

THE HEALTH CAREERS OPPORTUNITY PROGRAM:
DETERRENTS FACED BY MINORITY STUDENTS
IN A POST-BACCALAUREATE MEDICAL
EDUCATION PROGRAM

By

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CHAPTER I

INTRODUCTION TO RESEARCH PROBLEM

In the competition to recruit minority students, most medical schools relaxed their admissions standards...On the other hand; no school relaxed its graduation requirements. Even as affirmative action spread, schools remained bound by their fiduciary duty to society to graduate only competent physicians. Accordingly, schools accepted the fact that some students would require extra help and additional time. (Ludmerer K., 1999)

Since the early 1970s, there has been a concerted effort to promote and attract minorities and disadvantaged students to the health careers to serve underserved populations (Smedley, Stith, Colburn, & Evans, 2001; Sullivan Commission, 2004). Some professions-like nursing, public health, and pharmacy- have made improvements and are moving closer to racial and ethnic parity within the population in the United States, while others, like dentistry, allopathic and osteopathic medicine, seem to be losing ground; all fall short of population equality when measured against the proportion of minorities underrepresented in medicine in the overall population (Carlisle, Tisnado, & Kington, 2001); according to 2010 census data, African Americans, Latinos, and American Indians constitute 30 percent of the population in the United States. These groups account for only 9 percent of physicians, 7 percent of dentists, 10 percent of pharmacists, and 7 percent of registered nurses (ADEA, 2009; AMA, 2006; Grumbach & Mendoza, 2008; HRSA, 2004). Shrinking budgets, rising health care expenditures,

increasing public concern about patient safety and medical mistakes, and rising condemnation of the quality of care that Americans receive add to the concern over the future of diversity of health professions and disparity in health care (Smedley, Stith, Colburn, & Evans, 2001). The health professions and health care industry have fought to retain the public's confidence that the health care system in the United States can continue to be the world's best (Smedley, Stith, Colburn, & Evans, 2001). Research has shown that there remains a critical need to recruit minorities and disadvantaged students in the health professions as they are more likely to provide health care services to minority and disadvantaged populations (Thomason & Denk, 1999) and are more likely to conduct research that targets diseases that disproportionately affect minority and disadvantaged populations than other practitioners and patients may feel more comfortable with a physician of the same race (Thomas, Manusov, Wang, & Livingston, 2011).

Affirmative Action and Medical School Admission

The effort to increase the number of minorities and disadvantaged students in the health professions and in medicine made significant progress until the undoing of affirmative action as an admission tool in several states, including the 1978 Supreme Court case of the Regents of California v. Bakke to the present (Smedley, Stith, Colburn, & Evans, 2001). The applicant pool of qualified minority applicants has been hampered-especially in California and Texas-two of the major pipelines for minorities entering the health professions (Perez, 2001). These developments contributed substantially to the decline in enrollment of African-American and Latino medical students from 1994 to 2000 (Tienda, 2001). Affirmative action as a tool for diversifying the health professions is an opportunity to respond to the influx of immigrants in communities across the country which according to census data, are

seeing more diverse rural and urban populations (Smedley et al., 2001). While the U.S. population is showing a trend of becoming more diverse, the applicant pool for minorities is again declining due to these legal decisions that struck down affirmative action programs as unconstitutional and banned race as a considered factor in the admission process (Tienda, 2001). This is magnified by a host of studies showing that minority physicians are much more likely to practice in physician shortage areas and to serve minority populations covered by Medicaid and with higher proportions of uninsured patients, and who are more likely to choose primary care specialties than are non-minority physicians (Carlisle, Tisnado, & Kington, 2001; Smedley, 2004; Smedley, Stith, Colburn, & Evans, 2001). Studies also strongly suggest that increasing the pool of minority health professionals would reduce racial and ethnic disparities by providing services for underserved poor and minority populations (Fryer 2001, Komaromy, Drumbach, Drake, Vranizan, & Lurie, 1996; Poussaint, 1999). This raises serious concerns that the number of physician shortage areas will grow, and that access to health care for people of color will become even more difficult, thus raising the stakes in the affirmative action debate (Perez, 2001).

The Health Careers Opportunity Program (HCOP)

Current efforts to achieve diversity in the medical school include Federal grant initiatives like the Health Careers Opportunity Program (HCOP) which was established in the early 1970s and focuses on preliminary education, facilitating entry, retention, and the dissemination of information and targets students throughout the educational pipeline (Baffi-Dugan & Lang, 1999; Thomson & Denk, 1999). In partnership with K-12 school systems, college and university advisers, and representatives of health-related community-based entities, the HCOP services provide a multitude of outreach services that provide role

models, mentors, and inform students, parents and teachers of career possibilities, educational requirements, and financial aid resources (Thomson & Denk, 1999). Funding for such programs is difficult to sustain over a long-term as leaders who support the initiatives are replaced by those who do not, and the administration of the programs can be costly (Thomson & Denk, 1999).

Minorities and the Post-Baccalaureate Program

The Post-Baccalaureate Program is one of the services provided by the HCOP federal grant. It was created in the 1970s as a response to the demands of medical educators for a diverse student body from many majors and backgrounds (Thomson & Denk, 1999). Medical administrators are challenged to develop effective programs for recruiting and retaining minorities and disadvantaged non-traditional students (Odom, Roberts, Johnson, & Cooper, 2007). Non-traditional students--applicants over age 23--typically comprised the members of the post-baccalaureate group of students who are usually unsuccessful in gaining admission to medical school and need a way to compete in the application process (Baffi-Dugan & Lang, 1999; Soslau, Pressley, & Mangano, 2005). The term post-baccalaureate means "after the bachelor's degree" and has resulted in a myriad of types of programs for the non-science college graduate changing careers and those designed for enhancement of an existing science record or offer a master's degree (Baffi-Dugan & Lang, 1999; Soslau et al., 2005). Within that, there are programs that target minorities and disadvantaged students. Some programs are very formal, structured, selective, and may offer guaranteed admission while others are less structured and selective and have a lower success rate (Baffi-Dugan & Lang, 1999; Soslau et al., 2005).

Minorities in Medical School

Gaining admission to medical school is very competitive. Pervasive inequities in education leave many minority and disadvantaged students unable to compete for admission, which limits the pool of students entering medical school and unprepared for the rigors of a medical education once admitted; this impacts attrition rates of students who fail to adjust and learn (Oyewole, 2002). In the past 30 years, women have made tremendous gains in representation and now near 50 percent of medical students. However, medical school representation of minorities and disadvantaged students has fluctuated between 10-15 percent since 1976 and makes up only 6 percent of the physician workforce. Minority medical school graduates comprised only 14 percent of total graduates (Rumala & Cason, 2007). These statistics are alarming considering that minorities underrepresented in medicine- African Americans, American Indians, and Hispanics-comprise 30 percent of the population in the United States (U.S. Census, 2010). Medical school administrators are searching for ways to enhance the education of minorities in order to increase the competitive applicant pool, acceptance, matriculation, and graduation rates of minority and disadvantaged applicants.

Problem Statement

Research indicates that significant numbers of minorities complete bachelor's degrees yet do not gain admission to medical school (Smedley, Stith, Colburn, & Evans, 2001; Sullivan Commission, 2004). Despite the completion of pre-health professions coursework in preparation for medical school, these students are unable to compete with non-minority applicants. Efforts to increase the pool of qualified minority and disadvantaged applicants to medical school remain stagnant and virtually unchanged. This research seeks to explore why

these students are not gaining admission to medical school after graduating with bachelor's degrees because what is unknown is who is most likely to encounter academic difficulty in medical school, when and why they encounter it, nor when, why, and how students drop out of the medical education pipeline prior to medical school.

Statement of Purpose and Research Questions

The purpose of this case study was to explore perceptions of minority and disadvantaged post-baccalaureate students and to determine why they completed course work and obtained a bachelor's degree, yet did not gain admission to medical school. It is anticipated that a better understanding of the needs of minority and disadvantaged students and the deterrents they face may shed light on the problem and better inform pre-health professions advisers, medical school administrators and academic services and student affairs personnel of the problem. Why are minorities and disadvantaged students who are graduating with pre-health professions degrees not getting into medical school? What are they lacking that is making them less competitive than non-minorities? What are the strengths and weaknesses in their applications? What support systems do they have in place? The following research questions are addressed to shed light on the problem:

1. What situational, institutional, and dispositional deterrents did minority and disadvantaged students perceive they encountered while in the post-baccalaureate program?
2. How did minority and disadvantaged students in the post-baccalaureate program address the situational, institutional, and dispositional deterrents they perceived they encountered?
3. What experiences throughout their lives did minority and disadvantaged post-baccalaureate students perceive impacted them for dealing with deterrents?

Definitions of Terminology

Adaptation-the ability of a person to change to suit new needs and environmental demands (<http://dictionary.reference.com/browse/adaptation>).

Adversity – an occurrence of distress, hardship, or unfortunate circumstances and events (<http://dictionary.reference.com/browse/adversity>).

Adviser/Advisor – an adviser is a knowledgeable, supportive individual who may be a member of the academic dean's office that oversees all academic advising at the institution, may be a faculty member, often in the sciences, who advises health professions students as well as teaches them, and perhaps even performs scientific research or is housed in the school's career center, specializing in advice regarding health careers and whose role is to provide information and guidance as students prepare for their chosen profession. (<http://naahp.org/Default.aspx?tabid=3238>).

Affirmative Action - A policy or a program that seeks to redress past discrimination through active measures to ensure equal opportunity, as in education and employment (Pickett, 2000)

African American/Black - refers to a person having origins in any of the Black racial groups of Africa and includes people who indicated their race(s) as “Black, African Am., or Negro” or reported entries such as African American, Kenyan, Nigerian, or Haitian (<http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>).

Allopathic Physician – a medical doctor (M.D.)

American Indian/Native American - refers to a person having origins in any of the original peoples of North and South America (including Central America), who maintains tribal affiliation or community attachment, and who indicated their race(s) as “American

Indian or Alaska Native” or reported their enrolled or principal tribe, such as Navajo, Blackfeet, Inupiat, Yup’ik, or Central American Indian groups or South American Indian groups (<http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>).

