hence, expected graduation rates above 85% in two years are deemed to have met academic standards in our analysis. Rather than new statistical analysis, we will focus on synthesizing existing reports and data.
Non-cognitive factors will not be considered. They have no uniformly agreed-upon definition [18] and have not been a feature of affirmative action litigation. The absence of any American data where student selection was independent of both GPA and MCAT scores necessitates that we assume the non-cognitive factors are equal.

American medical school graduates must pass the (USMLE) licensing examinations to be eligible for state licensure. Unlike American law schools, typically, there are tight linkages between eligibility for graduation and successful completion of USMLE requirements [39]. In this regard, all medical school graduates independent of their schools’ ranking or educational mission are the same: fully eligible to become a practicing physician. In our analysis, for every school, we postulate there is a threshold for undergraduate GPA and MCAT score above which incoming students must achieve. This standard may differ between schools and reflects their unique collective educational environment (applicant pool, students, instructional method, faculty, curriculum, and mission). The “Acceptable Threshold” for admissions is defined as the minimal clinically meaningful difference between combinations of undergraduate GPAs and MCAT scores (nationally) resulting in expected medical school graduation within four years. It assumes a medical school class size of 175 and a success rate equal to the national rate. Class sizes less than 175 would have different Acceptable Thresholds.

4. Results

4.1. Outcomes: Racial/Ethnic Minorities

In the past 35 years, racial/ethnic representation has actually decreased in medical school matriculants relative to the racial/ethnic distribution of the US population. [40]. However, the Department of Education statistics demonstrate significant increases in racial/ethnic minorities’ college graduation over the last 30 years [41] and population growth in those age segments in the US population [40]. Between 2000 and 2014, the number of African American/Black applicants to medical school increased by over 30%, with no corresponding increase in the number of African American/Black matriculants [42]. Studies have shown a 42% increase in the number of racial/ethnic minorities earning PhD science or engineering degrees between 2008 and 2016 [43], an increase in the number of medical school applications [40], and an almost a 27% increase in available medical school seats over the past thirty years.

4.2. Outcomes: Economically Disadvantaged

The wealthy dominate medical school enrollment. The proportion of students from the top quintile (20% of the population) of income exceeds the number from the bottom four quintiles combined (80%). Further, between 2007 and 2017 between 24% and 33% of medical students were from household incomes from the top 5% of incomes in America. This percentage exceeded the combined percentage of matriculants from the bottom 60% of income brackets (the working class and the disadvantaged combined) [44]. Because medical school classes are skewed toward students from wealthy households and wealthier students go on to serve fewer patients from disadvantaged, rural, racial/ethnic, and other underserved communities, physician shortages in these areas are worsened and perpetuated [45–49].

Women and racial/ethnic groups tend to prioritize values of altruism, empathy, benevolence, and social interdependence to a higher degree than do men and/or non-Hispanic Whites [50,51]. Multicultural individuals develop cross-cultural fluency that allows them to communicate and be effective between cultures [52,53], an important competency in America. Recent reviews find the disadvantaged display increased attention to others, exhibit greater sensitivity to others’ welfare, have higher empathy [54], emphasize self-transcendent values [54,55], encourage social responsiveness and social connectivity [56], may also possess greater cultural understanding [57], and are more likely to engage in other-beneficial prosocial behaviors compared to individuals of higher social class [58].

It is important to note social class is likely to be as powerful as that of race/ethnicity as a future predictor of behavior, and there are likely to be significant interactions between class
and race/ethnicity [59]. Racial/ethnic minorities and the disadvantaged tend to practice in medically underserved areas [48,49]. Though they are a small fraction of the workforce, physicians of color are responsible for delivering care to the majority of patients of color [60]. They have historically expressed a desire to practice in medically underserved areas at 50–100% greater frequency than most medical students [61]. Practice patterns reflect their greater desire to practice in underserved communities [46,47,49,60,62–64]. Further, despite rising household incomes among racial/ethnic minorities in recent years, a greater percentage of these students have continued to express an interest to practice in a medically underserved area [46].

4.3. Outcomes: Women

Following the passage of Title IX legislation in 1972, women’s access to higher education increased dramatically, and medical school enrollment increased similarly. Over the next 45 years, the percentage of women enrolling in medical school went from less than 20% to over 50%, a rate proportionally representative of the population [65]. Numerical parity should not be confused with social equality. Undervaluation of the scholarly contributions and the roles that racial/ethnic minorities, women and other stigmatized groups play individually and collectively occurs [66], leaving the field of medicine diminished [67,68]. Gender inequalities in salaries and advancement contribute to the attrition of women from academic roles [69–71]. These factors explain, in part, why gender parity has not translated into a greater representation of women among medical school faculty or leadership roles more broadly. Efforts to address the implicit biases within medicine’s culture will be necessary to achieve true gender equality [72–74].

