THE CINDERELLA SYNDROME: A CASE STUDY OF MEDICAL SCHOOL ADMISSION DECISIONS

By

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“Whatever you vividly imagine, sincerely believe, enthusiastically act upon…must inevitably come to pass.” Unknown

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ABSTRACT

Making decisions about whom to admit to medical school and how to create diversity in the process has come under increased scrutiny. An additional layer of complexity is introduced when committees utilize the AAMC's prescribed holistic review in addition to their institutional diversity policies. This comparative case study explores how two medical schools (one public and one private) are charged with implementing holistic review when challenged by the institutional culture which may resist a holistic approach. Through interviews, meeting observations, and document analysis, the study examines how and when diversity is introduced into the admissions process, and how diversity policies function in the overall medical school environment.

Applying a framework of institutional isomorphism (DiMaggio & Powell, 1983), the study found that medical schools are highly concerned about a decrease in MCAT scores and coursework grades, which could negatively impact medical school rankings. It could also contribute to institutional inertia when introducing a new review process, causing resistance by admissions committee members. Additionally, admissions committees and leadership may differ regarding philosophical and historical factors that create bias within the process resulting in isomorphic change. Isomorphic change is a result of the ambiguity and the lack of institutional buy-in on various levels (DiMaggio & Powell, 1983). Virtual adoption (Birnbaum, 2000) is a result of an increased focus emulating processes of peer medical schools that misalign the school's priorities, creating confusion about how to address the national shortage of diverse physicians. Future research needs to account for additional influences on admissions decisions, including the impact of the current *Fisher v. University of Texas* case that may redefine how diversity is measured in medical school admissions.

CHAPTER 1: INTRODUCTION

Medical school faculty seek students who have the academic potential to succeed in a meticulous curriculum as well as the personal potential and motivation to become caring healthcare professionals. Applicants must exhibit academic rigor while demonstrating qualities such as compassion, altruism, medical knowledge, dedication and trustworthiness in their fields (American Association of Medical Schools, 1998).

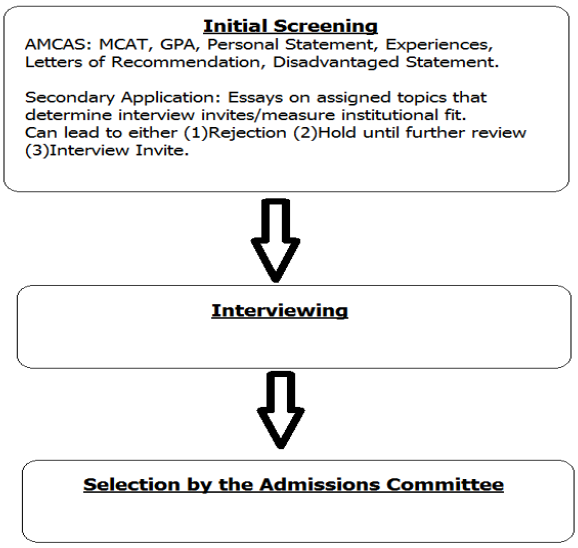
According to the charge of the AAMC, medical schools should design admissions selection processes that support the mission and goals of the institution. However, medical schools are not required to use holistic review and many medical schools are left to create diversity according to their own institutional standards and definitions. Holistic review is defined as "a flexible, highly-individualized process by which balanced consideration is given to the multiple ways in which applicants may prepare for and demonstrate suitability as medical students and future physicians"(AAMC, 2010, p. ix). This framework also assumes that "candidates are evaluated by criteria that are institution-specific, broad-based, and mission-driven and are applied equitably across the entire candidate pool" (AAMC, 2010, p. ix). Reviewing an applicant holistically uses all of the available information to make informed and responsible admissions decisions. Among the schools that adopt holistic review, the process varies by school due to the many factors considered about each applicant and how each school filters applicants through their multi-layered processes. Many schools are especially challenged with how to interpret the metrics used to guide this approach.

A holistic review can be subjective, intangible and difficult to evaluate. Despite the difficulty with evaluating applicant attributes, Ferguson, et al (2002) argued that an over-reliance on MCAT scores and academic coursework leads to biased decisions in the admissions selection

process because these factors do not provide insight on an applicant's motivation. Research on admissions biases include cultural and gender bias as well as faculty bias for applicants with high MCAT scores and GPAs. The AAMC defines applicant attributes as Experiences, Attributes, and Metrics (EAMs) that can help determine an applicant's fit to a medical school's mission, vision and goals. EAMs are a model used to screen, interview, and select attributes based on the Holistic Review Project. EAMs can provide insight on academic preparation, dedication to serving others, ability to work in teams, competence for delivering solid medical care in a diverse community, and a clear understanding of the medical field (AAMC, 2011). However, it is challenging for medical school admissions committees to efficiently review all of this information in advance of inviting applicants to interview.

It is difficult to envision the medical school admissions process without recognizing the separate components used to make a decision. There are broad methods to screen, review, and select applicants and holistic review is considered a new, emerging way of explaining the multi-faceted admissions process and the importance of understanding the entire applicant and their personal attributes instead of relying solely on academic metrics.

In the flowchart below, the basic outline captures a sample admissions process from the AMCAS application to acceptance to matriculation.



During the initial screening portion, medical schools initiate a "metric screening" that may include an MCAT and GPA cutoff. Because medical schools at such prestigious institutions like George Washington University and Stanford University receive over 10,000 applications annually, many schools use these two metrics to screen applications to create a manageable applicant pool. Once the metric screening is completed, the remaining applicants may be offered a secondary application to fill out. Secondary applications are more tailored to the individual school and include essay questions that allow applicants to share more personal information about them as an individual. Most medical schools charge a fee ranging from $50 to $125 for applicants, depending on the institution, to submit the application, creating a revenue-generating opportunity for medical schools to supplement their budgets. Once secondary applications are submitted, the admissions office or admissions committee may then use the results of the application to screen for potential interview offers which is, again, another method to decrease

the applicant pool. If an applicant is extended an interview offer, the interview summary report (based on individual applicant performance) is then provided to the admissions committee for a review of the interview summary as well as the entire AMCAS application, including the secondary application. The review of an applicant's file sustains intricate iterations before potential admissions offers are given. And, because incoming class sizes can vary at each school from 80 to 280 incoming students, admissions committees are under significant pressure to identify the best medical students while also balancing the needs for each medical school and the overall need to increase the number of physicians in diverse communities as presented by the AAMC.

Medical schools claim they look for more than numbers; they claim to look for signs of inner strength and many other qualities. According to the AAMC, a physician should be a person who places a high value on humanism, self-reflection, altruism, knowledge, skill, and duty, and who is willing to dedicate his/her life in service to others (AAMC, 2010). Motivation for medical school, in particular, is an important factor in holistic review, as it can help an admissions committee understand an applicant's goal to serve others. Extracurricular interests can determine if the applicant is well-rounded. Personal statements are designed to help the applicant articulate and demonstrate his/her personal motivation for medicine.

Another assessment used to provide evidence of an applicant's interpersonal skills is the interview. Interviews are often used to assess a variety of characteristics such as humanism, altruism and motivation. The concept of duty includes taking responsibility for your own actions, being service-oriented, and fulfilling an obligation to other people and a responsibility to society. Knowledge of cultural issues, acceptance of diversity in patients and colleagues, and ability to

communicate effectively with people whose backgrounds are not similar to one's own are also valuable attributes for a physician.

The AAMC deems these qualities as important because the EAMs are used to screen, interview and admit applicants with the desire to create institutional diversity as defined by the school's mission. As a result of these admissions outcomes, the institution will continue to evaluate if the EAMs and admissions criteria support institutional success based on the admissions outcomes. According to Wilson (2009), academic factors such as academic coursework and aptitude tests can predict academic performance in medical school; however, these factors poorly predict physician performance, demonstrating the need for holistic review in admissions. To meet this challenge of assessing these qualities, medical schools tend to seek the direction of the AAMC to develop better methods to identify efficient and effective methods to screen for these attributes.

Holistic review is designed to consider multiple factors. Ferguson, et al. (2002) claimed that academic ability, medically-related experiences, extracurricular activities and interests, motivation and communication skills are selection criteria used by most medical schools. The research also found that these criteria can inform how an applicant is selected but the question still remains how well, if at all, these factors predict medical school performance. It is important, for example, that a personal statement be viewed as equally revealing of an applicant’s readiness as an MCAT score because both factors can provide insight as to why applicants seek to become physicians. It is important to assess the total applicant: characterizing applicant insights may help signal traits that work towards institutional diversity goals. The quality of applicants can be greatly expanded to include broader selection criteria by using holistic admissions.

A holistic approach to admissions should also include a review of nontraditional experiences such as caring for an ill parent because motivation can develop from such an experience. Holistic admissions policies may help to establish an applicant's cognitive function and personality independent of social class and academic preparation (Nicholson, 2005). Holistic review may also help articulate institutional diversity policies by identifying applicants that support the school's mission and goals. Although the utility of holistic review is not universal, an assessment of how holistic review can influence overall institutional policies can positively impact the applicant pool as well as increase a more diverse physician workforce, which can better serve a diverse population.

Diversity, as stressed by current research, includes physician diversity to contribute increased access to healthcare for underserved populations such as patients of low socioeconomic status and uninsured patients. It also covers the need for diverse physicians to serve the growing number of ethnic minorities who may prefer physicians that are from the same ethnic group. And, diversity in the physician workforce could possibly provide a better understanding of cultural competence in practice (AAMC, 2006). Interestingly, the AAMC designed its version of holistic review as a tool that assists medical schools enhance class diversity as a way to achieve the mission-based goals of each medical school. The tool is supposed to provide a balanced consideration of applicant attributes while measuring how an applicant might contribute value as a medical student and future physician. It is also designed to engage medical school constituents in defining mission-driven factors that drive excellence and diversity within an institutional context. Even more interesting is that medical schools are not required to use this version of holistic review and many schools believe their internal selection processes are already "holistic".

Holistic review is not universal in the sense that every medical school uses the AAMC's design. However, most medical schools believe their processes include an understanding of the impact of diversity on teaching, learning, practice, and research. Expanding the selection process to include a better understanding of diversity as a core value can promote recruitment and education of a diverse student body. Research shows that MCAT and grades predict academic performance the first two years of medical school. These factors can also predict performance on the United States Medical Licensing Examination (USMLE) (Siu and Reiter, 2008). In contrast, there are outcomes that cannot be predicted by the MCAT and GPA, such as scores on the Objective Structured Clinical Examination (OSCE) or clerkship rankings. The OSCE is a performance-based exam where students are observed and evaluated through a series of stations where they interview, examine and treat standardized patients. The patient problems are similar to what students will encounter as a practicing physician. They also cannot accurately predict USMLE for students of color (Koening, et al, 1996) nor do they measure personal characteristics such as motivation, work ethic, empathy, and communication skills (McGaghie, 2008).

The medical school admission process includes another level of complexity: the need to assess the degree to which applicants contribute to the medical school mission. The major dilemmas are the alignment of admissions policies, processes and criteria with specific institutional goals and develop an understanding of how student diversity supports the school's mission. Thus, developing clear decision-making structures inform admissions committee members about how to carefully select qualified applicants who will contribute to the institutional mission. The use of EAMs is vital to this process to increase medical school diversity and account for the wide range of abilities, interests, and backgrounds based on culture,

race, gender, and other aspects that are important to patient care due to the change in demographics.

According to Albanese, et al. (2003), experiences and attributes are important to the selection process because they allow admission committees to identify compelling personal characteristics that influence an applicant's admissibility not just to medical school, but to a specific institutional mission. It is necessary for medical schools to use factors such as personal statements, letters of recommendation, and experiences in admissions decisions because they can affirm mission-based attributes valued by a medical school. When selecting students, medical schools claim that they strive to identify altruism, humanism, maturity, relevant experiences and other personal characteristics that will broadly expand student diversity to create a learning environment similar to the real-life environment they will experience when they become physicians. The difficulty in maintaining this importance practice is that balanced consideration may not be given to the applicant due to many factors, including an immense workload, a lack of understanding of diversity within the institutional context, and the ever-changing impact of transforming admissions to answer a medical school's commitment to diversity.

The medical school entering class, and the subsequent physician workforce, cannot be more diverse than the pool of applicants. It is important for medical schools to balance traditional and nontraditional emphasis on applicant attributes within a holistic review so as to not overlook important factors when selecting students. Conversely, the overall goal for medical school diversity may face challenges if the role is not defined for those making the decisions and if the overall institution (medical school) does not provide the highest level of professionalism, innovation, and creativity in terms of a diverse environment to enhance all aspects of patient

care, education, and research. Hence, the diversification of the future physician workforce must be intimately linked to the admissions process to medical school and its mission.

Significance of the Study

The AAMC is the national organization that represents U.S. and Canadian medical schools, teaching hospitals, and healthcare networks that strive to improve the nations' healthcare opportunities. It also serves as the curator of the American Medical College Application Service (AMCAS), the Medical College Admissions Test (MCAT), the United States Medical Licensing Examination (USMLE) and residency placement program. The USLME assesses whether medical students or graduates can apply what they have learned to the practice of medicine. Medical schools work to implement AAMC initiatives such as holistic review while utilizing AAMC products (e.g. MCAT, USMLE) that are imbedded with metrics used by admissions committees that, for example, reduce the size of an applicant pool. In other words, the AAMC strives to increase medical school diversity by providing resources to applicants to broaden access to medical school; however, these efforts can be overshadowed if only grades and test scores are considered instead of the total applicant experience

According to the Liaison Committee to Medical Education (LCME), every medical school should have policies that ensure gender, racial, cultural and economic diversity of the student population (LCME, 2004). The AAMC's holistic review is supposed to help admissions committees assess and select diverse premedical applicants with desired professional characteristics. However, the AAMC also coordinates the MCAT and USMLE exams that are often used to screen out diverse applicants through arbitrary exam score cutoffs that eliminate applicants who could be admitted to and be successful in medical school. Therefore, if an admissions committee cannot agree on how to implement holistic review, they will more than

likely remain dependent upon traditional measures to select applicants. This study will explore if meaningful holistic review in medical schools actually exist.

As the AAMC conducts extensive research about the importance of physician diversity, medical schools are unable to broadly expand student class diversity and balance selection methods because of an over-reliance on traditional metrics like the MCAT. Many medical schools want to be ranked high on a best medical school list and admissions committees realize that MCAT scores are used as indicators of merit and prestige in ranking publications, for example, such U.S. News and World Reports. According to Dewey, et al (2005), medical schools want a high MCAT average to secure private donations to finance medical school facility expansion or to recruit nationally known professors. High rankings can also influence medical student attendance because medical students believe the better their school is ranked, the better chance they will have with residency selection. But, diversity is integral to medical school admissions and, if medical schools want to insure that the physician workforce mirrors an ever-growing diverse population, Smedley, et al (2001) charge medical schools to "address those aspects of the problem they can influence" (p.29)---medical education (how future physicians are trained) and selection practices (how applicants are selected).

The need for diversity is great. According to Smedley, et al (2001), in 1996, African American physicians made up only 4% of the nation's total physicians. Hispanics made up approximately 5% of the total physicians in the country. An increase of African American and Hispanic physicians can readily affect the care and access of healthcare in diverse communities. Komaromy, et al (1996) and Cantor, et al (1995), found that African American and Hispanic physicians were more likely than Whites to serve their communities, uninsured patients and patients who used subsidized healthcare such as Medicaid. The challenge medical schools face is

how to enhance admissions processes that also address institutional diversity. The three most common barriers to URiM recruitment to medical school are lower MCAT scores of applicants, lack of URiM faculty, and the lack of URiM role models (Agrawal, et al, 2005). Although some medical schools continue to invest in efforts such as holistic review, admissions criteria, lack of URiM faculty and the need for institutional self-assessment remain significant barriers to creating a more diverse physician workforce.

In the research, the Cinderella Syndrome has a multi-tiered, multi-layered meaning of fit. Applicants struggle to be the students medical schools want them to be. In essence, they are jamming their feet into someone else's glass slipper. Medical schools in this context are trying to fit the AAMC's prescription of diversity. They are also trying to fit diversity into institutional landscape. The glass slipper also represents the tension and conflict institutions face when evaluating applicants' to fit their programs and how selection affects institutional diversity policies. Whatever metrics an admissions committee uses to select students, the goal is to identify students who 'fit'. Yet, there is often a disconnect between the purpose and practice of holistic review and how institutions implement these types of processes.

Particularly in the area of diversity, programs do not always live up to their purpose. Because some medical schools are concerned with rankings, for example, the fear that placing greater weight on an applicant's personal characteristics may shift the institution's prestige if the incoming class profile does not include high MCATs and GPAs. If an applicant's attributes 'fit' the mission of the school but the applicant's scores are not as competitive, how does an admissions committee match an applicant's traditional metrics with the ability to be successful? In the case of medical school admissions, the criteria do not always create and promote institutional diversity and, at times, contradict the stated mission of the medical school.

The study explores the extent to which medical schools utilize holistic review to address multiple concerns in relationship to their mission and goals. Kezar and Eckel (2002) found that institutional change is often difficult for many reasons, including the resistance of a key subculture such as the faculty. Creating diversity is not merely a function of an admissions office. To understand diversity benefits, an institution must understand why diversity is important in terms of the institutional environment and should emphasize the importance of increasing and improving institutional buy-in among various subcultures (Kezar and Eckel, 2002). According to research, diversity should be a part of the medical school educational environment; however, until leadership truly understands the importance of shifting diversity from the confines of admissions and recruitment, enrollment management will be adversely affected by not yielding a diverse class. If, for example, students do not see faculty that look like them or share similar experiences and if a medical school curriculum does not accurately address cultural competency, then students will not be effectively trained to serve the changing demographics of the patient population.

The purpose of this study is to identify the extent to which a medical school incorporates a holistic approach to admissions to increase diversity in the medical student body and the facilitators and barriers to adoption. Further, the study explores the extent to which the use of holistic admissions connects to mission statements, how admissions committees manage diversity with AAMC guidelines and challenges, and how these practices affect medical school class composition and institutional diversity.

Is diversity integrated into admissions and does holistic review support student body diversity? How does holistic review translate to student body diversity and how does it support the goals of the institution? To answer these questions, a case study explored their mission statements to determine the diversity connection between both factors (AAMC, 2008). The study

compared and contrasted the disconnect between implementing a policy like holistic review and those who actually use the policy. The case study also provided the opportunity to understand why an elite/private medical school and a public school with state policies that promote diversity would adopt the AAMC's holistic review design especially if both schools indicate they have always practiced holistic admissions. From my interviews, I discovered a gap in understanding between admissions committee members and medical school leadership of what holistic review is designed to do in terms of creating diversity to answer the national physician shortage. More importantly, exploring the connection between these medical schools and the AAMC may illuminate if diversity policies and practices are ongoing beyond the admissions process and are a part of the overall institutional fabric.

Implications

The study has several implications for medical school admissions that may inform practice as well as future research on holistic review. The alignment of mission-based admissions selections will be assessed by reviewing a school's mission statement (i.e. to serve a rural and diverse community) and matching, for example, an applicant's experience to the mission (i.e. volunteered in a clinic for underserved and uninsured patients). In other words, when a medical school seeks applicants who have international or rural experience, then a successful applicant's application should demonstrate these qualities. Additionally, by identifying common practices of screening and selecting applicants, this study may highlight the decision-making models of admissions committees and determine if the process is aligned with the tenets of holistic review. Admissions committee members and admission officers may find this study informative as they work to create a class and attract medical students that fit their institutional mission and overall institutional goals. As for the contribution to graduate medical research, the research may

uncover that medical schools, through various forms of institutional isomorphism and institutional transformation, emulate each other's admission practices for a variety of reasons, including establishing institutional legitimacy and increasing institutional prestige.

Challenges certainly occur with the implementation of a new process like holistic review. The main challenge is that medical schools often struggle to meet overall institutional policies on diversity. The challenge stems from the lack of understanding about holistic goals and how they relate or complement institutional goals. A major outcome will be to determine how and if holistic review is aligned with the institutions' mission statements and if increasing diversity within the student body addresses institutional-wide efforts.

CHAPTER 2: LITERATURE REVIEW

Understanding diversity and developing related skills is important to healthcare professionals. According to Rumala and Cason (2007), the definition of diversity is more than the interracial interactions one may encounter in medical school; it is also about growing physicians who are better prepared to care for patients from races other than their own, improving their perspectives about access to healthcare and expanding their service to areas that are traditionally underserved by the healthcare system. Achieving diversity on college campuses does not translate to fulfilling quotas and it does not mean that diversity warrants admission of unqualified applicants (Rumala and Cason, 2007). However, diversity can promote critical thinking and effective communication through teamwork through the interactions with people from other cultures and experiences. Diversity applies to a wide range of areas, including gender, religion, socioeconomic status, educational and workplace differences to name a few. Achieving diversity is a pressing challenge for higher education; nevertheless, achieving diversity also means that institutions should make a conscious effort to build healthy and diverse learning environments appropriate for their missions (http://www.fdu.edu/visitorcenter/diversity.html).

Ideally, diversity in higher education is determined by the distinct mission of each institution. Prior to the GI Bill (officially titled the Servicemen's Readjustment Act of 1944), higher education was restricted to white, wealthy, male students (Chang, et. al., 2003). *Brown v. Board of Education of Topeka* created a sweeping change in American history with the end of Jim Crow laws, a transformation of thought pertaining to race relations, and the expansion of educational opportunities for underrepresented populations in the United States (Patterson, 2001). In 1965, President Lyndon B. Johnson expanded former President John F. Kennedy's Executive Order 10925 on affirmative action. President Johnson outlined the importance of

affirmative action was a way for African Americans to finally achieve freedom. Affirmative action was further supported by the outcome of the 1978 *Regents of the University of California v. Bakke* case. The case allowed the race of an applicant to be used in admissions in order to attain ethnic diversity in its student body. Such monumental social and civil movements have transformed the initial limited missions of colleges and universities, specifically elite institutions, to broadly educate an entire community to become leaders, advance research, increase economic progress and democratic participation (Chang, et. al., 2003). To continue building upon these transformative social movements important to diversity in higher education, increased diversity initiatives such as holistic review are important to creating institutional environments reflective of a diverse society (Milem, 2005).

Historical Diversity Impact

Current efforts to increase and maintain diversity in medical education are important in order to achieve the unique benefits diversity can provide. These types of efforts were not always in place. Fifty years ago, medical school enrollment was predominately White. In 1950, of all graduating medical students in the United States, only 55 were African American, 8 were Latino, and 1 was Native American (Barr, 2010). This represented only two percent of all graduating medical students. The percentage of underrepresented students climbed to 3.6% in 1968; however, the graduates were enrolled at either Meharry Medical College in Nashville, Tennessee or Howard University College of Medicine in Washington, D.C. (Barr, 2010). These institutions were initially established to educate African American physicians due to segregation practices, a lasting effect of Jim Crow laws. Although these institutions educated minority students, it diminished any tangible opportunities for cross-cultural engagement (Milem, 2005).

Due to affirmative action policies in the 1960s and 1970s, the URM population grew to 8.6% of the total medical student population (Grumbach, et al, 2003). This era granted U.S. medical schools the opportunity to use different methods such as personal statements and letters of recommendation for admissions selection, allowing for the increase of racial and ethnic diversity among medical school applicants. One approach was the use of a percentage plan or setting aside a percentage of accepts for minority students (Tienda, et al, 2008). Cohen, et. al. (2002) argued that, at the time of the landmark affirmative action decisions like *Bakke*, not implementing the affirmative action policies would be detrimental to medical school admissions. He proposed four reasons why racial and ethnic diversity in medicine was important for society: 1) "adequate representation among diverse students and faculty and their impact on our society is indispensable for quality medical education;" 2) "increasing the diversity of the physician workforce will improve access to health care for underserved populations;" 3) "increasing the diversity of the research workforce can accelerate advances in medical school and public health research;" and 4)"diversity among managers of health care organizations makes good business sense"(p. 97). Cohen 's research also found that URM students were equally capable to succeed as the majority medical student class and it confirmed the need to include qualitative aspects of medical applicants.

In 1975, a study was conducted to analyze the performance of URM students in comparison to non-URM students in specialty areas, board certification rates, practice locations, and patient populations served (Barr, 2010). The students were products of affirmative action decisions that increased URM enrollment. The findings concluded that more URM students (12%) than non-URM students (6%) practiced in locations designated as "health manpower shortage areas" by the federal government, more URM students (55%) than non-URM students

(41%) chose primary care specialties, URM physicians were more likely to treat poor patients, minority group patients, and patients on Medicaid, and, fewer URM students (48%) than non-URM students (80%) were board certified in their specialty ten years following graduation" (Barr, 2010). These findings demonstrated that diversity is important and that a greater representation of women and people of color is critical to increase cultural awareness, to increase the commitment to racial understanding, and increase the service to the URM population (Milem, 2003).

Demographic Changes and the Diversity Impact

Predicted demographic changes will not only change medical school enrollment; they will change society completely. Over the next 50 years, baby boomers will retire and more people of color will make up local communities. In fact, by 2050, Hispanic community will hit 103 million people and African Americans will reach 61 million people while Anglo Americans will represent 211 million people (Lopez, 2006). Presently, 14 million children live below the poverty line and more children are expected to live below the national poverty level; additionally, this will mean that more lower-income students will be a part of the future landscape (Lopez, 2006). in 2005, 30% of the total population lacked health insurance and 30% of the population also did not finish high school. These factors will major play a major role with social stratification: if access to higher education is limited, income disparities will prevent students of color from attending (Lopez, 2006). A positive response to such demographic changes will fall into the hands of national, state and local policymakers and education advocates who will be responsible for managing educational opportunities within disadvantaged communities. Identifying the diversity benefits of an immigrant student who is, for example, fluent in two languages and experienced in two cultures can influence the learning and teaching

of medical students. If medical school leadership and administration would respond to such demographic changes by becoming more knowledgeable of diversity and its long-lasting effects on society, then ensuring diversity in healthcare would become a priority.