Asian - refers to a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam and includes people who indicated their race(s) as “Asian” or reported entries such as “Asian Indian,” “Chinese,” “Filipino,” “Korean,” “Japanese,” “Vietnamese,” and “Other Asian” or provided other detailed Asian responses (<http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>).

Caucasian/White - refers to a person having origins in any of the original peoples of Europe, the Middle East, or North Africa and who indicated their race(s) as “White” or reported entries such as Irish, German, Italian, Lebanese, Arab, Moroccan, or Caucasian (<http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>).

Coping – the process by which individuals manage both the demands that are evaluated as stressful and the negative emotions generated by this evaluation (Hobfoll, 1988). A positive way of thinking and acting in challenging situations (Virshup, 1982).

Decelerate – to slow down learning; to alter the rate at which a post-baccalaureate student receives medical education instruction to allow more time to study; to extend the first year of medical school into two years to allow students to take classes part-time.

Deterrent – an obstacle or something that prevents or discourages minorities and disadvantaged students from matriculating into and graduating from medical school

(<http://dictionary.reference.com/browse/deter>); a barrier or obstacle to participating in learning activities (Cross, 1981).

Disadvantaged Student – a medical student lacking in the basic educational and economic resources or conditions believed to be necessary for an equal position in society (<http://www.merriam-webster.com/dictionary/disadvantaged?show=0&t=1321326660>) and in the medical school applicant pool.

Diversity – the inclusion of different races and cultures in the medical school population (<http://www.merriam-webster.com/dictionary/diversity>).

Facilitator- anything that can assist in the achievement of a goal (<http://www.merriam-webster.com/dictionary/facilitate>, accessed 11-27-2011).

Faculty - the teaching and administrative staff and those members of the administration having academic rank in an educational institution (<http://www.merriam-webster.com/dictionary/faculty>).

Hispanic/Latino – the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States. People who identify their origin as Hispanic, Latino, or Spanish may be any race or a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race (<http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>).

Medical College Admission Test (MCAT) – A standardized, multiple-choice examination designed to assess the examinee's problem solving, critical thinking, writing skills, and knowledge of science concepts and principles prerequisite to the study of

medicine. Scores are reported in Physical Sciences, Verbal Reasoning, Writing Sample, and Biological Sciences. Almost all U.S. medical schools require applicants to submit MCAT exam scores (<https://www.aamc.org/students/applying/mcat/about/>).

Medical School Culture- The professional culture of medicine can be viewed as the language, thought processes, styles of communication, customs, actions, values, and presence of racial, ethnic, religious, or social groups and beliefs that often characterize the profession of medicine (http://www.medscape.com/viewarticle/569457_3).

Mentor - An experienced and knowledgeable adult who accepts the responsibility and who expresses a desire to share acquired knowledge and skills with a less experienced adult by supporting and guiding him/her and also by acting as a role model (Westhuizen & Erasmus, 1994); an adviser.

Minority – a person whose racial self-identification is African American, Asian, Native American, and/or of Hispanic/Latino origin.

Minorities Underrepresented in Medicine – students of the African American/Black, Native American/American Indian race and/or of Hispanic/Latino origin who are most underrepresented in medical school and in medicine (<https://www.aamc.org/newsroom/newsreleases/2006/87298/061116.html>).

Non-Minority- a person whose racial self-identification is White or Caucasian and not of Hispanic/Latino origin and is not underrepresented in medicine.

Osteopathic Physician - Like allopathic physicians (or M.D.s), osteopathic physicians complete 4 years of medical school and can choose to practice in any specialty of medicine. However, osteopathic physicians receive an additional 300 - 500 hours in the study of hands-on manual medicine and the body's musculoskeletal system. Osteopathic

medicine is dedicated to treating and healing the patient as a whole, rather than focusing on one system or body part. An osteopathic physician will often use a treatment method called osteopathic manipulative treatment (also called OMT or manipulation) -- a hands-on approach to make sure that the body is moving freely. This free motion ensures that all of your body's natural healing systems are able to work unhindered

(<http://www.nlm.nih.gov/medlineplus/ency/article/002020.htm>)

Post-Baccalaureate Program (“Post-Bac” or “Post-Bacc”)- a program designed to give students who have already earned a bachelor’s degree an opportunity to improve or their weak academic record and/or strengthen their knowledge in more advanced scientific undergraduate or graduate coursework. Most programs are categorized as career-changer or enhancement programs (Soslau, Pressley, & Mangano, 2005)

Post-Baccalaureate Student –a non-traditional student who has earned a bachelor’s degree and participates in a specialized post-baccalaureate program to enhance their scientific academic record prior to applying to medical school.

Race - a social construct of one’s biological heritage and lineage

(<http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>), which may include one’s social and cultural characteristics as well as ancestry such as African American/Black, White/Caucasian, Asian, Native American/American Indian, or Hispanic/Latino origin (http://www.whitehouse.gov/omb/fedreg_1997standards).

Resilience – A set of qualities that foster a process of successful adaptation and transformation despite risk and adversity (Benard, 1991).

Self-Efficacy – A personal judgment of one’s capabilities to successfully perform a particular task (Mavis, 2001), accompanied by necessary knowledge, skills, and personal beliefs (Bandura, 1977).

Visible Minority – A person who is not visibly of the majority Caucasian/White race in the United States and may be of Black/African American, Hispanic/Latino, Asian, Native American/American Indian heritage or any combination thereof.

Assumptions

Assumptions were made regarding the study based on the background of the researcher as program manager of the Health Careers Opportunity Program (HCOP) Post-baccalaureate Program at the Middle State University Center for Health Sciences (MSUCHS). First, pre-health coursework does not prepare minorities and disadvantaged students to gain admission to medical school, but decelerated pre-medical coursework will prepare students for medical school. This assumption is based on the premise that the low matriculation rate of minorities and disadvantaged students in medical school and the health professions in general continues to be a recurring problem in the United States most likely due to poor undergraduate preparation for medical school (Smedley, Stith, Colburn, & Evans, 2001; Sullivan Commission, 2004); Post-baccalaureate pre-medical programs are typically successful at preparing minorities with bachelor’s degrees for medical school due to the decelerated first-year medical curriculum and academic program support services that are in place (Smedley, Stith, Colburn, & Evans, 2001; Sullivan Commission, 2004; Taylor, 1990). Second, the outcome of the Medical College Admission Test (MCAT) will not result in a rise in test scores after post-baccalaureate participants take part in the MCAT Preparation course offered by the HCOP (Agrawal, Vlaicu, & Carrasquillo, 2005; Henry, 2006). This

assumption is guided by a predominant concept that minorities and disadvantaged students do not have the educational preparation or test-taking skills required to perform well on the standardized test (Agrawal, Vlaicu, & Carrasquillo, 2005; Henry, 2006; Smedley, Stith, Colburn, & Evans, 2001; Sullivan Commission, 2004; IOM, 2004; Whitten, 1999). Third, post-baccalaureate students will face financial limitations. This assumption is based upon the premise that students have families and financial responsibilities, may not work while in medical school, and receive insignificant financial assistance while in school (Sullivan Commission, 2004). Fourth, post-baccalaureate students are highly motivated. The premise that this assumption is based on is the inadequate matriculation and graduation rates of minorities and disadvantaged students in pursuit of higher education and professional degrees (Smedley, Stith, Colburn, & Evans, 2001; Sullivan Commission, 2004). Fifth and ultimately, post-baccalaureate students will matriculate into medical school. This assumption is based on the premise that these students were successful and graduated with a pre-professional health or non-science bachelor's degree prior to medical school, worked in the health professions and sought alternative ways to go to medical school after being denied admission the first time.

Limitations of the Study

This study contains certain limiting conditions, some related to common critiques of qualitative research methodology in general and inherent in the design of the study. Careful thought has been given to account for and minimize their impact. The overriding concern I had was not allowing any bias that I had regarding the subject frame my assumptions, interests, perceptions and needs. My participation as the manager of a post-baccalaureate program was a key limitation of this study. Another related limitation was that participants

may have had difficulty adjusting to me conducting the research which may have affected or influenced their responses. Participant reactivity may have caused participants to be cautious and less open in their responses (Maxwell, 2005; Volpe & Bloomberg, 2008).

Being aware of these limitations, I acknowledged the purpose of my research, stated my assumptions up front, scrutinized coding schemes with my adviser and colleagues, removed participant names from transcripts and coded them separately to disassociate material from individuals (Volpe & Bloomberg, 2008). Pseudonyms were assigned to protect the identities of the participants and the location of the institution and the program. Moderators were assigned to conduct individual interviews and focus group discussions. An emphasis was made to assure anonymity and confidentiality of individual's participation in and comments made during the discussions.

The Researcher

At the time of this study, I was employed as the HCOP program manager at the MSUCHS and brought to the study practical experience as a working professional charged with the responsibility of recruiting and advising prospective post-baccalaureate students, managing a one-million dollar budget, participating as a member of the HCOP admission committee, writing federal grants and reports, tracking program participants in all HCOP services, supervising staff and recruiting volunteers, hiring educators for the summer high school enrichment program, developing marketing materials, establishing partnerships with community-based and educational institutions of all levels and of developing a pipeline of educational program geared towards the health careers and medicine in particular. To eliminate judgment regarding the research design and interpretation of the findings, I utilized moderators to conduct the interviews. Triangulation of data sources and methods strengthen

credibility of the research. Data was collected through observation of participants and nonparticipant interactions, audio-taped semi-structured interviews and focus group discussion, observation of application data, yearbooks, email, marketing and website material, diversity plans and class pictures.

Rationale and Significance

The rationale for this study came from the researcher's desire to identify ways to help students prepare for careers in the health professions. These students may be middle school, high school, pre-medical, and graduate students, students with non-science majors or career changers. Increased understanding of the systematic educational approach needed to increase the number of minority and disadvantaged medical students to be proportionate to minority and disadvantaged populations across the country may result in increased numbers of minority and disadvantaged students in the health professions and reduce health care disparities in underserved communities--a benefit to the nation.

CHAPTER II

REVIEW OF THE LITERATURE

The critical ontology of ourselves has to be...conceived as an attitude, an ethos, a philosophical life in which the critique of what we are is at one and the same time the historical analysis of the limits that are imposed on us and an experiment with the possibility of going beyond them.