Interestingly, although the number of white males admitted to medical school decreased by over 40%, major civil-rights litigation has not been connected to the dramatic increase in female enrollment. Likewise, there have been no calls for financial means-testing of female beneficiaries of affirmative action programs, as has been seen with racial/ethnic minorities. The boost in female admissions has largely replicated the racial/ethnic disparities previously discussed [74].

4.4. Acceptable Threshold Students

Historically, despite conventional wisdom saying academic performance at all levels correlates linearly with success, ample evidence exists for medical school’s ability to use non-cognitive factors to identify potentially successful matriculants above an acceptable threshold. Historically, 80% of the students who entered medical school with total MCAT scores between 24 and 26 (about a 495 on the MCAT 2015; less than the 50th percentile) graduated within four years, and 91 percent graduated within five years, a result not dissimilar from the medical school graduation rate. Similar success rates on USMLE Step exams were achieved, and few of these medical students left medical school for academic reasons [75]. Students with GPAs higher than 3.4 [76] and/or composite MCAT scores greater than 30 were just as likely to complete medical school [76] as those with higher scores [77]. This range of GPAs and MCAT scores is far more diverse than traditional matriculants, incorporating many more of the disadvantaged, working-class, and racial/ethnic minorities [78–80]. Historically, when data from 14,275 students were followed during their academic career, academic linearity did not characterize those who experienced academic difficulty (i.e., the stated reason for leave of absence, change in graduation date, withdrawal, or dismissal was academic difficulty) (Figure 1) [77,81].

Merit, as quantified by incoming undergraduate GPA or MCAT scores, has never been shown to have a strong correlation with success in clinical medicine or biomedical research [3,82–84]. Physician clinical assessments and practice beyond resident training, their contributions to their community, or furthering the institutional mission to “service” are independent of undergraduate GPA or MCAT scores [82]. This is not unexpected. Cognitive markers can only reliably be predictive of future competence and performance beyond residency for a very limited time or not at all [85–87]. Further, the predictive value of MCAT scores varies widely between schools depending on available support services (personal, financial, learning, disability, and academic counseling) and school mission,
suggesting that factors other than cognitive ability are important and that schools can by providing
greater support services admit a wider range of students [81]. Innovative curriculums and support
services can enhance a student’s clinical abilities beyond what their MCAT score would predict [88].

Figure 1. Proportion of students with academic difficulty. This figure illustrates that the proportion
of students experiencing academic difficulty decreases as Medical College Admission Test (MCAT)
scores increases in general (with exceptions), but unmistakably not in a linear fashion. Beyond the
midrange of scores (8–9), the proportion of students experiencing academic difficulty is relatively stable
(< 5%). Data from all 14,275 US students with complete data (from a total of 16,289 matriculants) who
matriculated in 1992. Figure 3f from Julian ER. Validity of the Medical College Admission Test for
Predicting Medical School Performance. Acad Med 2005;80(10):910–917. Used with permission from
Wolters Kluwer.

The MCAT 2015 covers different content, but by design should produce similar results [89].
Concordant with the 2019 Association of American Medical Colleges (AAMC) advice, small differences
in MCAT scores are not significant. The most recent review of medical student progression
(Figures 2 and 3) has demonstrated that above a threshold, academic progression was similarly
independent of GPA and MCAT scores [78]. Nationally, the MCAT 2015 Academic Threshold appears
to be about 503 (Figure 3). GPAs show no discernible threshold (Figure 2). Differences in the sizes
of the applicant pools, curriculums, and support services preclude direct comparisons with any
specific medical school, but such calculations are easily performed for any school. Medical schools
have demonstrated that they can identify candidates from a broad spectrum of GPAs and MCAT
scores that can be successful. Although statistical differences can be shown in the national pool [78],
it is unlikely that such differences would be relevant in a typical medical school admission pool.
The unproven relationship between the entry parameters (GPA and MCAT scores) and subsequent
practice beyond residency make the statistical differences clinically meaningless. Moreover, social and
societal accountabilities and responsibilities make the differences of a few percentage points in relation
to any individual irrelevant.

Figure 2. MCAT total score. Percent of successful progression through Year 2. This figure illustrates
that Percentage of students admitted in 2016 who progressed to Year 2 on time, by MCAT 2015 Total
Score range.
5. Discussion

In the context of medical education, the Grutter [21] principle of explicitly considering societal interests is particularly potent. Except for women, no minority or underserved group has improved its share of medical school matriculants in the past few decades. Medical schools continue to weigh cognitive achievement as the principal factor for selecting students, assuming that continued academic achievement over known minimal thresholds will ensure better medical practice performance; however, it is now known that above a minimum threshold academic performance is not a determinant. Applying the principles laid out in Grutter to medical school admissions may improve the representation of diverse student groups in US medical schools.

