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ABSTRACT

What is Diversity? Retention? Often, these terms are used interchangeably without true understanding of their individual meanings. Diversity is offering a variety or having multiple ethnicities amongst a cohort in proportions seen within society. However, retention refers to the continuous possession or maintenance of the variation seen in said cohort. With regards to medical institutions, it seems that there is no separation. Many medical institutions seek to be diverse and create a picture of multiethnic cohorts but regrettably, effective retention techniques aren't always adopted to make these visions a reality. The damage caused by the lack of adequate retention techniques has manifested in the inconsistency in the number of underrepresented minorities in medicine.

In attempts to bridge the diversity gap in medicine, pipeline programs were created to foster interest in the sciences amongst middle school and high school age students in the underrepresented minority population (Smedley, 1970). The focus on pipeline programs significantly increased juxtaposed to an initiative created by the AAMC called "3000 by 2000". Project 3000 by 2000 was initiated in 1970 to increase the URM student enrollment/matriculation into medical schools to 12% by the year 2000 (Nickens, 1994).

The quantity of underrepresented minorities has increased over time, but it still has not reached parity, yet the quantity of non-Hispanic whites has steadily increased across time (Petersdorf et al., 1990; Penn Medicine News, 2019). Trends such as these magnify the discrepancies seen in the diversification of medicine. This analysis highlights institutions that have taken strides to improve retention and inherently diversity amongst URM medical students after matriculation and explores potential avenues for future retention programming.

BACKGROUND

The very fabric of what America was built on is constantly being analyzed and reprised with the unmasking and publication of inequalities with regards to diversity within America. The civil rights movements in the 1960-1970's was a key facilitator of change (Nickens, Ready & Petersdorf, 1994). It created a state of unrest that could only be resolved with acknowledgement and implementation of changed behavior, especially in the medical field. This uproar sparked the progression of medical institutions towards developing diversity and inclusion focused programs.

The Association of Medical Colleges (AAMC) and various medical institutions began to realize the necessity of diversity within the medical profession, mirroring the growing percentage of minorities in the human population (Petersdorf, Turner & Nickens, 1990). In the 1960's only 1% of graduating seniors were comprised of black, Hispanic, and American Indian/Alaska Native students thus correlating with about 1 minority student obtaining their MD degree yearly (Smedley, 1970 A). Prior to these tumultuous times, the ramifications of the exclusion of minority groups from medicine was not highly regarded. Although advances have been made by key facilitators like the AAMC and American Medical Association (AMA), retention of minority medical students remains an issue as diversity of the human population continuously increases.

With a plateau in representation in the medical field, there is a risk of reversion to pre-civil rights times. This may create a monopolized field of study thus decreasing the satisfaction of patient-doctor interactions, increased patient-doctor mistrust and limiting the number of patients that seek treatment at all. It has been proven that patients tend to feel more comfortable with doctors that share their same race (Hopkins Tanne, 2002). If all doctors are of one race that

feeling of comfortability that should be created between a physician and a patient risks elimination. In hopes of changing the narrative certain precautionary measures were taken.

The first step taken to alleviate this discrepency, was to implement a short-term approach via post baccalaureate programs (Smedley, 1970). URM pipeline programs were later created as a long-term approach to the problem at hand. These pipeline programs were made to foster interest in the sciences amongst middle school and high school age students in the minority population (Smedley, 1970). Arrangements such as articular agreements were created between medical schools, secondary schools, high schools and middle schools (Nickens 1994). Articular agreements are arrangements put in place to facilitate the progression of minority students through the education pipeline (Nickens 1994). These programs created a forum for medical school administrators and faculty to interact with prospective medical school applicants (Smedley, 1970). The focus on pipeline programs significantly increased juxtaposed to an initiative created by the AAMC called “3000 by 2000”. Project 3000 by 2000 was initiated in 1970 to increase the URM student enrollment/matriculation into medical schools to 12% by the year 2000 (Nickens, 1994).

As efforts placed on URM pipeline programs increased and project 3000 by 2000 progressed, an upward trend in the minority population entering medical school was seen. Numbers jumped from 8.4% in 1970’s to 11.7% in the 1990’s (Smedley, 1970). In the late 1990’s, a decline of 6.8% was seen in URM applicants (Smedley, 1970). The constant flux in URM medical school matriculants demonstrates the instability within the system.

