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The communication of strategic plans for diversity and inclusion in academic medicine: a mixed-methods study

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THE COMMUNICATION OF STRATEGIC PLANS FOR DIVERSITY AND INCLUSION IN ACADEMIC MEDICINE: A MIXED-METHODS STUDY

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DEDICATION

I dedicate this work to my wife, Emma, and my daughter, Aurora Mae, for whom I fight for a future where the achievement of her dreams is limited only by her desire.

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I would like to thank my mentors Megan Bair-Merritt, James Burgess, Jane M. Liebschutz, Michael Paasche-Orlow, and Victoria Parker, for their aid and support in the conceptualization of this study.

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ABSTRACT

Objective: To characterize the use of strategic planning for diversity and inclusion in AAMC-member U.S. medical schools and its relation to underrepresented minority (URM) faculty.

Methods: We examined websites of 118 institutions for strategic plans to improve faculty diversity. Race/ethnicity data from the AAMC *Faculty Roster* were used to stratify schools into higher or lower/no increase in URM faculty (1998 to 2015). We searched for an association between these plans and change in URM faculty. We conducted qualitative sub-analyses of the most recent plans of institutions that expressed goals for faculty diversity. Analyses involved a modified-grounded theory approach, using a priori codes informed by an AAMC guide and a data-driven, constant comparison method. Plans were stratified into two groups by higher or lower URM faculty in 2015. Larger themes based on both a priori and emergent codes were identified. Sub-analyses for associations between AAMC *Guide Adherence* and URM faculty were conducted.

Results: Most institutions (72%) had plans for faculty diversity. There was no association between URM faculty change and a goal for faculty diversity ($p=0.43$) or plan duration ($p=0.64$). Qualitatively, four themes were accordant with effective strategic planning

principles. Four emergent themes in both high and low URM groups reflected novel issues, two occurred in the low URM group, and one in the high URM group. Quantitative sub-analyses found no association between *Guide Adherence* and URM status ($p= 0.86$).

Conclusion: Despite general adherence to best practices, strategic plans for diversity and inclusion are not associated with URM faculty presence or change.

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Background

Premise

Studies suggest that increasing the racial and ethnic diversity of the general U.S. physician workforce and academic workforce may confer numerous benefits. Reducing health care disparities, improving health care and research quality, and improving medical education have all been attributed to such diversity.[1–4] Despite this, the racial and ethnic composition of the U.S. academic physician workforce remains unrepresentative of the national population.[4,5] Emerging literature suggests that aspects of institutional behavior, culture and climate contribute to the relative lack of change over the past several decades; thus, interventions to diversify the US workforce focus on changing institutional climate and culture.[4,6] One proposed intervention is strategic planning. The evidence supporting the impact of strategic planning is poor, and further work is needed to explore its role in institutional efforts for faculty diversity and inclusion. This study attempts to address the gap in evidence in two ways. First, it examines the association between having a goal to increase faculty diversity communicated in a strategic plan and the degree of increase in URM faculty proportion. Second, current strategic plan use to address organizational diversity, and specifically URM faculty diversity, is poorly characterized. This work will help define strategic planning's role in promoting organizational change in diversity and inclusion.

The Historical Context of Race, Ethnicity, and Medicine in the U.S.

To truly appreciate the current state and challenges facing the racial and ethnic diversity of the U.S. physician workforce, one must acknowledge the historical racial

milieu in which medical science and the U.S. medical system have developed. Since its nascency, the infrastructure of the United States has been consciously crafted to uphold a socioeconomic caste system meant to favor a particular majority, in regards to social capital, wealth, prosperity, freedoms, and rights.[7] While the African slave trade and social policies towards Native Americans serve as prime examples of discriminatory infrastructure, other historical events and policies provide even further evidence of institutionalized racism.[7,8] Bacon's Rebellion was an indentured servant and slave uprising against the upper class in colonial Virginia. Many historians believe it was the threat of poor classes banding together against the wealthy upper classes that led to passage of the Virginia Slave Codes of 1705.[9,10] These codes permitted apprehension of suspected slaves, established separate trial courts for blacks, and prohibited free blacks from owning weapons and employing whites, among other hardened property rights for slaves. These policies legalized the concept of white supremacy, de facto created clear legal differences between indentured servants and slaves, and established a paradigm for such a practice throughout the what would soon become thereafter a national infrastructure.[8] Over time, this race-based caste system would be reinforced and restructured in the form of policies, such as the Jim Crow Laws which promoted segregation in housing, business, voting and education. These developed into more subtle policies and biases, such as those that lead to contemporary race/ethnicity-associated socioeconomic disparities, including housing discrimination, employment discrimination, and discrimination in the U.S. penal system.[11–13]

These larger social forces have also influenced the role of racial and ethnic

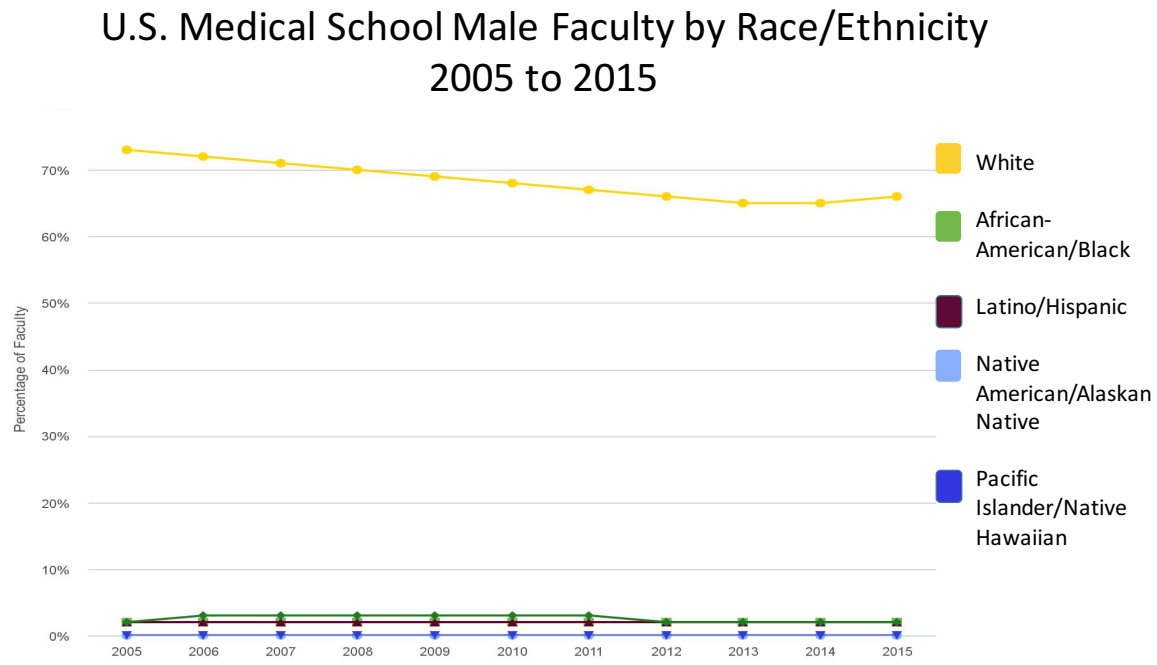
minorities in the development of modern science and medicine in the United States. Moreover, it is in this setting that science and medicine have actively and passively discriminated against racial and ethnic minorities.[14,15] Akin to other fields, they have been institutions used to legitimize white supremacy and racial caste system.[16] For example, Samuel Cartwright was a well-respected physician, who created the medical illness *Drapetomania* or "Runaway Slave Syndrome", a concept used to legitimize the institution of slavery.[17] Cartwright and others would also do work with spirometry and lung function, using it as basis for white supremacy.[16–18] While much of this and similar work is now classified under pseudoscience, its legacy in science and medicine remains.[16,18] A concrete example exists in the presence of racial/ethnicity settings on spirometry machines used in medical office in the United States today.[19] A subtler manifestation of this legacy are the implicit biases that operate within U.S. health care.[20–22] Implicit biases are biases in judgment and/or behavior borne from subconscious or unconscious psychological processes.[23] These biases exist throughout American society, and, specifically, have been suggested by research as factors in U.S. health care.[24] Studies suggest implicit biases affect provider decision-making and harm physician-patient relationships.[20,21] When contemplating the historical sources of these biases in the scientific workforce, renowned sociologist and historian, W.E.B. Dubois' article, entitled *The Negro Scientist,* stands out.[25] Published in 1939, he discussed that brilliant, capable individuals were explicitly prohibited from education, training, and academic positions in science due to their race. In medicine, one need only to visit Abraham Flexner's report of 1910 to expose evidence of modern medicine's discriminatory reconstruction.[26–28] Under

the auspices of *The Carnegie Foundation for the Advancement of Teaching,* Flexner's work resulted in the disproportionate closure of predominantly black medical schools.[27,28] He also formally contended that black doctors' role in medicine was best to be that of "sanitarians" or "hygienists" for black people. These statements would serve to effectively systematize race-based discrimination within medicine.[27,28] Flexner's report would also serve as the nascency of the high academic standards and elitist culture that shape much of academic medicine's institutional culture and climate. In Flexner's report, the role of racial/ethnic minorities in medicine was framed for the sake of public health, i.e. because minorities would be living next to Whites, and, could spread disease; thus, it was in the interests of society as a whole that good medical care was available.[29]

The "Underrepresented" Movement

The current racial and ethnic composition and culture of both the general and academic physician workforce exists, in large part, as a result of discriminatory socioeconomic policies, explicit biases, and implicit biases that permeate our nation's infrastructure. It is in recognition of this, combined with a drive for social justice, that motivation to cultivate a racially and ethnically diverse physician workforce originated.[30,31] These concepts of social justice and the illegality of racial/ethnic discrimination are sometimes used in a diversity model called *Diversity 2.0.*[6] This conceptual framework represents two of the most fundamental understandings for increasing racial/ethnic diversity in the physician workforce, i.e. nondiscrimination is the law and it is socially just.[6] The oft-cited goal of diversity efforts in the physician labor

force is to be racially and ethnically representative, or "proportional" to that of the greater population. These concepts originate from the non-discrimination movement of the 1940s and, later, the Civil Rights Movement of the 1960s. For 50 years, medical groups have used the term underrepresented minorities in medicine or "URM" to denote minorities who are not represented in the physician workforce in proportion to their population. [32] They have been traditionally defined as African-Americans/Blacks, Latinos/Hispanics, Native Americans, Pacific Islanders, and Alaskan Natives.[31] Sometimes, particular Asian groups, including the Hmong, Vietnamese, and Cambodians are also included as URM.[33] Over time, URM has broadened to include any groups that an institution deems "underrepresented" in comparison to the population they serve, there remains a focus on the traditional URM groups. For the purposes of this thesis, the term URM will be used to denote members of those traditional groups. In 2014, URMs comprised close to 30% of the U.S. population but only around 9% of the U.S. physician workforce.[34] In academic medicine, 8% of faculty are of URM status, a relative increase of 1.5% in the past 10 years (**Figure 1**).[4,35] During the past 20 years, organizations such as the American Medical Association, The Association of American Medical Colleges, the Institute of Medicine, and National Institute of Health, along with many others have pushed for a racially and ethnically diverse academic physician workforce.