Diversity, according to the AAMC, is broadly framed as experiences, attributes, and metrics. The AAMC's holistic review efforts provide medical schools the opportunity to weight cognitive and non-cognitive factors to rank applicants applying to medical school. Further examination of how admissions practices connect to the institutional mission may provide an accurate reflection of the domains of greatest importance to the committee and institution as well as the extent to which committee member's value different non-cognitive attributes, which in turn may reflect the relative values of community, faculty and student interviewers (Reiter & Eva, 2005). Holistic review is designed to reinforce diverse educational decision making and can positively impact individual students as well as promote a more diverse physician workforce, which can better serve a diverse population. However, the bigger challenges are whether admissions committees utilize holistic review in spite of institutional forces like inertia and apathy that can interfere with diversity goals. Another challenge is to understand if institutions can respond to transformational change as related to diversity policies in this type of environment.

AAMC's Pathway to Diversity

Historically, the AAMC has created policies and programs designed to address the lack of diversity within medical student populations. Project 3000 by 2000 was launched by the AAMC in 1991 as a national campaign to enroll 3000 underrepresented minority applicants in medical school by the year 2000. The initiative failed to meet its most visible goal of enrolling 3,000 students; however, significant progress was made by increasing the awareness among

medical school deans about the importance of diversity in medicine. By 1999, only 1,731 minority students were enrolled, well below the intended enrollment goal of 3000. The project, although innovative, failed primarily because of court decisions in several regions of the country that hampered affirmative action programs (Terrell and Bletzinger, 2003). On a positive note, the efforts of Project 3000 by 2000 saw an increase in unrepresented minority student applications and enrollment and an increase in partnerships between K- 12 schools and colleges to introduce the health professions earlier in a student's academic career (Butler, 2000). Overall, the outcomes of Project 3000 by 2000 demonstrated a re-commitment by the AAMC to increase URM representation in the health professions but to also set specific, attainable goals for the applicant pool and for building a pool of prospective applicants who are academically prepared to pursue medicine (Terrell, et. al., 2003). How do we close the diversity gap in the medical school pipeline?

The AAMC also worked with the Kellogg and Robert Wood Johnson Foundations to create the *Health Professions Partnership Initiative*, which aimed to increase the collaboration between academic medical centers and educational institutions (kindergarten through college) that enrolled large student minority populations. This effort involved an increase of both academic support and exposure to health care professions and opportunities. In addition, the Minority Medical Education Program was implemented to assist with the preparation of pre-medical minority students for success in the medical school curriculum. Programs and policies that improve access to medical school can increase the number of URM physicians who return to work in underserved or low socioeconomic populations (Lowenstein, et al, 2007). Saha and Shipman (2006) stated that an increase of student pipeline programs can increase URM physicians who can leverage the needs of underserved patients.

When considering diversity in medical school admissions, selecting medical students has a variety of social and political implications. Socially, concerns about the availability and costs of healthcare may shape the priorities of what should be included in a medical school curriculum (White and Connelly, 1991). The challenge for committee members is finding students who demonstrate the motivation to care for the national population while also identifying students interested in advancing research to compete with peer medical schools. White and Connelly (1991) suggested integrating the actual patient population needs into medical education can serve as a guide in choosing the best applicants to fulfill the social mission of the institution (White & Connelly, 1991).

A major concern for affirmative action advocates was the attack on diversity policies that help URM students. The concern was removing race as an admissions factor would decrease African American, Native American and Hispanic student enrollment in medical school (Conrad and Sharpe, 1996). Without race as a factor, Komaromy, et al (1996) argued that the healthcare of poor people and members of underrepresented groups would be threatened because African American and Hispanic physicians are more likely to accept patients on Medicaid or uninsured patients. According to the AAMC's *Roadmap to Diversity,* "preparation of students for the twenty-first century workforce and global economy, through among other things, exposure of students to widely diverse people, cultures, ideas and viewpoints is necessary in the increasingly global marketplace" (Coleman, et al., 2008, p. 7). Lani Guinier (2003) writes "admission decisions affect the individuals who apply, the institutional environments that greet those who enroll, and the stability and legitimacy of our democracy. They are political as well as educational acts." (p. 1). Additionally, medical school enrollees and graduates do not always reflect the increasing racial and ethnic diversity of the U.S. population (Cohen, 2005; Cohen, et

al, 2002). The issues of fairness, equity and social responsibility complicate the selection process because of the continued threshold approach to select students. The threshold approach is often used to eliminate high risk applicants by using high MCAT scores and GPA to create an applicant pool (Albanese, 2005). The approach also tends to underemphasize an applicant's personal attributes and admissions committees have difficulty prioritizing which attributes are most important. Because of the social and political policies such as multiculturalism, accountability to the state, technology transfer, and budgets (Altbach, et al, 2011), Powis (1994) argues that medical school admissions committees may decide to use simplified processes, such as MCAT and GPA review, to select students, opting not to utilize holistic review because there are not definite parameters to measure the attributes

Adding to the impact of social and political implications, Magnus and Mick (2000) discussed the use of socioeconomic status as a way to maintain or increase medical school diversity. As part of a holistic review, admissions committees may consider an applicant's socioeconomic background, experiences with the medical community, as well as interactions with a disadvantaged or diverse community. Assessing these types of personal attributes about an applicant may widen access for diverse applicants but it may also increase the workload of the admissions committee as it tries to address social, economic and political issues while selecting incoming medical students. An obvious challenge to holistic review is reducing the reliance on academic qualities to potentially address social issues through the admissions process (Albanese, et al, 2003).

In 2008, the AAMC provided examples of medical school goals that could be associated with student diversity, the component of the admissions process that is most subjective when assessing an applicant. According to the AAMC's *Roadmap to Diversity: Key Legal and*

Educational Policy Foundations for Medical School (2008), it is crucial for medical schools to assess institution-specific goals and maintain evidence of how these goals are met. At minimum, the authors recommend that institutions should include the following elements as part of their admission model, specifically as they relate to qualitative factors:

1. "A clear statement of the medical school's core educational mission, including central educational philosophies and aims, and the school's view of its role in society;
2. A clear statement that the medical school has reached a deliberative educational judgment that the student diversity it seeks is essential to its mission-related goals, with an explanation of the connection between the two;
3. Institution-specific evidence through ongoing, regular collection efforts that support the connection between the medical school's mission and student diversity, including administration, faculty, and student perspectives as well as data analyzing the connection between medical school diversity over the course of time and desired outcomes;
4. Evidence from other sources that affirm and/or correspond to the institutionally aligned interests and evidence associated with diversity. This should include relevant social science research, documented experiences at similar schools, and broad-based data that correspond to core goals and efforts to achieve those goals" (Coleman, et al., 2008, p. 8 - 9).

More importantly, aligning institutional goals, policies and committee practices with holistic review may address the gaps found within an admission decision model. The University of Michigan found that the benefits of a diverse class would meet the mission-based goals of their institution as well as "improve teaching and learning; enhance civic values and furtherance of a thriving American democracy; and prepare

students for the twenty-first century workforce and global economy" (Coleman, et. al., 2008, p. 7). Medical schools are encouraged to continuously provide examples of institutional goals that are associated with student diversity (Coleman, et.al., 2008, p. 8). For instance, schools are encouraged to include diversity within their curricula to better prepare culturally-competent physicians to, in turn, better reflect the communities they serve (Goldsmith, 2000).

Admissions Decisions

Despite recent goals to promote holistic admission processes, many medical schools continue to use traditional decision structures. Sternberg (2008) stated that selection methods for admitting students are fairly prehistoric. He also argued that the MCAT measures content that covers only a small fraction of the skills necessary for success as a physician. Institutions have long-established practices of choosing students who are well entrenched in their collegiate culture. Elam, et al, (2002), found that that the voting behaviors of committee members were influenced by their length of committee service, applicant MCAT scores, interview feedback and an applicant's undergraduate institution. Many of the committee members in this study selected students from more prestigious undergraduate institutions because of their belief that this would increase their medical school ranking. The authors argued that more research examining the relationship between committee members' backgrounds (race, gender, and demographics) and how members review applications should be conducted. The AAMC may establish an admissions selection initiative, such as holistic review; however, selection committees are not forced to use the process. The complexity of admissions selection can be compounded by committee members' individual values and priorities which may not be tied to over-arching institutional mission and goals, a process that may not be at all holistic (Wittenbaum, 2001).

Several factors may contribute to how a member of the admissions committee may be influenced to choose students: institutional self-interest, institutional inertia or the energy and priority to making an institutional change, and philosophical and historical factors that will increase the use of such academic processes (Albanese, et. al., 2003). For instance, if a medical school is known for serving rural communities or for having high residency placement in family medicine, then a committee member's bias for clinical care over research may influence applicant selection (Hauer, et al, 2008). Institutional self-interest may mean that committee members seek applicants with high GPAs and MCAT scores to influence the school's ranking. McCormick (2010) stated that institutional leaders constantly measure how their institutions compete with other schools and consider what can be done to improve how they are viewed by external stakeholders. Institutional inertia is defined as behavioral, organizational, and political determinants that may hinder full implementation of a process such as holistic review (World Bank, 2010). Institutional inertia also means that institutional momentum may be affected by external factors such as research funding or faculty recruitment (Kezar and Eckel, 2002). While trying to maintain institutional momentum, Reskin (1984) argues that institutions must continue to meet the double goals of ensuring diversity while maximizing overall efforts to battle against inertia.

Inertia may affect the successful implementation of holistic review because institutional policies or state laws such as Proposition 107 may be misinterpreted. Although Prop. 107 states that the "State shall not grant preferential treatment to or discriminate against any individual or group on the basis of race, sex, color, ethnicity or national origin in the operation of public employment, public education, or public contracting" (http://equity.arizona.edu/oiefiles/SheltonMessageFAQ107.pdf), it does not mean there are no

options for achieving diversity. Admissions committee can still legally create a diverse educational environment. However, because institutional and historical factors such as tradition, institutional competition, budget concerns and lack of leadership, institutional inertia continues to hinder the impact of important processes like holistic review (Diamond, 2006).

Choosing future physicians should not be based solely on academic traits but should also consider attributes that allow physicians to connect with patients (Bardes, 2006) as well as the desire and ability to meet the social responsibilities incumbent upon medical professionals (Cohen, 2002). Philosophically and historically, committee members will prioritize academic measures instead of using holistic approaches. An institution's decision about which students to admit should relate to the societal role that the institution elects to play (Rigol, 1999). The medical school mission should, according to the AAMC, drive the selection process. Organizing and training the committee to select students who embody the vision of the institution and its priorities requires knowledge of how to utilize holistic review to meet the institution's social goals if it has social goals. Rigol (1999) states that a "land grant institution has a different role to play than does a conservatory of music, and the mission of a community college is different than that of an Ivy League college than that of a flagship public university" (p. 5).

Absent from most admissions decision making models are any measures of social knowledge, cultural competencies, or humanistic/altruistic assessments (McGaghie, 2008). This is particularly problematic because the selection of future physicians requires more than test scores and rigorous coursework. In fact, most medical schools, such as the University of Virginia's School of Medicine, require students to meet competencies or requirements to fulfill their medical degree. Competency areas include professional, medical knowledge, interpersonal skills and communication skills that are necessary for a physician to possess in the ever-changing

world of medicine (Corbett, 2000). The Medical School Objectives Project (MSOP), created by the AAMC in 1998, focused on the medical education community and the skills, attitudes, and knowledge that graduating medical students should possess. The key component to this initiative incorporated the need to understand how to serve society by implementing these factors (societal needs, medical developments and patient care patterns) as a permanent part of the medical school curriculum.

To a certain extent, medical school admissions are also about supply and demand. According to Rigol (2003), the sheer number of applicants in relation to the number of available spaces affects how institutions approach admissions. Many medical school admission offices try to avoid the use of academic thresholds or screening (e.g. minimum GPA and MCAT scores); however, because of the large volume of applications, most admission offices implement a screening mechanism to reduce the number of applications to a more manageable size. In most instances, the number of applicants far exceeds the number of available spaces for acceptance. The University of Arizona College of Medicine has a total of 195 spaces (Tucson Campus: 115 seats and Phoenix Campus: 80 seats) with an applicant pool of 3,140. The idea of too many applications to read thoroughly may explain why medical schools believe that MCAT and GPA are considered the most important factors in student selection (Albanese, et al, 2003). Demand describes what medical schools want---good applicants. Supply, in this context, describes how many qualified applicants are available to meet the goals of each individual medical school. In other words, medical schools are in competition for applicants with high MCATs and grades because of the prestige of these factors and how they influence student choice. The use of these factors may explain why scores and grades are often utilized to reduce the volume of applicants to a pool that can reasonably be reviewed which departs from the practice of holistic review.

Using the academic metrics would also decrease the workload demand and medical school faculty prefer the metrics because they were selected by such criteria, providing another reason to maintain the tradition.

Evaluating an application is the heart of the selection process. Willingham and Breland (1982) and Willingham (1985) argue that medical admissions committees should measure the quality and depth of a student's experiences with family, school or community in addition to traditional factors such as MCAT and UGPA because of the primary emphasis placed on academic factors. According to Willingham and Breland (1982), three times as much weight is placed on test scores and grades than personal characteristics. The research also addresses the need to measure the "distance traveled" by applicants in order to increase diversity in medicine, including extracurricular achievements such as leadership experiences that warrant consideration similar to the MCAT and UGPA (Willingham, 1985). "Distance traveled" is a way to evaluate "an applicant's economic, social, educational, geographical, racial, ethnic and linguistic background….considering the whole path an applicant has taken" (The California Wellness Foundation, 2010). The path an applicant travels is relevant to admissions because it highlights how the applicant may contribute to the overall medical school community and may also demonstrate what a medical school values in an applicant. Additionally, schools such as the Stanford University School of Medicine "examine the context of a candidate's achievement in terms of his or her economic, social, educational, geographical, racial, ethnic and linguistic background" (http://www.sbamerican.com/CommunityJuly02_2010HigherEducationLeaders.html). The relevance of "distance traveled" in admissions decisions depends on the school's mission, setting and institutional culture.

Understanding an applicant's premedical journey can be viewed as necessary to an admissions committee to address the changing demographics of the U.S. patient community. By diversifying the medical student population, the workforce is more likely to mirror the community and health care professionals can help to bridge the gap with health care disparities. To help committees understand various applicant attributes or distance travelled, the American Medical College Application System (AMCAS), offers the opportunity for students to provide a statement that explains why they believe that they may be disadvantaged. The goal of the statement is to provide applicants the opportunity to share information about their backgrounds and experiences in hopes that all aspects are considered by admissions committees. Applicants are provided no guidance as to what constitutes being disadvantaged. Hence, it is up to the committee to determine the extent to which a student is truly disadvantaged relative to other applicants or to even use this information as part of the evaluation.

The conundrum with using the statement as part of the decision process is that it falls outside of the realm of cognitive variables. Admissions committees are challenged with how to assess the statement in comparison to an exam score. Even more challenging is that the AMCAS now includes recent changes to the information captured in the application. Applicants can now share childhood information such as if an applicant's family received federal or state assistance and to describe the composition of an applicant's family to better describe their pathway to medicine. Again, the difficulty is the interpretation of the information by the committee members and whether they believe this information is valuable in comparison to test scores and coursework and the sheer number of applications.

Interestingly, the AAMC encourages medical schools to closely follow the guidelines of the *Learning Objectives for Medical Student Education: Guidelines for Medical Schools* (1998).

The guidelines were created as a resource for medical schools to develop learning objectives that align with the ever-changing needs of medical practice and medical education, specifically in terms of societal needs, medical practice patterns, and scientific developments. The guidelines state that medical school applicants should be altruistic, dutiful, knowledgeable and skillful. Future physicians are expected to possess these qualities to meet their individual and collective responsibilities within the medical and global communities. Comparing and using the guidelines, along with school mission statements may influence how an admissions committee reviews applicants and how a committee understands and assesses these qualities during the admissions decision-making process.

Future physicians should possess the following qualities as defined by the AAMC:

Altruism: Physicians must be compassionate and empathetic in caring for patients and must be trustworthy and truthful in all of their professional dealings. They must bring to the study and practice of medicine those characteristic traits, attitudes and values that underpin ethical and beneficent medical care.

Dutiful: Physicians must feel obliged to collaborate with other health professionals and to use systematic approaches for promoting, maintaining, and improving the health of individuals and populations.

Knowledgeable: Physicians must understand the scientific basis of medicine and be able to apply that understanding to the practice of medicine.

Skillful: Physicians must be able to communicate with their patients and patients' families about all of their concerns regarding the patient's health and well-being. They must be sufficiently knowledgeable about both traditional and non-traditional modes of care to provide intelligent guidance to their patients (Coleman, et al., 2008, p. 8 - 9).

The report was created with the input of medical school deans and medical school admissions directors after reviewing their curricula and selection requirements for the purpose of the Medical School Objectives Project. One goal of the project was to motivate medical schools to establish a formal process to evaluate experiences and attributes that address the needs of the physician workforce; in other words, to adopt more holistic approaches to the selection process. The AAMC argued that "premedical school community service should receive emphasis in the selection process because it is associated with community service participation during medical school and is associated with better medical school and residency performance" (Coleman, et al., 2008, p. 7). Service may include volunteering in an uninsured patient clinic, providing health screening for church health fair, or volunteering to assist with surgeries in an underserved community. Furthermore, Swick (2000) emphasizes that service shapes medical professionalism because it "reflects societal expectations as they relate to physicians' responsibilities" (p. 613) to both individual patients and the greater community. However, Wagner (2007) states that cognitive skills cannot measure an applicant's motivation or their reasons to attend medical school. Meanwhile, the AAMC continues to push the use of the MCAT, limiting the effectiveness of diversity initiatives, specifically, holistic review.

Crafting an admissions committee comprised of members that demonstrate the adaptive capacities associated with professional life is crucial for medical students' and physicians' success. Adaptive capacities include an applicant's "personal characteristics, level of educational achievement, and professional and career goals" (AAMC, 2010, p. 14). The medical school selection process is filled with uncertainty about student selection; however, an admissions committee can use their collective professional experiences and judgments to identify students' personal qualifications associated with success, including motivation for practicing medicine,

interest in contributing to the medical community, dealing with the challenges of medical research with integrity, and maintaining the compassionate relationships established through patient contact (Wagner, 2007).

Most medical schools use a blended evaluation approach that may include MCAT and GPA screening plus a review of experiences, recommendation letters and personal statements. A blended evaluation may include factors such as interest and suitability for a career in medicine, problem solving and communication skills, letters of recommendation, test scores and GPA. Committee members often conduct an initial metric screening of applicants to determine how many resident and non-resident applicants are invited to submit a secondary application. This initial screening is not considered holistic but more of an enrollment management practice to control for the size of the applicant pool (Hossler, 1984). After controlling for the number of applicants to review, many committees utilize holistic review to make final decisions regarding acceptance. This blended approach may be often implemented because there is no single "best" approach, the challenge is to conduct a process that is "fair, equitable, consistent…reliable and valid" **(**Rigol, 2004, p. 30**).**

According to Watson (2003), the "scientific mission" of a medical school has often overlooked the social responsibility to train future physicians. However, with the use of holistic admissions, the social mission of medical schools may be able to regain momentum to confidently complement mission-driven processes and institutional goals because it combines both scientific (e.g. academic coursework) and social measures (e.g. volunteer experience, distance traveled). In other words, utilizing a process that takes account of an applicant's total experience and how he/she fits with an institution's mission can again become the focal point of admissions selection. Sternberg and Williams (1997) support holistic or multi-dimensional admissions because the

selection process should emphasize what is relevant to the field of study, including humanism and altruism**.** Implementing and fully understanding holistic review may yield more diverse students who can contribute to the community of learners, the institution, and the community at large.

The holistic evaluation of applicant attributes can help predict persistence, degree attainment, and success. Many efforts are in place to complement holistic practices. For instance, in 1988, Drs. Arnold and Sandra Gold, along with other Columbia University physicians, created the Gold Humanism Honor Society (GHHS) to preserve the idea of caring physicians. They define humanism as treating the body as well as acknowledging the soul through mutual communication and emotional connection. According to the physician group, strong applicants in the areas of science and research lacked the caring and compassion necessary for patient care. The group collaborated with medical schools to balance the concepts of humanism and medical knowledge with the patient and physician relationship. More specifically, the Golds and the Columbia University physicians sought answers to the following questions: a) "Is it possible to identify candidates for medical schools who are both scientifically proficient and compassionate? and, b) Are we already selecting idealistic and humanistic young people for medical schools and then, through the medical education process, discouraging their spirit of caring?" (http://www.humanism-in-medicine.org/index.php). Scientific expertise alone does not create a good doctor.

The connection of the Gold Humanism Honor Society and holistic review is that attributes such as compassion and motivation must be demonstrated throughout a student's medical school tenure. The need to understand the total applicant can help institutions define the "quality of the people they admit" (Astin, 1985). Tying admissions selection practices to programs like the GHHS may help create the model for educational benefits for both students and the

institution. Because GHHS membership outlines and illustrates professional behavior through medical student examples, admissions committees may use the tenets of this program to guide the student selection process to ensure the selection of effective members of a healthcare community.

Traditional Approach to Admissions

Research consistently shows that most medical schools place high emphasis on academic assessments such as MCAT and GPA in making admissions decisions; however, these measures are less reliable when assessing the success rates of medical students in clinical performance, including patient care and relationships (Bardes, 2006) and more accurately predict academic and USMLE performance (Siu & Reiter, 2008). Quantitative factors cannot be the sole basis for admissions selection, since they do not predict all of the factors that define success (Gonzalez and Stoll, 2002). Yet, many of these factors do predict aspects of medical school performance. The MCAT is effective in predicting the first two years of academic performance in medical school (Siu and Reiter, 2008). The rigor of college coursework, as determined by a variety of national peer institution rankings, can also be used to determine an applicant's potential with medical school courses (Brown, 2006). Annually, many medical schools participate in school ranking survey programs such as the *U.S. News and World Report Best Medical School* ranking. This particular survey publishes schools with the highest MCAT scores and successful residency placement programs (http://www.medicalschoolrankings.net/). Other surveys, such as the *College Admissions Selector,* compare undergraduate institutions by tiers of highly competitive to less competitive institutions.

Each of these instruments may influence the decisions of admissions committee members by shaping their perceptions of an applicant's ability and achievement (Sauder and Esepland, 2009). Instruments like rankings can create a benchmark or a way to measure success that

provides incentives for schools to conform to the rankings. In terms of diversity, rankings can undermine diversity efforts by eliminating a pool of applicants who may be qualified by other factors. It may cause an admissions member to rely on quantitative factors such as exam scores to screen out applicants who have demonstrated significant altruistic and medically-related experiences simply because their scores are not as high as a peer applicant even if their MCAT score is high enough to indicate that they can be successful. The decision may be made even if higher-scoring applicants offer less in the way of passion and experience.

McGaghie (2002) argues that medical schools recruit applicants who demonstrate humanism and motivation for medicine in their applications; however, oftentimes when decisions are made, admissions committees emphasize academic factors, particularly the MCAT in selecting students. Cohen (2002) suggests medical schools that use a threshold approach underestimate an applicant's personal characteristics and eliminate high risk applicants. The threshold approach also negatively impacts student performance outcomes because students who achieve higher test scores are not always better, compassionate physicians. McGaghie (2002) points out that the MCAT does not accurately measure factors such as clinical care and medical professionalism and, clearly, medical school admissions is more than admitting students who will not fail. Additionally, research shows the MCAT cannot predict success on the OSCE or clerkship rankings (Siu and Reiter, 2008). The MCAT cannot accurately predict USMLE for students of color (Koening et al., 1998). It also cannot measure personal characteristics such as motivation, work ethic, empathy, and communication skills (McGaghie, 2008).

In order to build a class consistent with the institutional mission and goals of a medical school, the research shows there needs to be an emphasis on important attributes of being a physician including humanism, ethics and professionalism. Using a selection model that

maximizes predictive information while satisfying class composition objectives provides a wide array of diversity factors. The AAMC Non-Cognitive Working Group (AAMC, 1976) recommended that seven personal qualities be incorporated with the MCAT to provide objective measures: compassion, coping capabilities, decision making, inter-professional relations, realistic self-appraisal, sensitivity in interpersonal relations and staying power - physical and motivational (Albanese et al., 2003). Medical school admissions attract some of the best and brightest applicants; however, diversity and personal characteristics must be a part of the selection process. But, until an admissions committee looks past the immediate needs of the institution such as prestige or research funding and focuses on the needs of society and medicine, the MCAT will continue to play a major factor in the selection process (McGaghie, 2002).

Standardized tests play a significant role in shaping medical school diversity because of the way admissions committees interpret the scores for applicant selection (Wightman, 2000). Since its inception in 1928, the Medical College Admissions Test was designed to assess problem-solving skills, written analysis, and critical thinking skills along with knowledge of science concepts (McGaghie, 2002). The goals of the exam were and still are to assess academic readiness for medical school, to predict USMLE performance, and to improve retention rates. However, the AAMC claims it is committed to diversity and inclusion efforts to increase the access of underrepresented individuals in academic medicine, investing resources in holistic review as a way to support this effort. Interestingly, the AAMC is also the same organization that administers the MCAT, with its emphasis on high science performance, similar to the goals of the USMLE. An over reliance on MCAT scores can adversely affect URM applicants if their scores do not meet admissions cutoffs; additionally, test scores can be used inappropriately when relying only on this factor to select diverse applicants (Wightman, 2000). For example, the

proportion of applicants below each incremental USMLE threshold score was significantly higher for African American students which also caused them to less likely to be offered a residency interview (Edmond, et al, 2001). Medical schools often use theses scores as a way to screen out applicants, clearly a process that has a disproportionately negative effect on underrepresented students who may not score as high as their peers.