—Michel Foucault, 1984, p. 50

Introduction

In this chapter I sought to understand how the experiences of these participants may have impacted their progress in gaining admission to medical school after they completed a bachelor's degree. To carry out this study, it was necessary to complete an in-depth review of the literature. This overview includes a review of the literature pertaining to the history of minorities in medicine, affirmative action, and deterrents and facilitators of medical school admission. This chapter begins with the historical context of minorities in medicine which highlights the historic under-representation of minorities in medicine and recruitment initiatives, challenges to affirmative action programs and other deterrents to admission. There were no time delimitations due to the historical context relevant to this study.

History of Minorities in Academic Medicine

The question of training minority health providers to serve in minority communities extends back at least to the 1910 Flexner report, which advocated that black

doctors be marginalized and trained exclusively to serve the African-American population (Smedley, Stith, Colburn, L., & Evans, 2001), resulted in the closure of all but two historically black medical schools - MeHarry Medical College and Howard University School of Medicine - until 1978, and led to the development of admission standards that created barriers to medical school admission for blacks who, at 10 percent of the general population, were the largest racial minority in the United States at that time (Sullivan & Mittman, 2010). Abraham Flexner- was an education theorist- who, among others, is credited with raising the quality of American medical education, but who viewed blacks as a “source of contagion and infection” (p. 248). He believed that the black community should be served by black physicians who would mostly serve to maintain the principles of hygiene, sanitation, and civilization “rather than surgery” (p. 248), and limit exposure to the white population (Sullivan & Mittman, 2010).

The prevalence of racism and segregation was as pervasive in medicine as it was deeply rooted in the American society. Although an osteopathic medical degree was granted to a black woman, Meta Christy, in 1921 and Harvard Medical School appointed its first black professor in 1949, MeHarry Medical College and Howard University School of Medicine were, for the most part, the only medical education options for the blacks who aspired to a career as a physician. Ninety-seven percent of medical students were white and the remaining three percent, with a few exceptions, attended MeHarry and Howard (Shea & Fullilove, 1985). In 1940, the American Medical Association stopped listing black physicians as “colored physicians” separate from white physicians in their catalogue (Cammarata, 2010, accessed 11-25- 2011). The Civil Rights Act of 1964 prompted medical schools to desegregate in order to receive federal funding for

student financial aid and the construction of new buildings, and hospitals were forced to integrate to receive reimbursement for services rendered to patients insured through newly created Medicare and Medicaid services (Shea & Fullilove, 1985). By 1966, blacks were admitted to all medical schools in the U.S. As late as 1969, despite the significant gains in the United States as a whole in the area of civil rights (Carlisle, Tisnado, Kington &, 2001), there were only 292 minority medical students of all ethnicities matriculated into the medical schools in this country, three quarters of whom were enrolled at Meharry and Howard (AMSA, 1996).

From the 1970s until the mid-1980s, in an aggressive effort to increase minority representation in medical school, the Association of American Medical Colleges (AAMC) established and revised equal opportunity initiatives to increase minority medical student population to 12 percent, to create a central loan program for minorities, and to increase the number of practicing minority physicians on the premise that minorities were more likely than non-whites to serve minority populations (Blakely & Broussard, 2003; Cullison, Reid, & Colwill, 1976; Rourke, 2005; Strayhorn, 1999; Woloschuk & Tarrant, 2002). However, a central loan program was never created (Hanft, 1984; Sullivan, 2004). By 1976, the recruitment initiative yielded a 9 percent rate of minority matriculation, almost 1400 students, less than planned. In 1978, with renewed vigor, the AAMC Task Force report raised its goal to recruit 1,800 minority medical students across the country through educational partnerships (Nickens, 1999). This recruitment trend continued throughout the 1980s.

For majority students, acceptance to medical school was less competitive and due to an increase in African American applicants with no change in acceptance rates,

acceptance for African Americans was more competitive (Hanft, 1984). In the 1980s, the Graduate Medical Education National Advisory Committee predicted a surplus of 55,000 physicians by 1990, and others predicted a 30 percent surplus by the year 2000, but did not include minority health professionals and underserved areas that have large African American and Latino populations and worse health status measures (Hanft, 1984; Nager & Saadatmand, 1991). Acceptance rates eventually increased for both groups, yet minority rates lagged behind majority acceptance rates. By 1991, 48 percent of under-represented minority (URM) applicants were accepted compared to 53.5 percent of white applicants (Crowley, 1987; Jonas, Etzel, & Barzansky, 1992; Jonas, Etzel, & Barzansky, 1993). Minorities comprised 22 percent of the general population but only 3 percent of the medical faculty (Jolly, 1988; Rivo & Satcher, 1993).

In response to the lack of minority medical faculty and students, the AAMC chartered *Project 3000 by 2000* in 1991 with the goal of enrolling 3000 minority medical students by the year 2000 (Thomson & Denk, 1999). In the following two years, minorities entering medical school increased to 12 percent, only 2,010 minorities, entered in 1995 and to 15.1 percent in 2008 (AAMC, 1995, 1996; Sullivan & Mittman, 2010). In 2004-05, colleges of osteopathic schools reported that ethnic minority numbers, including Asian/Pacific Islanders, Blacks, Hispanics, and Native Americans was 23.9 percent of total enrollment (Griffin & Sweet, 2006).

In 2009-2010, AACOM and AAMC stated minority enrollments across the board saw small increases, but in 2011, more than forty years after the establishment of the first medical school diversity initiative, minority enrollment in medical school remains a recurring issue of underrepresentation. The numbers of minority and female students

applying to and entering medical school has increased significantly over the years; in fact, minorities apply to medical school at a higher rate than non-minorities- about 28 per 1000 versus 24 per 1000 (<http://www.medscape.com/viewarticle/720541>, accessed 11-25-2011) . The number of women applicants and matriculants is almost equal to that of the general population, but for minorities, application and enrollment has essentially ebbed and flowed since 1976 even as the number of colleges has grown (AACOM, 2011; AAMC, 2011). In 2011, women comprise around 50 percent of total medical student enrollees and graduates up from 3 percent in 1968 partly due to the rise in applications to medical school (AACOM, AAMC, 2010). The limited pool of leaders and mentors in the health professions has been addressed in research as minorities now comprise 26 percent of the general population but only 7.4 percent of medical faculty and 8.7 percent of practicing physicians are Latino, African American and Native American (Census, 2010; <http://www.amsa.org/AMSA/Homepage/about/priorities/diversity.aspx>, accessed 11-25-2011). Minority enrollment numbers have not kept up with the growing minority population (Cohen, 1994; Jonas, Etzel, & Barzansky, 1993; Rivo & Satcher, 1993; Singer, 2001; Sullivan Commission, 2004; Sullivan & Mittman, 2010).

Affirmative Action

In addition to this significant underrepresentation of minorities in medicine, diversification efforts continue to be exacerbated by the continued acts of Congress to cut funding to minority recruitment programs, the overall funding of medical education, and the legislative dismantling of affirmative action programs in the United States (Smedley, Stith, Colburn, L., & Evans, 2001; Sullivan Commission, 2004). In the 1978 landmark case *Bakke vs. University of California-Davis School of Medicine*, the Supreme Court

ruled that race quotas were unconstitutional and that race used as a "plus-factor" in admissions must serve a "compelling state interest" that is "narrowly tailored" to achieve that goal (Tienda, 2001). Several events—including public referenda, judicial decisions, and lawsuits challenging affirmative action policies in 1995, 1996, and 1997—the Fifth District Court of Appeals finding in *Hopwood v. Texas*, the decision of the California Regents to ban race or gender-based preferences in admissions, and passage of Proposition 209 California Civil Rights Initiative and Initiative 200 in Washington State—have challenged affirmative action policies and threaten efforts to achieve diversity in medicine, resulting in a decrease in minority enrollment in medical school (Perez, 2001). On June 23, 2003, the U.S. Supreme Court ruled in *Grutter v. Bollinger, et al.* that schools may use race in admissions decisions to support the recruitment of a diverse student body (Cohen, 2003). In *Gratz et al. v. Bollinger et al.*, the Court held that race as a factor can be considered in undergraduate admissions, but the automatic distribution of points to students from underrepresented minority groups should not be standard—without further consideration of their other individual attributes (Perez, 2001).

The opposition to diversity based on race has spurred medical school administrators of post-baccalaureate programs to switch from a racial minority recruitment focus to that of an emphasis of the benefits and impact of diversity. They now focus on a student population that has an economic and education disadvantage, which cuts across many factors including gender, race, class, rural and urban demographics. Wayne State University operates the oldest post-baccalaureate program in the United States—its recruitment focus was African Americans in 1969 and was not duplicated until 1990 and shifted due to the Bakke court decision in 1979 (Whitten,

1999). Medical school administrators continue to strategize on how to circumvent legal issues while meeting the demands of the profession and of this diverse society by training underrepresented minorities to become physicians.

Sullivan and Mittman (2010) warned that the efforts to recruit minorities and disadvantaged students to serve their own communities as health care providers is a modern day version of the 1910 assertions of Flexner. They stated that the “only area in which diversity is suggested as beneficial to persons from all races is the argument that the intellectual, cultural, and civic development of all students are enhanced by learning in an ethnically and racially diverse educational environment” (p. 248). They acknowledged the benefits of a diverse health workforce to the health care and health status of minorities and the data that are “compelling and indisputable...and essential to the delivery of high quality, equitable health care” yet called attention to its “broader scope of benefits” to “expand the dialogue on the case for diversity (p. 248).”

They suggested that though research data have shown minorities report greater satisfaction when cared for by a minority of a similar race, it does not mean non-minorities cannot relate to or provide quality health care to the satisfaction of a minority patient (Sullivan & Mittman, 2010). Along with Grumbach and Mendoza (2008), Cohen, Gabriel, and Terrell (2002) stated that while minorities are often more likely to serve in vulnerable communities, they should not be limited or obligated to serving only underserved communities as it demotes their role to that of a public servant, and releases non-minorities of their responsibility to help eradicate health care disparities; both highlight that the benefits of a diverse workforce should be increasingly recognized by pointing out that exposure to diverse groups of people improves overall team and

institutional performance. Nivet (2010) and Page (2007) articulated that diversity improves overall performance of teams and institutions, leads to cognitive diversity and improves the problem-solving capacity and creativity of teams. In short, cognitive and social growth is spurred on by exposure to differences in opinion, perspective, experiences and interests, which can lead to solutions to previously unsolved medical problems. None of which can occur, if we are not exposed to diverse conditions.