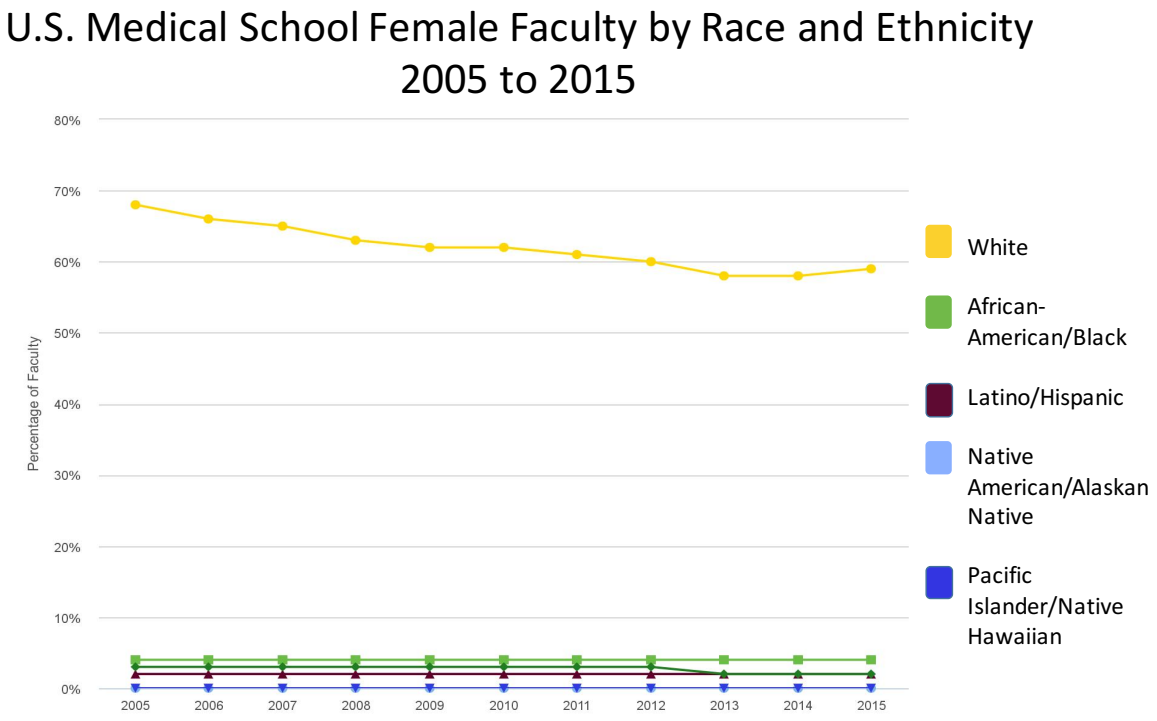


FIGURE 1. TRENDS IN MALE AND FEMALE URM FACULTY FROM 2005 TO 2015 (AAMC, 2015)

In this very same timeframe, these groups' motivations for change have gained strength due to the expected impact of greater diversity on the dimensions of health care quality, health care access, health disparity reduction, education quality, research quality, and organizational performance.[2,33,36–38] Reducing health care disparities is a major impetus given their large financial costs to all Americans and increased loss of life.[39–41] Moreover, the U.S. Census Bureau projects these minority groups will be the majority in the U.S. by 2030 (**Figure 2**).[42] Should this occur without improvement in these disparities, these costs, both financial and human, will likely magnify. Several studies and reports suggest that a racially and ethnically diverse physician workforce is uniquely positioned to improve health care quality and reduce health care disparities for populations at highest risk for the worst outcomes. For example, patient-provider racial/ethnic concordance is associated with increased patient satisfaction and medical adherence.[3,30,31,39] As such measures and related outcomes are becoming prominent components of the patient-centered medical home movement it will be important to operationalize greater such concordance in clinical staffing.[43,44] Furthermore, other national reports, such as *Unequal Treatment,* have suggested increasing URMs within the medical workforce as a method to reduce these disparities.[39] This mechanism is not solely through enhanced health care access or improved patient satisfaction, but also through unique educational and research contributions members of these groups can add. Freeman et al. (2014), published work establishing associations between higher ethnic diversity of manuscript authors and publication journal impact factor.[38] The authors posit that it is the diversity of ideas and skills brought to a research project that contributes to a better research product.[38]

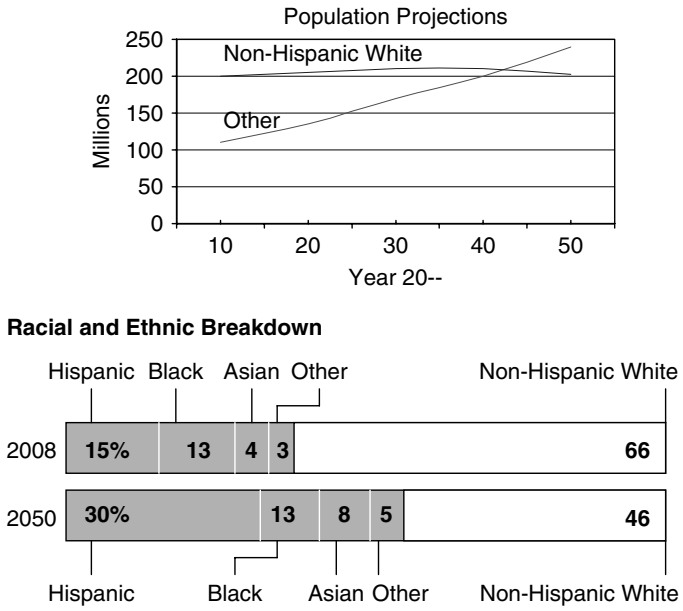


FIGURE 2. U.S. CENSUS BUREAU RACIAL/ETHNIC POPULATION PROJECTIONS (NIVET, 2008)

Regarding organizational performance, a business case for diverse workforces has been present since the 1980s.[37,45,46] As science has sought to add more evidence to these claims, the business literature fluctuated between two central theories.[37] One theory is that cultural diversity, of which racial/ethnic diversity is one type, improves performance through increased resources in the form of social networks, expertise, and ideas.[37] A contradictory theory suggests that increased diversity leads to social comparisons, exclusion, and segregation which, in turn, contribute to miscommunication, polarization, and ultimately, worse performance. While a predominance of studies support the second theory of diversity being associated with lower performance, studies looking more closely at the organizational context in which diversity helps or harms note that organizational culture is a modifier of this effect. Cultures that support an atmosphere of

sharing one's insights, perspectives and relevant personal qualities with the group were associated with improved organizational performance.[37,46] While direct application of these findings to academic medicine is hindered by the fact that most of these studies are situated in banking or other business sector industries, their application is not a stretch when we consider academic organizations and their workforces as part of the health care industry. This is especially true when considering the numerous studies demonstrating associations between workforce diversity and the products of the health care industry: health care, education, and research.[1,2,33,36]

Mediators of Racial and Ethnic Diversity within the Academic Medicine Workforce

Multiple factors have been shown to contribute to the current state of racial/ethnic diversity among academic medical faculty. One of the most often posited factors for low racial/ethnic, and in particular URM, faculty representation is an inadequately diverse talent source or pipeline. While the proportion of undergraduate and graduate URM students has increased over the last several decades, this trend is less so in medical careers.[33,47] In fact, the AAMC recently reported that the number of Black/African-American male students entering U.S. medical schools was the same as in 1974.[48] This is further compounded by even less URM matriculation into academic medicine.[5] Reasons for this lower entry rate include a lack of awareness of the field, poor availability of role models and diverse senior faculty, lack of perceived accessibility or welcoming to the field, disenchantment with academics as a career path, and perceived bias in recruitment.[48,49] For those URMs that do decide to pursue a career in academic medicine,

a disproportionate number compared to non-URMs end up leaving the field.[4,33,49,50] The literature suggests several etiologies. One factor is a perceived social isolation within academia leading to decreased career satisfaction. This sentiment is thought to be a product of many URM faculty being members of mostly white organizations, and coupled with the historical social context, creating a barrier to the collaboration and networking important for a successful academic career.[4,33] Another factor is perceived ethnic and racial bias/discrimination. This has been shown to intensify the stress of maintaining an academic career, by having to overcome discrimination, bias, and stereotypes.[33,49] Clinical work and diversity effort responsibility disparities also contribute to this decreased career satisfaction.[4] URM faculty often have a disproportionate amount of clinical responsibilities and are disproportionately called on to participate in organizational diversity efforts, compared to non-URM faculty. A portion of these disparities is due to racial and ethnic research funding disparities, which have been noted for almost 20 years.[51,52] Ultimately, these contribute to decreased time to work on personal research and career components that are often requirements for academic promotion. This is likely a component of the race/ethnicity-associated promotion disparity. Studies suggest that faculty of African-American race and Hispanic ethnicity have 32% less the chance of being promoted from assistant to associate professor than their white colleagues.[53] This difference in promotion has been linked to decreased career satisfaction, and exists even after controlling for factors such as years in academia, number of publications, and the amount of time spent on research rather than clinical work.[53,54] URMs also cite a lack of mentoring and understanding of the

necessities of a successful academic career that also contribute to the promotion disparity and decreased career satisfaction.[4,55,56] Lastly, academic careers often pay less than traditional clinical careers, and given that URMs also experience a higher educational debt burden when compared to Whites, the perceived decreased ability to pay off this debt contributes to a career in academia being less appealing and tenable.[57–59]

The importance of racial and ethnic diversity to U.S. health care and the complex factors that contribute to its current low state have led to the study of several interventions. Pipeline initiatives, e.g. workforce development programs, meant to foster more URM matriculates with enhanced resilience, and faculty development and mentoring programs meant to arm URM faculty with tools for improved career satisfaction have all been shown to increase URM faculty.[30,49,60,55,61] In addition, these aforementioned activities benefit directly from increased faculty diversity.[48] Other studies also suggest that agents of organizational culture change, such as strategic planning, have a role in URM representation within academic medicine.[50,55,60,62] The complexity of these mediators of the diversity and inclusion within academic medicine are represented in the *Diversity 3.0* framework.[6] Building on the aforementioned 2.0 framework, *Diversity 3.0* transitions from framing diversity and inclusion from a problem to be fixed, to making it a broadly enforced economic and organizational imperative. Adapting from principles found in the business sector, Nivet (2011) proposes that the diversity of ideas, perspectives, cultures represented in a diverse workforce bolster health care and research quality, fuel cultural competence and decrease racial/ethnic bias, and, ultimately, provide

for a better health care system.[1,3,45] **Figure 3** depicts the AAMC's *Diversity 3.0* framework, which is the foundational framework of this project.[6]

It is in the sum total of these factors and likely many others that the human motivational elements, such as desire and perceived career viability, that drive URM individuals to pursue and stay engaged in academic medicine are affected. Hence, I propose a novel conceptual framework, depicted in **Figure 4**, based on *Diversity 3.0* and the URM workforce/pipeline disparities literature. Notable in this model is that the human elements that likely drive pursuit of a career in academic medicine originate in the psychosocial biome that frames the relationship between race/ethnicity and their environment. That is to say that the desire and viability of a career in academic medicine are most likely influenced by the personal experience with socioeconomic disparities that exist with the United States, many of which trace their origins to the racial caste system established in the nation's infancy, and reinforced over time in policies and socioeconomic norms.[4,48,57]