An additional concern about standardized tests is that their validity is questionable because affluent applicants can afford test preparation and coaching while economically disadvantaged applicants are often left to study on their own (Wightman, 2000). When reviewing MCATs as part of a holistic review, the scores should be combined with assessments of an applicant's experiences and potential to contribute to society (Wightman, 2000). According to the *Roadmap to Diversity: Admissions (2010),* admissions committees should "establish the broad, balanced range of criteria on which they will assess applicants" (p. 11) and align selection criteria with institutional goals, especially understanding how various metrics meet the mission-based selection criteria. Still, many competitive medical school programs continue the use of MCAT scores to rank applicants for admission, creating social stratification within the applicant pool.

Holistic Review

Holistic approaches are complicated by the challenges inherent in weighing non-quantitative factors against test scores and other easily defined parameters. In other words, without standardization of review guidelines, committee members may lean towards measures easily identified to create a class. The subjectivity of the admissions committee may come in the form of different personal values, beliefs of what a strong applicant is, the perceived standards applied to a committee member when they applied to medical school, and differing perspectives of professionalism (Cohen, 2006). Powis (1994) states that admissions committee members are

under institutional and external pressure to select applicants who can serve the changing demographics of the American population and contribute to research in the latest advances in medical science.

Assessing personal qualities in medical school is not standardized and a unified assessment tool or system may help decrease the challenges of admissions decisions and subjectivity (Albanese et al., 2003). Specifically, a medical school selection committee may indicate it uses holistic review, but, in actuality, the committee may only look at high science grades and high MCAT scores. Understanding how an admissions committee operationalizes holistic review must be tied to the selection outcomes to shape what predicts institutional success in creating diversity. Depending on the institution's mission, the selection process must identify both academic and personal qualities while maintaining a competitive process to uphold the institution's reputation and prestige with invested stakeholders (Reeves, 2002).

How can admissions committees utilize holistic review in admissions to select the students that best 'fit' each institutions' particular mission-driven and institution-specific goals? Is institutional 'fit' most appropriate? If institutions are looking for students that 'fit' specific admissions guidelines, selection committees may ignore individual factors without the use of holistic review. Located in Georgia, Mercer University's School of Medicine's mission is "to educate physicians and health professionals to meet the primary care and health care needs of rural and medically underserved areas of Georgia" (http://medicine.mercer.edu/Introduction/mission). The specificity of Mercer's mission demonstrates how vital it is to assess medically-related experiences and interactions with diverse communities to find the best fit. Mercer seems to recognize an applicant's experiences may demonstrate care and compassion, characteristics that cannot be assessed by test scores.

Additionally, an applicant's experiences working with an underserved population can demonstrate the capability to work with people from diverse backgrounds. The qualitative factors can reveal an applicant's motivation for medicine as well as prepare him or her "to meet the challenges of a changing world" (AAMC, 2008, p.7) in a way that quantitative factors miss. Admissions committees can utilize holistic admissions to select students that best fit each institution's particular focus, goals and mission, an institutional priority when addressing diversity efforts. Perhaps, if a medical school combines its mission, goals and community functions, it can think beyond traditional measures when considering the construction of an incoming class.

Admissions committees review interview feedback to assess attributes such as interpersonal skills, integrity and professionalism (Eva, et. al., 2004). Specifically, research states that interviews are the biggest predictor of acceptance (Kulatunga-Moruzi and Norman, 2002). Interviews, such as the Multiple Mini-Interviews (MMI), created by McMaster University in 2002, are one approach to multiple assessments that can be part of holistic review. The process involves a series of short, structured interviews used to assess personal traits and qualities that give life to an applicant's experiences. Ultimately, admissions decisions are difficult because of the vast and competitive applicant pool; hence, the need for the information collected in an interview, such as seen in the MMI process, is significant to bridge personal qualities, experiences, and academic measures to select the best students as defined by each school.

The MMI was created to address two broadly recognized problems. Traditional interviews cannot predict academic performance or clinical skills (Siu and Reiter, 2008). The most frequently registered patient complaints are about the lack of interpersonal skills and professionalism, attributes that can be measured with the MMI system. MMI interviews can be

customized to include institutional mission and goals as well as provide more detailed ratings of performance to an admissions committee. The MMI system can also standardize the interview assessment of applicants while traditional interviews are often not reliable and consistent from interview to interview (Kreiter et al, 2004). As with holistic review, the MMI may provide information about an applicant's communication skills, professionalism and ethical decision making, all important characteristics in physicians (Eva, et al, 2004).

Legal Challenges of Medical School Admissions

Adding to the complexity of medical school admissions are major legal considerations that impact how medical schools can work to achieve diversity. The decisions from various court cases shape how institutions can legally consider diversity as part of admissions. In the *University of California Regents vs. Bakke* (1978) case, Alan Bakke, a White student, sued the University of California-Davis because he was twice denied admission to medical school. He sued the University of California at Davis alleging that he was excluded from the entering class because of racial discrimination. He challenged the medical school's practice of holding 16 out of 100 spaces for minority students, claiming it was unlawful discrimination, and he eventually won the case in 1978. Justice Lewis Powell's dissenting opinion in the case supported the use of race in college admissions in the strictest way, stating that, "1) there should be a compelling governmental interest in using race; and 2) the program must be necessary or narrowly tailored to achieve that interest." (Ball, 2000). According to the U.S. Courts, legal officials must address the strict scrutiny standard to be sure any law emphasizes the constitutionality and applicability of the law or policy (Chang, 2003). With compelling interest, the concept of the law means that it is critical and necessary and not simply viewed as something that is preferred. Narrowly tailored is defined as something that is designed to achieve a goal or interest.

Powell's opinion suggested that giving modest consideration to an applicant's race was justifiable as long as they (admissions committees) were motivated to increase or attain the educational benefits of diversity. Learning outcomes can also enhance a student's exposure to various cultures and opportunities to engage in cross-cultural interactions (Milem, 2005). The dissenting justices actually stated that quotas should be legal because it was a way to replace the societal discrimination rationale against African American, Hispanic and Native American applicants with a rationale grounded in educational theory (Aguirre, et al, 2003). Linking Justice Powell's diversity rationale to educational practices created long-term consideration in higher education by striving to increase the enrollment of underrepresented students to ensure a variety of perspectives are a part of the learning environment.

Powell's opinion established the need to address diversity and its impact on the way medical schools address and incorporate diversity as part of their institutions. The rationale for diversity in higher education originally began to increase minority access on predominantly white campuses as seen in the practices at UC Davis (Chang, 2005). It was viewed as a way to increase equity and equality prompted by legal mandates of desegregation. However, the need for diversity has since evolved to include broader issues in higher education, including how well underrepresented students thrive and succeed as well as expanding the diversity rationale to include gender, disability, class and sexual orientation (Chang, 2005).

In the context of creating medical school diversity, the AAMC states that diversity as a commitment to a broader definition that supports a three-pronged effort, including human capital, organizational capacity building, and public health initiatives (AAMC, 2013). Specifically, they do not have a specific definition of diversity but rather initiatives and programs about how its importance and utility. To understand diversity, one must understand human

capital. Keeley (2007) defines human capital as a combination of competencies, knowledge, and personal attributes that increase the ability to work in a way that provides economic value. Connecting human capital to education is necessary because of the need to invest in human resources to increase productivity in the workforce. In terms of medical school diversity, human capital is positioned to strengthen individual skills from the premedical stage to practicing physicians, researchers, and administrations through diversity initiatives such as summer programs, medical career fairs, online advising to awards, seminars and continuing medical education.

With its organizational capacity, the AAMC tries to provide services, reports and training designed to increase diversity through recruitment, retention, professional development, cultural competency, environment assessment and manage medical school diversity. And, with public health initiatives, the AAMC seeks to expand the physician workforce to be culturally sensitive through collaborations (training, programming, etc.) that focus on health equity. The AAMC's portfolio on diversity defines its relevance to the organization's overall goals as a strategic priority that will "help shape a culturally competent, diverse, and prepared health and biomedical workforce that leads to improved health and health equity" (AAMC, 2013). According to the AAMC's *Roadmap to Diversity* (2008), diversity is broadly defined and should include applicant attributes, experiences, demographics such as socioeconomic status, gender, and racial/ethnic background , and other characteristics aligned with the school's institutional goals. A diverse student body increases research, creativity, and the exchange of ideas central to the mission and goals of an institution (Chang, et al, 2003). The organization goes as far as to say that the legal movement's shift from a "rigid numbers, oriented approach" (AAMC, p. 2, 2008) to this emerging focus on strategies helped to better articulate diversity goals. Specifically, the focus

seems to indicate that all efforts are intentionally tied to emphasizing holistic review as a way to "produce highly qualified graduates who will be able to serve all segments of society" (AAMC, p. 2, 2008). The need for diversity is explicit because, when shared and experienced, the optimum intersection of collaborative learning occurs. Learning incorporates many types of learning styles and sharing across all levels of learning can create an environment that will invest and develop human capital. In medical school admissions, diversity is imperative due to the ever-changing patient demographics.

The role of the *Bakke* case impacted this shift because it changed how admissions processes and selection policies must be more a part the educational contribution by a student rather than solely emphasizing academic metrics, creating a more robust academic experience. Particularly, students from traditionally underserved populations tend to travel a different pathway as they prepare for medical school. These pathways often affect how they, for example, perform on the MCAT exam as well as how they may perform with academic coursework. Holistic review is supposed to balance applicant consideration by assessing the value of these various pathways and their importance when selecting future physicians.

This shift is revealing because, while the AAMC is emphasizing the need for robust diversity connections from applicant recruitment to residency matching, it also controls what information medical schools possess about the new MCAT changes set to be introduced in 2015. It is notable that the AAMC has made a worthwhile effort to be less biased with the exam and to be more holistic overall; however, the exam is still considered a priority, making the possibility of diversity more of a distant reality because of the limited emphasis on the total applicant and the continued benchmark of a high MCAT as the indication of a more successful, more desirable applicant.

The AAMC appears to strive to build upon Justice Powell's reasoning in the *Bakke* case by stating that diversity is more than numbers; it is about mission-based institutional outcomes. Both the AAMC's holistic review approach and Justice Powell's opinion complement the support of diversity in terms of the educational rationale and how the focus on different kinds of diversity enhances the educational experience of the entire student body. The definitions also demonstrate that institutions may care about the short-term and long-term success of the overall medical school in terms of building educational as well as cultural capacity when addressing the needs of the community. Where these definitions are different is based within the implementation and the interpretation of how they were to be used when addressing diversity. Who, in each case, is responsible for diversifying higher education? Is it the role of the medical school leadership to be a model medical school on diversity? Is it the role of the applicant who, with their diverse backgrounds, serves as the potential student and teacher of diversity? Is the role of the Supreme Court or lower courts to prescribe diversity initiatives? Is the role of the admissions committee to develop the parameters of what constitutes diversity in medical education? Overall, each of these questions must be answered to align with the original intent of Justice Powell's opinion that diversity is an educational benefit. In turn, this means that the responsibility lies with each institution, with members of the admissions committee and with the students who must be aware of their overall value, educationally, culturally and socially when truly understanding the benefits of medical school diversity.

The *Bakke* case laid the foundation for future diversity cases such as the University of Michigan cases (2003): *Gratz v. Bollinger* and *Grutter v. Bollinger*. In the *Gratz* case, two students, filed a class-action suit against the University of Michigan, stating that race was used as a factor in their admissions decision and that they were discriminated against when they were not

accepted. As in the *Bakke* case, both students were White. Initially, the U. S. Supreme Court ruled in their favor and claimed these types of admissions programs were unconstitutional from 1995 to 1998 because they were not narrowly tailored to meet diversity standards set by prior cases (Aguirre, et al, 2003). The case was eventually overruled because "diversity in higher education, by its very nature, is a permanent and ongoing interest" agreed upon (Aguirre, et al, 2003).

The *Grutter* case is similar to *Bakke* in that a student, Barbara Grutter, alleged that she was discriminated on the basis of her race. The decision in this case favored the student because the University of Michigan law school used race as part of its admissions decisions process. In particular, the Supreme Court ruled that Michigan had to heavy of an emphasis on race when it came to rejecting or accepting a law school applicant. At first, the Supreme Court ruled that the admissions policy did not establish a compelling interest, even if it was narrowly tailored, as a means to increase minority enrollment (Aguirre, et al, 2003). The case was later overturned because it was t ruled that the law school "intends to consider race and ethnicity to achieve a diverse and robust student only until it becomes possible to enroll a 'critical mass' of underrepresented minority students through race-neutral means" (Aguirre, et al, 2003).

To further develop a compelling interest in obtaining the educational benefits that flow from a diverse student body (Devins, 2003), in *Grutter v. Bollinger* (2003), Justice O'Connor held that the United States Constitution does not prohibit the law school's narrowly tailored use of race as one of many factors in admissions decisions. It upheld the policy that an applicant's personal and academic attributes were reviewed as a way to improve the quality of education. The case not only worked as a means to increase college access, but was also viewed as a way to operationalize student interactions that impact learning across various identities, specifically, the

presence of diverse students as a way to improve the quality of education experienced by all within the environment. This was to be accomplished by expanding the admissions policies, for a limited time frame, to address diversity with the eventual hope of establishing a "color-blind" admissions policy. This case tied the importance of diversity to a school's educational mission by using multiple factors, including race on which to base admissions decisions.

In contrast, in the *Gratz v. Bollinger* (2003) case, it was ruled that the school's point system that awarded points to underrepresented minority applicants to ensure diversity was unconstitutional because it too closely represented a quota system. Because of these landmark cases, the definition of diversity must be more than the racial composition of a student group. It must encompass the interactions of many diverse students to emphasize the educational and civic competencies of academic and social growth (AAMC, 2008). In fact, Justice Powell argued that diversity comes in many forms: ethnic, geographic and economic components which can positively affect the learning environment in the undergraduate environment as well as in the professional school environment (Chang, et al, 2003). Its applicability is universal in this context.

What does diversity bring to medical schools? In one study at UCLA's David Geffen's School of Medicine, researchers studied the link between medical school diversity and its educational benefits. There were three outcomes of the study that were assessed: whether the number of diverse students affected whether students felt prepared to deal with diverse populations; whether students attitudes about access to health care was influenced; and whether the experience motivated them to serve in underserved populations (Schmidt, 2008). Using data from the AAMC's survey of graduating medical students from 118 medical schools, the study found that White medical students felt more prepared to deal with patients from racial and ethnic

groups and they felt access to healthcare was a societal right. The study did not, however, determine if medical school diversity influenced students to serve in underserved areas.

This study is relevant to diversity literature because it establishes that the benefits of diversity are valuable and should be a priority. The study, along with other attempts to shape medical school diversity, should make sure that the educational experience of all students work to enhance the overall institution. Some medical schools may or may not have a culture that embraces this type of change or reinforces the status quo (Greenman, et. al., 1992). Because of this change, medical schools are challenged to clearly articulate the educational purposes and benefits of diversity that include service to underserved populations, increased participation in policies that affect cross-cultural interactions and learning, and, most importantly, develop consistency with diversity as a permanent fixture on college campuses.

Recent literature cites the impact of diversity on student learning and truly articulates relationship between diversity and education. Gurin (2003) stated that diversity in higher education is more than just simple interactions with minority colleagues; it was necessary to include concepts of diversity within a school's curriculum and other co-curricular experiences with diverse peer. Gurin also stated that educational benefits of diversity include integration of experiences and thoughts in order for diversity to be meaningful. Milem, et al, (2005) stated that the catalyst of diversity growth in an educational setting must be a fusion between recruitment, admissions, curricular and co-curricular opportunities, student development, the direction and buy-in of leadership and an overall connection with local and global communities. The importance of this literature extends the need for diversity in terms of meaningful student interaction. It pushes the implementation of a "comprehensive framework" that ensures that diversity, in every nuanced definition, is able to address the disparities of diversity, including

how to increase cultural competence within higher education. It moves the meaning of diversity to not solely focus on school compliance but rather tie the educational purpose and mission of an institution to increase its capacity for true diversity. Overall, in the context of medical school diversity, its inclusion represents a compelling interest because it shifts the necessity for diversity from an initiative to a system that creates integrated learning and enhances institutional diversity.

Continued studies must proceed to identify the measurable outcomes of the educational benefits diversity. This should be done by actively promoting interactions with students from different backgrounds and to continue building critical mass within the medical school for such benefits and interactions to actually occur (Schmidt, 2008). And, in order to bring about transformative change with medical school diversity, attention must be given to the ways institutional environments respond to such changes. Recent scholarship confirms why diversity matters and how it advances inclusion in medical school, addresses healthcare disparities and increases cultural competency within the physician workforce. Conversely, medical schools continue to struggle with their commitment to diversity while they attempt to understand who they are as an institution in terms of their mission and vision while navigating the pressures to compete and transform.

Theoretical Framework

Institutional isomorphism explains the process by which institutions models or duplicates each other through benchmarking. The concept was first introduced by David Riesman in 1956; it is also referred to as "institutional homogenization" and "instructional imitation" (Jencks and Riesman, 1968; Pace, 1974; DiMaggio and Powell, 1983; Astin, 1985, Levinson, 1989; Hackett, 1990; Scott, 1995). An example of the concept can be found in the recent interest medical schools have in the McMaster's Multiple Mini-Interview (MMI) model. Only a handful of medical

schools utilize the model; however, because of research that claims more information is gathered about personal applicant attributes through this model, many other medical schools are comparing the information gathered from traditional interviews to determine if applicants are being accurately assessed with this process.

Riesman described institutional isomorphism as "academic progression". He described how the higher education system is a "snake-like entity whose most prestigious institutions are at the head of the snake, followed by the middle group, with the least prestigious schools forming the tail" (Riesman, 1959, p. 13) According to U.S. News and World Report, medical schools such as Duke, Harvard, Yale, and the University of Pennsylvania are among the top 25 medical schools in the country. Institutions use rankings to increase their competitiveness and status to attract applicants' attraction to their respective schools. Elite institutions watch each other and try to move to the top of the hierarchy while the lower end institutions carefully watch the elites and imitate them without the same resources and efficiency. This "academic progression" ultimately becomes a struggle as schools become more alike and very little distinction occurs between institutions.

Much of the institutional homogenization occurs because of economic and professional pressures which drive isomorphism in higher education (Jencks and Riesman, 1968). If a top tier medical school offers full scholarships to potential applicants, a middle level medical school may struggle financially to attract applicants due to the lack of financial resources such as donor endowments to support this program. Professional pressures may drive an institution to adopt a process such as holistic review to demonstrate a commitment to diversity policies. On the other hand, a better argument could be made for institutional pressures that perpetuate the status quo. For instance, institutions seek applicants with high MCAT scores to enhance their overall prestige.

In this scenario, institutions utilize their students as a resource or as a way to increase their institution's prestige by way of high MCAT scores and grades (Milem, 2003). This isomorphic practice can be quite problematic in medical school admissions because the goal of producing compassionate physicians cannot be done simply by admitting students with more emphasis on one metric in comparison to another metric. Yet, if that is what the head of the snake is doing, institutions in the middle and rear may feel pressured to adopt similar practices.

Institutions try to accumulate prestige through program rankings, federal support, well-known faculty and institutional affiliations with research hospitals. Institutions become less distinct because of these pressures and instead of promoting their unique qualities, organizations are driven by professional and economic pressures to focus on prestige and school rankings as they try to secure greater external funding. This pressures institutions to provide programs and services to compete with their peers. DiMaggio and Powell (1983) identified three mechanisms of institutional isomorphic change. They assert that organizations are viewed favorably by their peers based on external legitimacy, resources, and survival of the various forms of isomorphism: coercive, normative, and mimetic.

Coercive isomorphism results from organizations within a field facing legal or economic pressures to conform. An example of legal coercion would be how the Supreme Court ruled that diversity cannot simply be related to race and ethnicity. Through the *Grutter v. Bollinger* (2003) and *University of California v. Bakke* (1978) cases, diversity in educational settings such as admissions, must include a broad range of factors. Accreditation is another form of coercive isomorphism because all medical schools must abide by established LCME standards for function, structure and performance (http://www.lcme.org/overview.htm). In other words, organizational

pressures can stem from governmental mandates as well as cultural or professional expectations that push for conformity across institutions.

Mimetic isomorphism is a response to uncertainty. For example, the pursuit of high MCAT scores mitigates against holistic review because it causes institutions to imitate the holistic process to compete with their peer institutions. If a higher-ranked medical school like Harvard chooses applicants with high MCAT scores, other medical schools may migrate to this practice without considering whether the process will address the admissions needs of their institutions. These mimetically-adopted institutional structures are often used to buffer medical schools from criticism by doing what peer institutions do. Riesman (1956) stated that institutions watch each other closely, begin to emulate each other, hence, losing any distinct qualities, such as admissions processes, to differentiate them. Haveman (1993) stated that institutions will follow the market or be influenced by institutions that demonstrate success with a new policy that they hope will enhance their institutional reputations.

Normative isomorphism is predominantly a result of professionalization. The main influence of normative isomorphism is through the growth and elaboration of professional networks that span organizations (DiMaggio and Powell, 1983, p. 152). Institutions seek out the successful characteristics of their peer institutions as a way of building organizational prestige and attracting new resources, which ultimately increases institutional homogenization. In other words, every medical school admissions office and process is influenced by the broader medical environment, including the AAMC, the American Medical Association (AMA), and the U.S. healthcare system.. In order to survive, medical schools strive to establish legitimacy, which is typically manifested through coercive, mimetic or normative isomorphic behavior. Of these three processes, mimetic isomorphism and normative isomorphism are most prevalent in higher

education and in medical schools because schools model their peer institutions. Modeling is a response to uncertainty and also is a convenient source of best practices introduced by professionals who skillfully introduce processes accepted by the broader environment.

The use of holistic admission in medical school is an example of how all three processes may function in practice. Admissions committees, for example, sometimes rush to implement a process for the immediate impact on the program's prestige and ability to compete with peer institutions. Or, they do not fully implement a process because of other processes they are trying to emulate or a result they are trying to produce. All three mechanisms can therefore be used as part of the theoretical framework for this study because of the coercive isomorphism of medical school educational bureaucracy, mimetic pressure to serve diverse stakeholders and normative processes like holistic review that create external legitimacy. Holistic review is highly influenced by mimetic influence because of the competition for political power and institutional legitimacy that drives the process. Additionally, the tension is inherent in a normative environment: on the one hand, there is a push to use holistic approaches within admissions, curriculum, and medicine overall. On the other hand, there is the continued pressure from the profession to utilize traditional measures of merit.

Another example of how institutional isomorphism manifests itself in a decision process can be found in Lipson's 2001 article, describing how diversity policies are central to the institutional culture as a way to enhance and expand diversity polices beyond race. The article addresses how top institutions design, institutionalize, implement and defend diversity policies as part of enrollment management practices and university employment. In terms of medical schools, isomorphism may force an institution to adopt a process such as holistic review or use an MCAT

screening system (e.g. only accept applicants with MCAT scores of 30 or higher to be accepted by the broader medical school environment and to be competitive with peer institutions).

DiMaggio & Powell (1983) stated that external pressures, for example, can influence organizations to conform to their peers through the adoption of a new policy. Institutions can adapt or fail to adopt a new policy, such as holistic review, to increase overall legitimacy; however, there will be different outcomes for each institution based on their institutional culture, specifically the impact it has on implementing organizational change and whether it truly is institutionalized and accepted as normal.

The change that medical schools experience typically results from a shift in the underlying strategy and processes that an institution has used in the past. A transformational change should be designed to affect and include the overall institution and be enacted over time (Kezar and Eckel, 2002). In terms of medical school diversity, the common practice of using traditional admissions methods that are not aligned with the institutional mission creates inertia or complacency because of the unwillingness to expand diversity practices from the admissions office to the entire institution (Chapman, 1980). In other words, organizational changes like institutional diversity are often marginalized because institutions have not connected diversity efforts to the institution's mission and do not understand how it will help future physicians function in society (Smith, 2009). Additionally, Chapman (1981) emphasized that institutions must conduct a self-study to assess their institutional culture, attitudes, beliefs and values to fully engage in such a transformational change. By conducting an institutional self-study, medical schools can also establish how diversity in medical education is a societal purpose.

Reskin (1987) argued that transformational change is often hindered by social stratification or the concept of class as determined by socio-economic categories. Institutions

often fall into three social categories: the elite, the middle, and the lower-level institutions and they are ranked accordingly based on tuition costs, the quality of students accepted, and the residency placement of graduating physicians (Ackoff, 1994). As medical schools struggle to become more prestigious, striving for higher rankings, for example, can become more important than achieving institutional diversity. Should medical school stretch, develop and challenge the university's overall mission and vision? How does changing or modifying admissions to eliminate social stratification and address institutional diversity? Does adopting change such as holistic review as a plan solely for an admissions office become a strategy for enhancing diversity within a medical school and ultimately impact the education of future physicians and care-givers?

By answering these questions, a theoretical lens is provided to better understand how medical school practices shape medical school admission selection. Understanding how holistic review influences the educational benefits of a diverse campus is important. Chang (2003) states the importance of campus diversity by addressing the implications of diversity policies. The implications include opportunities for enhanced learning as well as the development of intercultural competencies like problem solving and critical thinking. Synthesizing diversity as part of institutional policies can maximize and strengthen the concept within the medical school community, including the shaping of admissions policies, enhancing how medical students learn, and, more importantly, how the students contribute to the community as a whole. In order for these changes to occur, Kezar and Eckel (2002) state that transformational change must be supported by individuals in positional power, such as a medical school dean, to align all changes with institutional priorities. If an institution strives to make a transformational change such as holistic review, Doucette, Richardson and Fenske (1985) found that defining an institutional mission, while tied to the initiative, can promote activity-driven progress to reach institutional

goals such as student diversity. In this instance, holistic review can emphasize relationship building to prepare all medical students to interact with a diverse patient community. Student diversity is necessary but, not sufficient alone, for all students to realize the full educational benefits of diversity (Slaughter, et. al., 2006). Medical schools must actively promote positive interaction from different backgrounds and have a critical mass of students to achieve such benefits.