The Medical Professions Pipeline

The AAMC adopted a pipeline metaphor to illustrate the underrepresentation of minorities in medicine; the pipeline from high school to medical school represents a twelve year educational continuum during which the interest of a student in and capacity for an education in medicine is enhanced or dissipated (AAMC, 1992). Today, pipeline programs extend as far back as kindergarten since students may show a inclination for science at a young age and many decide before the end of high school which profession they want to pursue (Cregler, Clark, & Jackson, 1994; Crump, Byrne, & Joshua, 1999; Curran-Everett, Collins, Hubert, & Pidick, 1999; DeRosa & Phillips, 1999; Doyle, 1999; Goodell, Visco, & Pollock, 1999; Marsteller, Parker, Quinones, Neal, & Donnellan, 2006). The pipeline metaphor does not mean to imply a direct path to becoming a physician, does not consider quality of education and academic preparation, or suggest that the flow of people overtime constitutes a longitudinal study; rather it serves as a description of the potential applicant pool for the field of medicine (Nickens & Ready, 1994). It looks at the total population of a cohort of students, the percentage of high school graduates, college attendees and graduates, those who major in science and apply and are accepted to medical school, and suggests from those numbers potential losses

from the pipeline. Solving the problem of the minority underrepresentation in medicine is complex, but it includes increasing the pool of qualified minority medical school applicants. An increase cannot occur if minority attrition rates in high school, college, and medical school remain high. One reason stated for high attrition is due to all students, including minorities, being underprepared and experiencing academic difficulty, at every level of education, for academic curriculum which causes academic difficulty and withdrawal from school and other reasons include financial, family health problems, and loss of interest in a medical career (Barr, Gonzalez & Stanley, 2008; Fogleman & Zwagg, 1981; Girotti, 1999; Thurmond & Kregler, 1999). Despite the challenges, many minority students do persist to obtain medical degrees (Alexander, Chen, & Grumbach, 2009). However, if the U.S. is to improve the quality of health for underserved communities by increasing the percentage of minority physicians, a focus should be placed on the root of the problem (Sullivan Commission, 2004). The key to overcoming deterrents in the educational pipeline of medical professions is to identify the deterrents and employ strategies and the funding to overcome them.

Deterrents to Medical School Admission

A deterrent is something that prevents or discourages, in this case, minorities and disadvantaged students from matriculating into and graduating from medical school. A number of potential deterrents to medical admission have been documented in research. Most commonly these include financial limitations, poor academic preparation, lack of encouragement in the pursuit of academic achievement, a lack of role models and mentors, poor advisement, discrimination, and lack of understanding and support in the

process due to first generation status as a medical student (Sullivan Commission, 2004; Smedley, Stith, Colburn, L., & Evans, 2001).

Financial Limitations

Discussions surrounding the issues of finances remain the center of concern for many minority and disadvantaged medical students. There is an inadequate supply of available funds, and their families cannot afford the cost of such an expensive education--especially if they had trouble financing an undergraduate education (Lutz, 1991; Rainey, 2001). This limitation deters many students from applying to medical school, and serves as a distraction while in medical school, or in combination with other cultural dynamics, serves to negatively impact an already small group of qualified minority applicants.

There is a need to improve funding for programs to support community initiatives and for Latinos pursuing health careers as they have high attrition at all educational levels, lack role models and advocates, attend urban schools and are least likely to have parents who can support them (Trevino et al, 1993). In 1992, The Secretary of the Department of Health and Human Services (DHHS) requested over \$130 million which among many things would support minority students in predominantly white institutions and pursuing doctoral degrees and K-12 pipeline science initiatives (Jolly, 1992).

Longer range plans include linking black colleges with research universities, two and four-year college alliances to help students complete science education and middle and high school programs (Mervis, 1992). The Gateway to Higher Education program at City University of New York (CUNY) Medical College targets 7th, 8th and 9th graders and at a cost of \$1,200 per student, provides tutoring, advanced math and science courses, communication skills, mentoring, and summer academic/research programs. Of the first 119 graduates that enrolled in college, 114 had state and national exam scores higher than

were predicted. Only three students out of 600 dropped out of high school, and their attendance was improved (Slater, 1991). In spite of the dollars invested thus far, strategies continued to be scrutinized on how best to meet the needs of minority students at each stage of the educational continuum and improve the diversity of medical schools (Jonas, Etzel, & Barzansky, 1993).

Substandard Academic Preparation

Poor academic preparation is a major deterrent to college and even more so for medical school admission even for minority and disadvantaged students who navigate their way through college and graduate with a bachelor's degree (Soto-Greene, Wright, Gona, & Feldman, 1999). There are over a hundred enrichment and post-baccalaureate medical education programs available across the United States (<http://services.aamc.org/postbac/getprogs.cfm>, accessed 11-27-2011). The purpose of the enrichment and post-baccalaureate program is to provide a delayed or remediated curriculum in order to overcome any learning deficiencies to successfully complete a medical education (Buffi-Dugan & Lang, 1999). Of course, tens of thousands of people apply to medical school every year with the hope of filling even fewer vacancies, but these programs are in place to help prepare students who are career changers or underprepared for a medical school education.

Academic skills. The literature reveals that minorities and disadvantaged students enter medical school with poor study habits and time management skills, lower grade point averages, and MCAT scores (Haight, 1996; Clewell & Deyser-Smith, 1983, Agrawal, Vlaicu, & Carrasquillo, 2005). Darling-Hammond (2001) suggested, "Tests should improve teaching and learning, and should not, serve to reinforce tendencies to

sort and select those who will get high quality education from those who will not” (p. 226).” Minorities who experience academic difficulty in medical school are at-risk of dropping out due to inadequate preparation in the basic sciences and for failure to adapt to the reading and study load of medical classes (Shields, 1994). Those who are successful, practice self-discipline, are motivated, manage their time and employ effective study skills are more successful (Henry, 2006).

Academic Advisement. The lack of appropriate and adequate academic advisement leads to poor academic preparation for minority and disadvantaged students seeking careers in medicine. Minority students report receiving inappropriate or no advisement in high school and college and are not encouraged to go into medical careers, but into careers that are less rigorous (Thomas, Denk, Camacho, & Thompson, 1996). As a result of inappropriate counseling, students are unaware of acceptable courses to take in preparation for medical school and of college admission requirements and process (Tekian, Jalovecky, & Hruska, 2001).

Advisers serve as a liaison between medical schools and applicants and provide students not only with information regarding the medical school application process, but also about what grade point averages, test scores, and types of activities are needed to be competitive (www.naahp.org). This type of information is valuable to students. Minorities should be advised to focus on math, science, communication and English language skills in high school and an undergraduate education that is balanced with coursework in social sciences, natural sciences, humanities and that promotes problem-solving and study skills (HCOP, 2002). Caplan, Kreitner and Albanese (1996) found no benefit to taking premedical courses, such as histology, in preparation for medical

histology and suggested students choose arts and humanities courses to broaden their learning in subject areas outside of science.

The important role academic advisers play in the success of students is especially critical for minority and disadvantage students and can be most effective if advisers begin talking to, listening to, and interacting with students from diverse backgrounds and make them feel welcome and cared about which is crucial to developing any relationship and retaining students (Bynum, 1999; Garing, 1992; Herndon et al., 1996; Winston et al., 1984). Perhaps due to its systematic, detailed, nurturing, and encouraging advisement approach to each student, Xavier University in New Orleans, LA, produces more African American medical school matriculants than any other undergraduate institution in the nation (Curtis, 2003; Moller, 2005; Oyewole, 2001).

Lack of Encouragement

Research shows that minorities report they are often not encouraged to pursue a medical career which hinders their chances of being a competitive applicant to medical school and such oversight does not foster a feeling of connection between students and their institutions (Brown & Rivas, 1992; Davis & Davidson, 1982, Epps, Johnson, & Baughn, 1994; Kuh, Kinzie, Schuh, & Whitt, 2005; Sullivan, 1983). Many students have rated advising as weak and often do not find advisors to be helpful (Saving & Keim, 1998). Rumala and Cason (2007) suggested that minority and underrepresented students consider the value of minority and multicultural pre-medical and medical student organizations as untapped resources of recruitment, peer support and in retaining students.

Lack of Role Models and Mentors

Minority students have little interaction with role models or mentors on college and medical campuses because they are scarce, which suggests that it is not realistic to pursue such a career (Cullen, Rodak, Fitzgerald, & Baker, 1993; Nivet, 2008; Sullivan Commission, 2004). Mentoring programs can aid in the recruitment and retention of minorities in medicine, provide clarification about professional programs, and assist in personal development and career goal selection which all lead to successful outcomes (Cullen, Rodak, Fitzgerald, & Baker, 1993; Tekian, Jalovecky, & Hruska, 2001; Thomas, Denk, Camacho, Thompson, 1996).

Racism and Discrimination

Racism and discrimination are still experienced on college and medical school campuses in departments and between students, faculty, staff and peers and can be a barrier to admission if medical schools do not have dialogue regarding these concerns. Minorities and non-minorities may often have different perceptions of prejudice and racism that can be eradicated through programs and classes that suggest proactive ways of coping (Lackland, McLeod-Bryant, & Bell, 1998).

Psychosocial Issues

The psychosocial theory of Erickson (1963) is based on the premise that personality is developed in a series of stages and the development of the ego identity, the conscious sense of self developed through social interaction, is constantly changing as a sense of competency or inadequacy emerges depending on success or failure to master an area of life. Minority and disadvantaged medical students encounter recurring issues of mistrust, hidden and overt racism and discrimination, and isolation and can harm the

psyche (Kiessling, Schubert, Scheffner, & Burger, 2004; Lee, & Graham, 2001; Moffat & McConnachie, Ross, & Morrison, 2004; Rodolfa, Chavoor, & Velasquez, 1995; Ross, & Morrison, 2004).