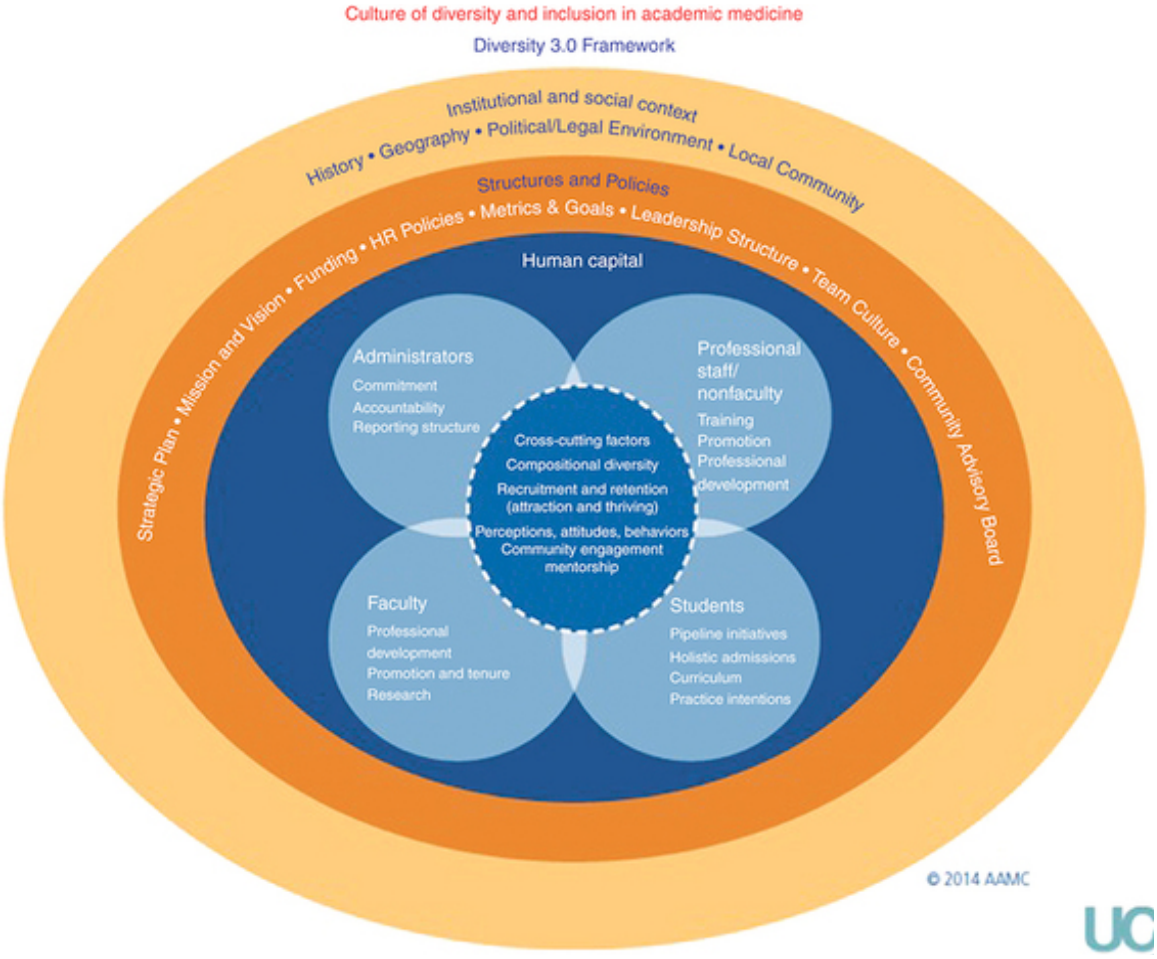


FIGURE 3. THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES' DIVERSITY 3.0 FRAMEWORK (AAMC, 2014)

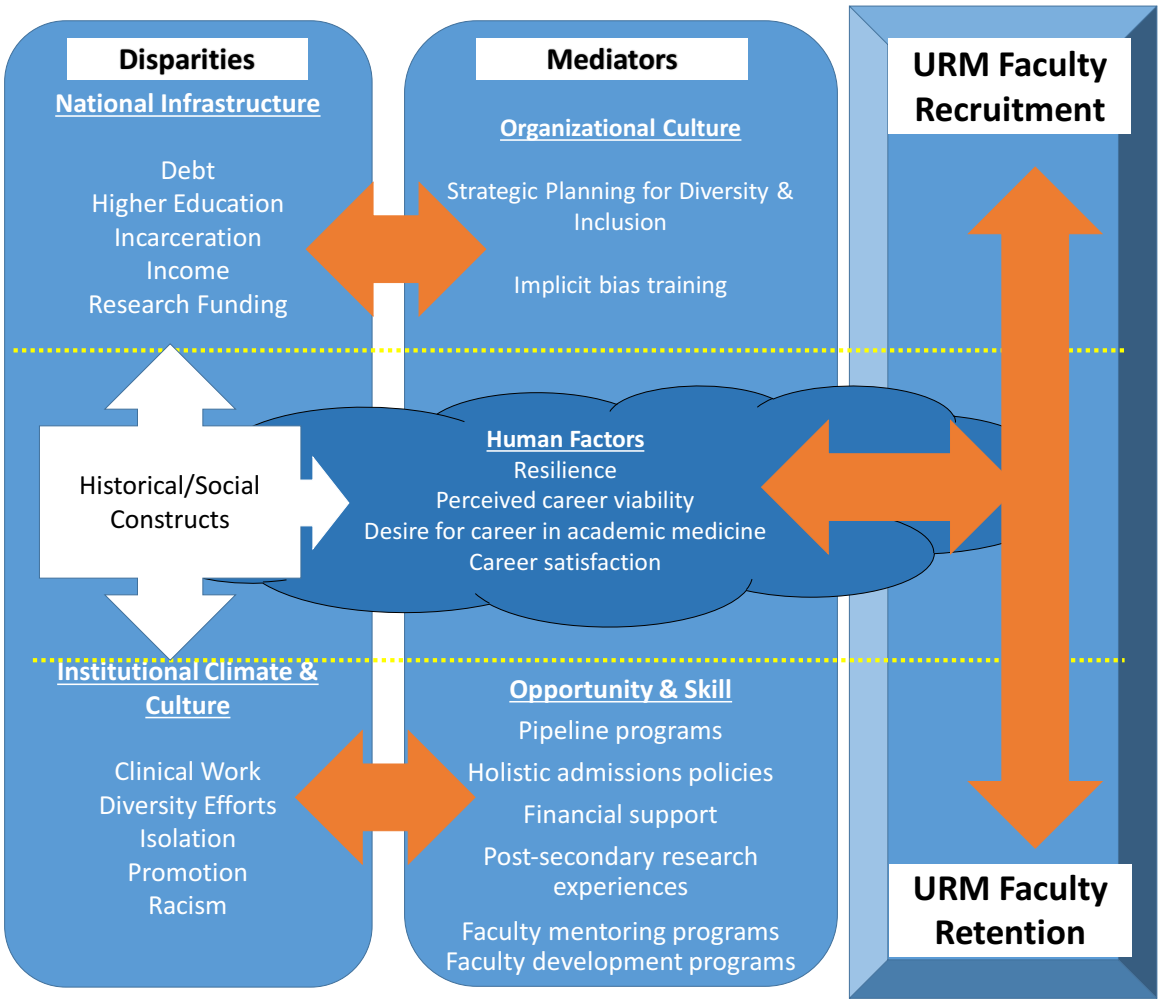


FIGURE 4. A FRAMEWORK OF DISPARITIES AND MEDIATORS OF URM FACULTY REPRESENTATION

Strategic Planning: An Agent of Organizational Culture and Climate Change

The URM faculty diversity mediator of interest in this thesis is strategic planning. Strategic planning is an organizational activity characterized by the creation of goals in line with a mission and vision of an organization, followed by the assignment of strategies, metrics, and timelines to meet these goals.[63,64] This plan is then implemented to spur desired organizational change. It is a core component of the diversity and

inclusion in the category of *Structures and Policies* in the *Diversity 3.0* framework.[6] Also within this category are other factors that can enhance or hinder an organizational culture that fosters diversity and inclusion within academic medicine, such as leadership and team culture. The AAMC states that plans for diversity and inclusion should be central to the strategic planning of an AAMC-member institution.[65] These plans can shape the institutionalization of practices to promote faculty diversity, such as mentoring programs, faculty development programs, valuing community engaged scholarship, and promotional transparency.[65] While strategic planning has been proposed to enhance faculty diversity, there is a relative paucity of knowledge about how many medical schools are actually using strategic planning to address these issues.[45,63,64] There exist several exemplar case studies demonstrating how individual institutions have used strategic plans for diversity to facilitate change. A research team from the Medical University of South Carolina published the results of their ten-year journey into strategic planning and diversification with significant organizational change.[64] They were able to increase URM faculty representation from 32 members (4% of 800 faculty in 2003) to 69 members (6% of 1140 faculty in 2011) through changes implemented through strategic planning.[64] These studies, although descriptive of strategic planning's power to support diversity and inclusion within academic medicine, only represent a small number of medical schools and may be outliers in their success. For example other studies cite frustration among members of strategic planning committees in that much work is put into devising plans, but when it comes time to implement them, they often fall short.[56,62,66] Research suggests that academic URM faculty feel pressure from their institution to participate in these

efforts, which may occur at the expense of working on projects with more weight in career advancement.[62] This disproportionate burden goes by many names in the literature, such as the "URM responsibility disparity" or "diversity efforts disparity"; however, it has classically been called the "minority tax."[62,66] As previously mentioned, it has been cited as a cause of lower URM faculty career satisfaction and viability. In addition, strategic planning can be a costly and time-consuming venture, and when done improperly has the potential do more harm than good.[67] The potential situation then arises that organizational efforts to improve racial/ethnic diversity and inclusion may actually be harming, and at great cost, the vulnerable population they are attempting to better support.

Summary

This study explores the degree to which AAMC-member U.S. medical schools develop and promote strategic plans for faculty diversity, and the values and strategies being employed to address URM representation. As transparency and stakeholder engagement are central components of effective strategic planning, it was expected that a majority of U.S. medical schools would communicate their strategic plans via their websites. This is part due to wide accessibility of the internet and the strategic planning literature's encouragement of the use of technology to communicate plans with stakeholders.[45,60,68] Also, I evaluated two other aspects of strategic planning for diversity and inclusion: 1) the relationship between having a goal for faculty diversity in an institutional plan and the percent of change in URM faculty and 2) to understand how well these plans embody the

principles of effective strategic planning as supported by AAMC's *Diversity and Inclusion in Academic Medicine: A Strategic Planning Guide* (2014) and strategic planning literature.[65] I hypothesized that those institutions that are more adherent to AAMC guide will have higher URM faculty presence compared to those that are less adherent. This would serve to inform future evidence-based metrics for strategic planning for diversity within academic medicine. Lastly, I hope this study's findings will facilitate better characterization of the current role of strategic plans in diversity within academic medicine; hence, setting the stage for future work examining strategic plan design and implementation for the purpose of diversity in academic medicine.

Research Questions & Aims

1) How many AAMC-member U.S. medical schools that are not primarily URM-serving communicate a strategic plan with a goal to increase racial/ethnic faculty diversity through their publicly accessible websites?

Aim 1: To establish the prevalence of communication of strategic plans for faculty diversity among AAMC U.S. medical schools.

Hypothesis: Transparency and stakeholder engagement are central components of effective strategic planning. I hypothesize that most U.S. medical schools would use their websites to communicate their strategic plans for faculty diversity, given the popularity and wide-accessibility of the internet. Also, strategic planning literature encourages technology utilization to communicate plans and engage with stakeholders.[45,68]

2) Is there an association between the communication of a goal for faculty diversity in a strategic plan and the change in the proportion of URM faculty?

Aim 2: To characterize the relationship between having a goal to improve faculty diversity within strategic plans and URM faculty diversity

Hypothesis: The purpose of a strategic plan is to guide organization change through the strategic achievement of goals aligned with a mission and vision. I hypothesize that communication of a goal to increase faculty diversity would be associated with a change in racial/ethnic faculty composition, as it is a stated objective of the plan for change.

3) What are AAMC medical schools that have stated a goal to increase faculty diversity in their strategic plans communicating in their most recent strategic plans for diversity and inclusion?

a) How closely do their most recent plans align with the *Essential Tasks* of effective strategic planning for diversity and inclusion as espoused by the AAMC's *Diversity and Inclusion in Academic Medicine: A Strategic Planning Guide*?

b) What other concepts, ideas, and themes are institutions communicating around diversity and inclusion in their most recent strategic plans?

c) Is there an association between best practice adherence, as communicated through strategic plans, and institutional or faculty characteristics?

Aim 3: To explore and describe the contents and quality of the most recent strategic plans for diversity and inclusion on institutional websites as they relate to AAMC's *Diversity and Inclusion in Academic Medicine: A Strategic Planning Guide (2014)*, best practices, and other organizational priorities.

Rationale: Intrinsic to effective strategic planning is the use of a combination of best practices and organization-specific variation that are dependent on institutional characteristics, resources, and goals.[63,69,70] Furthering insights into both of these aspects will better inform comprehension of how academic medicine is framing its communication of strategic plans for diversity and inclusion. This understanding can be used to refine the conceptual framework of strategic planning as an intervention to improve faculty diversity.

Aim 4: To assess whether the quality of strategic plan document, as defined by the communication of best practice principles, is associated with an institution's URM faculty proportion.

Hypothesis: It is understood that strategic plan characteristic should inherently vary by organizational needs and resources.[63,67,69] Therefore, I hypothesize that strategic plan for diversity and inclusion components may be associated with institutional characteristics known to be important to diversity and inclusion climate and culture, and, thus, faculty diversity itself.