The legacy of the *Bakke* case forever changed how medical schools approach diversity and its intended institutional outcomes. Medical schools face pressures to conform isomorphic forces in order to attain external legitimacy, causing an increase in institutional homogeneity. Organizations like medical schools experience this pressure to adapt their structure and behavior to be consistent with the institutional environment in order to ensure their legitimacy. (Tolbert, et. al.,1983). With external legitimacy, institutions face external and internal pressures to adopt and support institutional diversity like holistic review. To the extent to which diversity policies are institutionalized, the study will examine how transformational change institutions can impact medical school culture, specifically its leadership. An institution's discourse on holistic admissions is important to its overall commitment to diversity. More importantly, this study will explore if there is an organized institutional effort to support mission-based diversity.

CHAPTER 3: DESIGN AND METHODOLOGY

In this section, I present the research design of my study. I include my key research questions, an explanation of methodology and appropriateness of the design, sample and site description, recruitment approach and results, analysis, and close summary of study limitations.

Research Questions and Guiding Principles

My study explored the subjective experiences of two medical schools (one public and one private) to better understand the purpose of holistic review. The study examined the perspectives of the medical school leadership and admissions committee members within these institutions; the leadership and admissions committee members' institutions commitment to diversity and whether their mission and goals are aligned with their admissions process. The following overall research question was utilized: How did the Association of American Medical Colleges' (AAMC) position influence institutions to practice (or attempt to practice) holistic review? Supporting questions that informed my research:

1. How did the two site schools try to achieve diversity within admissions?
2. How was holistic review actually implemented?
3. What were the perspectives and experiences of admissions committee members and medical school leadership in terms of diversity and the use of holistic review?

The goal of the study was to examine holistic review policies related to creating diversity within the medical school admissions process; to understand whether each site school fully adopted the process; and to examine the context behind the pressure to implement holistic review. With this in mind, I interviewed admissions and student affairs 'deans, faculty members, and members of the admissions committees who have influenced, interpreted, implemented, and overrode internal admissions policies related to diversity.

Background

I sought to understand how the two medical schools understood diversity through the lens of holistic review, how well the institutions manage this approach and its outcomes, and more broadly, because of the potential impact the AAMC has on each of the schools. I wanted to understand the context of diversity and how the described experiences inform other medical schools about holistic review. Its adoption and how each school mitigates the challenges of this process was also important. Accordingly, a case study is appropriate in that this qualitative design allowed for the exploration of current admissions committee members and medical school leadership and facilitated a description of what they have experienced, how they were or were not influenced, and on how their perspectives of holistic shapes the future for diverse physicians.

There are viable benefits to the case study approach with this type of research. Creswell (2009) states that case studies allow the researcher to do in-depth research about a process while using other methodologies to answer research questions. The case study approach also provides the researcher an opportunity to incorporate various frameworks to answer research questions. Additionally, the qualitative approach allows a researcher to observe an admissions committee while engaging in the selection process. Interviews allowed admissions committee members as well as applicants in this study to share their personal experiences with medical school admissions. More importantly, Creswell (2007) wrote that qualitative research allows the researcher to be flexible when interpreting the meaning of data, to observe people in relation to the overall research questions, and to share insight, based on the interpretation of the data, about a complex situation such as holistic review.

This study was a qualitative case study that explored the population of participants involved with holistic review. In qualitative research, a case study is a form of qualitative

research that is used to look at individuals, a small group of participants, or a group as a whole. Researchers collect data about participants using participant and direct observations, interviews, protocols, tests, examinations of records, and collections of writing samples (Cresswell, 1998). This method highlights research focused on discovery, insight, and understanding from the perspectives of those being studied (Merriam, 1988). Case study research approaches a research question from a comprehensive perspective to gain a broad understanding of the event being studied and its meaning for those involved. Lastly, Merriam (1988) stated that case studies are designed to provide insight into an educational practice that can possibly influence policy, practice or future research.

Data Collection

Participating sites. One private medical school and public medical school were selected for this study because of their history of participating with AAMC diversity programs such as Project 3000 by 2000 and the Holistic Review Pilot Study, their competitive medical programs, and the opportunity for each of the schools to create diversity. These schools serve as examples of how institutions navigate their respective environments and cultures to answer the national call for more diverse physicians. Both institutions' missions indicate a commitment to training diverse physicians for local, national and global patient care. With this in mind, utilizing these two institutions' varied approaches to creating diversity was appropriate for the purpose of my study.

Public Medical School applied for the *Holistic Review in Admissions: Challenging Conventional Thinking and Practice* workshop in 2011. The program emerged from the previous pilot study and assisted medical schools such as Public to identify opportunities to improve

holistic admissions practices. From their participation, one of Public's administrators became a workshop facilitator and the school continues to work closely with the AAMC on diversity initiatives. Private Medical School's diversity dean leveraged a relationship with an AAMC colleague that provided the school the opportunity to be a pilot school for the Holistic Review Pilot Study. Each school's previous relationship with the AAMC in terms of holistic review provides insight as to the challenges each school experienced when attempting to formally introduce the process to their institutions.

As will be detailed, there are some important variations in the holistic admissions process between the two medical schools that were studied. That provides insight into the challenges, value, and outcomes of the process. Part of the overall question explored in the study is why both schools decided to pursue holistic review. Indeed, one sub-question that emerged from the data is why these two medical schools adopted holistic admissions when each already appeared to have processes that, according to some admissions committee members, seek to foster and support diversity in medical school admissions.

To maximize interviews with participants, I conducted a cross-site study because of a) the private school's opportunity to establish their own admissions policies and processes without influence of state legislation and b) the public school's state mandated legislation to actively recruit diverse students to serve their local healthcare needs. More specifically, I recruited a range of participants whose admissions service ranged from long-term service to recent appointments to the admissions committee or to a leadership positions. Within the medical school arena, these two institutions to which I had personal and professional ties to me assisted with the facilitation of the interview process for my study. Both schools ranged from highly selective (Private Medical School) to moderately selective (Public Medical School) and both are

recognized nationally for their commitment to diversity. To protect participant and program anonymity my study did not reveal the medical schools. Instead, pseudonyms for school size, geographic location, etc. were implemented for both participants and programs.

Recruitment and selection. For my study, I connected with these institutions through my professional relationships with these schools. I worked with both units to coordinate visits, obtain documents for analysis, and maintain open communication throughout the data collection.

After acquiring permission from both the medical school leadership and admissions offices for participants at both sites, a contact person (Private: Associate Dean of Student Affairs and Diversity; Public: Assistant Dean of Admissions) assisted me with the study recruitment. A brief email for initial recruitment was distributed (Appendix). As a recruitment tool, it was important that the survey title, phrasing of the request for its completion, and all communication were carefully tailored to attract potential participants for a viable interview pool. I created an email that was reviewed and disseminated by the administrative contact at each school. The goals of the questions were to have participants consider diversity and holistic review at their respective institutions. As such, a focus on their participation with holistic review was significant for this study. (Appendix)

Distribution of the email was entrusted to the school contacts for each admissions area. The IRB approved email was sent via a distribution list as well as to specific individuals. Criteria to receive and respond to the email request included medical school leadership, which included student affairs deans, educational deans, diversity deans, admissions directors, faculty members, and admissions committee members (both faculty and student members). A total of 20 (10 per site school) participants received the email request. I was copied by the school contact on the

email and the time frame of the study was during the midpoint to end of the admissions cycle. Participants were asked to respond within a two week time period to the school contact. Participants were asked to be interviewed and the campus contact arranged for me to observe the admissions committee meetings (one in person and one by video).

Ultimately**,** eight participants from Private and six from Public responded to the study request. All of the participants who agreed to participate followed through with the study. The main criterion for study participation was membership on the admissions committee and/or a leadership role within the medical school. Participants who volunteered to participate in the study or with follow up interviews were not financially compensated. Through a combination of purposeful participant selection and snowball sampling, participants from each school were similar with their titles if in leadership positions (e.g. Senior Associate Dean of Student Affairs and Admissions) or held similar positions on the admissions committee (committee chair or long-term committee members). I used purposeful participant selection to identify any gaps within the leadership structure in terms of making decisions about how diversity is created. I also wanted to ensure that I spoke with decision-makers to determine the consistency of diversity as part of the medical school mission and the admissions selection process. Snowball sampling was helpful because it identified admissions committee members with varying committee experiences. It also created an opportunity to gauge their commitment to diversity and their interpretation of holistic review when creating a class.

Description of interview participants. Participants were identified by my campus contacts as being those who made institutional decisions, had direct admissions experience and currently served in these roles and also those who served on the admissions committee. Participants included high level deans, faculty who had varied service time on the admissions

committee or who served on the committee to fulfill tenure requirements to current medical students who were at the beginning or end of their committee service. It is important to note that the admissions directors' role at each institution varied in terms of selecting students. At Private, the director was a voting member; at Public, the director did not having voting privileges. Comparing and contrasting by each school is important to consider how the roles of the participants assist with holistic review. Demographically, the interviewed participants are listed below:

Table 1.

PRIVATE MEDICAL SCHOOL – INTERVIEWEE DEMOGRAPHICS

1. Male/Female	Race/Ethnicity	Title	Length of Time @ Private
2. Male	White	Senior Associate Dean for Student Affairs & Admissions	11 years
3. Female	White	Vice Dean for Educational & Academic Affairs	46 years
4. Female	White	Associate Dean: year 1 & 2 Educational Programs Professor, Microbiology & Immunobiology	15 years
5. Male	White	Professor, Emergency Medicine	50 years; most senior faculty at Private
6. Female	White	Director of Admissions	6 years
7. 6 students: 4 males; 2 females	5 White 1 Asian American	Medical Students	Ranged from 1 to 3 years on the Admissions Committee
8. Male	Latino	Associate Dean for Student Affairs & Diversity Physician, Family	7 years

		Medicine	

Table 2.

PUBLIC MEDICAL SCHOOL – INTERVIEWEE DEMOGRAPHICS

1. Male/Female	Race/Ethnicity	Title	Length of Time @ Public
2. Female	White	Professor, Family Medicine	7 years
3. Male	White	Professor,	10 years
4. Male	Native American	Community Physician	20 years
5. Female	Latino	Assistant Dean of Admissions Professor, Dept. of Family & Community Medicine	8 years
6. Female	Native American	Director of Admissions	5 years
7. Male	White	Medical Student	3 years

It appeared that the majority of the interviewees at Private that work with holistic review did not represent diversity in the areas of race and ethnicity. In contrast, Public interviewees included an even split in terms of race and ethnicity.

In service to my research goals, I collected three types of data: interviews, committee observations, and data analysis. Interviews were conducted to provide the perspectives of medical school leadership deans and the committee members who are responsible for making the selection decisions that impact the future of diversity in healthcare. Through the interviews, I was able to understand the meanings of central themes that emerged from the research. The most critical use of the interviews was to get the story behind the interviewees' experiences around holistic review and diversity. Committee observations were intended to investigate how

admissions committee made decisions with the holistic review process. Observing human behavior helped to see how committee members were influenced during the meeting. Lastly, data analysis was done to provide context to the interviews and the observations. Analyzing mission and diversity statements helped to relate the tenets of these statements to the content from the interviews as well as the commitment to diversity as demonstrated by the committee members' actions during the meetings. Each of these data collection methods is described in detail below.

Interviews. Sixteen administrator and admissions committee member (faculty and students) interviews were completed in person. The meeting locations at each school were held within the medical school admissions office or the offices of the participant. An agenda was created for each school's visit that included the interviews, meeting observations, special event invitation and wrap up meetings with the campus contacts. Each interview lasted between 45 minutes to an hour. Participants were asked a set of protocol questions (see Appendix), and I transcribed all of the interviews verbatim. In line with best practice in qualitative research, I shared the purpose of the research study, reviewed my research questions and asked if the participants had any additional feedback at the end of each interview session (Wengraf, 2001). Follow up phone interviews were used to clarify information and to ensure that I represented interviewee thoughts and statements correctly.

At Private, my experience was highly structured in that the campus contact scheduled all of the interviews on a single day. All interviews were about an hour with breaks built in, and I was provided lunch and a small space to review my notes at the end of the visit. At Public, I was provided an agenda of coordinated interviews and a small, private space was provided to review the committee meeting video and conduct interviews.

Observations. Observation of one admissions committee meeting at each site study school committee meetings was conducted at both sites. The meetings lasted approximately two and a half hours and the majority of each school's committee members were present (21 at Private's committee meeting/28 at Public's committee meeting). One committee member from Private Medical School Skyped into the meeting. At Private, nine out of 24 (faculty and student members) committee members that attended the meeting participated with the interviews. At Public, six out of 36 (faculty and student members) committee members were interviewed. I took field notes to connect with the visual messages from the environment from the tone of the participants' voices to their experiences and expressed values. Field notes from the meeting were important to consider because they provided a broader objective to understanding diversity and if holistic review was activated in real time.

Document Analysis. Document analysis was applied to the mission and diversity statements for each school after interviews were conducted after the interviews. The documents included each school's mission and diversity statements. These documents were reviewed to determine if there was alignment of admissions practices with holistic review and if there was specific information about how the process was supposed to work (Prior, 2003). I reviewed each document in comparison to my overall theoretical framework and how they were related to the research within my literature review. As with coding my findings, I confirmed themes through data triangulation and created a concept map for each document (Altheide, 1996). My concept map included the outlined theoretical frameworks to quotes from the interviewees to better understand how to answer my research questions.

Data Analysis

Tesch (1990) observes that "analysis is not the last phase in the research process; it is concurrent with data collection or cyclic. It begins as soon as a first set of data is gathered and does not only run parallel to data collection, but the two become integrated" (p. 95). The distinction between data organizing and data interpretation is theoretically useful, even though in practice the organization and interpretation of data are "intellectually intertwined and sometimes happen simultaneously" (p. 114). This integration of data is important because it provides a clear understanding of the scope of the research.

Coding. I coded the data for descriptive/interpretive analysis which are well suited for case studies. I developed initial codes based on three main sources: the participants' responses to interview questions (primary), the research questions and sub-questions, and the concepts and categories suggested by the theoretical framework and related literature. Codes with similar content were clustered and systematically analyzed for patterns or relationships from which conceptual categories were eventually identified (Miles & Huberman, 1994). Codes included: holistic review, diversity, division between leadership and faculty on the commitment to diversity, resistance to holistic review, and "grassroot" (homegrown/internal programs). I transcribed and read data line by line. I put the data into assigned codes and then created themes for each category (Bowen, 2006). I also kept a master list of all of the codes and I used an inductive coding system that allowed me to develop codes after examining my data (Burnard, 1991). I also used enumeration to track how many times a word such as diversity appeared in my research.

First, I created a table in which to compare and contrast the themes that emerged within each interview. My themes were developed through word repetitions from simple observation (Maxwell, 1996) based on how often the words were said, for example, during interviews and during meeting observation. Then, I constructed a matrix in which I compared the themes that emerged among the admissions committee members, and another matrix to compare the themes that emerged among medical school leadership. Next, I compared the themes between these two groups and tried to determine whether there were significant differences or similarities between them. I then analyzed the findings in light of the framework of institutional isomorphism, virtual adoption and diversity as presented in the review of the literature. The themes were determined from an analysis of the semi-structured interviews with committee members, which were analyzed following a process similar to that used in the interviews with those in leadership positions.

Data Triangulation. (Denzin, 2001) was employed to establish validity. In qualitative research, validity can be understood as "true" and "certain" (Denzin, 2001; Kirk & Miller, 1986). Data triangulation is used to indicate how two or more research methods are used to confirm the results of research findings (Denzin, 2006). Findings should be "true" in the sense that they accurately capture the research story and "certain" in the aspect that they are supported by the collected evidence. Data triangulation includes ways to interpret data to ensure the validity and trustworthiness of the research. I analyzed my research questions from multiple perspectives with this method. For example, my research questions were the topic of the participant interviews with the extended questions on their thoughts about the AAMC's influence on the holistic review process and how the influence impacted each school's individual practice. Second, I observed the admissions committee meetings where decisions were made on the

incoming class. Third, I reviewed each school's mission and diversity statements to assess of the commitment to diversity and develop an overall feel for the institution's culture. These observations review gave me solid information about each school's admissions practices and also clarified how each school is looking to use holistic review to fix institutional diversity and the extent to which they successfully create a structure that supports authentic holistic review. In the analyses, data from these three sources were coded into themes to determine consistency across themes which also helped to inform my findings.

In the discussion of the findings, I tried to represent the themes that emerged from the data as clearly as possible. Thick descriptions do not simply report facts; they are "deep, dense, detailed accounts" of the setting, the participants, and the themes of a qualitative study (Denzin, 1989, p. 83). The ultimate goal of thick description is to make the reader feel like they have experienced—or could experience—the events or situation being described. Thick description seeks to recreate an experience, action, or situation vividly enough to convey the trustworthiness of the author's account. This level of detail is also useful when the reader is trying to determine the transferability of the findings to other contexts (Creswell & Miller, 2000).

My field notes were an essential aid in the creation of detailed, rich descriptions of the participants, the setting, and the interactions that took place during the interview and the research process at large. Sanjek (1990) makes a distinction between "scratch notes" and "field notes proper." Scratch notes are brief notes jotted down while engaged in research, as during an interview, to recall what someone has just said. These notes are then processed into field notes, which are distinguished from scratch notes in that they are notes "organized, categorized, complete, and available for later access" (Yin, 1994, p. 96). During the interviews I kept only

scratch notes on a small pad so I could dedicate my full attention to the participant. Later, with the aid of memory and attentive review of the interview recordings, I built on these scratch notes to generate more extensive descriptions of the interviews, trying to add as much detail as possible in terms of setting. Additionally, I have included the themes that illustrate the multiple perspectives put forth by the participants.

Limitations

The greatest limitation of this study was its scope, specifically, the sample population for the case study. Focusing research on two institutions provides an in-depth investigation of the practices and insights from two admission committees at two institutions. Gillham (2000) discusses two major limitations that can exist with this type of case study: a) limits as to what one can do in manipulating conditions that might affect human behavior and b) the objectivity of the data collected due to two institutional participants. Creswell (2009) stated that making interpretations of participant behavior has to be separate from the researcher's background and prior understanding to eliminate multiple views of the case study outcomes. In other words, my experience with medical school admissions cannot be included with the data collected from the participants, although obviously my knowledge of medical school admissions affords me distinctive entrée and insight into the processes surrounding holistic admissions. Additionally, collecting multiple forms of objective data, such as interviews, observations, and document analyses, requires major organization of themes to make sense of all the data sources. More importantly, Yin (2009) stated that this type of research must maintain the meaningful characteristics of real life events and processes such as holistic review so that the analyses are not compromised.

Positionality Statement

I am currently the Director of Admissions at The University of Arizona College of Medicine. This role required a delicate balance of relationships within the study. I have worked in medical school admissions for six years and have access to internal processes and documents that are not accessible to the general public. My professional experience with medical school admissions points that medical schools are very guarded about their selection processes. Through my study, I had to reassure the participating schools (medical school leadership) that my goal was not to duplicate or assess their processes but rather learn from them.

As the researcher, my role offered projections about how medical schools can navigate their institutional cultures and effectively implement diversity policies. The research was not constructed to prescribe a particular course of action. Rather is was constructed to serve as a way of understanding the contextually specific social construction, complexities, and implementation of holistic review and how two medical schools utilize this particular method in trying to incorporate greater diversity into medical school admissions policies.

Another key factor to consider is that, as an African American female serving in the position of a medical school admissions director, I have become interested in the dilemma of diversity within medical school admissions and its relationship to other dimensions of diversity within the overall medical school. These dimensions include how URM applicants view the informal power of my position in terms of race and ethnicity and how diversity is incorporated in terms of the curriculum, financial resources available to URM students, and the policies created to govern student life. Lastly, participants may have felt compelled to present their personal and institutional commitment to diversity in an attempt to connect with me as a minority female professional rather than as a researcher. It is possible that my positionality may have influenced

the information shared during the interviews. With this said, it was important for me to remain neutral within the study to capture the nuances of diversity, as shared by the participants, specifically understanding how my position and experience with diversity potentially shaped their participation. In my position, I am working to implement the vision of diversity within medical school admissions. When I experience the comments and experiences of the study participants, I reflect upon my position as a mediator, facilitator, implementer and practitioner of similar diversity initiatives. I am subjected to the same resistance to diversity initiatives or even the expansion of diversity from applicants, committee members and, institutional leadership. The expression of support in a general sense for diversity by at least some respondents may have been to some extent influenced by my status as an African-American woman. Nevertheless, my sense is that the relative openness of the interview subjects, their willingness to express reservations about holistic admissions, and their willingness to articulate, in some cases, a strong commitment to traditional metrics of quality in medical school admissions, all suggest that the findings were not unduly influenced by my positionality.

CHAPTER 4: FINDINGS

The AAMC's vision is to admit and prepare a more ethnically diverse body of physicians to meet the needs of an increasingly ethnically diverse patient population that continues to be underserved (AAMC, 2012). Although there has been an increase in Hispanic or Latino and African American applicants to medical schools, the numbers still do not constitute a sufficiently diverse pool of medical school students and physicians. There are important stakeholders in the medical profession who believe there is not enough diversity in today's healthcare industry (Hassan, 2012). According to the AAMC's website, although ethnic minorities comprise 26% of the U.S. population, only 6% of practicing physicians are African American, Native American or Latino. That suggests a view of diversity being understood and promoted largely in terms of proportional representation. Hispanic and/or Latino applicants have increased by 5.7% and African Americans increased by 5% (AAMC, 2012). However, Native American applicants substantially decreased, by 11.4%. The problems posed by these numbers are that the lack of diversity in the medical field can reproduce continued relative homogeneity in medical school applicants who are admitted, and create a pattern of biased training and environments, causing problems with patient care and affecting the patient-physician relationship in terms of trust (Frederick et al, 2005).

Multiple factors affect an applicant's admission to medical school. Included among these factors are an applicant's clinical and volunteer experiences, premedical advising, and mentoring relationships with physicians and other health professionals. An applicant's pathway is also shaped by their own personal interests, skill sets, and academic aptitude. Further, pathways into medical school can be affected greatly by applicants' undergraduate preparation and their family's expectations for their future careers. According to the AAMC's *Roadmap to Diversity*

(AAMC, 2008, 2010), all of these factors should be considered when selecting students to answer the AAMC's call for more diverse classes of future physicians as part of the holistic review process.

According to the AAMC, holistic review is "a flexible, highly-individualized process by which balanced consideration is given to the multiple ways in which applicants may prepare for and demonstrate suitability as medical students and future physicians" (AAMC, 2010). The organization specifically states that creating diversity within a medical school is not a "one size fits all" concept (AAMC, 2010) and that medical schools should base their definition of diversity on their institutional missions and educational goals.

By definition, the AAMC includes holistic review criteria that are expansive and inclusive of a range of considerations, and that "are applied equitably across the entire applicant pool" (AAMC, p. ix, 2010). More specifically, the AAMC states that diversity "may encompass other dimensions of experiences and attributes, such as distance traveled, educational background, languages spoken, resilience, socioeconomic status, and geography, among others" (AAMC, p. ix, 2010). Based on these specific instructions, it appears that the AAMC demonstrates a strong focus on representational and numerical diversity rather than strive to align with an institution's grassroots approach to diversity. As will be evidenced in reporting the findings from the two study sites at which holistic admissions, AAMC style, has been introduced, is considered as a representational orientation to diversity may not fully resonate with the perspectives of various constituents in medical schools.

In order to research the AAMC's efforts to introduce holistic review, an exploratory multiple case study of holistic admissions' introduction at two sites examines the implementation

process. The AAMC has encouraged medical schools to adopt a holistic admissions process. It conducts a formal evaluation of institutions and how they use holistic review.

In 2008, Private Medical School was selected as one of two pilot medical schools to participate with the AAMC's *Organizational Performance Improvement* program. The pilot focused on applying the principles of holistic review as a way to review current policies and integrate diversity policies with admissions practices. From Private's 18-month pilot participation, the school emerged as a leader in medical admissions diversity and one of the school's administrators became an advocate for the holistic review process.

Three major findings emerged from the data. First, the implementation of holistic review to enhance diversity in medical school admissions is shaped and complicated by admissions committee members' understanding of (or lack thereof) and skepticism about the process, particularly in regard to what dimensions of diversity it does and does not address. It is also shaped by the influence of the AAMC's prescription for diversity creation while also enforcing the use of academic metrics, such as the MCAT, to create a diverse class. Second, to some extent, the implementation of holistic review constitutes a case of "virtual adoption" (Birnbaum, 2000), with there being a disjuncture between, on the one hand, publicly expressed goals of the AAMC, institutional goals and formally adopted initiatives, and on the other hand, what actually occurs within the admissions selection process, including resistance to this new process delivered by the AAMC. Virtual adoption involves a formal adoption of some new structure of activity while at the same time preceding and ongoing processes remain largely intact. In this study, virtual adoption can be viewed through the lens of each medical school possessing diversity processes prior to the introduction to holistic review. The implementation of holistic review remains "virtual" because, although diversity processes are in place, holistic review is being

contested in regards to how it is supposed to help create diversity. Third, and related to the first two findings, the holistic review initiative appeared to have been implemented by senior administrators at each school's. Partly as a result, the process was not fully taken on by others within the school, for they had not been parties to an institutional agreement to go forward with the process.