In a study by Moffat and McConnachie (1995), counselors described a “second acculturation” that occurs when minorities attempt to fit into the medical school culture. Students in the study discussed how unspoken rules of medical school are to make medicine the highest priority in life, to stay emotionally detached and objective, intellectually competitive and superior, and rooted in tradition. In contrast, minority students believe the highest allegiance should be granted to loved ones, emotional connections are a necessary to patient physician trust and professionalism, and cooperation facilitates a sense of belonging and confidence that enhances, not impedes, the learning process (Rodolfa, Chavoor, & Velasquez, 2004). These contrasting values cause psychological distress in minorities.

Minority students also discussed the feeling of having “multiple identities” within their own communities as some were proud of their accomplishments and others considered them “sell-outs” (Rodolfa, Chavoor, & Velasquez, 2004, p. 14).” Other interactions with the non-minority students made medical school a stressful experience when the minority students were treated as though they represented their entire respective racial group or were described as exceptions to their race. Minorities at predominantly white medical campuses have often expressed feelings of isolation and adverse conditions (Sullivan, 2004). In *Colored Men in Medicine* in 1985, Dr. L. T. Burbridge wrote:

I say then, it’s hopeful yet the path of the Negro doctor are by no means strewn with flowers. Isolated as many of them

are, from a daily intercourse with colored men of their own profession and despairing of any assistance from the opposite race, often their only recourse is their books or journals... Turning back is not to be thought of, go ahead is a must (p. 226).

Minorities and disadvantaged students at predominantly white institutions have difficulty making the adjustment to institutional environments that lack diversity and are socially alienating and experience a climate of distrust and victimization (Allen, 1991). For these reasons, the very factors that are reported as deterrents to medical school admission and retention, such as lack of minority role models and peer support, can also be facilitators of success once established on campus (Rumala & Cason, 2007; Watson, 2003).

Students who are motivated, resilient, and self-efficacious--as many minority and disadvantage students may be due to their early and life-long experiences--are able to cope with problems and setbacks and utilize their strengths to quickly recover and overcome the difficulties and crises that are occur in life in order to survive and prosper (Bandura, 1977) . Motivated, resilient, and self-efficacious students coupled with effective facilitators may be a partial formula for success.

Facilitators to Medical School Admission

A facilitator is anything that can assist minorities and disadvantaged students in the achievement of gaining admission to medical school. In the aftermath of the anti-affirmative action court decisions, the post-baccalaureate program has become the best facilitator to increase minority and disadvantaged matriculation in medical school.

The medical schools in this nation have not succeeded in their efforts to achieve greater and sustained diversity, even though it is a problem that can be solved. In light of this, the setbacks caused by 1979 Bakke court decision caused some of the oldest, non-traditional minority-focused programs, like the post-baccalaureate program founded in

1969 at Wayne State University, to shift focus to a race-neutral admissions approach that targeted disadvantaged students irrespective of race or ethnicity (Steinecke, Beaudreau, Bletzinger, & Terrell, 2007; Whitten, 1999). Throughout the primary and secondary education pipeline, too many students are failing, disadvantaged, racial and ethnic minority students are receiving a substandard K-12 education, scoring lower on standardized tests and have elevated high school attrition rates and low college enrollments. As of 2009, approximately 71.5 percent of whites reported having a four-year degree, compared with 9.8 percent of African Americans, 8.1 percent of Hispanics, 7.1 percent of Asians or Pacific Islanders, and 0.8 percent of American Indians (U.S. Census Bureau, 2010).

Even talented minority students who do succeed at primary, secondary, and collegiate levels, and who are committed to pursuing a career in one of the health professions, often find it difficult to gain admission to a health professions school. Frequent deterrents encountered include the low applicant pool of minorities (Cammarata, 2010; Thomson & Denk, 1999), standardized testing in the admissions process, unsupportive institutional cultures, insufficient funding sources, and leadership without a demonstrated commitment to diversity (Biemiller, 1985; Sullivan Commission, 2004). Once in medical school, minorities and disadvantaged students may be at risk for academic difficulty; many do succeed despite difficulties, and others may need assistance prior to it becoming a problem that causes them to delay or discontinue their medical education (Huff & Fang, 1999). Many minority students drop out of the "medical school pipeline" (Petersdorf, 1992) for reasons that may include dwindling financial aid, less-than hospitable climate for minorities on many college campuses, poorly taught

introductory science courses, and poor academic preparation prior to college. Most successful undergraduate programs attempt to address at least some of these issues (Hanft, 1984; Scheffler, Yoder, & Weisfield, 1979; Sullivan Commission, 2004).

Non-Traditional Medical Education Programs

The review of literature revealed many different approaches to address the diversity and retention in medical schools that target students at various educational levels, including medical school, pre-matriculation, post-baccalaureate, undergraduate, secondary and primary education (AMSA, 1996; Sullivan Commission, 2004; Thomason & Denk, 1999). There are long-term and short-term strategic interventions. The long-term approach follows the asserts that the applicant pool must reach young people in their primary and secondary stages to support their aspirations, facilitate career exploration and enrich the substandard high school education through community and pipeline programming, for example, middle, high school, college and medical school and community based agency partnerships (HCOP, 2002). The short-term approach relies on the prospect of an immediate and qualified applicant pool of students with at least an undergraduate degree. The short-term approach usually requires institutionalized programming, utilization of faculty and funding. Criticism of both of these approaches include unstable financing, which creates interruptions in programming and tracking of participants, lack of fully institutionalized programs, inconsistent terminology and program components, and ineffective evaluation methods (Carline, Patterson, & Davis, 1998a; 1998b). Furthermore, as with all issues surrounding attrition, little is revealed about when, why and how students drop out of the pipeline or face difficulty in medical school. Although these programs are an increasing trend in higher and professional education, some researchers state it is not readily apparent that K-12 pipeline programs

increase the number of minorities in the health careers or medical school. There is research that suggests the presence of medical school programs are positively associated with the enrollment of minority students (Cantor et al., 2000; Strayhorn, & Karen Demby, 1999).

The best programmatic approaches to diversifying the medical professions are well-designed comprehensive pipeline programs that have short-term and long-term goals, well-designed evaluative methods and pro-active strategies for making an impact in recruiting and retaining minorities enrolled in medical school (Tekian, 2000). Strategies for diversifying and retaining minorities in medical education include extensive outreach efforts to inform and educate undergraduate minority and disadvantaged students of the medical school application process: offer decelerated curriculum and academic support; highlight the value of minority premedical and medical student organizations; inform students of MCAT workshops and financial aid opportunities; emphasize the benefit of working closely with admissions officers and staff and visiting medical school campuses; offer students a chance to meet professors, upper-class medical students and first year classmates; hold small-group review sessions and offer assistance on second-year and fourth-year licensing examinations (AMSA, 1996; Girotti, 1999; Scheffler, Yoder, Weisfield, & Ruby, 1979; Strayhorn, 1999).

Medical Schools

Minorities in medical school have successfully managed the academic challenges of an undergraduate education and have convinced an admissions committee they are equipped with the academic capacity and motivation necessary for a medical career (Puryear, & Lewis, 1985; AMSA, 1996). The first two years of medical school are the most crucial and problematic for students for various reasons, but most literature points to

the failure to adjust quickly enough to the pace of medical school, failure to develop effective methods of study, the absence of a strong background in the basic sciences, and deficiencies in critical thinking, problem-solving, and reading comprehension (Johnson, 1985; Odom, Roberts, Johnson, & Cooper, 2007). Effective retention strategies at this level require a certain amount of individualization in early assessment and interventions that include counseling programs involving a discussion about policies of remediation, external stressors, effective study skills, time management, tutoring, and as an alternative to dismissal offer decelerated or a split first year curriculum for minority and non-minority students (AMSA, 1996; Segal, Bruno, Gillum, & Johnson, 1999; Sullivan Commission, 2004).

Post-Baccalaureate Program

The post-baccalaureate program targets students who have graduated from college and have been unsuccessful in gaining admission into medical school; it is successful because it gives students the time to improve their study skills and to enhance their basic science background- before carrying the full course load of medical school (Baffi-Dugan & Lang, 1999; Blakely, Desmond, & Potter, 1999). Students are informed about the performance needed to gain acceptance into medical school at the beginning of the program (Northcross, 1996). The structure of the program may vary, but it usually lasts one academic year and begins with an intense summer session. The session involves MCAT preparation, classes on study skills and time management, and ends with core basic science classes (Soslau, Pressley, & Mangano, 2005). In many programs, minority students are in the majority, which provides an atmosphere that is less stressful and more conducive to learning, where advanced students serve as role models, inspiration, and provide valuable advice and encouragement (Moore, 1996). The program often offers

stipends for living expenses and assures students that their hard work will be rewarded through guaranteed admission (Baffi-Dugan & Lang, 1999; Soslau, Pressley, & Mongano, 2005).

Mcgrath and McQuail (2004) conducted a study in which they sent a 13-item survey to all US medical schools regarding the characteristics of their decelerated medical education program and found that over half of the programs did not offer unique support activities beyond deceleration. Since attrition is of great concern regarding minorities and disadvantaged students, schools administering decelerated programs should establish comprehensive support services that tend to the needs of this special population of students (Odom, Roberts, Johnson, & Cooper, 2007).

Faculty and Peer Support

A major asset to the medical education programs like the post-baccalaureate program is the utilization of medical faculty and medical students in the orientation of post-baccalaureate students to the medical climate and curriculum. This study did not set out to measure the impact of these relationships; however, the importance of peer and faculty support is evident in the literature and paramount to retaining students such as those in this study. Tinto (1987) stated that relationships between faculty, staff, and students should go beyond the formal academic setting to be impactful and beneficial. Although minority faculty and peers are a rarity in predominantly white medical schools, students may seem less concerned with faculty in general as role models and more interested in their role in lessening academic problems and sharpening their test-taking or study skills (Bonnett & Douglas, 1983). The counseling and academic advising that faculty can provide students assures that they can learn new skills and master new

knowledge; this can evoke confidence needed to persist, which is of particular concern with underprepared minority and disadvantaged students. Fernandez, Whitlock, Martin and Van Earden (1998) evaluated a pilot program that specifically targeted academically underprepared freshmen at a liberal arts college and found that student participants paired up with a professor whom they met with once a week, had lower attrition rates and higher grade point averages than their peers in comparison (Fernandez et al., 1998). Students in the post-baccalaureate group have an instant access to faculty during their summer sessions, which, due to the small class size, provides opportunity for more personalized instruction and opportunity for advisement.