Data Sources

This project focused on the strategic plans for diversity of 118 AAMC-member U.S. medical schools that existed between 1998 and 2015 and reported data in the AAMC *Faculty Roster*. The *AAMC Faculty Roster* is a database of demographic information from all full-time faculty that is updated annually with data voluntarily submitted by AAMC-member U.S. medical schools.[71] Seven primarily URM-serving schools were excluded from this analysis because their plans would intrinsically differ from those of other institutions. 1998 was chosen as it was several years prior to the publication of several large studies and reports that invigorated efforts to increase workforce diversity.[2,39] The year 2015 is the most recently published data at the time of project data collection.

I methodically searched AAMC member websites for strategic plans and, then, explored these plans for a goal for faculty diversity, year of publication, and type of plan (diversity-focused or not). I also took special care to identify the most recent strategic plan, which was used in the qualitative component of the thesis. From the AAMC website, I procured data on institution public/private status and geographic region. A table outlining the data sources and their relation to study variables is shown below:

Table 1. Overall Study Data Sources and Variables

Data Source	Data	Study Variables
AAMC-member websites	Strategic Plan data	A) Goal for Faculty Diversity status B) *Diversity-Specific plan* status C) *Plan Duration* D) Themes
AAMC website	1) AAMC geographic region 2) public/private status	*Region* *Public/Private* status
AAMC *Faculty Roster*	1) Percent URM Faculty (1998) 2) Percent URM Faculty (2015)	*Change in URM Faculty (High v. Low)* *High Performers* *Low Performers*

*URM: traditional underrepresented minority in medicine; AAMC: Association of American Medical Colleges

Methodology

A mixed methods approach was used address my research questions and aims. The virtues of both quantitative and qualitative methods served to deepen meaning and context of the findings. I conducted an initial quantitative study followed by a qualitative study. The initial quantitative study explored the existence of an association between espousing a goal to improve faculty diversity in a strategic plan and the change in the percentage of URM faculty in AAMC-member U.S medical schools. In the qualitative phase, I sought to inform the quantitative results with richer data. To achieve this, I conducted content analyses of the most recent strategic plans available for institutions found to have a goal to improve faculty diversity. Employing the methods in this manner affords a more nuanced consideration of the quantitative findings. In the qualitative phase, I created a codebook containing a priori codes informed by the AAMC's *Diversity and Inclusion in Academic Medicine: A Strategic Planning Guide (2014)* and the

scientific and business literature. Code development also occurred emergently, to characterize data that did not fit the a priori categories. Lastly, I used the data from this qualitative analysis in a subsequent quantitative analysis to explore the association between adherence to recommended strategic planning practice (in form of the *Guide Adherence* outcome) and percent URM faculty in 2015. These methods informed hypothesis generation regarding strategic plan communications and institutional URM faculty diversity status. All phases of this study received IRB exemption as *Not Human Subjects Research* (Boston University Medical Campus IRB Numbers: H-35355 and H-34872)

Prevalence and Characteristics of Strategic Plans Methods[a]

Strategic Plan Data Collection

I used links to institutional web pages provided on the AAMC member website to find the strategic plans of the 118 institutions. The search terms "strategic", "diversity", "plan", and "initiative" were utilized in the website's native search engine to find strategic plans. If search terms did not yield strategic plan documents, I manually searched the sitemap for strategic planning documents, followed by an advanced website domain search powered by the *Google* search engine using the search terms *strategic*, *plan*, *diversity*, and *initiative* connected with the Boolean operator *OR*. If no plan was identified at the medical school level, and the medical school was associated with a university, the same search methods were performed at the university-level using the

[a] *Prevalence and Characteristic of Strategic Plans* methods, results, discussion are © 2017 by Elsevier

university website. Use of both medical school and associated university strategic plans in this study is consistent with organizational theory literature on strategic planning. This literature states that in best practices, higher order plans (e.g. university level plans) should have downstream translation of goals, as relevant, to the medical school level. [72] Once plans were found, I screened their text for statement of a goal to increase faculty or workforce diversity. Discovery of this statement is denoted as the variable *Plan Status,* dichotomized as *Present* or *Absent*.

In addition to *Plan Status*, I also searched websites for the oldest plan with a goal to increase faculty diversity. The number of years from the date of the original plan to 2015 was designated as *Plan Duration*. This was done to permit appraisal of the time from that point through 2015 that these goals and their related strategies could work at that institution to produce URM faculty proportion change. I also noted whether the plan is a *Diversity-specific plan* or not to explore the effect of "siloing" or marginalization of diversity initiatives from other organizational efforts. A *Diversity-specific plan* is a strategic planning document that was created for the expressed purpose of addressing the organizational issues of diversity and inclusion. They often will say they are such either in the title of the plan itself or the foreword. Capturing such behavior was important as it is thought to decrease the effectiveness of a strategic plan for diversity and inclusion, by representing a potential ideological marginalization of diversity efforts.[65]

Diversity Data Collection:

Percent Change in URM Faculty, High Change, & Low Change

Data on URM faculty representation at each medical school from 1998 to 2015 was obtained using the AAMC *Faculty Roster*, a database of demographic information of full-time faculty that is updated annually with data voluntarily submitted by AAMC-member U.S. medical schools.[71] The *Percent Change in URM Faculty* variable was created by subtracting the proportion of URM faculty in 1998 from the proportion in 2015. Then, I dichotomized this variable with institutions in the first (lowest) quartile of *Change in URM Faculty* being designated *Low Change*, and the remainder of institutions designated *High Change.*

Institutional Characteristic Collection: Region & Public/Private status

The institutions' designated AAMC region (Central, Northeast, South, and West) and public/private status were recorded from the AAMC website. These factors are contributory components of the Diversity 3.0 Framework Institutional Climate/culture and are thought to potentially impact strategic planning behavior and/or communication.[65]

Analysis

The aforementioned data obtained from the searches of institutional websites, the *AAMC Faculty Roster*, and the AAMC website were entered into a *Microsoft Excel* spreadsheet. I used statistical software (*R* version 3.2.4 & *SAS* version 9.3.0) to conduct the analyses. I assessed the normality of the data's distribution through visual inspection,

and used parametric or non-parametric tests (e.g. Chi-Squared test, Wilcoxon-Mann-Whitney U test/Wilcoxon Rank Sum test), as assumptions permitted, to explore the association between communicating a goal to increase faculty diversity and the change in URM faculty proportion. I also performed analyses to investigate associations between the change in URM faculty and 1) *Diversity-specific plan* status and 2) *Plan Duration*. Associations between *Change in URM Faculty* status *(High v. Low)* and 1) *Region* and 2) *Public/Private* status were also explored.

Strategic Plan Content & Quality Methods

Using the web-based, multi-step search, we identified 86 institutions with plans expressing a goal to improve faculty diversity, with the most recent plans as of December 2015. The AAMC's *Diversity and Inclusion in Academic Medicine: A Strategic Planning Guide* and current literature on strategic planning and organizational diversity and inclusion were used to inform the creation of 14 a priori codes. (see **Table 2**) Examples *of a priori* codes include concepts such as *Assessing Readiness*, *Using Diversity as Strategy*, and *Establishing Metrics*. In addition to using a priori codes in modified-grounded theory approach, plan reviewers (David Washington- Academic Primary Care Fellow and Uchechukwu Onwunaka, a college student at Brown University and summer research assistant) also analyzed the plans using a data-driven, constant comparison method. Twenty percent (N=18) of 86 strategic plans were coded iteratively in *a priori* and *emergent* fashion independently by both reviewers to establish inter-review reliability. The remaining 80% of plans were split up and analyzed independently. We

used Nvivo v9 to collect and organize data into a codebook. Reviewers held code consensus discussions two to three times a week for 8 weeks, and the codebook was updated as codes were refined over time. **Table 2** illustrates the codes and provides brief definitions. Numerical categorization and collection of the a priori and emergent codes present in each institution's plan was performed using a *Microsoft Excel for Mac* (v. 15.29) worksheet. We used this data to perform quantitative sub-analyses.

Table 2. A Priori and Emergent Codes from the Strategic Plans for Diversity and Inclusion (N= 86).

Code Type	Code Name	Brief Definition
A Priori (N= 14)	Engaging Allies/Stakeholders	Finding Allies/Stakeholders within the institution
	Assessing Readiness	Knowing the current state of diversity/Inclusion within the institution
	Leveraging for Change	Using aspects of an institution, its culture, and its governing policies that facilitate change and create urgency.
	Setting Goals	Setting broad outcomes that are in line with organizational mission and vision
	Defining Objectives	Defining strategies through which goals are achieved.
	Defining Tasks	Defining work to be assigned and completed so that objectives can be met
	Assign Action Steps	Creating an ordered plan of tasks required to complete an objective
	Setting Metrics	Setting measures used to track goal attainment
	Assigning an Implementation Team	The individual(s) in charge of putting the plan into action
	Setting a Timeline	Setting a planned succession of strategic plan implementation
	Using Diversity as a Solution	Usage of diversity/inclusion to address problems
	Stating Commitment to Diversity	Statements regarding institutional dedication to diversity/inclusion

	Creating Incentives for Diversity/Inclusion	Strategies used by institution to encourage behaviors/practices meant to improve diversity and inclusion
	Addressing Institutional Climate	Statements about addressing the climate to make it more conducive for diversity/inclusion
Emergent (N= 5)	Using a Consultant to Aid in Planning	Communicating use of a consultant firm to aid in strategic plan development
	Defining Diversity	Communication of the groups that make up the diversity that an organization is focusing on
	Being Accountable	Statement regarding the importance of accountability reaching goals for diversity and inclusion
	Referencing Prior Plans for Diversity	Building upon a previous strategic plans goals, strategies/objectives, or metrics
	Integrating with Another Plan	Coordination of strategic plan with an existing, higher level plan

After these initial qualitative analyses, the 86 institutional strategic plans were stratified into *High Performers* (N=22) and *Low Performers* (N=22). *High Performers* in this phase of the project will be defined as institutions in the fourth (highest) quartile of percent URM faculty representation in 2015 (median 11.3%, IQR: 3.3) using the AAMC *Faculty Roster* data, while *Low Performers* (N=22) are those in the first quartile (median: 4.1%, IQR: 1.4). The research team subsequently synthesized the previous identified codes into predominant themes that were either shared or unique to *High Performers* and *Low Performers*. Conducting analyses in this manner facilitated the generation of hypotheses on how the communication of strategic planning practices for faculty diversity and inclusion may differ based on workforce diversity level. Another strength in this method is that by conducting initial analyses on all strategic plans prior to analyzing

the subset, the reviewers were protected from biases related to the knowledge of organizational performance status on URM faculty diversity.

Following content analysis of the plans of the two performance groups, summary statistics for the different themes (both a priori and emergent) were generated, followed by standardization of a priori themes on a 100% scale (e.g. plans with X out of X a priori themes will have a score of 100% on the scale). This conversion allowed for the creation of a continuous outcome measure: *Guide Adherence* that can be used in parametric quantitative sub-analyses. Conversion to a 100% scale was also meant to enhance interpretability of results as they relate to the composite principles of effective strategic planning for diversity and inclusion. We assessed normality via visual inspection. We conducted two-sample *t*-tests to evaluate for an association between institutional URM faculty performance status (i.e. *High Performers* v. *Low Performers*) and *Guide Adherence*. We also looked for associations between *Guide Adherence* and the organizational characteristics of *Public/Private* status and *Region*. Analyses were performed the statistical programming software *R* (version 3.2.4).