Complexity of admissions even without holistic review. Medical school admissions are complex even without holistic review. Holistic review adds additional layers of complexity and uncertainty to an already complex process. It is challenging for applicants, admissions committees, and all who are involved with the process, including, ironically, especially those for whom a significant institutional goal is to increase class diversity. The litigiousness surrounding the admissions process is impactful. The AAMC emphasizes the importance of evaluating the experiences and distance traveled by individual applicants to ensure fairness. One difficulty with holistic review is how to ensure that due process is afforded to each medical school applicant.

In addition to logistical complexity there is a significant dimension of uncertainty. Medical school senior administrators, admissions directors and committees are seeking to create the "best" class they can with these expanded admissions criteria that are intended to help increase their competitiveness.

Holistic review in some sense makes an already complex process even more complicated. According to both Private Medical School and Public Medical School admissions directors, the sheer number of medical school applicants each year challenges medical schools to find the true match between applicants and the institution. Logistically, holistic review is considered problematic because, on average, a school such as Private receives more than 12,000

annually and Public receives about 1,000 applications annually. Each school's admissions committee membership consists of 15 - 30 faculty and students. With such a competitive process, holistic review can be considered as it was in this study, as long, complex, and, oftentimes, a difficult endeavor.

Uncertainty with the process. Selecting an incoming class affects the prestige and ranking of a medical school, specifically driving the admissions decisions that are designed to select the best individuals. The relationship between financial resources and variables associated with institutional rankings, for example, can determine what position a school will place among its peer institutions. Funding can play a major role in how an institution is ranked and using a simple set of metrics such as the MCAT and GPA help medical schools meet this institutional desire to maximize prestige and funding. In addition, holistic review is a departure from these traditional, set practices. It suggests that schools use a different set of metrics that departs from the traditional way of determining merit. There is no proven track record of holistic review outcomes and medical school committees may consider the process as a high-risk decision.

Abandoning the exclusive use of MCAT and GPA to craft a diverse class, holistic review is viewed as a risk because there is no set guarantee that the process will shape a better class. There is no established track record to build upon. It has not been proven that holistic review helps a medical school increase its commitment to diversity. The impact of such a process on medical school rankings are also unknown and medical school faculty and administrators may be reluctant to shift from traditional measures of merit because there are not incentives such as increased rankings to substantiate the use of this process. It may be that admissions committee members will find the process to be cumbersome---a particular problem that, in most cases, their service is voluntary.

Further, medical school applicants are trying to determine how to best represent their experiences to increase their opportunities to be accepted in a highly competitive and stratified system. Much of the stratification that occurs within the applicant pool and their goals to become physicians lies in the hands of the admissions committee. Committee members are under pressure to admin the "right" incoming class as these applicants and their contributions will potentially impact the prestige of the medical school. With this in mind, there is much disincentive for these committees to take risks.

At the same time, holistic review is being introduced when medical schools are under increased fiscal pressure due to the current economy. According to the admissions dean at Public Medical School, the budget to use holistic review included paying for AAMC staff to provide onsite training to additional software programs to review all of the applicant information to sending Public leadership to AAMC training on holistic review. In this context, innovations that have uncertain outcomes in terms of prestige and funding may seem particularly risky. Moreover, there is a continued pressure for medical schools to establish, maintain, and increase legitimacy in a competitive environment. Medical schools implementing holistic review, then, are in the position of seeking to advance diversity goals in the midst of increasing processes to become more efficient and effective, and successful in generating new revenue (Birnbaum, 2000).

Legal concerns with holistic review. *The Regents of California v.* Bakke case set the tone of change for many professional school processes when attempting to create class diversity. Because of the legal rulings that prevent the automatic exclusion of applicants based on race, historical efforts to create class diversity are still affected by this case and it is due in part to the lack of understanding of the broadened definition of diversity. In an attempt to focus on creating

diversity and inclusion, the programmatic roots of holistic review began in the mid-1990s with the AAMC'S *Expanded Minority Admissions Exercise (EMAE)*. The workshop focused on how to help admissions committees use applicant attributes when assessing minority applicants. The program did not factor how these attributes would affect majority applicants.

In 2003, the AAMC updated the program to reflect the recent legal changes based on the *Grutter* and *Gratz* cases that upheld the prescribed limits of race-conscious admissions but also through legal permissibility. As part of these legal rulings, schools were instructed to conduct a "competitive review of all of their applicants and consider each applicant individually in a holistic, flexible framework" (AAMC, 2012). Out of this programmatic overhaul, the AAMC introduced holistic review as an improved mechanism used to consider applicants within a comprehensive framework based on each institution's specific mission and goals.

The litigious environment of holistic review. Holistic admission was created by the AAMC to address two key situations in the external environment. One, because of coercive isomorphism, legal rulings challenged the existing model of admissions in which diversity concerns were addressed through metrics that determined when the right mix of minority students achieved diversity in a class. As a consequence, in order to pursue diversity goals, medical schools needed to introduce other criteria and compelling factors to be considered as part of the admissions decision process. Second, due to the national shortage of physicians to serve a diverse patient population, medical schools were challenged by the AAMC to increase their commitment to pursue and consider diversity as they selected their incoming students. These two factors further complicated the admissions process by increasing the awareness of the complex and litigious medical school selection environment.

With public medical schools such as the one explored in this study, the requirement push to address external political challenges and legal constraints becomes difficult in a way that is distinctive from private medical schools that are not subject to state law. State mandates and legal constraints complicate diversity initiatives such as holistic review. Typically, private medical schools do not have the same constraints. Current admissions rulings prohibit public section institutions from the explicit use of racial preferences and considerations in admissions.

Despite this legal context, and the national professional organization pressure to attend to diversity in new ways, some medical schools seem hesitant to implement holistic review. It may be that they are unclear as to what the process truly assesses in terms of diversity. For example, as part of the primary application filled out by every applicant (AMCAS), applicants are invited to fill out a disadvantaged statement. There are no instructions on the expectations for this statement nor is there guidance on how applicants should approach the questions. Particularly, this statement seems to capture a particular conception of diversity framed by the AAMC as more of deficit than a robust factor when creating diversity. Moreover, the faculty and administrators in some schools may not share, in the face of this uncertainty, the view of the type of diversity being promoted by holistic review.

Competing conceptions of diversity. Further complicating the situation, medical schools confront mixed messages, even from the body that is promoting holistic review. The professional organization (AAMC) that developed their version of holistic review to being analyzed is promoting a particular conception of diversity. The AAMC has developed a process that calls for a wide consideration of the applicant, their experiences, and, more importantly, their pathway to medicine. Ironically, the AAMC is the curators of the MCAT, a tool used by medical schools to screen applicants in a non-holistic way that research has demonstrated often eliminates diverse

applicants from entering medical school (Ross, 2009). MCAT scores are a key feature of medical school rankings as they are identified nationally with merit. So, although the AAMC is promoting a holistic process to enhance diversity, it also houses the exam that represents the dominant sorting factor in the established medical school admissions process. Moreover, that test is seen as "objective," potentially protecting committees and schools from claims of unfairness in the admissions process. Such a belief continues even though the objective evidence calls into question the value of the MCAT in predicting student performance. Siu and Reiter (2009) found that the MCAT and GPA can only predict how an applicant may perform in their first semester of medical school; it does not predict clinical performance or how they will do as a practicing physician.

Administrators and admissions committees at Private and Public medical schools appeared to be influenced by the AAMC's initiative to promote diversity through a holistic admissions process and, at the same time, by this body's continued commitment to the MCAT. What seems to be experienced in the medial schools is a dualistic, even contradictory push for medical schools to use the AAMC's holistic approaches to admissions to help create a diverse workforce, on the one hand, and a continued pressure to utilize traditional measures of merit owned by the AAMC to function effectively in competitive environments. The uncertainty of what holistic review can or cannot do within these two medical school environments led what can be characterized as an isomorphic response (DiMaggio & Powell, 1983) of virtual adoption (Birnbaum, 2000). In the case studies, holistic review appeared to be a tool that was seen by administrators as potentially enhancing the reputation and success of these schools by prescribing to the national diversity initiatives and positioning themselves as "model medical

schools". At the same time, it is far from clear that the adoption got down to the level of fundamentally changing admissions practices.

Throughout the chapter, the findings reveal the complications of creating a class and how each school's stated pre-existing commitment to diversity affected the implementation of holistic review. At Public, 3 out of the 7 interviewees expressed a true desire to create class and institutional diversity and stated that it (diversity) was always a part of their service when selecting students. At Private, 3 out of the 8 interviewees demonstrated a strong commitment to diversity and firmly believed that their medical school exemplified diversity at all levels of the institution. In contrast, the data express both the affirmation and ambivalence of most of the administrators and committee members surrounding holistic review, within the broader context of isomorphic pressures. The findings speak to the complexity of holistic review when trying to meet the stated goals of increasing diversity; they also speak to the extent to which using holistic review in admissions appears to be operating institutionally or in isolation. Finally, the data highlight each school's organizational structure and culture in light of their attempts to create environments that embrace diversity in multiple facets of the institution.

Considering commonalities and differences in the two case studies. Both schools explored within this study are considered ‘early adopters’ for holistic review. One of the key goals of the study was to determine the extent to which holistic admissions is being fully adopted at each school. The study also aimed to explore the extent to which holistic review actually changed the fundamental activities of admissions that at both institutions influence decision outcomes based on a range of external and internal factors. The study considered the extent to which holistic review is more than a public endorsement of the AAMC's process and to which it actually enhances the selection process at each institution.

Examining the implementation of holistic review at both Private and Public Medical Schools was at the core of this study. A comprehensive understanding of how each school defined and activated holistic review was important because of the environment of each institution. Due to the relative autonomy it enjoys as a private school, Private Medical School designed a process that was freer of the pressures of some external stakeholders, and of the concerns of litigation. The adoption process seemed to be driven more by an effort to maintain their prestige as an elite medical school. In fact, one senior committee member from Private stated that, "using the AAMC's holistic review process poses a problem with our school rankings. We have to compensate for these students who have lower MCATs and GPAs. This (process) really complicates our tradition." The concern of this committee member, who has served on the committee for over 40 years, was that Private had programs for "these" types of students and pondered the necessity of holistic review.

It also appears that the adoption decision was made without consideration of what holistic review was designed to "fix" at each medical school. From the viewpoint of some of the committee members, their institutional processes and history were appropriate for the specific diversity goals they wanted to achieve at their institution. Whether it was selecting applicants interested in rural medicine at Public or selecting applicants interested in serving urban communities at Private, the pressure to implement holistic review appeared to have a counter-effect on the admissions committee and the admissions process in regard to these local and very important diversity goals. Several committee members specifically criticized holistic review because it made selecting applicants more cumbersome and created confusion at the expense of "suitable" processes already in place. A Public committee member who recently joined the committee stated that "reviewing applicants in this format confuses me. It is hard to keep track of

all of this information." Thus, instead of immediate buy-in to reform as much needed, the adoption of holistic review was undermined and criticized by these committee members because of their belief that their school was unique and effective in its present approach to create diversity.

Public Medical School experienced greater constraints embedded in meeting their mission and goals because of state-mandated legislation. Although there is mandated state legislation in place, Public's holistic review process includes a numerical scoring system that may limit the committee's understanding of diversity and limit the number of diverse applicants within the pool. According to the admissions assistant dean, the scoring system produced a baseline number that included grades, test scores, experiences and other file components. The baseline score was used to determine if an applicant would move forward in the process. The limitation of the tool did not compensate for diverse students who did not have high academic metrics. At the same time, Public Medical School also was subject to mimetic isomorphism in their implementation of holistic review. Interestingly, being a part of a larger collective of medical schools under the AAMC created complications for the elite, private medical school as well as for the public, mission-based medical school.

Both medical schools are defined by a public commitment to diversity, by claims that diversity is critical to the mission and goals to shape future diverse physicians. Moreover, the organizational message of both medical schools is that diversity already exists based on programs and mission statements and that each institution has a long-standing diversity tradition. That prior commitment raised the issue of the extent to which the implementation of holistic review was an upper administrative decision or whether it was a "ground up" exercise.

The comparison between the two cases is framed by and highlights the major themes surrounding the introduction of holistic review. Prior to elaborating on the differences and similarities between implementation at Public and Private Medical School, it is important to provide an overall description of holistic review at each.

Holistic Review at Public Medical School. Public Medical School is located within a comprehensive, urban public university that is only one of two research institutions in the United States federally designated as a Hispanic Serving Institution (HSI). The school offers long-standing programs in rural health and family medicine. Its leadership attributes the school's high ranking programs to a strong emphasis placed on recruiting, admitting, and retaining students from Hispanic and Native American populations from around the state, particularly those who are from predominantly rural areas.

Interestingly, Public Medical School is located in a state that is minority-majority. The school has an obligation to serve various health care needs of this diverse population. That means serving the needs of rural areas as well. Most of the medical school's committee members sought to accept and matriculate students who reflected the demographics of the state, which is currently 46.7 % Hispanic or Latino origin, 10.1% American Indian, and 2.5% African American. The school's stated mission includes identifying applicants that desire to explicitly serve rural areas of the State. With a 22.2% rural population out of a total population of close to 120 million people, the need to educate committed and diverse physicians is great. Yet, the number of underrepresented in medicine numbers continues to decline. Despite the statement of the commitment of the school and of admissions committee members to create diversity, current numbers from incoming URM students in 2012 was 38 or 35% out a total class size of 103

students. Although there were 28 URM students in the class, this number of incoming students still does not correspond to the entire population.

According to the admissions director, the decline in minority student admissions was due in part to lower and declining MCAT scores and grade point averages of these students compared to the more competitive applicants. To manage this challenge, the Public Admissions Office, along with their leadership team (admissions dean and assistant dean of admissions) developed a weighting scale to provide extra points for factors such as experiences, distance travelled (an applicant's unique pathway to medicine defined by the AAMC) and other attributes. The weighting scale preceded the AAMC's holistic admissions workshop visit and was in place for approximately five years with several iterations to its current model. It was internally developed along with internal software to accommodate the decision structure. The rationale of this model was to provide a greater understanding of each individual applicant as well as assist with addressing the need to increase diversity.

Public has used an admissions process similar to what many other medical schools have in place nationwide, with the important exception of the adaptations just noted. First, applicants apply through the American Medical College Application Service (AMCAS) and are screened for minimum requirements such as GPA and MCAT scores. Within the AMCAS application, applicants must submit transcripts for every institution they attended and must have completed (or will complete before matriculation) prerequisite coursework (e.g. organic chemistry). Those who make it through the initial screening process are invited to complete a secondary application that, after it is submitted, will be reviewed and scored to determine if an applicant will be invited to interview.

Once Public receives the AMCAS application, the Admissions Office categorizes applicants based on their residency status. The Public Medical School is a resident only medical school, meaning they only consider resident applicants. However, they are a part of the Western Interstate Commission for Higher Education (WICHE) and secondary consideration is given to applicants who reside in a state that does not have a medical school. At Public, WICHE applicants must apply to the Early Decision Program (an earlier deadline that regular applicants) and must possess at least as high as the average MCAT/GPA of the previous year's entering class to receive program consideration. These application factors were determined because Public will accept a limited number of nonresident applicants as a way of enhancing their ability to admit a larger proportion of the incoming class to mirror the population they intend to serve.

Despite the school's commitment to diversity, the objective data, as well as the responses of the interviewees make it clear that the selection of the incoming class has not mirrored the population. Indeed, there was a disconnect in the interviews in terms of whether the faculty prescribed to this belief or whether they adapted their practices to satisfy Public's leadership demand.

Other opportunities for nonresident applicants to apply to Public require applicants to have 'strong ties' to the state. In some cases, they must meet with the Residency Committee for further consideration. For example, if an applicant was born in the state, moved away for college, and would like to return to their home state for medical school, they can be considered as part of the applicant pool. While nonresident applicants are held to a higher MCAT and GPA metric, resident applicants can meet the minimum MCAT of a 22 out of 45 and a GPA of a 3.0 out of a 4.0 scale. In spite indicating that a holistic approach is utilized with a system that predated the

holistic review implementation, there is an obvious difference in how resident and nonresident applicants navigate through the application review process.

Once applicants are pre-screened for residency purposes, minimum academic metrics, and premedical prerequisite coursework, they are then considered eligible to receive a secondary application. The secondary application is available online. In the secondary application, students are required to submit responses to additional questions that are tailored to the institution, a picture and pay a $75 fee. The secondary applications may inquire why an applicant is interested in the medical school or if they have previously applied to the institution. Subsequently, the secondary applications are screened to determine who will be invited to interview. Invited applicants are scheduled to interview with two members of the Committee on Admissions. Public's admissions team regards the interview as an important part of the evaluation process. It provides a firsthand look at an applicant's presentation and handling of issues, depth of thought, and exploration of broad perspectives related to medical service and their motivation to medicine. At Public, they use a traditional interview format where the applicant meets with a faculty member to discuss an applicant's fit to the medical school. In addition, the interview is used as an opportunity to recruit these applicants to the medical school.

Prior to each interview, all committee members have access to the applicant's AMCAS and secondary application materials. According to the Admissions Director, the academic metrics (MCAT/GPA) are hidden to be more "holistic". The interview score is solely based on attributes such as communication skills, motivation, altruism, etc. The interview is unstructured although training provides interviewers specific topics that focused and directed the discussion based on the applicant's interaction with the interviewer. Mainly, Public uses the interview to

gauge an applicant's motivation for medicine as well as institutional fit based on an internal scoring system that, again, predated the implementation of holistic review.

The Committee on Admissions is a standing faculty committee and members include departmental chairs, community physicians, and student committee members. The Dean ultimately approves and appoints every member of the committee. Once appointed, members serve a two to three year term. During application season, members review approximately 10 to 15 applicants weekly and can access the entire file. Public Medical School created a scoring system that allows members to score every aspect of the application, arriving at a final score that determines acceptance. The scoring is unique to Public because the national holistic review process steers away from scoring to decide who will be accepted. Even with the scoring system which is set up to find students who "fit", committee members still expressed concerns about the acceptance and enrollment of Native American students. There was concern about how to support Native American students as well as how to "think about all applicants equally across the diversity spectrum" by admissions committee members. Despite the uncertainty of the process and the perplexity of how to build URiM enrollment, applicants are accepted on a rolling basis until the class is filled. All committee decisions are final.

The Public Medical School admissions process was very distinct because of the mission-based approach to creating class diversity. The concept of diversity is considered pervasive at this medical school because of elements such as state-mandated legislation to include specific outreach to medically-underrepresented populations and continuous review of the mission statement during the committee selection process.

Throughout interviews and observations, there appeared to be partial support for the AAMC's process. There were several committee members who articulated the belief that, prior

to formally adopting holistic review, the school's selection process was a "good enough process". Additionally, within the overall admissions committee, there was some skepticism about how and whether holistic review would create institutional diversity. In the words of one committee member who was also an alumnus of the medical school,

> I'm not sure I totally understand what holistic review is. We already care about diversity and practice selecting students who meet our mission. We seek students that want to work in rural and underserved populations and we find this kind of diversity by specifically looking for these students.

This committee member had served for approximately four years on the committee. Their view speaks in part to the concept of virtual adoption, the idea that the technical practice of their school's selection was not truly changing, that instead, it could be considered as more of a change within the formal structure of the medical school, signaling to external stakeholders that "something new" was happening at the school. The quote also speaks in important ways to this member being skeptical not about the idea of increasing diversity, but rather about the effectiveness of this new programmatic effort to adopt a nationally distinctive, holistic admission process.

During the above member's committee service, Public medical school participated in the AAMC's Holistic Review Project's "Holistic Review in Admissions: Challenging Conventional Thinking and Practice" workshop. The school was selected to participate in the program. After the workshop, the Assistant Dean of Admissions was selected to serve as a national workshop facilitator, training other medical schools and admissions committee members on holistic review.

There are competing conceptions of processes that can contribute to increasing diversity. In a sense, the AAMC's holistic review is in conflict not only with traditional admissions process, but also with the creative, mission driven, diversity focused process Public had practiced prior to the AAMC's initiative. Thus, a review of Public's process was useful by way of

background to understanding the extent to which and how holistic review enhanced diversity at Public Medical School.

When asked why Public Medical School transitioned to holistic review, the Director of Admissions stated that Public had "already implemented" holistic review as defined by their institution; they were simply unaware that they had the process in place. The school did not refer to it as holistic review. The director reiterated that the previous and current process is deeply grounded in a commitment to diversity. She also emphasized that the school's mission is expressed in their process, specifically in the school's commitment to training future physicians that serve the rural communities of the state. The director also stated that the institution has a specific obligation to racial and ethnic diversity with special preference to students who are from underrepresented populations in medicine within the state.

When interviewing a senior admissions faculty committee member about the transition to holistic review, the member stated that Public's process is "coordinated to customize". The member explained that, initially, the "newness" of holistic review caused inconsistency within the selection process. That explains the addition of an internal scoring system to defend applicant decisions. The member continued to state that holistic review was not substantial enough of process to stand alone without data.

Such inconsistency was reflected in the mindset of the several other committee members—for example, in their reticence to accept an applicant with a low MCAT. The overall fear was that an applicant with low grades or a low MCAT would not successfully navigate the medical school curriculum. One member, who was initially displeased about the faculty-appointed service but now enjoys the committee, stated that the committee had to develop their rationale for using holistic review because of potential backlash from external influences such as

state politicians and faculty unaware of holistic review. Because of the formal partnership with the AAMC's process, the member stated that Public's admissions commitment to diversity could remain intact by fusing their local, internal process with the work of the AAMC. The committee member, however, made it clear that Public's selection process, although holistic, could still be tied to ethnicity or "taken at face value" because of the state mandate to select students based on race and ethnicity.

In terms of Public's adoption of the AAMC's holistic review format, for some people at Public, the transition is an example of how an organization (the medical school) imitated the AAMC's process because it "strengthened" their homegrown process. According to one committee member, their process was "in alignment with the national program" and the attachment was important because there appeared to be a belief that the AAMC's structure would legitimize or accredit the internal practice.

However, despite the connection to the AAMC, there also appeared to be confusion about what holistic review could actually do to increase or maintain Public's class diversity or the overall institution's perception about holistic review. If Public's process was designed to specifically select students to meet their mission, then their transition to holistic review may have been a result of uncertainty about meeting their institutional mission. A clinical faculty member on the committee "was unaware" of when Public adopted holistic review. The faculty member also said that "our process was driven by the needs of the community" and what "could holistic review do if none of us know how to use it". And, with such a unique state landscape with legal mandates to categorically increase the race and ethnicity of the incoming class, the transition can also be labeled as a process of isomorphism to a national professional association that is also in sync with the state's normative and legal environment. A student committee further elaborated

on this transition, indicating that "holistic review was pointless because we know how to find students who will want to come here". According to these committee members, converting to the AAMC's holistic review seemed to cause Public to resemble other medical school processes when they were previously in a position to activate their mission to meet their institutional goals of diversity. In essence, there were supporters of holistic review but, as demonstrated by these particular members, they wanted data to support this new process and more clarity about why change when the current process seemed to serve its purpose.

Holistic Review at Private Medical School. The Private Medical School admissions committee has approximately 24 faculty members. Four are basic science faculty and some are clinical faculty with some with some members coming from affiliate hospitals. With four voting student members, two from the second year and one each from the third and fourth year attend the meeting. The Dean of Admissions, the Director of Admissions, and both Student Affairs Deans (one for diversity) are a part of the committee. Additionally, the Vice Dean for Academic Affairs sits on the committee. The medical school has two curricular tracks: problem-based and traditional tracks. One student from each track (and an alternate) and an alternate from years one and two and one student from the third and fourth year serve on the committee. The Admissions Committee is a standing committee of the faculty at Private Medical School. Members include the school psychiatrist, clinical faculty, including a vascular surgeon, rheumatologist, pediatrician, medical school leadership such as the Senior Associate Dean of Students and Admissions, the Associate Dean of Student Affairs and Diversity, the Director of Admissions and current medical school students who serve on the committee.

Private Medical School annually matriculates 260 students. With such a large number of applicants to consider, the Student Affairs dean said the selections are even more complicated

because Student Affairs has its perspective of a good applicant as does the Admissions Committee, and the two perspectives diverge in key regards. For Student Affairs, the dean stated that students who navigate the curriculum successfully, develop into model citizen-physicians, and match highly with residency placement programs are important. Additionally, the dean said that a solid academic foundation, including high MCAT scores and a strong science background, is considered somewhat of a guarantee for successful students. For Admissions, the dean explained that the committee sought well-rounded, well-experienced applicants that were diverse in their pathway and preparation for medicine. Strong academic metrics was important as well. However, between Admissions and Student Affairs, there was not a clear approach to blending their perspectives on how to select the best applicant. Interestingly, the Student Affairs dean also served as the admissions committee chair, representing the only the perspective of Student Affairs.

The difference in opinion among committee members seemed to impact how applications were moved through the process. There was a dual and sometimes conflicting focus on applicants who met MCAT and GPA cutoffs, and on those applicants who demonstrated resilience or success in the face of adversity. To minimize the subjectivity of the process, there is an initial metric screening and then a secondary application screening.

The admissions committee interviews and considers 1,280 applicants, after two initial screenings (application reviews), during their review season. On a weekly basis, the committee reviews approximately 20 to 40 applicants. Each committee member reviews the file to prepare for the weekly committee discussion and makes the acceptance decisions on a three-tiered decision process: a) automatic acceptance: these students are accepted without much discussion because they are more competitive applicants; b) second-level hold: these are students who are

strong applicants but will be considered should one of the automatic accepted students decline the admissions offer; and c) third-level hold: these are good applicants who are placed on the wait list for possible acceptance should the committee want to consider them if their "top picks" decline. These applicants tend to have lower MCATs and GPAs. Despite confirmation from one administrator that Private's process has always been holistic, there was still an evident reliance on the metrics. Moreover, even with the multi-layered challenge to create a diverse class, decisions continue to be made on a rolling basis, meaning applicants are notified of their status throughout the process.