Peer relations are of particular importance to the well-being of minority and disadvantaged students, which is why current initiatives stress the importance of creating a critical mass of minority students. Beyond interaction with supportive personnel, minorities at predominantly white institutions often feel socially isolated from their peers and risk dropping out of medical school or suffering psychological setbacks that may lead to depression, stress, and substance abuse, among other things (Tinto, 1987; Pascarella and Terenzini, 1979; Stecker, 2004). The culture of medicine is one of individualism, superior academic achievement, and competition. Weakness is often attributed to those who need help or appear to struggle. Minority students often experience social isolation and difficulties in adjustment more so than do non-minorities and rely on one another for support.

Swail (2003) asserted that institutions must direct attention to providing opportunities for informal and formal social interaction and support to facilitate persistence. The cohort of post-baccalaureate students has the added advantage of being

an immediate support in and of itself. They often spend countless hours together learning and studying medical curriculum and leaning on each other in stressful times during the semester. Retention rates increase and performance improve when students have institutional and peer support (Fields, 2002). It is when effective support services are in place that learning is best accomplished.

Summary of the Review of the Literature

This chapter reviews literature surrounding the issue of the history of minorities in academic medicine, anti-affirmative action court decisions, the medical education pipeline, the deterrents and facilitators of minority and disadvantaged student participation in medical education and the ways they have learned how to learn medical curriculum. The majority of the researchers who have attempted to identify causes for the under-representation of minorities in medical schools have concluded that the public urban and rural school systems poorly prepare students for college, which impacts the pool of qualified underrepresented minorities making application to medical school (Henry, 2010). Educational pipeline programs, from kindergarten through high school, focus on providing a quality education to these populations most likely to be poorly educated. Changing the current conditions of poor educational preparation for higher education and medical education for minorities and disadvantaged populations will require a long-term commitment of local, state, and federal funding, hiring certified educators, the utilization of community organizations and volunteers, proper advisement from faculty, mentors and counselors, and educating family members on the education process. Therefore to answer questions left unanswered in the literature review, this study will explore when, why, and how the post-baccalaureate students were deterred from gaining a medical education.

CHAPTER III

METHODS AND PROCEDURES

Introduction

The purpose of this case study was to explore and describe minority and disadvantaged post-baccalaureate students' perceptions of why they completed a bachelor's degree yet did not gain admission into medical school. This research utilized qualitative case study methodology to describe the perspectives under examination. The philosophical assumption that guided this study was from an ontological (Creswell, 1998) and a postmodern ideological perspective (Mertens & Ginsberg, 2009). In seeking to understand this phenomenon of why minorities with bachelor's degrees do not gain admission to medical school I used theoretical framework based on barriers to adult learning by Cross (1981) who stated that barriers can be classified under three headings: situational, institutional, and dispositional. *Situational barriers* arise from one's situation in life at a given time such as lack of time due to home responsibilities, lack of money and transportation. *Institutional barriers* consist of all those practices and procedures that exclude or discourage working adults from participating in educational activities such as inconvenient scheduling or locations, standardized tests, and course fees. *Dispositional barriers* are related to attitudes and self-perceptions about oneself as a learner such as feeling too old to learn or lacking confidence in one's ability to learn.

This study addressed three research questions based on research of barriers to adult learning conducted by Cross (1981):

1. What situational, institutional, and dispositional deterrents did minority and disadvantaged students perceive they encountered while in the post-baccalaureate program?
2. How did minority and disadvantaged students in the post-baccalaureate program address the situational, institutional, and dispositional deterrents they perceived they encountered?
3. What experiences throughout their lives did minority and disadvantaged post-baccalaureate students perceive impacted them for dealing with deterrents?

This chapter describes the study's research methodology and includes discussions around the following areas: (a) rationale for research approach, (b) research approach, (c) profile of participants, (d) organizational history and mission, (e) MSUCHS campus description, (f) information needed to conduct study, (g) data collection methods, (h) methods of data analyses and syntheses, (i) ethical considerations, and (j) issues of trustworthiness.

Rationale for Case Study Methodology

A qualitative case study design was best suited for this study, an in-depth, qualitative study of one or a few illustrative cases (Hagan, 2006). As Merriam (1998) indicated, qualitative case study is an ideal design for understanding and interpreting educational phenomena. The process of conducting a case study depends on what one wants to learn and the significance that knowledge might have for extending theory or improving practice (Merriam, 2002). This case study sought to understand why minority students who held bachelor's degrees were unable to gain admittance into medical

school. Moreover, it fit the criteria for a case study methodology and could be used to better inform pre-health advisers and higher education and medical school practice.

Berg (2007) stated that a case study may be narrowly focused or, as in this case study, may be focused on the description of a broad view of life and society. In this study holistic data on the background, life and educational experiences, motivations and deterrents faced by post-baccalaureate students were explored, gathered, and described to provide a broad understanding of the participants' experiences and the bounded medical school system in which they functioned.

Research Approach

The researcher received approval from the University's Institutional Review Board and President and Dean of the MSUCHS and to study the experiences and perceptions of 13 post-baccalaureate students, a faculty member and an administrator. The post-baccalaureate students had completed a bachelor's degree and were unable to gain admittance into medical school at the MSUCHS.

In-depth interviews and unobtrusive and nonreactive measures were the primary method of data collection. The interview process began with the three moderators conducting focus groups and individual interviews with post-baccalaureate and medical students, faculty and an administrator. Participants were assigned a pseudonym and all interviews were tape recorded and transcribed verbatim by the researcher. The information revealed in the interviews was categorized and organized according to themes and subthemes that emerged in the overall findings.

The Research Population

A purposeful sampling procedure was used to select this study's population sample, as is typically used in qualitative case study methodology (Berg, 2007). I

deliberately selected the medical school setting and the participants to provide important information that could not be illustrated from any other medical student body due to the issues surrounding the newly installed post-baccalaureate program (Volpe & Bloomberg, 2008). The issue of minorities and disadvantaged students not being admitted to medical school could likely be generalized to some degree at other institutions. A small purposeful sampling ensured that the participants accurately represented the population and examined with information critical to the theory with which I began the study. I sought the insight of an administrator, faculty, and students of two post-baccalaureate classes to explore their experiences and to see what emerged in the conversations (Maxwell, 2005). The cohort of nine 2003 and four 2004 Post-Baccalaureate students was chosen for this study because:

- They were a diverse student body who held at least a bachelor's degree designated for pre-health professions majors (with exception to two students) and were denied admission to medical school at the MSUCHS,
- They were the first and second classes of the post-baccalaureate program,
- They were students who were performing well in their classes despite their educationally and/or economically disadvantaged status, and
- They were students who appeared to be facing harsh criticism from their MSUCHS community for being in the program.

All participants were one of the following: a post-baccalaureate student, faculty, or an administrator at the MSUCHS. At the time of the study, the 2003 post-baccalaureate class was preparing to matriculate as medical students and the 2004 class of post-baccalaureate students were in the first phase of the program at the MSUCHS.

Profile of the Participants

Targeting Qualified Disadvantaged Applicants

Post-Baccalaureate program applicants were recruited from targeted higher education partners whose student body best fit targeted rural and racial populations underrepresented in medicine. Additional support was provided by community-based agency and public educational partnerships established for the purpose of program recruitment and disseminating information. Nickens and Ready (1999) stated that in order to deal with the inequalities of minority underrepresentation in medicine, health professions educational pipeline programs, such as the HCOP must work in partnership with neighboring schools, colleges, community based organizations and medical schools to carry out the scope of their educational interventions and that it cannot be done single-handedly. It was a strategy first recommended by a task force for the Association of American Medical Colleges (AAMC) in 1970 (Butler, 1999). The HCOP staff administered numerous educational and preparatory programs as mentioned previously in the campus description section in this chapter. Many of the Post-Baccalaureate students were in attendance at these events. Students were able to contact admission staff by telephone, email, the HCOP/MSUCHS website, or in person. The HCOP staff at the time of the study consisted of a Program Specialist and the Program Manager, who were visibly African American women of multiracial heritage.

Application Requirements

The 10 student applicants to the HCOP Post-Baccalaureate program had to have a 2.5 minimum pre-science grade point average (GPA), a 2.5 overall or cumulative GPA, and a minimum average score of 4 on the Medical College Admission Test (MCAT), the highest average being 15 in each category. Applicants were required to have completed a

baccalaureate degree at a regionally accredited college or university with no grade below a “C” (2.0 on a 4.0 scale) in any of their courses, which included English, Biology, Physics, General Chemistry and Organic Chemistry. Course completion was not limited to those upper division courses and satisfactory completion of at least one upper division science course was sufficient for application to the Post-Baccalaureate program. Students who took upper division courses typically demonstrated better preparation for academic success in medical school.

Applicants had to provide evidence of their economic and educational disadvantage. Economic eligibility was determined both by Federal U.S. Census Bureau figures for low-income levels and by review of the post-baccalaureate applicant’s personal, parental, and/or guardian income tax returns for the year prior to matriculation. Qualifying educational disadvantage factors considered were whether or not an applicant: 1) resided in a community with a free lunch rate of 75% or higher in high school, 2) graduated from a high school in a town of less than 7500 residents, and 3) was a first-generation college student. Applicants who were African American, Native American, or as a person with a Hispanic background were considered members of an underrepresented minority in medicine. In determining residency status, applicants had to be dependent students who had at least one parent, step-parent, or court-appointed guardian who was an Oklahoma resident, or had to have lived as an independent student in Oklahoma other than as a full-time student at a post-secondary institution, for a period of at least twelve continuous months prior to matriculation. Applicants were required to be lawful U.S. citizens or Permanent residents.