Efforts have been placed into URM pipeline programs and other methods of increasing underrepresented minorities' presence in the physician workforce. Partnerships to increase exposure at a younger age have been developed and new guidelines put in place to get minority

students into medical school. Unfortunately, many of these efforts have reached a point of plateau. The effectiveness of these programs is not in question but based on the acquired data these efforts are not demonstrating a steady mobilized improvement in the gap seen in the medical field pertaining to URM student enrollment and matriculation.

In 2009 the Liaison Committee of Medical Education (LCME) implemented a formal set of accreditation guidelines with the requirement to formulate alliances "to make admissions to medical education more accessible to potential applicants of diverse backgrounds" (Penn Medicine News, 2019). After LCME implemented the change to their accreditation guidelines in 2009, medical institutions began to further prioritize the importance of diversity as more than a box to be checked and this shift was seen in the rise of the non-white student population in 2017 -2018 (Samuel & Vincenzo, 2019). Black/African American medical school enrollees rose by 4.6% and American Indian & Alaskan natives enrollees saw a 6.8% increase per data from the AAMC (Samuel & Vincenzo, 2019). These numbers indicate a step in the right direction, but it does not factor in the rise in the URM population in society. Though there has been an increase in minority presence in medical schools, it still does not change the lack of correlation between minority presence in society (Samuel & Vincenzo, 2019; (Petersdorf et al., 1990; Penn Medicine News, 2019). In efforts to meet the new requirements various medical institutions have altered their on boarding process, added new resources and even equipped the staff and school with tools to be better support for URM students. The tactile shift in those institutions set on mitigating the gap, has yielded great improvement in the retention and recruitment of these at-risk groups.

The common denominator in all these newly developed resolutions is the target and mission, the youth and diversity. Some may argue that URM pipeline programs which are implemented at a younger age bridge the gap but the very slow change and increasing number of

minorities in society, would indicate otherwise. Creating interest and exposure are important aspects of increasing matriculation but the preservation or retention of the URM students who make it into medical schools is a point to be considered. Via analysis of the above data it seems that retention is the missing link in the effective matriculation and graduation of URM students.

At SUNY Upstate Medical University College of Medicine, they have a multicultural affairs office that aims to support the best outcomes for all students. Within this office there are a plethora of services provided for URM students specifically. There is a retention mentor whose sole purpose is to provide mentorship and aid minority students through their clinical experiences (SUNY Upstate Medical University, 2020). A retention mentor enables students' needs to be understood, acknowledged and met where possible. Whether this office is the key to the progressively growing minority population at SUNY is to be determined, but a change is occurring, and further studies can be done to determine the role it plays.

Lewis Katz School of Medicine at Temple University of Pennsylvania (LKSOM) has been rated amongst the top 10 U.S. medical schools to successfully matriculate and graduate future URM physicians (Office of Health Equity, Diversity & Inclusion Brochure, 2020). This medical institution has seen a 93% graduation rate for minority students since 1971 (Office of Health Equity, Diversity & Inclusion Brochure, 2020). Their office of health, equity, diversity and inclusion is focused on supporting the transition, matriculation and academic development of underrepresented minorities who matriculate into medical school. These efforts are demonstrated not only in their high graduation rate but also within the programs and resources they have available to their student population (Office of Health Equity, Diversity & Inclusion Brochure, 2020).

LKSOM supports and facilitates pipeline programs, elective courses in medical Spanish, support of students within minority centered organizations like the Student National Medical Association (SNMA) and Latino Medical Student Association (LMSA), and they have a summer Pre-matriculation Readiness & Enrichment Program (PREP) (Office of Health Equity, Diversity & Inclusion Brochure, 2020). Looking specifically at their PREP program, the institution's efforts to level the playing grounds for all students regardless of race can be seen. This begins with the acknowledgement of the difference that exists between the prior education of non-Hispanic white students and URM's (Office of Health Equity, Diversity & Inclusion Brochure, 2020). Juxtaposed to acknowledgement, taking initiative to bridge that gap so all students have ample resources and opportunity to excel is just as essential. PREP is open to all their first-year students but targets minority students more readily. Through this program students are exposed to the medical school curriculum, atmosphere and expectations prior to matriculation (LKSOM Summer Pre-Matriculation Program, 2020). Prior exposure to what will be expected of the students enables them to prepare themselves for the journey ahead. Additionally, proper study skills and assistive resources can be obtained prior to matriculation thus aiding in the medical school journey ahead. The plethora of resources and support provided within this office alone illustrates the commitment and effort put into not only matriculating URM students but retaining and graduating them into the healthcare workforce.