Results/Findings

Prevalence and Characteristics of Strategic Plans[a]

A table summarizing the study variable definitions is shown below for clarity (**Table 3**):

Table 3. Study Variables in Prevalence & Plan Characteristics Analyses

Study Variable	Variable Components	Definition
Independent variables		
Plan Status	*A) Plan Present* *B) Plan Absent*	A strategic plan with a goal to improve faculty/workforce diversity was found
Plan Type	*A) Diversity-Specific* *B) Integrated*	The plan that the goal to improve faculty/workforce diversity was found in specified a focus on issues of diversity/inclusion
Plan Duration	*A) 5 years or less* *B) Greater than 5 years*	The years passed from the earliest plan found with a goal to improve faculty/workforce to 2015
Dependent variable		
Percent Change	*A) Minimal Change* *B) Higher Change*	Schools in the first quartile of percent change in URM faculty v. those in the second-fourth quartile

We identified 116 (98%) website-accessible strategic plans at 118 schools that existed in 1998. Of these, eighty-six (74.1%) communicated a goal for increased faculty diversity. Of the 86 schools that had a plan with a goal for faculty diversity, we were able to calculate *Plan Duration* for 73 (84.9%). The median *Plan Duration* was 4 years (IQR 5 years, range: <1 to 22 years) and 52 (71.2%) had a duration of five years or less. *Percent Change* for the 116 schools that existed in 1998 ranged from -3.8% to 8.7% with a median (IQR) of 1.7% (2.1%). As shown in **Table 4** and **Table 5**, we found no significant difference in *Region* by *Plan Presence* (p=0.65), *Plan Type* (p=0.17), *Percent*

[a] *Prevalence and Characteristic of Strategic Plans* methods, results, discussion are © 2017 by Elsevier

Change status (p=0.49), or *Plan Duration* status (p=0.61). The institutions with *Higher Growth* status had lower proportions of URM faculty in 1998 (4.8% IQR 2.9% vs. 5.7% IQR 2.6%, p=0.03) but higher proportions of URM faculty in 2015 (6.7% IQR 4.3% vs. 5.1% IQR 2.8%, p =0.001). Moreover, we found a significant association between school Private/Public status and *Percent Change* status (p= 0.008). A greater proportion of public schools (83.6%) were of *Higher Growth* status when compared to private schools (75.0%).

Table 4. Medical School Characteristics by Plan Presence & Plan Type

Characteristics	Plan Present n (%)=86 (72.9)	Plan Absent n (%)=32 (27.1)	p	Diversity-specific Plan n (%)= 32 (37.2)	Integrated Plan n (%)= 54 (62.8)	p
Region			0.65			0.17
Central	23 (74.2)	8 (25.8)		11 (45.8)	13(54.2)	
Northeast	25 (73.5)	9 (26.5		11 (44.0)	14 (56.0)	
Southern	27 (75.0)	9 (25.0)		6 (23.1)	20 (76.9)	
Western	11 (64.7)	6 (35.3)		4 (36.4)	7 (63.6)	
Status						
Private	28 (62.2)	17 (37.8)	0.07	12 (42.9)	16 (57.1)	0.61
Public	58 (79.5)	15 (20.5)	---	20 (34.5)	38 (65.5)	---
Percent URM Faculty, 1998 median (IQR)	5.1% (3.1%)	4.9% (3.2%)	0.61	4.7% (2.3%)	5.6% (3.8%)	**0.03**
Percent URM Faculty, 2015 median (IQR)	6.6% (3.8%)	6.2% (4.5%)	0.91	5.2% (2.9%)	6.9% (4.5%)	**0.002**

Table 5. Medical school characteristics by percent change & plan duration

Characteristics	Higher Growth n (%)= 88 (74.6)	Minimal Growth n (%)= 30 (25.4)	p	Plan Duration 5 Years or Less n (%)= 52 (71.2)	Plan Duration Greater Than 5 Years n (%)= 21 (28.8)	p
Region			0.49			0.61
Central	23 (74.2)	8 (25.8)		13 (65.0)	7 (35.0)	
Northeast	22 (64.7)	12(35.3)		16 (72.7)	6 (27.3)	
Southern	31 (86.1)	5(13.8)		17 (77.2)	5 (22.8)	
Western	12 (70.5)	5 (29.4)		6 (66.6)	3 (33.4)	
Status						
Private	27 (75.0)	18 (25.0)	**0.008**	17 (68.0)	8 (32.0)	0.86
Public	61 (83.6)	12 (16.4)	---	35 (60.3)	13 (39.7)	---
Percent URM Faculty, 1998 median (IQR)	4.8% (2.9%)	5.7% (2.6%)	**0.03**	5.3% (3.3%)	4.8% (2.0%)	0.19
Percent URM Faculty, 2015 median (IQR)	6.7% (4.3%)	5.1% (2.8%)	**0.001**	6.7% (4.6%)	5.6 (1.7%)	0.27

1. URM= underrepresented minority in medicine; IQR= interquartile range

2. Higher Growth and Minimal Growth based on calculations using data from *AAMC Faculty Roster* (1998 & 2015)

Both χ^2 analyses (shown in **Table 6**) and Wilcoxon Rank Sum Test analyses (shown in **Figure 5**), demonstrated no significant relationship between *Plan Presence* and *Percent Change* (p= 0.43 and p= 0.13, respectively). We found no significant association between having a goal for faculty diversity communicated in a *Diversity-specific Plan* vs. in an *Integrated Plan* and *Percent Change* status (p= 0.14). We also found no significant association between *Plan Duration* and *Plan Type* (p=1.0) or *Percent Change* (p=0.64).

Table 6. Summary table by percent change status

	Minimal Growth n (%)	**Higher Growth n (%)**	**p**
Plan Status (N=118)	30 (25.4)	88 (74.6)	0.43
Present	24 (27.9)	62 (72.1)	
Absent	6 (18.8)	26 (81.2)	
Plan Type (N=86)	23 (26.7)	63 (73.3)	
Diversity-Specific Plan	12 (37.5)	20 (62.5)	0.14
Integrated Plan	11 (20.4)	43 (79.6)	
Plan Duration (N =73)	22 (30.1)	53 (69.9)	
5 years or less	17 (32.7)	35 (67.3)	0.64
Greater than 5 years	5 (23.8)	16 (76.2)	

1. Minimal Growth and Higher Growth based on calculations using data from *AAMC Faculty Roster* (1998 & 2015)

2. Minimal Growth: Schools In first quartile for percent URM faculty change from 1998 to 2015

3. Higher Growth: Schools in the 2nd, 3rd, or 4th quartile of percent URM Faculty Change from 1998 to 2015

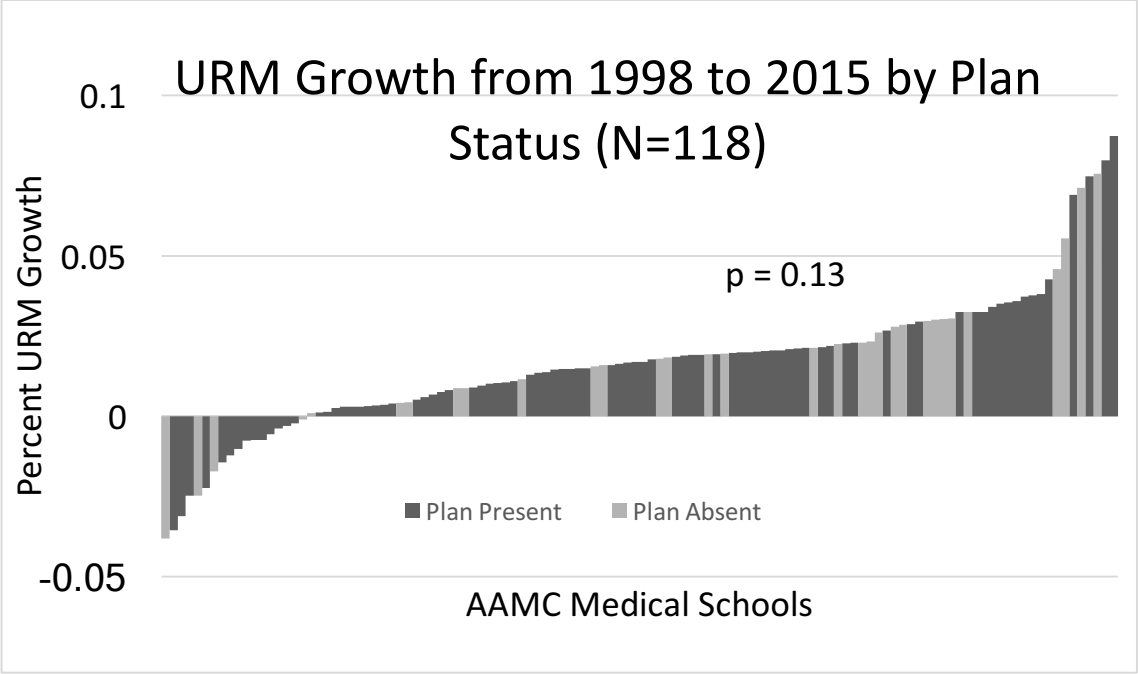


FIGURE 5. CHANGE IN URM FACULTY FROM 1998 TO 2015 BY PLAN STATUS

Percent Change (%) of URM faculty from 1998 to 2015 for each U.S. medical school (N=118) by institutional presence or absence of a strategic plan with a goal to increase faculty diversity. No significant association (p=0.13) between Percent Change and plan presence was found.

(Data Source: *AAMC Faculty Roster*, 1998 & 2015)

Strategic Plan Content Analysis Findings

The frequencies of the a priori elements in the 44 plans of *High Performers* and *Low Performers* analyzed in this study are shown in **Figure 6.** The least frequent component was *Action Steps* (N=1), while the most frequent was *Setting Goals* (N= 33), follow by an *Institutional Commitment to Diversity* (N=31), and *Setting Objectives* (N= 30).

Depicted in **Table 7**, We found a total of 8 shared themes and 3 themes specific to the plans of *High Performers* or *Low Performers*. Four shared themes were accordant with the literature on effective strategic planning for diversity and inclusion: (1) Diversity as a strategy to achieve organizational goals, (2) Faculty diversity as a strategy to achieve organizational goals, (3) Making the organizational case to improve diversity, (4) Making diversity intrinsic to infrastructure. Four novel themes in the plans of both groups included: (1) Using cultural competence to address patient-health care worker interactions, (2) Characterizing diversity broadly, but focusing on race, ethnicity, and sex, (3) Using an outside firm to facilitate planning, and (4) Being accountable and transparent is important for plan success. Three themes were identified as occurring distinctly in one group or the other. One of these was in *High Performers*: (1) Understanding that organizations benefit the most from diversity only with right climate/culture. The remaining two were in *Low Performers*: (2) Stating the diverse faculty hired will be competent, (3) Misuse of strategic plan components (e.g. using a strategy as a metric).