Candidates for the Post-Baccalaureate program were recommended to the MSUCHS College of Osteopathic Medicine based on a number of factors, including: 1) Pre-professional academic achievement, 2) Pre-professional committee and osteopathic physicians evaluations, 3) Medical College Admission Test (MCAT) results and 4) Student motivation for a career in osteopathic medicine. By invitation only, post-baccalaureate applicants interviewed on-campus with the interview committee, composed of clinical and basic science faculty members. Interview results were considered along with other data submitted in determining which applicants demonstrated appropriate levels of scholarship, aptitude, and motivation for admission to the Post-Baccalaureate program.

Application Process

Applicants applied separately to both the MSUCHS and the HCOP Post-Baccalaureate program. The American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS) is an online central application service used by all osteopathic medical schools. Once supplemental documentation was verified, the AACOMAS processed the applications and sent them to the MSUCHS. The AACOMAS administrators waived fees for the Post-Baccalaureate students due to their disadvantaged status. The Post-Baccalaureate program application was a four-page paper application that required similar documentation, tax records for the purpose of verifying economic disadvantage, and a media photo release. There was no HCOP application fee.

Selection Process

The interview process for the Post-Baccalaureate students was the same as the regular medical school selection process. The application deadlines were slightly

different since program participants were expected to attend a summer enrichment session before the start of the academic year. Interview evaluations consisted of five qualitative sections regarding the applicant's motivation towards health care; depth of interest and knowledge of the osteopathic medical profession and its needs; personal involvement, leadership, and community involvement; realistic concept of program and demonstrated ability to handle stress; and communication skills, character, maturity, and stability.

The post-baccalaureate program encompassed two, six-week diagnostic summer sessions, pre-matriculation programs and one rigorous academic year. The first phase of the program was a six-week diagnostic summer schedule that began in June and consisted of a formal MCAT preparation course, MCAT Tutoring, study skills development, individualized instruction, tutoring, student support services, and MCAT practice testing. The second phase of the program included academic, retention, learning styles, test-taking and study skills inventories and development. Students entered the academic fall and spring semesters on the same time schedule as entering first-year medical students. In the fall semester, Post-baccalaureate students took 11 hours of the required first-year medical coursework, which included histology, biochemistry, and multicultural health as compared to the 24-27 hours required for fully accepted first year medical students. In the spring semester, the cohort took 14 hours of first year medical coursework, which included medical physiology, medical microbiology and immunology and medical information sciences in comparison to the 25-28 hours required for fully accepted first year medical students.

The smaller academic course load allowed the post-baccalaureate students time to focus on the more challenging courses during the first and second semesters, giving them more flexibility in adjusting to the first year of medical school. Faculty for the MSUCHS graduate and D.O. programs provided course instruction. Tuition and university services fees were waived for the two full academic semesters. Students were not allowed to work for the duration of the program. Whitten (1999) attributed the poor academic performances of students from disadvantaged backgrounds to the lack of study time caused by a need to work to finance their education. To buffer their inability to work, students were given meager stipends of \$250 on a weekly basis as they were unable to apply for financial aid as unofficial students.

First-Generation Medical Students

Many of the students in this study were not first generation college students; many had parents who held college degrees. However, only two of the participants in this study had a family member who was a doctor in the family. Most of the participants were first to become a doctor in the family. While most had supportive family members, many did not have family members who understood, first-hand, the process of medical school admission students like these participants may lack information and expectations to support the family while going to school may be unrealistic (Davis & Davidson, 1982)

2003 Post-Baccalaureate Students

Teras, a 32-year-old Caucasian male, is married and the father of three children. He was raised in a town in Missouri with an approximate population of 2,721 people of which 86.5 percent are white and 11 percent have a bachelor's degree or higher (Census 2010, accessed 11-20-2011). The town in which he currently resides has a population of approximately 835 people. He attended a consolidated county high school that offered no

advanced placement classes. His parents are retired. His mother earned a GED and his father a high school diploma. He was a former Division II football player with professional aspirations. He served four years in the U.S. Armed forces as a Naval Marine Corps medic and served in Desert Storm. He attended a university in Missouri, transferred to a regional university in another state with a large Native American population, and faced difficult family health and financial issues. He worked in a factory for six years while enrolled in college as an older and married undergraduate student. He majored in chemistry. He drives over an hour to medical school every day to attend classes.

Steven, a 26-year old Caucasian male of Cherokee heritage, is designated as a minority underrepresented in medicines, and is educationally disadvantaged due to his grade point average and place of upbringing. His mother earned a master's degree and is not employed. His father earned a degree in osteopathic medicine. He is from a rural town with a population of 42,391. There is 22 percent poverty level within the county. According to 2010 Census records (accessed 11-20-2011), the Native American population is 21 percent. He attended a regional university with a large Native American population and majored in Biology. He is married with his first child on the way. He loves to participate in activities like rock climbing, reads poetry, and his father and uncle are osteopathic physicians who practice in rural areas of the state. He has worked as a hospital aide and a biology technician.

Gabriel, a 35-year old, married Caucasian male of Seminole heritage, and has several children. He drives an hour to medical school every day. His mother is a housewife who earned a GED and his father is a farmer/rancher who earned a high school

diploma. He has worked as a lab technician, a veterinary assistant and a certified nurse assistant and clinic assistant. He resides in a city- that is home to the main campus of a Division I institution and roughly populated by about 45, 688 people of which 33 percent live in poverty (Census 2010, accessed 11-20-2011). He graduated from that university with a degree in Biology. He has been described by members of his cohort as optimistic to a fault.

Jay, a 33-year old African American male from Jamaica, is divorced, very friendly and personable. His father, a business man, died from a heart attack when he was 19-years old. His mother, a hairstylist, died of cervical cancer when he was 24-years old. Both of his parents earned high school diplomas. He is a black republican who attended a Christian liberal arts university where he majored in biomedical chemistry. He has held employment as a pathology assistant, lab technician, research assistant, emergency room volunteer, and a viral technician.

Cal is a 27-year old African American male who grew up in a town that borders a large city in a large county. Census records (2010, accessed 11-20-2011) show his hometown has a population of 3,967 of which 54 percent are African American; 30 percent of families live in poverty. His mother earned a high school diploma and some college credits, and his father is a construction worker with a high school diploma. He is known for his tendency to smell good, drink a cup of morning coffee, and dress in professional attire (a pressed shirt, tie, and army-style creased dress pants) every day. He is very popular on the campus--a politician. He also stands out as a black republican and is married to a white woman with two step children. He is an enlisted army reservist and a former drill sergeant. He has also worked as a lab technician and hospital transporter.

He has the 2nd lowest MCAT score and pre-professional science and overall grade point average of the cohort.

Bobbie is a 33-year old Korean female from a poor, rural town in South Korea whose outbreak of tuberculosis first inspired her desire for a career in medicine. She is a Permanent Resident and is married to a Caucasian male who is American. She has no children. Her parents are small business owners, and both earned high school diplomas. She also resides in a small city where the main campus of a Division 1 university is located. She came to America because there was no financial aid to go to medical school in her country. She planned to study at a large community college system with the goal of going to medical school and transferring to a Division 1 university. She studied biochemistry and earned a 4.00 overall and science grade point average. She has worked as a biochemistry lab assistant, a student researcher, a chemistry researcher, and a nurse's aide. Her demeanor is quiet and pleasant, but she is no push-over.

Triana is a 25-year old married, bi-racial female whose father is African American and mother is full-blood Muscogee Creek. Triana self-identifies on her application as Native American. She has no children. She is from a town in Okfuskee County populated by 835 people, of which 46 percent live below the poverty level (Census 2010, accessed 11-20-2011). Her mother and father both earned high school diplomas. Her mother is a laborer and her father a homemaker. Her Creek grandmother's diabetic condition piqued her interest in medicine. Her hometown is a medically underserved area; she often took trips with her family to help her grandmother get medical attention because they had limited health care options in their hometown. She has worked as a psychology researcher and hospital clerk. She has a bachelor's

degree in chemistry and psychology and earned master's degree in public health from a Division I school.

Cheryl is a tall, 31-year old black-haired Creek/Choctaw woman. She is married and has several children and is from a rural city of 17,000 people (Census 2010, accessed 11-20-2011). She attended a regional university with a large Native American population and earned a degree in biology. Her mother is a homemaker who does bookkeeping. Her father has his GED and drives a concrete mixing truck. She has worked as a lab and nurse assistant. She has strong ties to her Creek/Choctaw culture and traditions, spends a lot of time in her Native American church and cares for her grandparents who are ill with diabetes and other health conditions that afflict the Native American population.

Casey, a 25-year old female of Hispanic heritage, is married and has no children. She was inspired to become a physician when, at the age of nine, she lost her mother to a brain tumor in seventh months. She was raised by her father. She has served in the U.S. Armed forces and is petite in size, but one tough cookie. She is from a major city comprised of over 384,000 citizens and graduated with a degree in chemistry from a regional university with a large Native American population. Although her mother died when she was an adolescent, she earned a bachelor's degree prior to her death. Her father earned a bachelor's degree and is a nurse. She has worked as a pharmacy technician and has had training as an EMT. She became a tutor in histology in medical school.

2004 Post-Baccalaureate Students

John, a 25-year old African American male, husband, is married and the father of twins who were born during his years as an undergraduate. He was raised in a county

populated by 12,617 people of whom 26 percent of families and 28 percent of individuals live in poverty and 15 percent have a bachelor's degree or higher (Census 2010, accessed 11-20-2011). He was going to attend a historically black college and university in another state with a tuition-free scholarship, but his mother needed his help caring for his grandfather who was ill; he chose to go to a Division 1 school where he majored in biology. He had to drive over an hour to school every day. His wife gave birth to twins who while he was an undergraduate student. His mother is a case worker who has an associate's degree; his father is an auditor with a bachelor's degree. He has worked as a lab technician and hygienist.

Marcus, a 24-year old, single Korean male, is from a large city of over 384,000 people, attended a respectable public high school in the suburb of the city, and attended college out of state, majored in economics. His MCAT score is the highest of all the members in the post-baccalaureate program and was 3 points beyond the minimum required for regular admissions criteria. He is considered educationally disadvantaged due to his pre-health science GPA. Although he is a racial minority, he is not considered a minority underrepresented in medicine. His family is North Korean. His father is a medical doctor. His mother has her bachelor's degree and is an office manager. He had little work experience in comparison to rest of the cohort.