There are other medical institutions, both allopathic and osteopathic, that have programs, resources, and staff members dedicated to increasing the URM student population at their respective facilities via increased retention efforts. With practices such as these and increased innovation and development, the stagnation seen in the graduation rate of minority medical students has a greater chance of reaching a parity population. Though retention is not the only

obstacle faced, it is an area that can propel the future of medicine towards a more diverse future. In doing so, the gap seen in medicine will be closer to being bridged.

Sociologist Anthony Jack PhD. stated "the key thing is to focus as much on who gets in as to how they are making it through. Those are the two pieces that we need to put equal attention on" (Haskins, 2019). In order to focus on progression and see the fruit of diversity, retention must be as important as recruiting qualified URM students. Although finding a solution may not be as easy as assessing the retention of minority students, it is one step in the direction of change. Similar to any scientific practice, assessing the changes seen at each phase aids in obtaining a holistic understanding and possibly reaching the aspired goal. Diversity is important but if only obtained for a moment it is ineffective.

Objective(s):

There is a swinging door cycle of minority students entering medical school but not completing their professional degrees. With this information known, I seek to delve deeper into the structure of medical institutions that have implemented resources for retention. The efficacy, intricacy, detail and results of these resource implementations will be analyzed and assessed to uncover possible solutions to stop the swinging door and make way for progression.

METHODS & RESEARCH STRATEGIES

Key sources and databases such as the Association of Medical Colleges (AAMC), American Medical Association (AMA), and the National Medical Association (NMA) were cruxes in the compilation of data to support this analysis. Additionally, scientific websites such as NCBI, PubMed and the New England Journal of Medicine were used in juxtaposition. These

sources were utilized based on their rich research and scientific sources that provide a strong foundation of information as support for an in-depth analysis. Key terms such as diversity, retention, inclusion, disparities, civil rights, disparities in medicine and minorities in medicine were used to locate pertinent information to supplement the ideas cultivated in this paper. Using targeted terms narrowed the broad collection of data into a smaller categorization that made the vetting process more efficient. The collected data expounds upon key events in history that led to the current change in trajectory seen in the medical field and what has and has not worked for its advancement. The purpose of this study is to dissect current programs being used to mitigate the gap seen in the retention of underrepresented minorities in medical schools after matriculation and highlight the necessity of retention programs to mitigate the damage caused by the population parity (Petersdorf et al., 1990). Thus, a literature review was used as the preferred methodology in this analysis and the key findings were used to support the development of possible solutions for medical institutions in need of support in this area.

RESULTS & DISCUSSION

The infamous question posed to children is “what do you want to be when you grow up”. And the oh so loving parent responds “you can be anything you put your mind to.” The reason parents can state this with such fervor is because they aspire to promote confidence and a sense of capability within their children. Additionally, they have actively seen what is possible. But what happens when at a younger age, children are taught to limit themselves and what they can

be or achieve. The response of a parent goes from “you can be anything you put your mind to” to “no baby, you can’t be a physician? No one like us can do that.”

This scenario was created to effectively portray the challenge being faced by underrepresented minorities in medicine. Not only are there less minorities applying, matriculating and graduating from medical schools, there is also a lack of representation in the US population. Without adequate representation in society, the scope of what the average minority person believes they can achieve narrows. What was once an ocean of possibilities is now a pond of restrictions.

When seeking change in a specified area, there is an initial analysis of all the contributing factors, then solutions are cultivated per factor. Some areas may require more effort and concentration than others due to the weight of said contributions. This is analogous to the current situation seen in the matriculation of minority students into medical schools. The change being sought is increased URM’s within medicine in efforts to meet parity populations. The different factors that affect this outcome are admissions, curriculum, faculty, and remedial strategies (Smedley, 1970). Both Allopathic and Osteopathic medical schools are looking to increase their underrepresented minority student population. In addition to the schools, the organizations who accredit and provide resources to these institutions are aiming for the same outcome. Thus, the numerous solutions that have been tested throughout the years. In the area of admissions, we have URM pipeline programs, postbaccalaureates and changes in accreditation requirements. When it comes to curriculum’s there has been an influx in the free resources available to all medical schools such as Khan academy. The associate of American Medical Colleges reported in their analysis in brief, volume 6 that “Diversity in the faculty body of U.S. medical schools has shown a historic increase but not to a level that reflects the growing diversity of the U.S.

population" (2016). Last but not least, remedial strategies have been curated per institution tailoring to their student body. Though each school varies in what form of remediation they offer, most institutions have something in place to aid the general student body.