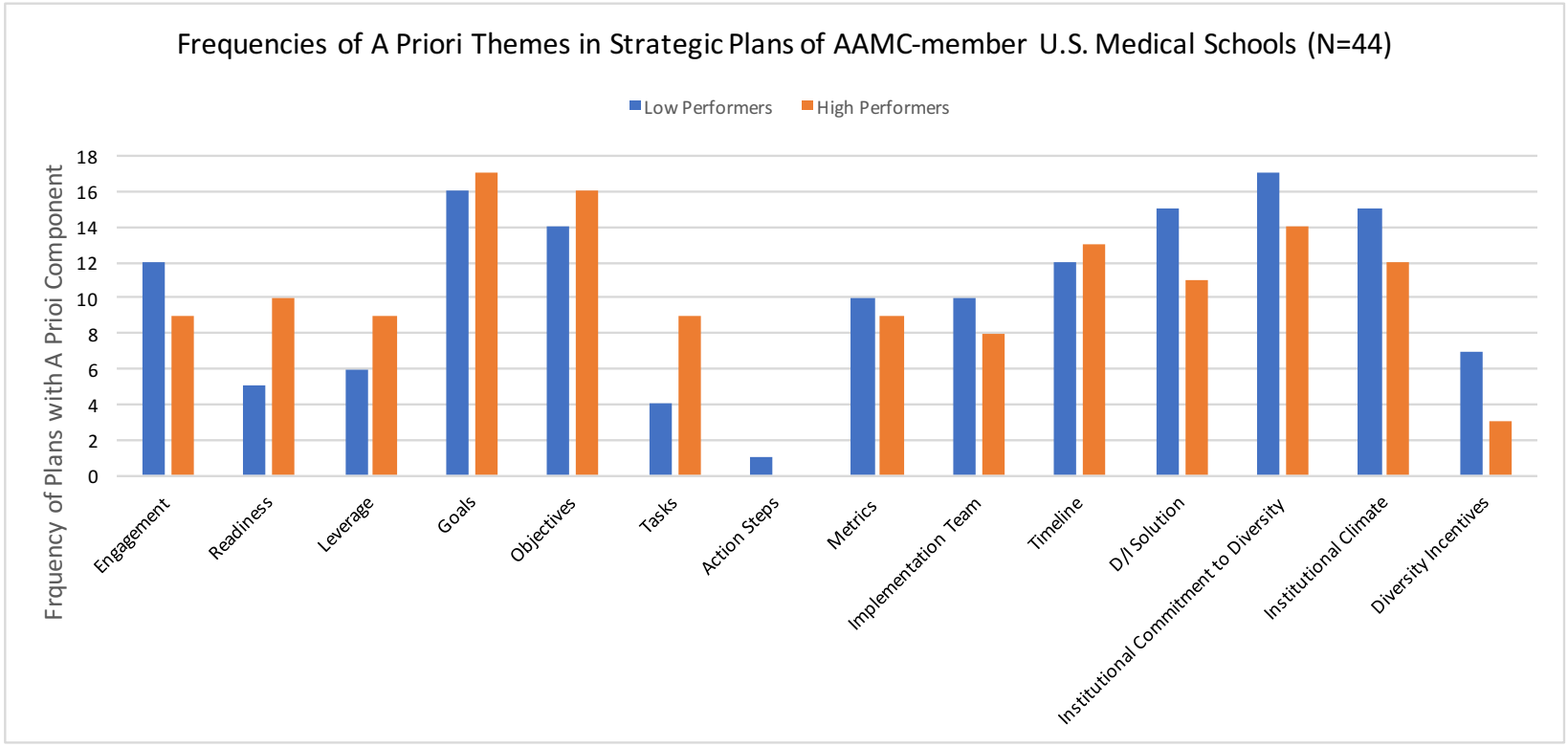


Figure 6. HISTOGRAM OF A PRIORI CODE FREQUENCIES IN THE PLANS OF HIGH PERFORMERS AND LOW PERFORMERS

Table 7. Shared and Group-specific Thematic Findings in the Strategic Plans for Diversity and Inclusion of High and Low Performers

Shared Findings (N=8)	Group-Specific Findings (N=3)
Diversity as a strategy to achieve organizational goals	Understanding that organizations benefit the most from diversity only with right climate/culture *(High Performers*)
Faculty diversity as a strategy to achieve organizational goals	Stating the diverse faculty hired will be competent (*Low Performers*)
Making the organizational case to improve diversity	Misuse of strategic plan components such as goals, strategies, or metrics (*Low Performers*)
Making diversity intrinsic to infrastructure	
Using cultural competence to address patient-health care worker interactions	
Characterizing diversity broadly, but focusing on race, ethnicity, and sex	
Using an outside firm to facilitate planning	
Being accountable and transparent is important for plan success	

Shared, Accordant Strategic Plan Content Findings

Diversity as a strategy to achieve organizational goals

Common in the strategic plan communications of both groups was the theme that diversity was to be used to achieve certain organizational goals or objectives. This theme is congruent with current literature on effective strategic planning for diversity and inclusion. One institution wrote the following:

> "…diversity offers innumerable educational and civic benefits. Higher learning and knowledge creation are enhanced in a setting that encourages expression of diverse opinions and supports healthy debate. **Diversity nurtures creativity and innovation, without which excellence cannot be attained or sustained. Society benefits from having a diverse population educated as leaders, professionals, artists, and problem-solvers who contribute to advancing the well-being of our urban and global community. These are but a few of the many benefits diversity yields when it becomes a fundamental part of higher education**."- *High Performer*

> "[Low Performer] is committed to providing the best health care possible to the citizens of [state] and beyond. To that end, we are sensitive to the many diverse communities we serve. We recognize the significant impact of recruiting, hiring, training and educating a culturally competent workforce and student body. We strive to effectively and respectfully serve our patients and their families who come from unique cultures, beliefs, values, nationalities and lifestyles. The Diversity and Inclusion Strategic Plan is one of many tools that will help us reach this goal..."- *Low Performer*

In the both excerpts, the institution communicates not only its acknowledgement and appreciation for benefits of diversity, but also its intent to capitalize these on these benefits to improve its organizational performance. Moreover, the diversity is being used as a strategy to make amends for its participation in societal perpetuation of social injustice:

> "...In the third place, although some insist that racism and sexism have come to an end and that the America of today is color- and gender-blind, particularly in public higher education, the need for vigilance remains. Unfortunately, during a period of competing demands, gaps in racial and gender equity widen in our society. This is therefore the right time to reaffirm, renew and clarify our commitment to offer access to excellence and success to those who historically have been denied full participation in higher education..."- *High Performer*

Faculty diversity as a strategy to achieve organizational goals

Within the larger theme of diversity to achieve organizational goals, we found that both *High Performers* and *Low Performers* named faculty diversity specifically as a strategy to improve education quality:

> "To develop diverse faculty means better educational outcomes for all students. The more diverse College and University faculty are, the more likely it is that all students will be exposed to a wider range of scholarly perspectives and to ideas drawn from a variety of life experiences. The emergence within the last 30 years of new bodies of knowledge can be attributed to the diverse backgrounds and interests of faculty, including those of color."- *High Performer*

Other motivations noted in plans for faculty diversity included growing trainee diversity, improving health care quality, and reducing health disparities:

> "Strategy 6A: Promote recruitment of a diverse faculty in each department to facilitate recruiting a diverse resident group."- *High Performer*

> "We will implement a comprehensive plan for diversifying the faculty that focuses on developing the pipeline of young scholars and attracting them to join the [*Low Performer*] faculty and on heightening the awareness of our community to issues of diversity in recruiting, mentoring, and retaining an excellent faculty."- *Low Performer*

> "For example, *[Low Performer]* has adopted "diversity" as one of five core values and is committed to the active engagement of a diverse workforce to assure exceptional culturally-sensitive patient care."- *Low Performer*

The passages above reflect that faculty diversity is not simple an end, but a means to address these larger organizational issues. Moreover, they capitalize on diversity's self-reinforcing attributes by using it to improve their pipeline program strategies to grow a source of diversity for the organization. Additionally, there is affirmation that increasing faculty diversity will also require strategies of its own, such addressing recruitment and retention issues that plague this population.

Making the organizational case to improve diversity

While the idea of providing an argument for organizational change is not novel, we found several convergent arguments for organizational change around diversity in both *High Performers* and *Low Performers*. One of these points was the need to adapt to shifting national and local demographics, and address societal needs to increase organizational educational and economic performance:

> "in light of the fact that the [local area], the state, and the nation are becoming more diverse, rather than less so, heighten the need to pay attention to the educational rationale, the business case, and the economic imperative that undergird our desire to pay more attention to diversity and inclusion."- *Low Performer*

Another institution stated something similar in its plan, but this time focused more on an economic imperative to stay competitive with peers in education and health care:

> "The economic volatility and changing landscape of higher education and health care called for a review and update of the University Strategic Plan"- *Low Performer*

Also, the need to fulfill the Liaison Committee on Medical Education accreditation (LCME) regulations was clearly communicated as leverage for change in the strategic plans of both URM performance groups:

> "Articulate expectations regarding diversity across its academic community in the context of local and national responsibilities and regularly assess how well such expectations are being achieved. Elements of diversity including but not limited to gender, racial, cultural sexual orientation and economic factors. Contain focused, significant, and sustained programs to recruit and retain suitably diverse students, faculty members, staff, and others (LCME IS-16)."- *High Performer*

The plan expressly cites LCME IS-16, the regulation that specifies a necessity for U.S. medical schools to engage in diversity-engagement activities. Mention of a previous failure to achieve LCME regulation was also represented in both high and low performers, suggesting it is an important point of leverage.

Making diversity intrinsic to infrastructure

Nearly ubiquitous in the strategic plans of both high and low performance groups was the communication that diversity was held by the institution to be a central standard by which it operates:

> "[*High Performer*] embraces the values established by [*High Performer*-related Medical Center] in its strategic plan: Excellence, Trust, Accountability, Innovation, Teamwork, Integrity and Diversity. We also affirm the critical importance of these additional values: Compassion, Humanism and Empathy."- *High Performer*

Through this communication, the schools elevate diversity to be a cross-cutting principle to be respected at all times in and in all aspects of organizational functioning. This is consistent with best practices in the diversity literature.[45,65]

Shared, Novel Strategic Plan Content Findings

Using cultural competence to address patient-health care worker interactions

This theme represents the concept of strategic plans communicating a need and desire to increase cultural competence to improve health care workforce and patient interactions, and was found in both high- and low-performing groups. Several examples include:

> "The SOM's diversity programs also seek to enhance diversity and cultural competency in the health care workforce, improve access to health care for poor, minority and under-served populations and, ultimately, eliminate racial, ethnic and socioeconomic disparities in health and health services."- *Low Performer*

> [Strategy] Enhance the cultural competence of health care providers and the School of Medicine"- *Low Performer*

We noted that cultural competence seemed designed to specifically address deficiencies in the health care workforce skill set relative to interacting with patients. This contrasts with addressing inter-colleague cultural competence or what might otherwise be understood as an aspect of professionalism. While we did find some examples of institutions addressing this type of cultural competence, it was not predominant.

Characterizing diversity broadly, but focusing on race, ethnicity, and sex

We found institutions in both the *High Performers* and *Low Performers* had very broad and multi-faceted definitions of diversity. From sex and race to disability status and height, there were numerous factors placed within the definition of diversity by institutional strategic plans. This was true when plans discussed the definition of diversity in general and when discussing diversity in particularly the faculty:

> "DIVERSITY: A defining feature of [State's] past, present, and future – refers to the variety of personal experiences, values, and worldviews that arise from differences of culture and circumstance. Such differences include race, ethnicity, gender, age, religion, language, abilities/disabilities, sexual orientation, socioeconomic status, and geographic region, and more…."- *High Performer*

> "[Goal]: 1. Create a broadly engaging and inclusive culture.
> Faculty Culture & Climate
> Create a culture and climate of inclusion that welcomes and celebrates diversity.
> Widely communicate the core values and goals related to diversity; emphasize during onboarding and hiring, orientation programs, review and promotion processes.
> **Ensure that all faculty, regardless of gender, race, ethnicity, sexual orientation or disability status, feel valued for their contributions.**"
> *–High Performer*

While this variation was quite high and sometimes purposively vague, three aspects of human diversity were consistently reflected in strategic plans of all institutions: gender, race, and ethnicity, especially when discussing faculty diversity, as illustrated by the passages above. Furthermore, when these aspects were discussed, we also found direct mention of minority groups that suffer from historical disenfranchisement (i.e. traditional URMs). These findings support that traditional URM groups remain the focus of U.S. medical schools in strategic planning communications.

Using an outside firm to facilitate planning

A common theme present in the strategic plan communications of both URM faculty performance groups was the use of consulting firms:

> "Strategic Planning Steering Committee, chaired by...and comprised of members from both the [school of medicine] ...and representing expertise spanning all three of the SOM's missions of research, clinical care and education, was charged by [the dean] with oversight of the strategic planning process. This committee engaged the strategy consulting firm [...] to provide guidance and facilitate a two-phase effort to: Assess the current state of the SOM vis-à-vis its stated vision define strategic priorities and initiatives to move the SOM toward its vision"- *High Performer*

> "Initially, as part of the University's broader strategic planning process, the [diversity office] engaged [consulting firm] to work with the University in the initial steps of developing a [strategic plan for diversity]."-*Low Performer*

The reason for their use was not always communicated; nevertheless, some institutions did go so far as to be somewhat transparent as to their intentions for the additional help. Overall, consulting firms seemed to be utilized for several purposes related to organizational strategy. One of these was to aid in organizational analysis of internal and

external factors that contribute to the ability to achieve goals. The other major reason communicated for consulting firm involvement was to facilitate development of goals and strategies in line with an organizational vision.