In addition to the regular M.D. program, Private Medical School provides additional pathways to medicine for applicants who may not follow the traditional path to medicine. Each program has a different set of admissions requirements and program philosophy. Moreover, each program is directed towards non-traditional medical students. In this context, the non-traditional pathway considers applicants who may want, for example, a smaller program in terms of size. It can also provide opportunities for applicants to practice in rural areas. Students in these programs may be career changes or students who majored in a non-science field as an undergraduate and would like to study medicine. The admissions committee decides which applicants will participate in these programs. The pathway process pre-dates holistic review. However, changes were made with Private's program criteria so that URiM applicants are considered based on much more stringent acceptance standards.

Although these linkage programs provide an alternative pathway to medicine, admissions requirements are strictly adhered to and the committee is stringent with the admissions requirements. Regardless of the pathway program, an applicant must complete the following requirements:

1. Applicants must maintain both a science and overall GPA of 3.5. They cannot repeat coursework.

2. Applicants cannot receive a grade less than a C.

3. With the MCAT, applicants must score a minimum of 31 or higher with no individual sub-section score of less than an "8".

4. Pathway applicants can only apply to Private Medical School and, if they decide to apply elsewhere, they are no longer eligible for the Private pathway programs.

All applicants apply through the American Medical College Application Service (AMCAS). Upon receipt of the primary application, all applicants are screened for minimum requirements: MCAT scores, science grade point averages and overall grade point averages. A small subcommittee that consists of the Senior Associate Dean for Student Affairs and Admissions, the Vice Dean of Educational Affairs, and the Associate Dean for Student Affairs and Diversity reviews the MCAT and GPAs based on the past success rate of current students who were accepted with these initial scores. These benchmarks are not publicly shared with applicants; however, applicants are informed of the median GPA and MCAT scores as a way to aim for progress through the application cycle. Interestingly, the files are “blind”: this means applicants are “de-identified during the review.

Committee members are unaware of an applicant’s name, gender, and ethnicity. The “blind” review, according to the Director of Admissions, helps to identify candidates that “match” the mission statement and institutional goals of the medical school. What was unclear was whether the match occurred subjectively or whether there was a scoring system to choose these students. Those applicants who meet the minimum initial screening requirements are then invited to complete the secondary application. Secondary applications are an institution-specific tool with tailored questions designed to extract detailed information from applicants. The

answers from the application measure institutional fit and information can be used to determine if the applicant should be invited for a campus interview. All committee decisions are final.

When asked why Private implemented the AAMC's version of holistic review, the Associate Dean for Student Affairs and Diversity explained that the position of a diversity dean was created immediately after the *Grutter* and *Gratz* decisions. It was a new position designed to respond to the AAMC's diversity initiatives and the legal environment at the time. At that time, the Vice President of Diversity at the AAMC had recently launched the holistic review planning committee and asked the diversity dean for Private to be a pilot school for the holistic review pilot study. Private's diversity dean agreed to serve as a pilot school because he believed the school was struggling with the issue of creating diversity.

Although the Dean believed that there was a struggle to create diversity, the demographics of the faculty seemed to be relatively diverse for a medical school. Out of 354 faculty members who responded to a faculty survey, 12% (184) were African American, 3% (53) were Latino, and 1% (8) was Native American. Private's apparent commitment to diversity was prevalent during the committee interviews. Indeed, many interviewees viewed the school's attachment to the AAMC as their multi-layered commitment to diversity. When asked to define holistic review, the Vice Dean of Educational Affairs stated,

> Our practices are nationally connected and help keep diversity in the forefront of our medical school. We want our practices to closely mirror the AAMC's holistic review process. We want to be a leader of diversity practices for medical school peers.

This statement revealed that Private Medical School wanted to address the national shortage of diverse physicians through a connection with the AAMC. The statement also revealed that the influence of the AAMC could be viewed as organizational peer pressure to adopt the process and demonstrate an allegiance to the organization. In addition to allegiance and public adoption of

the process, the statement also showed that partnering with the national organization can help alleviate the crisis of increasing diversity in medicine. The administrator further claimed that attaching to the AAMC's holistic review process helped them to "be more conscious of diversity" and be more articulate with their diversity goals. However, the goal to increase diversity seemed to be diverted by aligning with the AAMC and using the holistic review process instead of reflecting on traditions of diversity that helped build their medical school.

The Vice Dean also strongly emphasized the "tradition" of Private Medical School. The administrator attended Private when the school was one of the few that accepted women. According to the dean, this represented the concept of opportunity and Private's participation with the AAMC's helped to "build upon the school's legacy…to make sure it (school's tradition) moved forward." In fact, the dean indicated that a Legacy Task Force was established to "keep Private's legacy intact….insuring that our roots and history" were articulated to the admissions committee. The creation of this task force was driven by a recent strategic plan process that revised the school's mission statement. The revised mission statement, according the dean, actually fueled Private's utility of the AAMC's holistic review process because it "vocalized" the type of students that best "fit" at Private. The dean also said the AAMC's holistic review process helped Private to be more "conscious" of the school's tradition of creating opportunities. Overall, the intentional focus of the legacy task force plus this administrator's endorsement of the holistic review process seemed to invoke the intense rhetoric that organizations can be controlled. Birnbaum's virtual adoption framework, in this instance, shaped how Private's leadership pushed holistic review to maintain the school's tradition of opportunity and legacy status when instead the focus should have shifted to using opportunities of tradition and legacy to increase diversity at the institution. Based on this interview, an in-depth overview of Private Medical School's

holistic review process was important to understand if the technique truly matched the national practice or the alignment was a statement of institutional fidelity.

In the case of Private Medical School, their historical commitment to diversity is important to how they shape their class. According to the Associate Dean of Diversity and Student Affairs, diversity is "part of who we are". The dean also explained that the first medical college was established as a homeopathic medical school and was primarily for "working class, blue collar" White men who followed a nontraditional pathway. Later, as part of Private Medical School, the first women's medical college of was established as the first opportunity in the country for women to study medicine. Because of the emphasis on educating medical students with varied backgrounds, there has and currently is a focus on working with underserved populations and with patients from underrepresented backgrounds.

The dean also pointed to Private's mission and diversity statements to demonstrate evidence of their historical and current commitment to diversity. Throughout the statements, diversity is discussed as a "tradition" to provide medical education to disadvantaged students. It also indicates that diversity of the entire medical school community, including faculty, staff and students, believe they activate the school's mission to deliver caring physicians and researchers to meet the healthcare needs of society. In fact, the Office of Diversity in Medicine reassures support of students regardless of race, color, religion, gender, sexual orientation, identity, and expression, age, disability, veteran status, education or economic disadvantage. Additionally, the dean stated that the importance of diversity is a part of their applicant recruitment, student support and counseling services, events, and student groups. Finally, the dean indicated that their institution has a rich history of graduating ethnically and racially diverse students since the 19th century.

The Diversity Dean provided context about why diversity matters. The Dean cited literature that diversity in medical education will improve the education of all physicians and it will prove the health of all U.S. residents, stating “medical school diversity will definitely increase accessibility to patients who need medical care. Do we have it 100% right? No, but we will definitely get there.”

The school's website also cited that “minority physicians” will more than likely treat “minority patients” and that “minority patients” will likely choose a doctor is similar to their racial and ethnic background (Gray & Stoddard, 1997). The Dean strongly emphasized that diversity was not only housed within the admissions process; it was also the Office of Diversity’s duty to promote diversity throughout the medical school. Additionally, the school’s diversity website has a link to the AAMC’s holistic review information, demonstrating their connection to the national organization’s method to create diversity. Overall, Private’s stated commitment to diversity appears to be an effective intervention to increase the number of diverse medical school applicants that matriculate to the medical school. In contrast, a Private committee member stated that their version of holistic review gave preference to special admits. Although the member who also develops the medical school’s curriculum said diversity is a part of their medical school's commitment, the member felt that implementing holistic review was only to "address an LCME standard". Early comments by several committee members made it seem that Private's connection to the AAMC was an effort to publicly and intentionally display their commitment to diversity. However, later comments demonstrated the lack of consistency with holistic review and one student member stated that, "surveying the admissions committee early on for their satisfaction with the process could have built consensus around the process".

Affirmation and ambivalence. When comparing both schools, it was evident that both institutions experienced affirmation and ambivalence with holistic review. In addition, it was obvious that leadership at both schools wanted to strengthen their current admissions process, reduce ambiguity, and increase internal consistency while creating class diversity.

Administrative decisions with holistic review. It appeared that it was an administrative decision from the medical school administration while the AAMC strongly encouraged medical schools to consider the process. At Private, the diversity dean leveraged contacts at the AAMC so that Private could be part of the initial holistic review pilot study. Public's admissions assistant dean applied for the AAMC's holistic review training program for Public and also trained leadership to be facilitators to train other medical schools in holistic review. The adoption of holistic review appears to be based on the assumption that it would work in two environments challenged by stakeholders, both internally and externally, impacted by their pre-existing process for selecting diverse applicants.

The challenging environments stemmed from the use of traditional metrics and limited understanding by some committee members about the benefits of diversity, especially in the context of answering the national shortage of diverse physicians. Institutional leaders , specifically the diversity dean and the admissions assistant dean at both medical schools initially thought that holistic review could "fit" at each school. What leadership did not seem to consider was how distinct each school's organizational culture would impact the holistic review process. One Public administrator stated that,

> Holistic review fits nicely with what we already do. We are the only game (medical school) in town and only location the region with a Trauma 1 facility. We are not a traditional medical school; holistic review helps us achieve we want in future physicians.

It seemed that the Public administrator felt that holistic review aided their goals for diversity by considering the entire application. It was not clear whether the administrator felt that the internal process was helpful when trying to select diverse students.

In comparison, a Private administrator stated that "it is not a huge challenge to address our faculty culture" in terms of implementing holistic review because their faculty was a prime example of diversity. The administrator also indicated that Private's faculty would "rise up" to support the initiative. Overall, it seemed that both administrators, one who worked in admissions and one in student affairs, felt they were managing the implementation successfully; on the other hand, some committee members at both schools strongly disagreed and did not understand the purpose of this new process.

At Public Medical School, only three out of 24 faculty committee members that interviewed stated that holistic review was a reasonable approach to expand class diversity with national support. In contrast, although extending their relationship with the national organization seemed to be the best way to accomplish these goals, it also suggests that the medical school felt the pressure to be a visible partner. However, there was reluctance from committee members to admit the AAMC's influence. The reluctance is a result of faculty members' lack of understanding of the AAMC and its role with holistic review. Many of the committee members have not followed the development of holistic review and possibly do not connect how, although the AAMC is pushing for the use of holistic review, the organization is also the main stakeholder for the MCAT, a component of admissions that often blocks diverse applicants from being accepted. Additionally, many of the committee members do not attend regional or national AAMC meetings nor do they receive AAMC updates to better understand the priorities of the

organization and if these priorities align with institutional priorities. One Public committee members confirmed this pattern of thought, stating

> What does a national organization have to do with the applicants we select for our community healthcare needs?

The practice of holistic review seemed somewhat erratic in that some interviewees discussed its importance but did not seem clear on what it meant for their decision making. One committee member who has served on the committee for over 20 years expressed a concern that the process felt like a "jury system", explaining that their previous application decision process was not perfect but it was "better than what we've got (with holistic review)". The member explained that the AAMC's process "took away from identifying the most desirable diverse applicants" because of the labor-intensive process. When understanding this in terms of institutional isomorphism, the two committee members opposed to the AAMC's holistic review process expressed high uncertainty of how the national program fit their institutional practice. This assessment stemmed from their comments that there was a slight difference about how holistic review should help create institutional diversity. Perhaps during the holistic review implementation, Private's leadership did not effectively align the existing commitment to diversity with the AAMC in terms of the technical process. Instead, it appears that Private leadership such as the medical school dean, student affairs dean and the diversity agreed to commit to holistic review as a way to increase the AAMC's confidence that Private would be a strong advocate for the new process. In addition, because the implementation occurred in this fashion, it reduced the efficiency impact of holistic review and this was clearly evident by the faculty's lack of understanding of the process and its utility.

Although it was a relatively common practice to question the validity and purpose of holistic review in terms of creating diversity, it was not often widely discussed as a group. Rather, it was raised by individuals at both schools. During individual interviews, four experienced committee members appeared to be more comfortable discussing their concerns about holistic review, its purposes and utility. It was here that these members (two faculty members, one student and the admissions director) also expressed their obvious doubts about the effectiveness of the process. Their lack of trust in the holistic admissions process was especially amplified when interviewees shared that they felt their institutions previously had distinct admissions processes that included diversity as a desired factor when selecting applicants.

The conceptual framework of institutional isomorphism helps make some sense of the individual interviewees' statements of concern and frustration. Both medical schools were pioneers of the AAMC's holistic review process. Peer medical schools considered them as role model institutions in creating diversity. This assessment was based on each school's participation in various holistic review and diversity initiatives as well as constantly being referred to by peer institutions as a resource for diversity.

Ironically, despite being viewed as a resource for peer medical schools, the apparent confusion and inconsistency expressed by those interviewed suggests that the implementation of holistic review reduced the efficiency of the method's overall institutional buy-in. Internally, the opportunity to create legitimacy with administrators and committee members was lost in translation of the overall purpose of diversity. When a Public Medical School faculty member was asked about her understanding of holistic review, her response was, "I'm not sure I totally understand what holistic review is. We already care about diversity and practice selecting students who meet our mission. We seek students that want to work in rural and underserved

populations and we find this kind of diversity by specifically looking for these students." Based on this statement, this committee member who worked with underserved patient populations felt the Public had a mission-driven process in place and there was an obvious assumption that a commitment to diversity pre-existed before the AAMC's policy was created. This statement also expanded the conflict that adopting holistic review at both institutions created detachment between the institutional policymakers and those who enact the policy.

It is important to understand the organizational structures of each medical school to fully understand the confusion with the policy. It was evident that the committee members at both schools considered holistic review as an ambiguous process that did not seem to fit with current institutional goals for diversity. The idea of institutional isomorphism appeared to exist within both medical schools because of the apparent inattention to communicate the necessity of adopting holistic review and visibly aligning with the AAMC. According to some committee members, it seemed to decrease confidence with each school's current commitment to diversity as well as decrease the trust in the admissions committee's ability to select applicants that meet the institutional goals for diversity. The impact of this policy seemed to introduce homogeneity to each environment despite their efforts to be medical schools that attract diverse applicants.

In context of the Public Medical School, it is a state school with legal leeway to shape class diversity. In fact, race and ethnicity are weighted components of the admissions review process. This means that additional points are given to applicants from these various racial and ethnic backgrounds. Perhaps coercive pressure steered the Public Medical School to publicly adopt holistic review because of the state mandate to specifically select students that mirror the population of the state. The leadership, including the admissions assistant dean, may have considered the process as a "formal" way to strengthen their focus on diversity and enhance their

institutional status to compete with peer institutions. However, the complexity of this type of implementation requires a clear understanding by all internal stakeholders, specifically committee members, about how the process will affect current processes and practice. According to interviewed committee members that included those who championed certain applicant populations, the opportunity to create diversity existed within their current policies and practice. In fact, the question of why there was an insistence to implement this policy was posed by a committee member who perceived that Public demonstrated a strong commitment to diversity as shown in their mission statement. Despite the initial thought that adopting holistic review would enhance diversity efforts, the lack of process integration created tension in who controlled the process and who had the power to create diversity.

The same pressures appeared to exist within the Private Medical School for a different set of challenges. The school has a pathway program specifically designed for applicants as a way to increase the URiM population within the pipeline to medical school. Even though the pathway program allows for special preference of URiM, three committee members who were also science professors indicated they were unwilling to exclude the MCAT and GPA from the overall review. One of the faculty committee member said holistic review was problematic because it increased the "prove it" factor. Applicants with lower than average academic metrics must demonstrate how they can be successful navigating the rigor of Private medical school's curriculum. The incoming class average for the MCAT was a 30Q (the letter is the score for the writing portion, ranging from J to T) and the incoming class average for the GPA was 3.7. Pathway program applicants are held to a higher MCAT and GPA. Two committee members felt these program requirements did not follow a holistic approach because it held these applicants to a higher standard. A majority of the committee members, including the longest-serving member

and one of the science faculty member, felt that the process was unfair and that holistic review should equalize the need for diversity across all populations.

In comparison, a Public committee member who is also a family medicine physician said he "defends applicants with lower MCATs and GPAs" because they may be "the student our mission speaks to". Additionally, the committee member stated that other committee members question taking risks on these types of students. He was referencing students who have "less than stellar" MCAT scores (22 - 25) and lower than average GPAs (less than a 3.0). The committee member said he felt "pressure" to prove these applicants are "worthy of consideration and acceptance" and that, in turn, he feels the need to be the "diversity spokesperson" to educate the committee on "differences" (diversity). For this particular member, these interpretations could explain the obstacles of how diversity is understood and applied to each school's admissions process.

Opposed interviewees articulated that their admissions process was holistic long before the AAMC launched the national holistic review campaign. This faculty member who shared her concern about diverse students failing Step 1 exams, for example, was asked about her understanding of holistic review, her response was,

> Holistic review does not predict if a student will be successful at every medical school; it only predicts how they may fit at our school. The challenge of holistic review is that it is not a standardized process. We already have a standardized process in place. Why do we need to follow the AAMC?

Based on this statement, the faculty committee member felt holistic review did not take into account the type of diversity sought by their institution which was focused on serving primarily the state and specifically rural, underserved populations. The faculty member also felt that the

AAMC's description of holistic review was unconventional and did not provide a standardized way to create diversity. To this member, standardized meant to rely on the current computerized system that created a score for applicants. The score included factors such as academic metrics among other factors and helped determine which applicants would move further in the application process. This suggests that there was not necessarily agreement with the AAMC's definition of holistic review and that it did not complement their present institutional process. It also suggests a resistance to a leadership mandate because the faculty member felt the pre-existing process addressed diversity unique to the medical school. In other words, these committee members felt their institutional environment reflected the diversity stated in their mission and their institutional goals. There was an obvious disconnect between what these members felt worked with their institutional process and what the leadership felt was important enough to endorse the AAMC's holistic process.

At Private Medical School, the AAMC had an important influence on the admission practices at the school. Interviewed committee members, especially those members that also served in leadership roles, indicated that their institutional practices were aligned with their institutional diversity goals and with the AAMC; however, the student affairs dean who is also a committee member reluctantly admitted this influence, stating

> "Our approach is "whole hog"---we push diversity efforts starting with undergraduate students. I'm still not sure what holistic review can do for us."

According to this dean, the practice seemed to be very unstable but he did acknowledge its importance but was unclear about what the process meant for admissions decisions. In other words, even though the member agreed to abide by the AAMC's holistic review guidelines on

how to approach diversity, the process was still viewed as problematic because of its subjectivity.

At Public, the assistant dean of admissions elaborated the need to streamline the overall process. The dean said,

> The admissions committee is insulated, protected from the campus and local community. When community physicians or alumni ask us about the admissions process, they have no clue what holistic review means. They understand the importance of diversity but they also don't know why high MCATs and high GPAs are not enough to be accepted to medical school. This is when its gets problematic.

In addition to confusion and inconsistency, two members of the Private Medical School leadership team, who are members of the admissions committee, reflected and discussed that diversity was only represented in the admissions process. The administrators, including the admissions director, stated that, during the selection process, the admissions committee reviews applicant information that includes gender, race, ethnicity, socioeconomic status, and various challenges experienced by the applicant. The larger concern of these two administrators was that the admissions committee may be “culturally aware within their own sphere” or within their own institution but may not understand how "far-reaching" diversity is regarding the need for more diverse physicians. As one committee member stated, it is "not just black and white", explaining that diversity is not simply focused on race and ethnicity but that is "all inclusive of the many pathways to medicine."

Divisions of perspective among administrators. Several participants in leadership roles, particularly the admissions directors, at both schools suggested that because the review process is so laborious, "great" applicants will still be missed as will the opportunity to expand diversity to

the entire medical school. The admissions director at Private agreed with this concept stating, “the medical school curriculum is jam-packed. Where and how does diversity fit into medical school education?” This statement suggested that this administrator, who is charged with overseeing a large portion of the process, felt that diversity was not fully integrated throughout the medical school. The director elaborated by stating that, with pending changes to the MCAT and that Step 1 and 2 and residency curricula is so different, using holistic review would become even more challenging. In fact, the administrator said using holistic review "completely changes what we know what to look for in applicants" because there are so many factors to consider and therein lies the stated difficulty of remaining "holistic within holistic review". There was a clear misunderstanding with committee members and with leadership regarding the definition of holistic review, what problem it was slated to address and, more importantly, defining the predictive value when using this process.

Additional confusion about holistic review in terms of creating diversity was tied to concerns about satisfying accreditation standards. During the interview, it was shared that Private had recently completed and passed its LCME site visit. As part of the visit, the LCME site visit team conducts a review of a medical school’s medical education, clarifies any issues that are unclear, reviews the medical school environment and facilities for learning opportunities, and meets with administrators, staff, faculty members and students to interview them about the institution. The team also meets with the dean and other administrators to summarize their findings to strengthen the school’s program and also indicates areas that need improvement. The site visit is critical to a medical school’s lifeline because, if there are any major areas of non-compliance, the school could potentially lose their accreditation. Prior to the site visit, each school must complete an institutional self-study to ensure that all standards or policies within a

variety of areas such as environment, admissions, and education are being properly met and executed.

The dean of educational affairs shared that maintaining their accreditation is more than "checking off a box for what we have on paper and not in practice" as a mechanism to satisfy LCME standards. The administrator was more concerned that if "we are not consistent with our approach to diversity" during the LCME site visit, conflicting responses will potentially hurt the school's reputation and accreditation due to the lack of consistent practice and institutional messaging.

Another faculty member expressed apprehension that the school's holistic review implementation was done to "simply satisfy LCME requirements." This was the second time that compliance with the LCME was mentioned. Within the LCME standards, there is a specific item that asks medical schools to describe how diversity is incorporated within outreach, recruitment, and admissions. The faculty member expressed that Private's LCME self-study committee implemented holistic review as a "tactic" to merely answer the LCME diversity standard, not to actually address the importance of a diverse incoming class and how these students are educated within their medical school. This member also stated that, in addition to the AAMC's pressure to use its suggested version of holistic review, the medical school was confronted with increased pressure to maintain the medical school's accreditation as a "model" medical school.

The committee member further stated that,

> In retrospect, this process is time-consuming and inconsistent. The biggest challenge with holistic review is how to remain holistic with such a large applicant pool. And, how do we know we are selecting the right students? What if we miss the best students? Bottom

> line, we have to use metrics such as GPA and MCAT scores to plow through the process and the gems are still not being uncovered. We can't save every applicant. More importantly, we become mired in selecting students and forget about focusing on the mission of the medical school, especially when creating diversity.

A larger concern of this administrator was how could the institution respond and be accountable to so many external entities while sustaining its unique medical school identity. In other words, the administrator indicated that the school missed its opportunity to make the connection with both of these important concepts. Their unique medical school identity, according to the committee member, provided the opportunity to create diversity in ways that were institution-specific. In contrast, a Private administrator warned that all the "hard work" spent on diversity efforts could be jeopardized with the appointment of the incoming medical school dean. The administrator stated that the new dean would lack the "institutional cultural sense" to understand what occurs with Private's current admissions culture. The administrator feared the new dean would come with his/her own agenda and not invest in Private's diversity perspective. The committee member re-emphasized that Private's institutional culture was clearly focused and reiterated that,

> Our culture is embedded in our values and our values were handed down traditionally. There is some truth that all medical schools are the same. But, for us, the difference is within our culture. We can't be all things to all students.

This statement indicated that a shift in leadership could ultimately change the pattern of holistic review in terms of how the process is used to shape institutional diversity. If the new dean's goals on diversity did not align with the current culture, the priority of diversity at Private could possibly be reversed and potentially not be viewed as a priority.

In addition to managing the current institutional culture and the perception of diversity, there were some differences between Student Affairs administrators and other administrators. The major difference was a disconnect in how both departments would collaborate to select the best students and how holistic review would match the applicants with competing goals outlined by each department. Student Affairs seemed more concerned with how the selected applicants would contribute to the overall student experience and the campus environment, specifically how these students would perform academically to maintain the school's prestige. The Admissions perspective was similar, yet focused on selecting the best students to become the "best physicians." Moreover, there was no indication of how administrators in these realms would align their objectives in selecting future physicians, and how their views about the goals of holistic review and the role of holistic review could intersect for a common purpose.

Biases and misconceptions about holistic review. Adding to the misconception of holistic review, committee members at both schools shared similar perspectives on how preconceived biases may influence admissions decisions. A Public committee member that also recruited URM faculty to serve on the admissions committee, agreed there was a need to increase applicant diversity to eliminate the disparity in health care between the country's need for physicians to serve in diverse patient populations. According to this member, the largest concern was the cultural bias or inexperience of admissions committee members to separate an applicant's potential from quantitative data or from their (committee members) personal preference. In one instance, a Public committee member clearly indicated their preference for a specific type of student, stating

> "All I care about is selecting disenfranchised (or disadvantaged) students."

The committee member continued to say that their medical school mission clearly demonstrates the goal of selecting students that will stay in the state.

While observing the committee meeting, it was evident that some members, specifically those who were currently family medicine physicians, advocated for applicants interested in being primary care physicians, those with high MCATs, or students who showed an interest in serving within the state. When asked about this observation, the committee member said that holistic review was too "subjective" and that biases must remain intact to help increase institutional diversity. The member said this could only be done if the committee "remained mindful of which students really need to be here." One senior committee member also shared that, to get at least minimal URiM or nontraditional student representation in the class, "applicant scoring had to be doubled" and "special privileges" offered for interviews to create "some type of diversity". In other words, using Public's internal selection process, according to these members, would better guarantee diversity by distinctly using their biases to meet their mission of diversity.