By contrast, the flaws in the current model of academic linearity have been increasingly in evidence. Educational attainment is highly correlated with household income [90]. Neighborhood quality exerts significant negative impact on the undergraduate academic performance of minorities [91]. Similarly, household income demonstrates a significant positive association with MCAT scores [92]. These ecological effects rationalize a number of points. First, they offer a complimentary alternative for the potential role of implicit bias and resentment in admissions [93,94]. Non-Hispanic white women, who demonstrated the greatest gains in representation, are also the group most socio-economically similar to the non-Hispanic white males that previously represented the majority of all applicants. Second, they suggest that even weighing cognitive factors is not a pure measure of intellectual potential but is influenced by social inequities. Finally, they affirm Flexner’s observation about the need for social reform. Stark racial and economic disparities are evident in school quality, access to healthcare, and neighborhood violence. The failure of public policy to robustly redress these inequities may be postulated to make significant contributions to observed gaps in previous academic performance [95].

Given these challenges, it is significant that this work, like previous literature, suggests the efficacy of alternative pathways. Paralleling our own analysis, Terregino et al. report that medical schools that take a higher proportion of candidates from the middle third of MCAT scores report more diverse student bodies, but not meaningfully higher rates of medical school non-completion [80]. A systematic review on the determinants of medical school performance found that prior academic performance explained only 23% of the total variance [96]. Earlier still, a 20-year analysis of outcomes at the University of California Davis, the site of the infamous Bakke case, found no difference in rates of academic difficulty, graduation or licensing between students admitted through standard versus affirmative action pathways [82]. Though using higher cut-offs than recommended here, the long-term experience at Australia’s University of Newcastle Medical School further chips at the myth of linearity given the outcomes for candidates selected on academic versus non-cognitive criteria [97]. While the
cumulative weight of this evidence argues in favor of an Acceptable Threshold, the Grutter principles offer a rubric for further reconceptualizing admissions practices.

Several societal interests are implicated in the Grutter decision. Medical school matriculation determines the supply of physicians who care for the nation. The “myth of accountability”, premised on the idea that internal scientific integrity equates with societal responsibility, has long been operative [98] and has led to the erosion of medicine’s social contract with the public [99]. Further, some have complained that the scientific mission of academic medicine has crowded out its social responsibility to train physicians for society’s most basic healthcare delivery needs [100]. The quality and availability of healthcare vary geographically, racially, by immigration status and according to the income of the recipient [101–103]. There is a compelling national and state interest in creating physicians who are willing and able to serve all Americans [19,104]. Given that minority and underprivileged matriculants have a greater likelihood of working in medically underserved communities, applying the principles of Grutter to medical school admissions may increase the supply of physicians who will care for underserved communities.

Second, the societal interests espoused by Grutter [21] are Supreme Court-validated. Professional school admissions decisions cannot be made in isolation from the population groups that will ultimately be served by the matriculant [21]. In our heterogeneous, culturally pluralistic society, citizens must have confidence that the physician supply will ultimately serve all of society and not just the wealthy or well-connected [21]. A physician’s patients may come from any community in the nation [105]. Medical schools must produce not just highly competent professionals, but professionals who are willing, work-ready and fit-for-purpose. Thus, they must be optimally suited to respond to the needs of all populations including the most vulnerable [106–108] and demonstrate a positive effect upon the communities they serve [106,109]. Also present is a societal interest in preserving and expanding the opportunity for the upward mobility of medical students of all races, ethnicities and economic backgrounds [19].

The cost of education is the primary reason that high-achieving children from underrepresented minority groups and students from lower-income families choose not to pursue a college degree [110] or medical school [111]. Medical students collectively experience debt as a major stressor [112–115], but the impact is disproportionately greater on underrepresented minority students and students from lower-income families [116,117]. Since the cost of medical education is far greater than the tuition medical students pay, they owe a significant debt to society to participate in socially responsible activities that contribute to the happiness, health, and prosperity of less fortunate citizens [118]. Students from the socioeconomic elite still display a significant sense of entitlement and lack of social responsibility despite their low debt [113]. Formal instruction in healthcare advocacy directed at the individual, community, and legislative levels holds the most promise for addressing entitlement and fulfillment of professional standards [119].