Being accountable and transparent is important for plan success

Another prominent theme in the strategic plans of both *High Performers* and *Low Performers* was the idea of being accountable for strategic plan goal attainment. While some plans had this accountability-language scattered throughout the plan, others designated entire sections to this concept. For example, in the plan of a *High Performer*:

> **"V. Strategic Plan Accountability**
> Determining and communicating roles, responsibilities and accountability for the Plan's progress and implementation are necessary to make it successful. Over the years at [*High Performer*], lack of clarity has caused confusion and signaled misalignment related to certain System, campus, and unique and shared roles.
>
> Affirming both critical distinctions among the entities and shared responsibilities, this outcome was one of the major successes of the planning process and laid the foundation for increased collaboration across the [High Performer] System.
>
> The Steering Committee further considered and finalized these roles in completing the Plan. First-year implementation committees developed operational plans with responsibilities for specific offices or individuals at the System or campus/institute levels.
>
> [*High Performer*]'s Planning Framework and Campus Alignment
> System Administration Responsibilities"- *High Performer*

In the above passage, accountability is clearly a priority and of importance to designate and communicate to stakeholders. The organization even goes so far as to explain past failures of organizational efforts as due to a lack of clarity in this accountability. This led

to current action being undertaken. They go on to assign this responsibility of tracking and accountability to system administrators, as opposed to that of campuses or institutes. Similar communications and uses of accountability are present in the plans of *Low Performers*, as well:

> "The requirement that Deans and UGEN Vice Presidents develop DSAPs for their schools and departments that are to be aligned with the University-wide DSAP, using the same three goals as a template to build consistency and accountability...
>
> 5. Establish annual review, assessment and progress reports on performance metrics for Schools and UGEN Division DSAPs to increase accountability to campus community by presenting a Dashboard at an Advancing Diversity Summit following the MLK Convocation each year...
>
> It will be the responsibility of the OIDEO to review the results of the 2010 and 2014 Campus Diversity Climate Surveys and to assess changes in the efforts for recruitment and retention of URMs that have been undertaken by the University as a whole as well as by individual schools/departments. The OIDEO will undertake a "deep dive" into the Campus Diversity Climate Survey results, and will ensure that the results of the Campus Diversity Climate Survey are shared publically in a consistent and transparent way."- *Low Performer*

The plan discusses accountability throughout, but also gives the concept its own section. Accountability for tracking goal progress and achievement is assigned to administrators. Also notable was that accountability is almost inextricably linked to transparency with stakeholders. This was reflected in the communicated proposal to present progress at community events and make diversity climate survey results public (e.g. the "Diversity Summit" above). While the AAMC's *Diversity and Inclusion: A Strategic Planning Guide (2014)* touches on accountability and transparency briefly in a concrete and operational manner, it does not go as far as these plans do, such as designating entire

sections of the plan to its merits and importance.

Group-Specific Strategic Plan Content Findings

Understanding that organizations benefit the most from diversity only with right climate/culture (High Performers)

The strategic plan communications of *High Performers* also uniquely contained the concept of organizational culture as important in reaping the benefits of a diverse workforce:

> *"MAXIMIZING INDIVIDUAL POTENTIAL: Embrace the dedication and creativity of colleagues in all professional, technical and service fields while welcoming a diversity of cultural perspectives. Aggressively seek, discover, include and nurture the best talent in all we do."- High Performer*
>
> "STRATEGIC PLAN 2014 Strategic Priority 3
> Reinforce a culture of excellence, efficiency and accountability.
>
> SP3. Organizational Goal 1
>
> *Goal: Build an extraordinary work environment and a fully engaged work force.*
> [*High Performer*] will foster an environment that supports teamwork, community, service, leadership, education, creativity and engagement. We are committed to creating a culture of transparency and accountability at all levels of the organization. In addition, developing an environment that is sensitive to cultural diversity and inclusion is a high priority.
>
> Initiatives include building depth of expertise through cross training, career pathways and succession planning; developing leadership development programs in conjunction with the School of Business Administration; using constructive communications; and developing a culture of accountability, flexibility, teamwork, efficiency and receptiveness to change."- *High Performer*

This theme goes beyond not discriminating against a particular group of people. It even goes beyond the theme *Making diversity intrinsic to infrastructure*, which we found in both high and low performers. Instead, it seems to reflect ideological empowerment and embrace of cultural diversity in the work of the organization.

Stating the diverse faculty hired will be competent (Low Performers)

Present in strategic plan communications of *Low Performers*, was the concept of undertaking organizational steps to increase faculty diversity would specifically focus on "qualified" applicants:

> "The SOM will strive to admit qualified student and appoint qualified resident, faculty, staff and administrators who represent diversity"- *Low Performer*

> "II. Increased retention and recruitment of underrepresented minority (URM) students, faculty and staff at all levels
> a. Increased retention of URM faculty and staff
> b. Increased proportion of qualified URMs in faculty, staff and student applicant pools" - *Low Performer*

As demonstrated above, these communications emphasize that diversity brought to the organization must be "qualified", however, we could not find elaboration on exactly what "qualified" meant or how it would be assessed.

Misuse of strategic plan components such as goals, strategies, or metrics (Low Performers)

Notable in the strategic plans of *Low Performers* was variable and vague application of strategic plan components, such as metrics, strategy, and goals.

Components were sometimes wholly lacking in strategic plan communications. Other times, components were used redundantly. For example, strategic plans were noted to communicate goals to improve faculty/workforce diversity or some other aspect of organizational culture, followed by rephrasing of these goals under the heading of "strategy" or "metrics." Such usage led to confusion and ultimate weakening of the strategic plan's clarity.

Literature on strategic planning posits that good strategic plan practices involve the setting of goals aligned with a vision. This is followed by assigning strategies to achieve these goals and metrics to document progress. Arranging the plan components in this manner provides a strategic framework for institutional change.

Institutional Performance and Institutional Differences

The characteristics of institutions in the High Performers and Low Performers are shown in **Table 8.** We did find a significant difference between URM faculty presence and institutional region ($p= 0.2$), with a predominance of *High Performers* being in the southern region. URM percent change from 1998 to 2015 was also significantly higher in the *High Performers*. ($p <0.0001$).

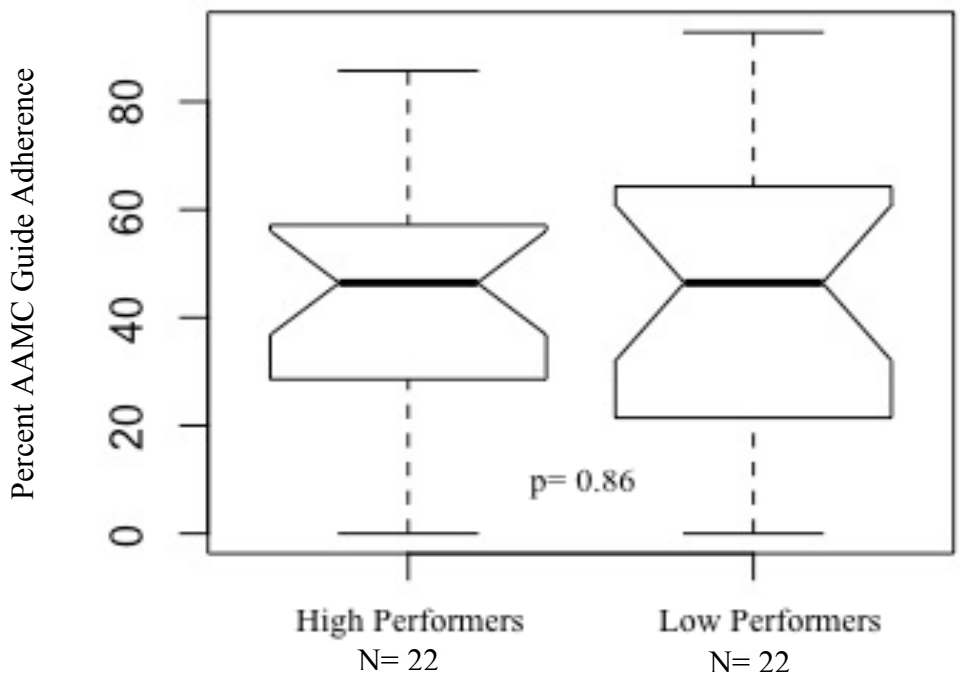
Table 8. Institutional Characteristics of High Performers and Low Performers

Characteristics	High Performers N=22 (25%)	Low Performers N= 22 (25%)	p-value
Years Since Establishment, Median (IQR)	113.5 (110.25)	110.0 (118)	0.98
Percent URM Faculty in 2015, Median (IQR)	11% (3.3%)	4.1% (1.4%)	**<0.0001**
Percent Change in URM Faculty from 1998 to 2015, Median (IQR)	2.5% (2.0%)	0.9% (2.1%)	**0.00029**
Region, N (%)			**0.02447**
North	2 (9.0)	7 (31.8)	
Central	4 (18.0)	8 (36.4)	
South	13 (59.0)	4 (18.2)	
West	3 (14.0)	3 (13.6)	
Private, N (%)	7 (31.8%)	7 (31.8%)	1

1. URM: Underrepresented Minority in Medicine (Faculty)
2. Data from the AAMC *Faculty Roster* (1998 & 2015) and AAMC website (Accessed: Winter 2015)
3. Low Performers: Schools in first quartile for percent URM faculty (2015) & High Performers: Schools in the 2nd-4th quartiles.

The mean (SD) *Guide Adherence* was 46.1% (23.8) for the strategic plans of both *High Performers* and *Low Performers*. *Guide Adherence* in the plans ranged from 0% to 92.86%. As shown in **Figure 7,** we found no significant difference in *Guide Adherence* between the plans of *High Performers* (mean: 45.5%, SD: 22.6) and *Low Performers* (mean 46.8%, SD: 25.5%). We also found no significant difference in *Guide Adherence* between *Private* status (p= 0.95), and *Region* (p= 0.38).

FIGURE 7. PERCENT AAMC GUIDE ADHERENCE IN STRATEGIC PLANS OF HIGH AND LOW PERFORMERS



*There were 14 possible a priori thematic components of effective strategic planning for diversity and inclusion

* A Two-sample T-test was used to compare the plans of the two groups, using R v0.99.

Discussion

The results of this study align with prior studies that demonstrate URM faculty growth has been quite meager over the past 20 years.[4,35] Most AAMC-medical schools are engaging in strategic planning for diversity and inclusion. Moreover, most have an expressed goal to improve faculty diversity. However, we found the presence of a strategic plan with a goal to increase faculty diversity was not associated with higher percentage of URM faculty change among the AAMC-member institutions. Furthermore, having a strategic plan goal for increased faculty diversity for longer than the past five years was not associated with URM faculty growth. While individual case studies have suggested that strategic planning may increase diversity and inclusion at several U.S. medical schools, the data we present suggests that strategic planning alone is not associated with increase in URM representation nationally. Given these results, we hypothesized that the plans themselves do not embody the principles of effective strategic planning, as communicated by the AAMC and strategic planning literature. Our investigation demonstrated that, between academic organizations of higher and lower URM faculty presence, most strategic plans were fairly reflective of these principles. This was further supported by quantitative analyses of strategic planning components that did not show significant difference in prescribed strategic plan components between institutions that achieved higher and lower URM faculty diversity.

We found that diversity is being incorporated into ethos and operations of U.S. medical schools, congruent with the *Diversity 3.0* framework AAMC guide.[6,65] This is apparent as diversity is commonly being communicated as a "cross-cutting core value,"

i.e. one that transcends and encompasses all aspects of organizational operations. Although somewhat vague, the significance of this mindset is one supported by the literature, as it tells stakeholders that diversity is important and is to be considered in all activities central to organizational performance.[45,65,70] It would be interesting to see how organizational stakeholders perceive and experience this concept in vivo. Such understanding may better inform its implementation and sustainability of organizational diversity efforts. It is not hard to imagine that the communication of diversity in this manner is largely viewed as ineffectual verbiage or "lip service" unless coupled with more tangible organizational efforts and change. However, even mere "lip service" has power. Evidence from the business sector suggests that this "lip service" can have real, detrimental effects to diversity, resulting in the propagation of beliefs that hurt the missions of true diversity and inclusion. For example, Dover et al. (2016) studied the perceptions of white men given pro-diversity and diversity neutral organizational pre-hiring materials. They found that evidence that white men given pro-diversity materials were more stressed during interviews than the diversity neutral group, out of a belief that they were more likely to be discriminated against or be undervalued at the pro-diversity institutions. They also found that these individuals were more likely to believe that women and minorities are being treated fairly, even if that was not true. Speaking to the power of "lip service," business sector cases have noted that some organizations have relied solely on having an anti-discrimination policy, informally called the "diversity defense", as their argument in cases where gender discrimination is in question. In this way, the words alone decrease organizational accountability for discriminatory behavior.