Another Public committee member stated,

"I am careful in what I say because I don't want my biases for URiM students to show." When asked to describe the types of biases, the committee member stated that they had to use "their influence" to diversify the class. The influence was mainly their race and ethnicity. The committee member was also a primary care physician and said they could "sway a medical student" to choose this area of practice by serving on the committee and by specifically recruiting these students. The Student Affairs dean on the admissions committee at Private stated that, although there are internal criteria for selecting applicants, he favored applicants that served with *Teach for* America, had military experience and came from "modest means". The

administrator also said that first generation applicants were more highly favored than applicants of physician parents because they "had to work harder for it". Several members agreed that biases do "creep in", meaning that, despite having a policy such as holistic review in place, the impact on the belief system of certain committee members would be minimal.

The effect of this type of bias adds to the uncertainty of using the process because these committee members did not seem to incorporate holistic review into their decision-making. How they defined their personal values in applicants also seemed to define the culture of the admissions committee and their decisions. Another Public committee member added that "they (Public) have always practiced holistic review." Their concern about the "new" holistic review resulted in frustration with the process, questioning why Public's leadership did not propose a unified system to assess for applicants with what they already had in place. Several of Public's committee members felt that, because of their state mandate to recruit URiM applicants, they did not need to introduce a new process. Through the lens of isomorphism, the lack of trust in holistic review limited its overall effect. Additionally, the debate surrounding such policies on diversity did not always translate into a "real" match with institutional mission and goals. Rather, Public's lack of understanding of what holistic review meant appeared to create a conflict with their mission-driven process that was created internally. Without a high level of consensus and cooperation from Public's committee members, institutional implementation of holistic review appeared fractured and unfocused.

In contrast, some of the Private Medical School committee members were biased on a different aspect of holistic review. Two committee members stated that holistic review does not help predict who have academic difficulty. The science faculty committee member who worked with the curriculum indicated that holistic review steers the focus from "guaranteed predictors"

of success. The committee member said the MCAT and grades provided a clear idea of whether incoming students would be able to graduate. According to the member, institutional fit was a quality that could be developed. When viewing this statement in terms of Birnbaum's theory of virtual adoption, it seemed that Private did not widely share information about the process because the committee member did not understand the intended purpose of holistic review. Also, stating that holistic review is not a standardized process highlighted that the committee member did not value all of the information provided about an applicant. According to the science faculty member, this type of value would deter the intended purpose of holistic review because there would be an "unequal weight placed on the MCAT and coursework". If Private adopted holistic review to increase the diversity of its students, then there would be a shift in how students are reviewed and selected. Evidently, the shift in decision-making could not fully take effect because there was no departure from traditional methods of student selection that would somewhat limit a diverse medical class.

Another limiting factor with implementing holistic review at Private Medical School was that some committee members felt holistic review stratified the process, specifically in terms of race and ethnicity. The oldest member commented that,

> Holistic review falls way short with traditional numbers as far as Blacks and Hispanics are concerned. There are four times more Patels than there are Smiths. The impact on practicing medicine in diverse areas will never come to fruition with holistic review.

When asked to clarify this statement, the committee member indicated that using holistic review increased the selection of students who more than likely not serve in rural or urban areas. The member also shared that their internal pathway programs for "minority" students would yield better results in terms of identifying Black and Hispanic physicians to serve diverse patients. In fact, the committee member stated that "this is why we have these programs for these students."

These types of statements seemed to undermine the effectiveness of holistic review because there was still a focus on "getting the best" in terms of prestige and not diverse experiences and individuals. There also seemed to be a lack of accountability of Private's leadership to explain what goals holistic review would help to achieve, inflating the internal divisions between faculty and administration. It seemed as though the AAMC's holistic review at Private remained in the margins because of the lack of understanding of how to use it, limiting its overall use and success in creating diversity. Further, it appeared that Private's behavior was sparked by normative forces than other organizational forms because of the desire to succeed or copy the structure of the AAMC; however, because of the confusion over what holistic review meant, there did not appear to be any uniformity in the decision-making process. Before implementing holistic review, examining how institutional initiatives are put into practice could have possibly decreased the confusion among committee members.

Throughout the interviews, participants at both medical schools illustrated the extent to which holistic review can both create and hinder class diversity. Cognizant of the fundamental value that diversity is important when selecting future physicians, there appeared to be a coexistent tension between current diversity goals and the role of holistic review. At Public, one committee member stated that "diversity means holistic" and that holistic review was simply another phrase for diversity. A common theme of Public's committee members was prevalent throughout the interviews and observations: Public seeks applicants who are dedicated to increasing health equity within the state. A relatively new committee member stated that “our school knows who we want to be our future physicians” and that the committee “is good at finding applicants that fit our definition of diversity”. With intense passion, the majority of Public's discourse on holistic review was centered on their overall commitment to diversity and

an organized institutional effort to support mission-based diversity. In other words, the members confirmed that the medical school as a whole implemented and supported diversity as part of every aspect of the institution, from outreach to admissions to graduation to residency placement.

One faculty admissions committee who specifically worked with an immigrant patient population stated that "diversity is a strength, not an adversity" and that "diversity is part of Public's mission", emphasizing her definition of diversity and the need to matriculate students who reflect the community that Public serves. The member also stated that "struggles plus diversity" is the same as creating "a level of excellence" within the student body. This statement seemed to be detached from the type of diversity framed by the AAMC in that this member views diversity as an advantage not a disadvantage. In fact, at every admissions committee meeting, Public's mission statement is presented to the committee members as a reminder of their commitment to select students that reflect the mission. They posited that the mission of the medical school is the "compass" to improve diversity through admissions selection and to widely distribute diversity efforts throughout the institution. One member even stated that holistic review is "the perfect place to begin improving diversity in medical education" but concluded that, without being fully embraced by the institution, a complete institutional change to this practice will be difficult.

Private also faced challenges when forming perceptions about what holistic review does in terms of creating and hindering diversity. Although interviewees agreed that holistic review may be important, the majority of the committee members agreed that "the culture of the committee is embedded in its values, specifically that the committee is consistent with 'who' we are." Probing further, the member explained that, after an institutional self-assessment for LCME accreditation, they defined what diversity meant to the institution and identified programs that

would create institutional diversity. Further, another member who teaches at the medical school stated that there is "no consistency with holistic review" and that some committee members "are more discriminating than others". The member also stated that holistic review is a "qualitative process" and difficult to assess the outcomes of this selection process beyond admissions. Interestingly, the Student Affairs dean stated that they actively examine the composition and culture of the committee to determine if its role inhibits or facilitates diversity within the admissions process. The administrator also stated that the committee wrestles with how to maintain consistency while emphasizing the need for diversity, similar to the struggles they experienced with using holistic review. Challenges such as these should lend to the additional drive to tighten the utility of holistic review to potentially transform the cumulative effect diversity can have within medical schools overall.

Coercive environments influence practice. Despite the agreement by both campuses that preserving diversity in medical school admissions is important, several committee members at both school disputed the overall impact of holistic review. Specifically, participants shared their perspectives on the impact that the *Fisher v. Texas* would have on diversity in medical education. The plaintiff in this case accused the University of Texas of illegally discriminating against her because she was part of a pool of applicants who were evaluated using criteria that gave extra consideration to African American and Hispanic applicants. The plaintiff did not qualify for automatic entry to the university under the state's "Top 10 Percent Plan," which guaranteed admission to any Texas public university for residents in the top tenth of their high school class. The lawsuit argues that the University of Texas violates the *Grutter v. Bollinger* ruling in 2003 that held universities responsible for promoting diversity with race-neutral alternatives. According to the case, the plaintiff argued that Texas's "Top Ten Percent Plan" has created

sufficient levels of diversity and that the program does not need to provide any extra consideration to applicants based on race.

When asked how the *Fisher* case will affect the creation of class diversity, the responses at both schools were mixed. The Private Diversity Dean claimed that,

> We can't have diverse physicians if we don't admit a diverse class. We are not worried about the Fisher case because we are a private school. We have flexibility in our process and we receive over 12,000 applications per year. We can screen how we want. Legally, we don't violate anything in our process.

Through the lens of coercive isomorphism, Private Medical School did not appear to be concerned with the pressures that emanate from legal influences like the *Fisher* case. Instead, the administrator seemed confident that Private would not be affected by this case regardless of the outcome. The administrator confirmed the belief that Private would not be affected by stating,

> We are consistent in who we look for with our applicants. We have always looked at applicants with GPAs and MCATs that are lower than the mean, lower than the national average. We know that numbers are not everything. We screen applicants for adequate metrics, have a passion for medicine, and who we know fit our institutional mission. We don't worry about legal challenges.

Perhaps the reason why Private was not concerned with the legality of the case is because their holistic attempts to balance the demographics of their incoming class beyond race. Furthermore, if the Supreme Court overrules the *Grutter* case, it would likely jeopardize any type of race-based practices at public universities with no potential effect on schools such as Private.

In contrast, Public Medical School administrators were more concerned about the outcomes of the Fisher case. One administrator, the admissions assistant dean, stated that their

process was designed to serve the health care disparities of their state. She stated that two-thirds of the incoming class is rural and, because of their state mandate to select primarily resident applicants, they can use holistic review to fit their institutional needs. However, when asked specifically about the *Fisher* case, the administrator stated that because graduate medical education does not mirror the holistic review process in medical school admissions, the *Fisher* case will "blow holes in holistic review", meaning all of the hard work to create diversity in medical school will be considered meaningless. If the Supreme Court rules in favor of the plaintiff, the Public administrator said there will be an even bigger challenge to "change the culture" of holistic review opponents. Moreover, if the outcome of the *Fisher* case invalidates the need to consider diversity in medical schools admissions, the administrator strongly emphasized that diversity will not be in the forefront of their admissions process especially at their medical school.

The challenges and complexity of implementing holistic review. During the study, it was evident that the AAMC's version of holistic review was viewed as problematic by those opposed to the process. It was clear that participants at each school believed diversity was important and that their practices created an environment that shaped physicians equipped to serve diverse patients and diverse communities. Based on Birnbaum's analysis of virtual adoption, it appears that the decision to implement holistic review was a top-down decision at both institutions, with too little consultation with and consideration of the views of school faculty and staff.

Both schools were 'early adopters' of the holistic review process. It may not be surprising, then, that leadership at each of the schools strongly emphasized that holistic review was a successful and much needed addition to their current admissions process. Both schools reported that the process would strengthen their commitment to diversity. Neither school

experienced explicit external political pressure to change their admission process. For example, at Public Medical School, there was not pressure from the state government to adopt holistic review. Similarly, at Private, there was not pressure from external stakeholders to adopt this process. The pressure that appeared to exist was an aspirational pressure, the normative pressure from the AAMC to align with this process.

In terms of endorsement of holistic review by medical school leadership, Private emerged as the stronger advocate for the process. One of the deans considered influential at Private stated the importance of process alignment with the AAMC. The importance mainly focused on Private being a national leader with holistic review among medical schools rather than trying to assess or support current diversity practices of Private's admissions committee. Ironically, contrary to their goals to be a medical school that offered a unique environment for diverse applicants, transitioning to the AAMC's version of holistic review possibly increased homogeneity within their process. Indeed, conforming to holistic review for status or prestige may have added to ambiguity of the process as experienced by the committee members. Although Private may have established legitimacy among medical schools for aligning with the AAMC and using holistic review, there was an element of uncertainty within the institution about what to do with current programs and practices. Overall, the assumption that creating diversity would be streamlined with AAMC's influence imposed constraints on Private's internal decision-making processes.

Despite Public's gradual transition to holistic review, the decision to use holistic review was also driven by the opportunity to align with the AAMC. That possibility was introduced when the Assistant Dean of Admissions applied to participate with the AAMC's workshop on holistic review. Interestingly, prior to their participation with the workshop, Public was uniquely

positioned to create diversity within their medical school. The previous process allowed for them to activate their mission to recruit and accept medical students serve the state's medically underserved populations. The previous process also provided key directions to seek racial and ethnic diversity because of the pressing need to graduate physicians to again serve within the state's most underserved areas.

One of the challenges with executive decisions about undertaking reforms is that such process benefit from extensive communication, consultation, coordination, and clarity in regard to all parties involved. If Public's leadership had considered the potential challenges with adopting holistic review, confusion and resistance to the implementation could have been eliminated. So, too, in the case of Private.

It is important to consider whether there is a difference between the two case study medical schools in regard to their diversity demographics. Each school presented barriers to implementing holistic review because, perceptually, they currently practice diversity in admissions. When comparing enrollment numbers at both medical schools, there is a plausible explanation for what may be happening at each institution when seeking to create diversity. With Private, the context of the school's setting is one that is free to create class diversity without legal or external challenges. They aligned with the AAMC's holistic review initiative to ensure that the school carefully reviewed applicants to meet their mission and train physicians that would service diverse and disadvantaged patient populations. However, their total URiM reflects 25% of their incoming, with only slight increases with African American and Latino student enrollment. Public, on the other hand, is a medical school committed to racial and ethnic diversity, specifically with a state mandate in place to include students from underrepresented groups in medicine. Their mission is to identify a critical mass of underrepresented students to

explicitly serve the state's medically underserved communities. In their case, Public's URiM enrollment was at least consistently 40% of the total class. However, based on Public's annual admissions report, in a state where 29 out of the 42 hospitals are located in rural areas and Native Americans make up 9.4% of the state's population, it appears that aligning with the AAMC's holistic review process did not yield increased diversity.

This study found that both institutions believe they "do" diversity and both schools experienced barriers to partnering with the AAMC and using its holistic review. Opponents of holistic review believed their internal process already emphasized diversity, and the objective evidence of enrollments provides some support for that view.

Implementing the AAMC's process appeared to be a relatively top-down leadership decision. This type of decision-making is a predictor of isomorphic change and virtual adoption. Private transitioned to this process because leadership expressed concern about how they created diversity and decided to model their process after the AAMC to strengthen their process and legitimize their quest for diversity. Perhaps Public adopted the AAMC's holistic review as a mechanism to meet the expectations of state and governmental updates. Each school's enrollment numbers reflect diversity in many aspects; however, when seeking to address the national issues of diversity in medicine, specifically racial and ethnic diversity, aligning with the AAMC still falls short of substantially realizing this type of diversity.

Unfortunately, the partnership with the AAMC did not seem to lead to an evolution or strengthening of each school's focus on diversity. Moreover, it did not convince many of the key players that this format was effective. Instead, adoption of the AAMC process led to the growing similarity of each medical school in its diversity goals.

Summary. In studying holistic review at the two case-study campuses, it became clear that it is important to consider prior admissions practices at the school, and particularly practices focused on enhancing diversity. That local context is important in considering the implementation of what the AAMC promotes in regard to the process and outcomes of holistic review.

The study revealed the power of "isomorphic" pressures to adopt state-of-the-art processes, in this case from the AAMC, that are by definition nationalized models that various schools seek to adopt. Clearly, each school was subject to and interested in adopting a leadership role in their profession. Just as clearly, though, each also had members with and histories of distinctive commitments to diversity that diverged from the national model. Thus, it was important to examine how both institutions, in their unique environments, sustained their commitment to diversity despite the pressure to utilize traditional measures of merit as well as to implement holistic review.

An important and unexpected emergent finding from the study is that each of the case study schools not only had a commitment to diversity, but had established distinctive, pre-existing admissions processes tailored to their distinctive positions and missions. Each school had developed, from the grassroots, a process that appeared to be at least as effective, if not more so, than the AAMC's holistic review process in meeting the school's needs. Both schools have very distinctive environments that support diversity. Ironically, it seemed that in implementing the standardized, national AAMC model of holistic review the schools at some level compromised their deeper, more localized approach to creating diversity. In taking the lead in adopting the AAMC holistic review process, partly for reasons of prestige and recognition by the national organization, local needs were perhaps unintentionally undermined.

Another finding of this study is that there is a need for greater communication and clarity about holistic review. That will certainly be true in the two case study schools, should both schools maintain their use of the AAMC's holistic review. Making decisions such as adopting a new process without sufficiently coordinating with committee members or those who will use the process unnecessarily complicated and even compromised the fundamental goal of increasing diversity in the entering classes of the medical schools.

Moreover, internal divisions between and within faculty and administrators also adversely affected the limited success of implementing holistic review. Such internal divisions constituted delimiting factors for implementing holistic review. Given that some committee members and administrators believed that their pre-existing, local focus on diversity was effective and appropriate, they felt the AAMC's holistic review was not transferable. They resisted the transplanting of a national, standardized model in distinctive local ecologies, for they felt that such a process ignored the differences and nuances of each school.

As a result, what seemed to take place was a superficial, “virtual adoption” of holistic review. The AAMC process was on some level adopted, and not modified. Also, at some level, both schools' commitment to holistic review seemed on the surface to be reinforced because of their stated prior involvement in seeking to create diversity. Considering each school's differing mission and how their geographic locations played a major role in the applicants they attracted, those who disagreed with the AAMC's holistic approach seemed to believe that the diversity they created provided greater breadth and depth to their institutions than did the AAMC process, which was not sensitive to these local conditions. It was apparent that creating diversity, including the implementation of holistic review process, remained an “admissions-only” problem and focused on placing diverse physicians in under-served, diverse settings. The real crux of

creating diversity is truly neither of these previously stated ideas. It is, instead, to fulfill the compelling benefit and interest of serving all students within a diverse and culturally competent learning environment.

CHAPTER 5 - DISCUSSION

Statement of the Problem

When the AAMC published the *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools* in 2008, it was a call for medical schools to align admissions process to medical school mission and to establish institution-specific, diversity-related policies that would enhance the diversity and quality of the medical school experience and environment. The guide also included important tools for medical schools to: a) conduct an institutional self-assessment to measure institutional diversity; and b) create a plan of action to become more holistic in admissions practices. In light of this call to action to diversify medical schools and ultimately the physician workforce, the purpose of my study was three-fold. First, I sought to explore the nature of holistic review as it was understood by key players in two qualitative case studies. Second, I sought to examine the process by which holistic review was implemented in two settings in which it was being piloted. Third, I sought to understand the challenges that emerged in establishing holistic review and in enhancing diversity in the two case study institutions.

Both medical school environments support the active recruitment of URiMs, demonstrated a historical commitment to creating diversity, and prior admissions processes that aligned with their institutional mission. Indeed, that historical commitment and performance was part of why the two medical schools that were studied had been selected by AAMC as places to pilot holistic admissions.

However, the medical schools' implementation of the AAMC's holistic review process was challenging. Different parties within the medical schools interpreted holistic admissions in different ways. The process of implementation was relatively top-down, which seemed to create some particular challenges by way of achieving buy-in from important parties within the medical

schools. Finally, the complexity of medical school admissions, the uncertainty of the effects and effectiveness of holistic review, and the continuing attachment to exams and metrics that the AAMC itself continues to be committed to compromised the reform effort. Neither school seemed to have a solidly envisioned nor successfully enacted model of holistic review. If the reform was adopted on the surface, it seemed to not have a substantial impact on the actual practice and effects of admissions processes (indeed, neither school achieved substantial changes in the diversity of their entering classes). It is not clear whether either Public or Private medical school expected holistic review to fix the problem of creating diversity or if each school expected holistic review to be a part of a larger plan to fix the broader problem i.e. increasing diversity awareness in medicine. What is clear is that the holistic process did not persuade and lead to an, increasing commitment to diversity on the part of the admissions committee.

Interestingly, the study revealed that both institutions could have relied on internal mission-based processes, and refining or adapting those, rather than constrain their unique institutional characteristics by adopting what some perceived to be a standardized process. Although the AAMC is explicit about tailoring holistic admissions to institutional mission, that is not how it was perceived by many within the school, perhaps because of how it was implemented. If school leadership had decided to draw on holistic review as a way of adapting their own processes, they might have been able to reduce the level of resistance to implementation and to have achieved more substantial change in the diversity outcomes. Lastly, creating and supporting diversity in these medical schools should continue to be important; however, following their unique institutional pathways should be at the forefront of creating diversity and not overly relying on a national partnership to meet institutional priorities.

Summary of the Findings

According to Greenwald (2004), this type of research explores phenomena from the perspectives of the people involved, including how people make meaning of their experiences within the context of the process. My dissertation offers a qualitative exploration of holistic review through the eyes of participants in two distinctive case study environments, one a private medical school, the other a public medical school.

Both institutions had demonstrated some prior commitment to realizing diversity in their admissions and in the placement of their graduates. Both had some prior exposure to some sort of holistic review that went beyond standard metrics of admissions. That is part of why these schools were selected by the AAMC as pilot institutions to test out the adoption of this new admissions process. In this sense, they are each best case tests of the implementation of holistic review. The experiences and narratives of this pilot study should be useful to the AAMC and other medical schools in understanding how to facilitate the effective implementation of some version of holistic review.

The study examined how the two schools tried to achieve diversity within the admissions process, including how diversity had been pursued prior to the implementation of holistic review. That helped put participants' understanding of holistic review in the context of local interpretations and efforts in the realm of medical admissions and missions. Moreover, the study also examined the process by which holistic review was implemented, as well as differences of opinions about that process and its effectiveness, or lack thereof. The perspectives and experiences of admissions committee members and administrators were explored in depth. That allowed for greater insight into participants' sense of meaning about holistic review, more so

than is possible in quantitative studies. The focus on meaning and interpretation is central to the case studies.

A further focus of the study was on pressures and challenges surrounding and influencing the implementation of holistic review. For instance the pressure to compete with institutional peers emerged as significant. So, too, pressures related to fears about litigation, to the goal of fairly selecting the "best" class, and to fulfilling a national leadership role in diversity emerged as important in affecting the implementation of holistic review. Thus, the study helps clarify the complicated and sometimes conflicting views of participants' about aligning with the AAMC's prescribed holistic process, as well as the struggles they had with the ambiguities and uncertainty inherent in a new admissions process such as holistic review.

Purpose and practice of holistic review. Given the current state of holistic review, I sought to understand what the purpose of diversity in medical schools was about and how it affected two unique environments. All interview participants expressed a commitment to diversity and the desire to accept, matriculate, and graduate diverse physicians. Even though the AAMC appeared to influence the participants' perception of how holistic review can or cannot create diversity, the overall goal of diversity remains prevalent throughout the admissions decision process. At least that is the expressed goal of a number of the interviewees, although what they meant by diversity, how they believed it could be achieved, and what role they had played in admissions processes suggest that despite this affirmation of the value of diversity, there was also at the very least a considerable skepticism about holistic review and diversity in relation to the continuing commitment to recruiting the "best" students and class possible.

Current admissions committee members at both schools described how making admissions decisions based on their internal processes that already focused on diversity were more effective than what the AAMC suggested with holistic review. As might be expected, there was variation internally in terms of commitment to diversity in relation to traditional conceptions of quality, which for many committee members still predominated. With this caveat, though, for some committee members, the purpose of diversity was to identify applicants that fit their mission by way of their homegrown process, to consider applicants for admissions based on the context of their unique environments, and eliminate external influences that made it difficult to align and promote diversity.

Current administrators at both medical schools were included in the study. The aim was to explore from their perspective, the introduction, implementation and comprehension of holistic review. Given the involvement of these administrators with the national organization, I sought to understand why they chose to align their schools' admissions processes with the AAMC. Both Public and Private administrators' articulations were similar in regard to image awareness. The administrators claimed that each of their schools' processes were based on mission but their intrinsic value on status and prestige potentially changed the outcomes that holistic review could have had with each admissions committees' use of the process.

In both settings there was an expressed lack of understanding of holistic review. That misunderstanding, or lack of understanding impeded the ability of each school to implement holistic review beyond a surface adoption. In neither case did participants believe that the implementation effort was sufficiently connected to the distinct challenges and opportunities of the schools due to their unique situations and histories. Perhaps because the AAMC's process was not fully understood or implemented, holistic review process tended to be perceived and

perhaps implemented in terms of standard processes and concepts that in the eyes of admissions committee members were not sufficiently sensitive to the distinctive nature of the schools. Indeed, the sagas that some committee members held to and held up in the face of holistic review were such that committee members not only resisted the new process, some of them believed that holistic review was “getting in the way" of creating diversity in ways more in keeping with what the schools had done before.

Those who supported the alignment with the AAMC's holistic review thought that the presence of the national organization would influence and strengthen their medical school’s national position and effectiveness in effecting diversity in entering classes of medical schools. They did not perceive the positioning to be a risk, but rather as something that could help respond to need of a diverse workforce with national attention. Supporters of the AAMC were predominantly senior administrators that wanted to enhance medical school diversity by adopting a national model. Interestingly, student admissions committee members’ perceptions of holistic review included dissatisfaction with the process flow and a sense that the process too lenient, opening the door to lower performing academic students. To the students at Private, this was a threat to their medical school's reputation. At Public, the student committee members were concerned about accepted applicants that wanted to remain in the State and serve the community. In addition, the student committee members were more critical as their desire for prestige seemed to overshadow their understanding of diversity and its benefits.

The findings support Curry's (1992) argument that medical schools are challenged to clearly articulate and effect the educational purpose and benefits of diversity. Curry's argument is that in order to bring about transformative change in an institution, attention must be given to the ways institutional environments respond to such changes. When considering isomorphic changes

experienced by both schools in the study, both schools continued to struggle with their commitment to diversity while they attempted to understand their relationship with medical school leadership, especially while navigating the pressures to compete with such an intense process.

The findings also support Kezar & Eckel's (2002) research on organizational change. The point of these scholars' work is that in order to effect meaningful and lasting organizational changes it is essential to include all parties involved with the change while being enacted over a long period of time. That involves a more consultative, deliberative, and evolutionary model of leadership and change. They explicitly caution against radical and hurried change, which in their research is associated with internal consternation, resistance, and counter-productiveness.