Although there are solutions in place the efficacy of each solution is to be determined by the fruit each produces and how close to the goal each solution has brought the group. Each area contributes to the goal, but the area not mentioned, retention, encompasses most of these areas and needs to be a primary focus. With increased retention efforts for underrepresented minorities, graduation rates will see an increase. Increased minority physicians equate to a larger minority physician pool and more room for an increase in the minority faculty members at medical institutions. Simply increasing the quantity of minority health professionals correlates with an increase in representation for the youth. More minority youths interested in medicine will provide more pipeline and postbacc students to be gained. This domino effect takes time, but the benefits are insurmountable.

Previously, we examined 2 different medical institutions that had effective policies, programs and resources allocated to creating, growing and nurturing the academic careers of URM students throughout their journey. Each varied in their approach but the common factor amongst them is maintenance. The students they accept into their programs are more than just another student, but they are assets and investments. In order to ensure that their investment yields the most amount of benefit, proper resources need to be in place to support and grow said asset. Thus, LKSOM and SUNY focused a great deal on retention of URM students. It is worth mentioning that both institutions are allopathic, thus some of the resources available to them may not be the same as those seen in osteopathic institutions. With these differences in mind, the difficulty in obtaining adequate retention resources may vary but it is not impossible.

Therefore, retention needs to be one of the focuses of medical organizations and institutions in the efforts to not only obtain underrepresented students but retain them as well. This disparity is not just a problem for those directly impacted but the entire population and medical institutions alike. There is a high frequency of physician mistrust in the minority population, particularly because of the US history. Events like the Tuskegee syphilis's study have made it difficult to build that relationship and though great strides have been seen the trust is not fully present. Studies have shown that patients feel more comfortable with physicians of the same race and to physicians with which they can relate. If this is the criteria for an individual to visit a doctor, then imagine if there aren't any that fit the bill within proximity. Now we have a situation where less people are visiting the doctors, getting treatment, vaccinations, physicals and the list continues. The CDC will have a tough time trying to eradicate treatable diseases when fewer people are actively getting treated because of something that can be changed.

All these concepts are hypotheticals that can become realities quickly if not addressed. Change must start somewhere, why not at the level of training future clinicians. Coleman and Keith stated that "Pursuing diversity is imperative for medical schools, and achievement of that goal is possible, often involving considerations of race in the design of various enrollment policies and programs" (2019). The pursuit of diversity is ineffective without retention. Medical schools and medical organizations need to reevaluate what the real goal is. Is it to have a diverse cohort temporarily or is it to promote diversity and retention amongst URM students, create role models for the youth and restore their ability to aspire to be anything they put their minds to?

RECOMMENDATIONS FOR FUTURE STUDIES

Harvard's dean for diversity and partnership Dr. Joanne Reede stated "you can make a pretty picture by adding different-colored faces. But the goal of improving representation has to be added to a school's DNA — has to be embedded in the organizational infrastructure" (Samuel & Vincenzo, 2019). Via thorough analysis of the above data, retention of minority students is the missing link in the effective matriculation and graduation of URM students. In efforts to achieve this goal, the implementation of a Minority Centered Retention (MCR) program is a future direction worth exploring. Diversity is simply offering a variety or having multiple ethnicities seen in a cohort. Retention refers to the continuous possession or maintenance of the variation seen in a cohort. Therefore, if there are one or two URM students that graduate from a medical school, they have demonstrated diversity regardless of if those few students complete the journey.

Through the implementation of Minority Centered Retention (MCR) Programs, an upward trend is possible while still maintaining diversity. The aim of these programs is to create a space where minority students in medicine can obtain resources that aid in making the transition from non-professional academia into professional academia more seamless. A prime example of one resource that fits this description is the PREP program offered at the Lewis Katz school of Medicine at Temple University (LKSOM Summer Pre-Matriculation Program, 2020). With assisted transition, retention of the minority student body has the prospect of seeing a decrease in the dissonance between them and non-minority students.

MCR programs will offer group counseling sessions, peer support groups, workshops that offer tips and tools to studying pre and post matriculation, group study sessions. This program

strives to create a space where minority students feel comfortable and can share the struggles they may be experiencing that impact their abilities to succeed. With time, the facilitators (staff, mentors, and faculty) of these programs can curate workshops and resources tailored to these student's needs. With more target specific approaches, alleviation of some of the disparities between non-black/non-Hispanic white individuals and minority students will be tangible. While retention focused programs have the capability of providing long term solutions, focus on Admissions, curriculum, faculty and remedial strategies are to also be considered (Smedley, 1970). If the gap in diversity seen within the medical field is to change, change must come from all angles. Retention is key but there is more than one door that needs opening.

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