This must be considered as a potential motivation for academic medical institutions to have organizational plans for diversity and inclusion. Similarly, it may explain the findings of this study, in so far as the plans are not meant to change an organization's behavior, but, rather, to protect its interests. These interests may be legal, accreditation, or something else. These will be important issues to address when further evaluating strategic plan effectiveness for diversity and inclusion, as we may be looking at the wrong outcomes.

In point of fact, one of the major themes present in both performance groups was the concept of making the organizational survival case for diversity. Aside from a need to be socially responsible and to address health disparities in the populations they serve, strategic plans often mentioned the need for diversity to remain economically and educationally relevant and competitive. Tied into the latter two motivations is the need for LCME accreditation, which was often clearly cited in plans, to the extent that the exact LCME regulation was referenced along with past accreditation failures. The needs for accreditation and to remain economically viable may fuel a degree of what is called mimetic isomorphism.[73] This theory posits that organizations may emulate peer organizations whose practices they view as beneficial. While not a prominent theme in our qualitative analyses, references to "aspirational peers" in strategic plans were noted in our analyses. Given the relatively small nature of the academic medicine sector, combined with a highly competitive market for talent, the impulse to keep pace with peers may certainly be elevated. This theory would certainly explain many thematic points of convergence between the plans of *High Performers* and *Low Performers*.

Perhaps most interesting is that for accreditation there are no concrete diversity steps that need be undertaken, just evidence that the institution is working on the issue. Again, this provides the potential of "lip service" to have power: in that solely by planning for diversity and inclusion, regulatory or accreditation requirements are fulfilled.

In looking at other principles of effective strategic planning, we found the concept of using diversity as a strategy to achieve organizational goals is also broadly embraced. This reflects a AAMC guide-congruent perception of diversity as not a problem, but as a solution to organizational challenges. Faculty diversity, in particular, is also used in such a manner to address organizational performance in education, health disparities, and research. Yet, while plans of both high and low performers embrace these themes, it stands out that *High Performers* go one step further, incorporating a culture that the organizational management literature supports as requisite for diversity to truly thrive and to produce the highest level organizational benefit. Thomas and Ely (1996) call this the "learning-and-effectiveness paradigm."[74] This culture paradigm is different from traditional organizational diversity culture in that it enables minority-employees to integrate their culturally-informed perspectives and insights into their work. This is in contrast to forcing them to conform to a rigid organizational cultural standard. That evidence of this culture is seen in the strategic plans of *High Performers* suggests it may be an important paradigm for improving URM workforce presence in academic medicine. This is further supported by the notable finding of use of the word "qualified" when speaking about recruiting a diverse workforce in low-performing institutions. While on the surface it seems like such an innocuous word, its implications are quite significant.

This particularly true in the context of (1) historical perceptions of many URM group as "less than," (2) the feelings of social isolation present among many URM faculty and (3) the aforementioned power of words in majority perceptions/biases regarding diversity efforts.[4,15,28,29,75] The word pulls at tensions related to the belief that affirmative action or other such pro-diversity efforts result in a lowering of hiring standards or expectations for individuals from affected populations. In this way it subtly feeds the perception that URM members are "less than" academically, a perception that can be traced to the *Flexner Report*.[29] Thus, by proxy, it potentially hardens URM social isolation by decreasing others' willingness to collaborate with URMs and hardening implicit biases. That this language was found in the plans of *Low Performers*, suggests that these institutions are not embracing the proper organizational culture needed to improve workforce diversity, especially for URMs. Further investigations to assess strategic planning for diversity and inclusion would do well to capture these aspects of organizational diversity and inclusion culture in academia.

Given the broad spectrum of human diversity, one might expect that various definitions may lead to dispersed diversity efforts of varying focus. If such was true, then perhaps the lack of change in URM faculty presence may be explained. We found, however, that while medical schools do vary in their definitions, several characteristics consistently stand out: race, ethnicity, and sex. In particular, specific mentions of the traditionally underrepresented minorities in medicine groups are ubiquitous, with statements of unique attention to them also observed throughout plans of *High Performers* and *Low Performers*. This suggests that it is not a definition problem

informing the lack of URM workforce growth.

As far as strategies for diversity and inclusion are concerned, URM faculty development programs, faculty mentoring programs, pipeline programs, and official offices/position designated to address issues of diversity were all observed, as supported by the literature.[4,33,50] In addition, U.S. medical schools are communicating use of cultural competence training, another literature supported strategy. Cultural competence is generally understood as a culturally-apt mindset and demeanor.[76] As noted by Parker (2010), cultural competence suffers significantly from an identity problem, being plagued with many definitions and interpretations.[76,77] While this definitional variation exists, academic medical institutions almost consensually assert that cultural competence training was meant to improve health care interactions with patients. Given impending racial/ethnic demographic shifts, and a national focus on patient-centered care and patient satisfaction, this finding is not entirely surprising.[44,76,78] Cultural competence has long been recognized as important for having successful interactions with racially and ethnically-diverse patient populations.[76,77] However, while we noted minor themes of professionalism in our analyses, use of cultural competence to manage the complexities of working within a racially and ethnically diverse workforce was lacking. Studies suggest that greater workforce diversity can lead to miscommunications and misunderstandings that can hurt organizational performance.[45,74] To work in high-stakes settings, such as academic medicine, one must able to interact effectively with colleagues. Doing this is becoming increasingly important given the growing professional necessity for successful collaboration. Given the known pitfalls in performance and

implicit biases present in medicine, it stands to reason that cultural competency skills aimed at peer-peer interaction may help improve the experiences and career satisfaction of URMs in academic medicine. This should be considered in further efforts for organizational change.

Lastly, notable in the strategic plans of *High Performers* and *Low Performers* is the use of consultants to aid in strategic planning process. Such involvement suggests that strategic planning is an activity that medical schools may not feel qualified to complete alone. Indeed, the mere existence of AAMC-sponsored guide to strategic planning for diversity and inclusion suggests this may be an activity outside of an institutions typical skill set. Concordantly, we also found that plans of *Low Performers* tended to conflate strategic plan concepts of goals, strategic, and metrics. If this confusion exists in the communications of their strategic plans, it is not hard to imagine that the plans may then be hard to operationalize clearly and effectively. This may also represent a lack of facility with the activity of strategic planning or a perceived lack of importance. Strategic planning is a complicated and costly process, and it may be too laborious for some institutions to complete on their own. It would be interesting in future studies to see if institutions that complete strategic planning using experienced strategic planning consulting firms and/or the AAMC guide directly had greater improvement in diversity and inclusion metrics.

It is possible that we did not find an association between URM faculty and strategic plans for diversity and inclusion because strategic plans create a false sense of accomplishment. This translates into a lack of the prerequisite organizational

accountability, authenticity, and transparency that contribute to diversity promotion effectiveness. Studies examining diversity efforts in corporate America suggest that the organization's state of diversity is best served by such accountability. For example, Kalev et al. (2006) examine this phenomenon in an evaluation of the efficacy of affirmative action-related-policies/program.[79] They reviewed three program based approaches to diversity: (1) programs that create institutional obligations for diversity, (2) programs that address manager-level bias with training/reflection, and (3) programs design to reduce the social isolation of minorities and women. Using federal workforce data from over 700 private businesses from 1971 to 2002, they analyzed their relation to employment practices gained from surveys. They found that manager-level bias programs were least effective in increasing black men and black/white women. Programs that dealt with social isolation of these groups were moderately effective for those minority groups, leaving the most effective programs the ones that promoted organizational accountability for diversity. Moreover, organizational accountability programs showed evidence of also increasing the effectiveness of bias training and mentoring.[79] Some programs also saw improved efficacy when businesses designated a manager as accountable. This "accountability culture" appears throughout literature from the business sector on diversity.[3,65,70] We found this concept throughout the strategic plans of both groups, as well as evidence that its importance in effectively generating change is appreciated, even more so than the AAMC guide communicates. Studies that explore the actualization and transparency of this accountability mentioned in the plans will be important in understanding how to best implement strategic planning for diversity and inclusion in

academic medicine.

There are several limitations to this study. Perhaps the most significant is that while developing a plan is a major aspect of this organizational management activity, it can be argued that a majority of its potency is derived from plan implementation. As this was not assessed in this project, future studies that assess the effectiveness of such plans will be important. Another limitation is that the data in the AAMC's *Faculty Roster* likely overestimates URM faculty presence since instructors may be included as faculty members, while this rank at many institutions is not a faculty position. While, in the initial quantitative analyses, we dichotomized institutions by the degree of their change in URM faculty percent, this level of improvement overall is small (with a median of 1.7%). This highlights the degree to which diversification efforts within academic medicine are failing to achieve greater URM faculty representation. This study is also limited in that our identification of strategic plan presence was limited to what could be found on the internet. While the AAMC and other strategic planning literature suggests publicly communicating these strategic planning initiatives and the use of technology to do so, some schools may have not chosen to distribute their strategies via public institutional websites. Other institutions blocked their strategic plans from public access. Another important consideration is the fact that strategic planning documents may not accurately represent institutional efforts. The strategic planning literature suggests that it is not uncommon for plans to change during the course of implementation. However, given the low level of racial/ethnic faculty diversity in virtually all U.S. medical schools, the goal to increase pipeline and workforce diversity would likely persist even if the exact

methods for achieving it did change.

Despite these limitations, this project has several strengths. To my knowledge, it is one of the first to look specifically at past and current strategic plans for diversity and inclusion in a majority of U.S. medical schools. While several studies discuss strategic planning in health care organizations, or strategic planning for diversity and inclusion at a singular medical school, we were able to gain insights into the strategic planning participation of many organizations.[63,64,80] Moreover, as the strategic planning literature suggests that plans should transparently reflect and communicate institutional mission, vision, goals, and strategies, I believe their use in this study enabled capture of important strategic planning practicalities regarding best practice application. The use of both quantitative and qualitative methods, including the modified-grounded theory approach, had several benefits. It enriched not only the understanding of prevalence of institutional engagement in this activity, but also facilitated a more nuanced consideration of how this activity relate to URM faculty diversity. [45,68] Specifically, using a literature-informed a priori coding framework allowed us to assess how U.S. medical schools are communicating the use of these "best practices" into their strategic plans for diversity and inclusion.[65] Complementarily, use of emergent coding enabled characterization of strategic plan content that did not necessarily conform to best practices.

It is important we understand the role for strategic planning in diversity and inclusion for several reasons. As the U.S. grows more diverse, academic medicine will need to adapt to accommodate for the health interests of all. To empower academic medicine to do this, the field needs effective organizational tools able to address the

systematic biases and racial/ethnic-institutional disparities remaining in the workforce as the legacy of generations of discrimination. Only by addressing these issues can academic medicine honestly provide the best education, research, and care possible for our society. Lastly, careful examination of strategic planning allows us to prevent it from being just another factor that contributes to the "responsibility disparity" and legacy of discrimination that perpetuates a relatively low-URM state in academic medicine.

Conclusions

Most AAMC-member U.S. medical schools have used strategic plans to communicate a goal to increase faculty diversity. Despite this, strategic planning does not appear to be related to the presence of more URMs in the academic medicine workforce. Plans of institutions with a relatively high URM workforce presence and low URM workforce presence shared many themes. In addition, these themes reflected many of the principles of effective strategic planning for diversity and inclusion supported by the scientific and business literature, as well as the AAMC guide. While we found relative homogeneity in the strategic plan content of medical schools with higher and lower URM faculty percentage, there were several thematic differences. Future studies should investigate whether these differences influence the effectiveness of strategic planning for diversity, inclusion, and workforce diversity.

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