The third societal interest relates to individual justice. Traditionally, medical school admissions have been premised on the concept of academic linearity: the candidate with the higher GPA and/or MCAT score is better qualified, and, hence, more meritorious. Given that students above a minimal threshold graduate become practicing doctors at equal rates, this is an outdated means of assessing medical school candidates for admission. Moreover, the weak or absent linkage between premedical GPAs and MCAT scores and the quality of subsequent practice beyond training makes such thinking without merit. A holistic approach that incorporates race, ethnicity, economic background and other non-cognitive factors once minimum academic achievement criteria are met allows the medical student body to better reflect the national population and potentially improve disparities in the percentage of minority and disadvantaged students in US medical schools.

Grutter [19] demonstrates that the country has a substantial and legitimate stake in every medical school admission decision. By accepting benefits from society, medical schools and students enter into an implicit contract to work with the larger society for the public good. That obligation is best carried out by educating students “in a manner that instills appropriate professional attitudes, values,
and skills” [120]. Admission decisions should convey the institution’s sense of the community it serves, especially toward the underserved and marginalized. Currently, the admissions process is skewed towards favoring academic performance and not to the community in which physicians will ultimately serve or to society [8,121]. Each school’s selection process yields a different assortment of students [122] suggesting that schools, not society, are interpreting and therefore determining societal needs. It is difficult to reconcile the failure of medicine to address health disparities or the inability of current graduates to care for up to half of the population with successful stewardship.

Achieving more representative student bodies and doctors who will care for all segments of society occurs via actions taken by the medical schools and the graduates they produce. Despite the nearly ubiquitous diversity statement in medical school mission, vision and value statements, little progress has been made in reducing the disparities in medical school admissions. Seventy-five percent of medical schools have a specific goal for diversity [123]. Diversity policies and strategic plans are meant to guide institutional decision-making. Yet, the presence of a strategic plan to increase diversity is not associated with greater racial/ethnic faculty diversity [123]. Rarely do diversity statements make institutions fairer [124] or more inclusive. US medical schools produce heterogeneous and unequal learning environments [125–127] that fail at all three diversity paradigms: discrimination and fairness, access and legitimacy, and learning and effectiveness [128]. Each point reflects a trust deficit for DEI policies.

A medical school’s mission and its outcomes should both reflect the community that it serves and vindicate the Grutter decision. Unfortunately, medical schools’ strategic plans most often do little more than project supposed commitment while failing to achieve tangible results [123]. This institutional hypocrisy likely negatively impacts students’ and faculty’s sense of social responsibility [129]. The goal of medical school is to prepare future physicians to be responsive to the needs of patients and society and who will service all Americans [101,130]. Attempts to implement more inclusive admission plans have seen resistance from admissions committees concerned with litigation and academic standards [131].

If medical schools are to sustain democratic ideals and achieve health equity, they should adopt an Acceptable Threshold for academic achievement and use non-cognitive factors for admission—each school would thereby increase the participation of diverse populations, widening participation [112,133]. The Grutter legitimacy principles are succinct trust-building arguments for such shifts [21]. Both the physicians trained for and the care delivered to the communities they serve are the product of medical schools, which thus become a critical piece of medical education’s obligation to the public. Admissions must be “visibly open”, inclusive and intolerant of historical inequities as they advance the goals of democracy by training “talented [cultures] and qualified individuals from every race and diversity” to become physicians [21].

6. Conclusions

The United Nations Sustainable Development Goals aim for a radical realization of health equity at both the national and international level [134]. In outlining implementation, the Lancet Global Health Commission wisely cites public confidence as a key metric [135]. For both the implications of societal fairness and the demonstrated practice patterns of matriculants, this implies serious changes in class composition. Efforts to fulfill the vision of legitimacy principles as detailed in the Grutter decision [21] have fallen short. Apart from female matriculation, American medical schools look very similar to those in 2003 concerning the diversity of their matriculants. These failures mirror the struggle of many nations to widen the participation of their particular marginalized groups in medicine. Success will require not only narrow arguments favoring diversity but a broad-based debunking of academic linearity with its replacement by a robust principled framework that inspires confidence in the admissions process and its clarified goals. The precedent set by the legitimacy principles in the Grutter decision [21] gives us guidelines for instituting these changes in medical school admissions that seek to make matriculants better reflect the communities in which they will practice medicine.
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Limitations: The authors readily acknowledge the limitations of nationally-available, self-reported data. Diversity, diverse identities, and critical mass are inherently institution-specific, and the meanings and context derived from the goals a school establishes for itself. No attempt was made to directly assess these concepts for any individual medical school. Rather, the assessment was made using national self-reported, publicly available data. We readily acknowledge this weakness in our analysis; however, we also acknowledge their widespread use by medical schools, the AAMC, and other organizations.

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