When considering isomorphic changes, examining findings from this study using DiMaggio & Powell's (1983) model is appropriate for a greater understanding of institutional change as well as institutional homogenization. Birnbaum's (2000) adoption model is also appropriate in focusing on change, and, although holistic review was not fully adopted at either school, there was consensus that diversity was significant to each school's mission and existence. Findings revealed that the erratic implementation of holistic review includes an intense but disconnected goal of diversity and an extreme reluctance by admissions committee members from each school to commit to the AAMC's model of creating diversity. With this feedback in mind, future studies should begin to understand why more medical schools are not practicing the AAMC's version of holistic review and what it is about the AAMC's holistic review process that creates difficulty for those that oppose the process.

Contributions to the Academic Literature

The priorities of medical school diversity. Birnbaum's (2000) argument states that processes like holistic review possibly fail because the culture of higher education is to publicly adopt a fad but not truly implement it. For Birnbaum (2000), it is almost impossible to determine whether the process was helpful especially since the quality of the implementation was not fully integrated into the medical school environment. What is closely analyzed is the medical school environments from which the committee members tried to understand the justification for the AAMC's holistic review process. Also, understanding why administrators wanted to re-purpose their institutions commitment to diversity on a national platform was important. Findings revealed that committee members' decisions were somewhat controlled by the AAMC because of the influence to use holistic review. It adversely affected their decision process because they had no supporting evidence that holistic review would create and increase diversity. Instead, they resisted and reverted to their previous processes that they felt created the type of diversity needed at their respective medical schools. In contrast, administrators seem to operate in isolation when deciding to onboard the AAMC's holistic review. Operating with such significant autonomy created misunderstanding about what holistic review was designed to achieve and created a division between committee members and administrators in how to address not only the national shortage of diverse physicians, but also maintain what diversity meant at each medical school. Administrators in this study did not seem to understand that the AAMC's holistic review could not be used as a "one size fits all" template to create diversity; its limitations seemed to overlook the medical schools' values on diversity.

I sought to understand what went into the decision to implement holistic review and administrators felt holistic review would support both a private and a public medical school to

enhance diversity at each institution. Administrators that I interviewed, including the admissions director at Private, the assistant dean of admissions at Public and all upper level administrators at both schools, described their decisions as a way to increase their visibility as being innovative. It also appeared that the conflict with implementing holistic review with current institutional practices of diversity was a) the desire to appear effective and influential among peer medical schools and b) the need to appear innovative when addressing diversity issues both institutionally and nationally. Findings revealed that these decisions were made quickly and without consultation with the groups that would utilize the process. Their decisions seemed to be shaped by the need to initiate and persist in changing their medical school environments without fully considering the probabilities of success (Birnbaum, 2000). For them, this decision was complex but it was not based on how they aligned or reconciled diversity goals with the overall institution and admissions committee members. Instead, it turned out that, given the findings, that administrators did not anticipate the challenges in their attempt to improve their school's diversity.

As medical school environments continue to change, the central challenge for these two medical schools will be to improve communication about the role and responsibilities of the admissions committees. In other words, medical school leadership can be more clear when setting the expectations of the admissions committee. When considering and creating medical school diversity, administrators cannot afford to be inefficient or counterproductive when attempting to reshape how diversity is sustained. Demands from the admissions committee in regards to transparency and inclusion will continue until the diversity priorities of each school are presented and agreed upon as an overall institutional commitment.

Inconsistency with Diversity and the Influence of the AAMC. Building on DiMaggio and Powell's (1983) institutional theory and how institutions navigate uncertainty, my study discovered that the perception of diversity in medical school education has been standardized as a disadvantage. I explored how the AAMC frames diversity and what shaped this definition in order to make sense of the complexity of how it is used when making admissions decisions. Moreover, I sought to understand how this definition of diversity impacts holistic review.

Historically, diversity in medical education was defined by race and ethnicity. This was particularly the case prior to the landmark *Bakke, Gratz,* and *Grutter* cases that completely reconfigured the educational benefit of diversity. Thinking about diversity after these landmark cases were decided appeared to also change how the AAMC broached the diversity discourse. I used DiMaggio and Powell's institutional isomorphism theory as a basis to connect isomorphic change and the various ways that the admissions committee thinks about diversity. Their theory is implemented as a platform from which to investigate the importance of how diversity is perceived and further develop the understanding of why it is important to define diversity for each institution instead of relying on the national organization's framework for diversity. Although my study is not the first to explore diversity in medical education, my study does explore on this approach by revisiting how standardizing diversity can be detrimental to creating a diverse physician workforce.

Findings from my study suggest that diversity, as framed by the AAMC, is primarily focused on representational diversity. At both sites, individual and student group numbers increased in areas of race, ethnicity, SES level, rural origin and other significant areas of diversity. Both sets of interviewees at Public and Private Medical Schools claimed that, although numbers have increased in terms of individuals, the climate of each medical had much more to

accomplish in terms of institutional diversity. At Public, some admissions committee members stipulated that holistic review is not sensitive to the areas of service that need diverse physicians most. Mainly, the process will not select the types of students that are diverse and that will serve diverse patients. For these committee members, I argue that adopting holistic review did not improve their understanding of diversity. The pressure to use holistic review steered Public leadership, administrators, and committees away from home-grown processes that created diversity specific to their medical school, not only in terms of building numbers, but in terms of creating community. Being more concerned with external legitimacy reaffirmed that holistic review cannot be used as a template or method to create diversity.

My study further expands the impact of isomorphic changes (DiMaggio & Powell, 1981) on diversity when tying diversity to disadvantage. At Private, the term *disadvantage* is one of many ways to categorize diversity. Disadvantage was defined as a way an applicant overcame extenuating circumstances, for example, to apply to medical school. It appeared that Private standardized disadvantage in the same capacity as the AAMC and they used this to internally track these students who applied, were accepted, and matriculated to Private. This type of isomorphic change may have stemmed from trying to respond to uncertainty about how to address the multi-facets of diversity without much direction. Despite the affirmation that recognizing that an applicant's pathway to medicine is important, Private, instead of prescribing to the AAMC's version of holistic review and *disadvantage*, could have simply used their own creative approach to diversity. If Private strives to be a model school for diversity with their own definition of diversity, it could truly change the outcomes of diversity at this institution.

This study contributed to literature on medical school admissions in a variety of capacities. From a medical school standpoint, this research examined beyond a national

organization's diversity initiative and sought to see if two site schools benefitted from the use of this practice. What did emerge was the idea that ambivalence and ambiguity with the use of holistic review created intense pressure to follow a national effort instead of relying on each school's mission-based beliefs and practices. In addition, the need for clarity, communication, and coordination when transitioning to a decision tool such as holistic review prevented both schools from setting themselves apart from other medical schools. The admissions committee feedback from both schools supported the notion that, without complete institutional buy-in from those who use the process, diversity goals will continue to be disabled without a uniformed approach. Key considerations in this research are that medical school schools should parlay their institutional uniqueness to attract applicants that meet their mission; representational diversity is not comparable to grassroot processes and both considerations are influenced by the ambiguity and ambivalence expressed by the admissions committee members and faculty members not convinced by the alignment with the national organization.

The first contribution to the literature is to address the ambiguity and ambivalence that cause internal lines of division with policy makers, faculty, and committee members. In these types of environments, especially when there is no coordination between national and institutional processes, the outcomes can create ambivalent environments full of resistance to what may be important only to the leadership or external stakeholders such as a relationship with the national organization. It can also create ambiguity especially when processes are introduced without being sensitive to the outcome. For example, holistic review was designed to increase the number of under-represented physicians; however, without the alignment of the AAMC with Private and Public's process, the admissions process fails to be sensitive to the areas in dire need of the service of diverse physicians because of the lack of alignment with the residency

placement program. The process continues to be flawed because it does not consider the climate of each medical school, particularly who constitutes the membership of the committee and how their personal biases may impact decision-making regardless of stated policies and processes. More importantly, applicants are greatly affected by this ambiguity and ambivalence because their applications run the risk of being lost in the shuffle called holistic review.

The role of diversity is important to the future of medicine because of the ever-changing patient demographics. However, with the incomplete implementation of holistic review at each of these medical schools, the role of diversity was compromised because one, key administrators questioned the validity and, two, some committee members were concerned about the misalignment of holistic review as it related to residency placement. The inconsistency with holistic review and the influence of the AAMC appeared to "get in the way" of each medical school's diversity priorities. Because ambiguity and ambivalence were the outcome of this policy change, deciding which applicants to accept was problematic. On the one hand, both medical schools had administrators and faculty that felt that their internal processes answered the multi-leveled approach to diversity. They believed that holistic review "got in the way" what their school had always accomplished---mission-based diversity.

Advocates of holistic review seemed to believe that being a model medical school for the AAMC's diversity initiative would not only increase their commitment, but it would also improve their prestige in this capacity. I do concur that diversity in medicine is important; however, my findings suggest that, if diversity policies are designed to answers the challenges of healthcare in the future, then the leadership responsible for introducing holistic review would have made sure the process was consistent and clearly coordinated. This study contributes to the medical school admissions literature by stating that there cannot be ambiguity and ambivalence

with policy and practice especially when there is not complete investment by those who employ the process.

The second contribution to the literature emerged as a major discourse on diversity. While the AAMC seemed to view diversity as an "adversity" and a "disadvantage", this deficit model approach seemed to dismiss the fact that both institutions had deeper, more localized policies and processes intact that appeared to be more effective in creating diversity. Many of the interviewees indicated that holistic review was more "representational" and, because of this perception, interviewees at both schools continue to feel as though they "are in the margins" in terms of having a fair say when creating diversity. At Public, the fact that interviewees were "cautious" when using holistic review speaks to the limited success the admissions committee experienced with this process. At Private, opponents of holistic review felt that holistic review did not allow them to "get the best students" and that the AAMC's process was not justifiable because, to them, holistic review was too much of a "blunt tool", stating that diversity is not a "one size fits all" template. Leadership at both institutions could have justified holistic review had there been some type of unified approach to the adoption of this process.

While my research sought to ascertain the utility of holistic review, it uncovered that, fundamentally, diversity is an obviously important and expected goal for both of these medical schools. More importantly, until these two medical schools understand that diversity policies such as holistic review need complete buy-in from everyone involved with making those decisions, the institutional output will never answer the challenges of creating a diverse physician workforce. What this means is that both medical schools should have examined their respective medical school cultures, specifically, how holistic review or any other processes can help or inhibit diversity at each school.

Medical school admissions include so many intricacies that can easily disengage a medical school's rationale for diversity. What this means is that, while leadership is at the crux of any type of change efforts, they must include all internal stakeholders to increase confidence that would help build legitimacy with the promise. Yes, it is important to give attention to the composition of the admission committee members and highlighting the need for diversity to be reflected within the committee is important. However, the most important contribution that leadership at both medical schools can offer their admissions committees is a well-thought out description of what holistic review is and how to streamline this process as part of their homegrown processes. What this means is that processes like holistic review is that they are not easily transferable because of the differences and nuances of each medical school. This is why it imperative to align these types of admissions processes at medical schools such as Private and Public; if medical school leadership are truly committed to building a diverse physician workforce, then the advancement of holistic practices, both national and local, must be the core of any systematic changes.

Finally, this study contributes to the advancement of why it is important to operate outside of the confines of institutional isomorphism and virtual adoption when trying to increase diversity in medical school, especially with a process like holistic review and the influence of the parent organization. Literature on institutional isomorphism and virtual adoption focuses on the institutional pressures and urgency to be legitimate within their various environments. If medical schools with current diversity policies want to truly reshape admissions processes to meet societal needs, then there cannot be exclusive approaches to process implementation and diversity cannot be limited to only admissions processes. Leadership, along with admissions committees, internal and external stakeholders must define the true meaning of diversity before

creating confusion due to inconsistency brought on by an overall misunderstanding of a new process, in this case, holistic review.

Implications for Policy

According to the AAMC, "the medical profession's core obligation is to meet our nation's many health needs as comprehensively as possible" (AAMC, 2010, p. vii). As always, medical schools will continue to struggle with connecting admissions processes with institutional mission, identifying faculty and students to serve on the committee with a commitment to diversity, and finding the right way to create diversity with so many challenges to be connected and consistent. Based on the interviews, specifically the interpretations of the committee regarding the actual practice of holistic review, the goal of diversity at both medical schools was somewhat compromised by the lack of clarity and communication. There was an evident need for diversity as expressed by the committee members and some administrators; however, there is a major concern not only for creating class diversity but also what truly drives a process: status, prestige, or institutional mission. Since the AAMC is increasing the awareness and support behind holistic review, medical schools like Private and Public have a twofold focus on diversity policies: a) include the perspectives of the admissions committee and streamline the communication of leadership and b) there should be a connected approach to how policies like holistic review are formed, implemented, and evaluated for each medical school according to their mission and institutional goals.

Institutional isomorphism recognizes that processes like holistic review can be positively or negatively impacted, based on how an institution responds to pressure and uncertainty. A policy such as holistic review must be developed and executed because of the time, staff (faculty

included) and funding necessary to create an infrastructure of support. The introduction of holistic review, according to the interviews, is problematic because it did not consider developing a *holistic review communications strategy* that, ironically, was encouraged by the AAMC when they rolled out holistic review five years ago. The instructions were mapped out in the second version of the AAMC's *Roadmap to Diversity: Admissions* (2010) and, at the very least, the medical schools in the study could have used the guidelines to engage all stakeholders involved with the admissions process. When policies are introduced in an isomorphic environment, for example, those in leadership need to understand the potential impact on policies that greatly impact the future physician pipeline. It is unknown whether this process was introduced but not actually tested by a medical school prior to its public introduction. It did not, however, appear that Public or Private used the communication template. Most importantly, if diversity policies such as holistic review are not introduced appropriately, then the specific goal for the policy will not be able to create the desire outcomes.

Birnbaum (2000) argues that several factors pressure institutions to adopt various policies and processes. Medical school admission is complex: applicants are provided general information about application process and they are not clear about what holistic review truly means in terms of their application. Applicants are told that there is a need for diverse and unique applicants; however, when medical school leadership decide to adopt a policy like holistic review without clarity, communication and coordination, then it creates an ambiguous environment not only for the admissions process but for applicants, too. Because of the pressure to create diversity, Public and Private dealt with resistance, ambiguity, and ambivalence from the "process-users" and it may take some time for them to fully develop the outcomes they initially expected from holistic review. For applicants, ambiguity in policies and processes can result in

frustration and anxiety. Overall, when adopted processes fail because they are not fully integrated into, in this instance, a medical school environment, then the opportunity to truly create diversity is compromised.

Implications for Practice

In order for diversity in medicine to become more fully realized, admissions committees will need to select an incoming class that advances the mission of a medical school and helps to reconfigure the medical school education environment. The first approach would be to address the need to train admissions committee members about overall diversity, holistic review and to emphasize the understanding of what diversity in intended to do in the context of medical school outcomes. In addition to educating interested faculty who want to serve on the committee as well as current committee members, there needs to be more intentionality by leadership in selecting faculty to serve on the committee. The deans who agreed to adopt this process clearly wanted it to succeed. However, the committee members' interpretation of holistic admissions and diversity was superficial and in many misinformed. Moreover, they tended to view the decision to utilize the process as a top-down decision. It was clearly viewed as a directive. Yet, ironically, there did not appear to be enough direction to ensure follow through in implementation. Because the leadership of each of the medical schools seemed to push for their institution to be a model medical school without initial buy-in from the committee members and without subsequent follow-through in working with the committee, in some regards the process was adopted only on the surface. There simply was not a sufficient leadership focus on implementation.

Diversity has to be an active concept that is interwoven throughout the medical school experience, from application to residency placement. However, medical schools must examine

their commitment to diversity and vet their admissions processes before any substantial change can begin to happen. The failure to focus on the compelling educational interest creates a significant gap when trying to reconfigure the impact on the medical school curriculum, the residency match process and the overall structure of the physician pathway. This way, medical schools can fulfill their diversity commitments and uphold their missions, hence, eliminating any confusion about how to address institutional diversity as well as the ever-changing patient demographics.

If medical school leadership, admissions committees, and the AAMC could agree that there are many options to create diversity, then perhaps introducing diversity programs like holistic review could be more clearly situated in the context of each medical school's existing diversity policies and practices. It would recognize that there a multiple pathways into medicine and that the picture is bigger than where a physician intends to serve. The limitation of the AAMC's holistic review approach is that it is completely different from the Supreme Court's rationale about diversity in an educational setting. Creating diversity is more than an admissions-only problem and it is more than the placement of diverse physicians into diverse communities. The biggest challenge for the AAMC and for medical schools is to tap into the compelling educational benefit of diversity and enhance the need to serve all medical students while improving their educational outcomes.

Currently, most medical schools have a mission statement that emphasizes diversity; in fact, most medical schools have a diversity statement to re-emphasize their commitment. These statements can often be viewed as symbolic: if they do not function in a way that improves diversity outcomes, then medical schools are not practicing what they promote publicly. If medical schools truly value diversity, such public statements and policies on diversity need to be

more intentional and integrated into the medical school beyond the admissions. Rather than medical school leadership feeling pressured to support the AAMC's holistic review initiative, they should instead consider how to intersect diversity locally as well as feed their findings to the AAMC to better understand how these various approaches to diversity can become symbiotic.

Suggestions for Further Research

The findings in this study suggest several important points. First, consensus-building cannot occur if processes do not fit an institution. As shared in the findings, ambivalence and ambiguity are guaranteed roadblocks to policy implementation. The findings also suggest that the same ambivalence and ambiguity can adversely affect the desired outcome of creating diverse medical school environments and a diverse physician workforce. Third, these findings revealed that there must be synergy between medical school leadership (policy-makers) and faculty and staff (policy-users). If policies, procedures, and practices are not part of a collective institutional investment, then, in this case, creating a true diversity agenda will not occur.

Further research should focus on how communication, clarity, and consistency are essential components to reshaping institutional practices as in the medical schools in this study. In addition, further research should seek to understand how impactful an organization like the AAMC is, specifically, when the organization is the curator of the MCAT, the gateway exam to medical school that often prevents many diverse students from being accepted to medical school. As the body that encourages holistic review, the AAMC embodies the competing and conflicting approaches to medical school admissions. It is no surprise given this combination of pressures and incentives that Public and Private Medical Schools experienced the internal tensions and contractions that limited the implementation of holistic review.

Specific to holistic review, future research should focus on the disconnect between how medical school admissions strives to create diversity and how the same approach to diversity is much different in the area of graduate medical education. Several admissions committee members suggested that their efforts to create diversity with the holistic review process would not be effective in the long run because residency placement, for example, does not focus on diversity in the same effort. Future research should understand how an increase in diverse medical students will be served by graduate medical education offices, ensuring that these physicians are successfully placed in the communities where they are most needed.

Lastly, because of the litigious environment of medical school admissions, future research should consider the potential outcomes of the *Fisher v. University of Texas at Austin* case. Because the case addresses the controversial issue of the use of race in college admissions, future studies should address the broader question of how diversity is situated in medical education and how the outcome of this case may impact the wide range of societal needs that diversity helps to attain.

Conclusion

Admissions policies and practices that promote diversity in the physician workforce are based, in part, on the principle that a more diverse health care workforce will improve public health. Therein lies the rationale for, trying to make admissions practices more holistic. Whether it is an effort of the AAMC and/or of a medical school which also has internal diversity processes, the selection of incoming medical students serves a vital role in the future of the physician workforce. Creating diversity is a high stakes process.

The approach taken by leadership in seeking to implement a significant change such as holistic review matters. It can facilitate or undermine the likelihood of acceptance or resistance to holistic review by those who are involved in implementing the admissions process, by those who effectively select the entering class of students. The case studies suggest that some combination of a more bottom up, consultative and context specific approach to implementation is likely needed.

At the same time, the case studies suggest that in some regards a more aggressive and extensive implementation of holistic review is needed. By that is meant a more active role for deans in implementation, beyond simply indicating to admissions committees that holistic review needs to be done. The membership of committees is important to the success of implementation, as is the selection of committee chairs. Deans may need to pay more attention to these issues and to act accordingly. Otherwise, it is likely that the virtual adoption found at both Public and Private Medical School will remain relatively superficial.

Implementation of holistic review should also involve adapting the AAMC and medical school admissions processes to local context, mission, and pre-existing practices. That would allow diversity to be considered from a variety of perspectives. Such context sensitive and specific efforts would be promising in effecting a fuller and more meaningful holistic review process that might yield a more diverse medical student body.

Given the current state of holistic review, the inherent tension between leadership and faculty found in this study created internal divisions that increased resistance and ambivalence about changing the admissions process to increase diversity. In contrast, it would be helpful if conversations across medical schools and the AAMC would help create consensus about what

diversity in medical education should truly create---the expansion of what diversity can do in terms of activating medical school missions, accomplishing institutional goals, and increasing the visibility of diverse physicians. It does not mean that every diverse premedical student will be accepted to medical school; it simply means that there can be a start to a collective effort to approach diversity from multiple angles, which is what the AAMC in its documents promotes.

As previously stated, the need for diversity is great. Just as many medical schools claim their practices are "holistic" and support medical school diversity, a deeper understanding and appreciation of why diversity should be fully integrated into every aspect of medical school education, from admissions to acceptance to graduation to residency placement to alumni affairs, is paramount to the complete acceptance of its importance and impact. Instead of continuing to rely on the meritocracy, status, and prestige of a medical school's institutional culture, understanding the benefits of diversity may help reduce the reliance on such factors. Rather than thinking of diversity as a way to screen out applicants, perhaps diversity can be viewed as an inclusive concept that complements the strengths and interests of what each medical school needs to do to create real progress.

APPENDIX A: DEFINITION OF TERMS

- Holistic admission/Holistic Review: According to the American Association of Medical Colleges (AAMC), establishing connections between medical school mission-driven goals and student body diversity is central to formulating the educational philosophies, aims, and diversity focus. Holistic is defined as an overall understanding of an applicant's contributions and foundation in context of admission selection.
- Experiences, Attributes and Metrics (EAMs):
- Cognitive factors: test scores, grades, etc.
- Non-cognitive factors: interpersonal skills, communication, interviews, motivation, etc.
- AAMC: American Association of Medical Colleges
- AMCAS: The American Medical College Application Service
- MCAT: Medical College Admission Test
- UGPA: Undergraduate Grade Point Average
- URM/URiM – Underrepresented Minorities and Underrepresented in Medicine
- Licensing Committee of Medical Education (LCME): an accrediting body for educational programs at schools of medicine in the United States and Canada and grants the M.D. degree.
- United States Medical Licensing Examination (USMLE): assesses a physician's ability to apply knowledge, concepts, and principles, and to demonstrate fundamental patient-centered skills, that are important in health and disease and that constitute the basis of safe and effective patient care. Each of the three EXAMS of the USMLE complements the other

APPENDIX B: MATRIX OF THEORY

Theoretical Framework	Research Questions	Methodology/Methods
• Institutional Theory, Neoinstitutionalism(Riesman, 1956, DiMaggio and Powell, 1983) • Virtual Adoption (Birnbaum, 2000)	**Overall Research Questions:** To what extent do medical school admissions practices match their stated commitment to holistic admissions? How does this (mis)match between discourse and practice in terms of overall diversity? What are the facilitators and/or inhibitors to incorporating this approach? **Supporting questions:** ●How do the individual actors define/understand holistic admissions and how does their interpretation compare to the institutions discourse? (Same question for diversity) ●During meetings of admissions committees, what are the patterns of decision-making regarding diversity and holistic admissions? To what extent do they match or veer from the institution's discourse? ●What is the overall discourse of holistic admissions espoused by the institution? What does it suggest about the commitment to diversity and overall institutional transformation?	• Two institution case study approach using semi-structured interviews of admission committee members and admission leadership (2 sites), observations, and document analysis. • Semi-structured interviews with the following participants: admissions committee admissions chair, admissions dean or director, and medical school dean or higher level administrator. • Non-participant observation of admission committee selection meetings • Document analysis of current admission committee training tools, institutional websites (mission statements)

APPENDIX C: INTERVIEW PROTOCOL FOR STUDENT COMMITTEE MEMBERS

Guiding Question: How are students selected to become competent, physicians through mission-based, institutional admission policies? How does this process help create institutional diversity?

1. How important was diversity when you were deciding where to apply to medical school?
2. Describe your understanding of diversity at this medical school.
    a. What role does diversity play in shaping future physicians?
    b. What is your interpretation of the medical school's commitment to diversity?
3. In your opinion, how important do you think your grades and MCAT scores are in your potential admission to this medical school?
4. During your interview:
    a. Was the issue of diversity discussed?
    b. Were your MCAT and GPA discussed during the interview?
5. Describe your understanding of what may happen with diversity policies in the future and how the change may affect medical school admissions.

Were you a participant in any medical school preparation programs?

APPENDIX D: INTERVIEW PROTOCOL FOR COMMITTEE MEMBERS AND LEADERSHIP INTERVIEW PROTOCOL

Guiding Question: To what extent do medical school admissions practices match their stated commitment to holistic admissions and institutional diversity?

1. How do you identify the nexus between inclusion, diversity and institutional excellence?
2. Identify initiatives that provide opportunities for student success, diversification of medical school faculty and how your institution supports health equity within diverse populations.
3. What is your institution's current status of diversity policies and programs?
4. Share your lessons learned and best practices in terms of diversity policies.
5. Do you believe diversity is a driver for institutional excellence? Explain.
6. Does your medical school work to implement diversity-related goals throughout the institution?
7. Present a copy of the institution's mission statement.
    a. What can you tell me about the history of the statement? How was it developed? What do you think of this statement?
    b. Is diversity a consideration in the relationship of holistic review and mission statement?
8. How might your institution utilize diversity policies such as holistic review to achieve your mission based goals?

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