Jenny is a 22-year old single, African American female from the same city as Cal. She attended a magnet school in high school that was predominantly students who were the children of school board members. She had the intention of attending a division one school, but received a full scholarship to go to a historically black college out of state. It was at this time that she realized she had been in school with mostly white people. She

majored in biology and has the third and second highest pre-health and overall GPAs of all the post-baccalaureate students interviewed. Her mother has a bachelor's degree and is a teacher, and her father is an engineer.

Betty is a 22-year old, bilingual African American female. Short, black dreadlocks frame her face. She is from a large county of 235,855 people (Census 2010, accessed 11-20-2011). In middle school, she was promoted two grades and graduated high school at fourteen years of age. She was raised by a mother who was a strict disciplinarian as the only daughter in a single-parent household of six kids. Only three people in her mother's family have a college degree. Her mother is a doctoral student and an assistant principal. She has five brothers-a former inmate turned businessman; a college student; a college graduate who earned a bachelor's degree in mathematics and computer science and graduated Summa cum laude with a 3.9 GPA; as an "exceptionally smart and hard-headed" 18-year-old, and an intelligent 13-year-old brother who is physically disabled with scoliosis. She speaks fluent Spanish, graduated with bachelor's and master's degrees in zoology and epidemiology, respectively, and is divorced. She has worked as a graduate research assistant, a field researcher, and math and science tutor.

Student Affairs Administrator

Linda, a short, white female with a big personality, is the Director of Student Affairs, which houses the Health Careers Opportunity Program at the MSUCHS. She is supervises admissions, financial aid and the registrar. She works closely with the student organizations. As a child she grew up in a town highly populated with Native Americans and moved to a large city where the MSUCHS is located, which was a culture shock for her. She attended an integrated public magnet high school her junior year much to the

chagrin of her parents; her grandfather was a grand wizard of the Ku Klux Klan. She thoroughly enjoyed going to an integrated magnet school on the black side of town. She met and eventually married her liberal husband and his liberal family at this magnet high school, earned a degree in political science from a flagship university, and studied two years at a seminary. She has over 30 years experience in higher education.

Faculty

Dr. Christopher is a white male and is assistant professor of anatomy at the MSUCHS. He is involved with the Post-Baccalaureate students and works to prepare them for histology their first year of medical school. His instructional activities also include histology and gross and developmental anatomy for first year medical students and advanced histology, medical embryology and molecular and cellular biology for graduate students.

Organizational History and Mission

The College of Osteopathic Medicine is the foundation of the MSU Center for Health Sciences (MSUCHS) and, since its establishment in 1972, has fulfilled its mission of preparing primary care physicians to rural and underserved populations. It continues to be a leader in medicine and continually ranks as a top medical college in the nation in the U.S. World News (2010). It also offers dual medical degrees and graduate degrees in biomedical sciences, forensic sciences, and health care administration.

MSUCHS Campus Description

The MSUCHS was home to the Health Careers Opportunity Program (HCOP), which in addition to the Post-Baccalaureate program, also administered a middle school Saturday Academy, a high school summer academic enrichment program, a two-day

medical school workshop, and a free MCAT Preparatory course for pre-medical students from underrepresented and disadvantaged backgrounds. It was surrounded by the Sunoco Refinery, miles of railroad tracks, an Interstate Highway, a local apartment complex, an at-risk elementary school, low-income housing and was only minutes away from the MSUCHS Medical Center. The campus has a clinical atmosphere—outwardly quiet and unimposing aesthetically, but on the inside, it was bustling with important research, forensic examinations, teaching, and learning. Every floor of the connected buildings housed offices, laboratories and clinical rooms. On the first level, upstairs, was the student lounge, where students often play pool and ping pong, watch television, lounge on the couches, and snack in the kitchen area on leftover food from events hosted by the departments on the campus. It was adjacent to the Office of Student Affairs-home to the Health Careers Opportunity Program (HCOP).

Information Needed to Conduct Study

There were 13 post-baccalaureate students who participated in this descriptive case study at the MSUCHS. In seeking to understand why these students did not gain entrance to medical school, four research questions were explored to gather the information needed. The information needed was categorized as perceptual, demographic, and theoretical to answer the research questions determined by conceptual framework of Cross' barriers to adult learning (1981). This information included the perceptions of students and why they perceived they did not gain admittance to medical school, the demographic information regarding to participants, including age, gender, racial classification, birthplace/ hometown and county of residence, student classification, personal and family background, test scores/grade point average, and undergraduate/graduate major.

Data Collection Methods

The use of multiple methods and triangulation is critical in attempting to obtain an in-depth understanding of the phenomenon under study. This strategy adds rigor, breadth and depth to the study providing corroborative evidence of the data obtained (Creswell, 2012; Denzin & Lincoln, 2000). In regards to methods of triangulation, Creswell (1998) stated:

There are four basic types of information to collect: observations (ranging from nonparticipant to participant), interviews (ranging from semi-structured to open-ended), documents (ranging from private to public), and audio-visual materials (including materials such as photographs, compact disks, and videotapes) (p. 120).

Therefore, this study employed a number of different data-collection methods using numerous data sources, including admissions applications, observations as a participant and observer, interviews, and two focus groups. Triangulation of observations and interviews provided a more comprehensive and accurate account than either could do alone (Maxwell, 2005).

Interviews

The interview was selected as one of the most important and most useful methods for collecting data in this study because it elicited rich, thick descriptions through conversation between the researcher and participant. I was interested in other people's stories and planned to learn about the participants as much as possible until I felt the knowledge I gained was sufficient (Gubrium & Holstein, 2002; Kvale & Brinkman, 2009; Seidman, 1991; Volpe & Bloomberg, 2008). As a basic tool in qualitative research, the interviews gave me an opportunity to clarify statements and probe for additional information and understanding on the participant's perspective of their experiences and how they functioned in their world (Creswell, 1994; Denzin & Lincoln,

2003; Kvale, 1996; Merriam, 1998; Rossman & Rallis, 2006; Seidman, 1998; Volpe & Bloomberg, 2008). Patton (1990) stated that “qualitative interviewing begins with the assumption that the perspective of others is meaningful, knowable, and able to be made explicit” (p. 278). Interviewing was a valid way to generate data and to talk and listen to the participants of this study.

Interviews were conducted face-to-face with faculty and administration for matters of convenience. They were extremely busy and either in class or a meeting most of the time. In other instances telephone interviews were conducted with student participants who were unable to take part in the focus group discussions and wanted to talk about their medical school journey. Since I was a member of the Student Affairs administration at the time of the study, I selected a skilled facilitator to carry out the interviews in my place to avoid any influence or bias on my part. The facilitator was provided the guidelines and questions that would begin the conversation.

Some major drawbacks of the interviewing process were that despite the skill of the facilitator of the interview, the participants were not always as in-depth in their descriptions, too broad and less specific, too concise in their statements or were sometimes hard to understand in part due to their foreign accents and issues of articulation. Additional probing was required, but was not always effective in getting more meaning out of the discussion. Another issue regarding the interviewing process was that the participants ended up talking about the same medical school experiences and had similar reasoning and explanation for the occurrence of events and experiences at school, which was redundant. The interviews had both strengths and weaknesses (Fontana & Frey, 2003).

Interview Questions. With the guidance of my initial adviser, I used the study's four research questions as the framework to develop the interview questions. Upon my initial adviser's approval of the questions that were resubmitted for review, a series of open-ended questions were developed. The questions were semi-structured and enabled me flexibility to allow additional trends to surface during the interviews (see Appendix B).

Interview Process. I sent emails to prospective participants inviting them to participate in the study with an Informed Consent form attached (see Appendix C). The form described the purpose of the study and requested a convenient time for the interview to take place. Upon agreement to participate, participants were sent a follow-up and final email confirming the time, date, and place the interview would take place. They were also informed of the name of the facilitator who would be interviewing them face-to-face or by telephone. The interviews took place in June 2004. Every participant was reminded of the confidentiality of the conversation, their anonymity, and that the conversation would be audio-tape recorded for the entirety of the conversation which would be transcribed verbatim after the interview.

Focus Groups

Focus groups are informal and in-depth group interviews or discussions that possessed elements of both participant observation and individual interviews focused on a single theme while maintaining their own uniqueness as a distinctive research method (Krueger, 1988; Merton, 1987; Morgan, 1997; Morgan 1988). Merton (1987) indicated that the focus group interview confirms and obtains responses to real and recurring experiences. Within the planned and structured, but tolerant and flexible atmosphere of a focus group, a range of opinions and a more complete and revealing understanding of the

issues are acquired and validated. The purpose of using focus groups in this study was to extract from participants a range of feelings, opinions, ideas, and perspectives and identify themes that emerge from the group discussion (Kreuger & Casey 2000; Vaughn, Schumm, & Sinagub, 1996).

One 2-hour focus group was convened with a total of 9 post-baccalaureate participants. I purposely chose these participants because they were students at the MSUCHS and could provide specific insight to the issues surrounding the stated research problem. The purpose of this focus group interview was to supplement the information obtained through other methods and to ensure trustworthiness and credibility through the gathering of data. The group was asked to answer the same eight interview questions that were posed to individual interviewees, all of which were drawn from the research questions (Appendix B).

Of the 20 post-baccalaureate students invited to participate, 13 (65 percent) agreed to take part in the discussion. Nine post-baccalaureate students participated in the focus group and four were individually interviewed by telephone for matters of convenience and scheduling. Seven post-baccalaureate students responded that they were unavailable to be involved in the study.

Upon their agreement to participate in the focus groups, I sent them an email with a consent form regarding the days and times that they specified were convenient for them. Participants were reminded of the purpose of the study, told that the discussion would be held in room D-111 on campus at noon until two o'clock as they specified in June of 2004. They were informed that the discussion would be audio-taped and facilitated by a moderator other than me. I thanked participants who had expressed an

interest to participate. On the date of the focus group and prior to the session, I met the moderator--a tall, slender, friendly blonde-haired woman who held an academic doctorate, discussed the focus group procedures and rules of participation, tested the audio equipment for sound quality, and delivered the pizza and beverages for the lunch sessions. I greeted the focus group participants--everyone was smiling and ready to eat, introduced the moderator-who, upon my exit, reminded the participants of the anonymity of their participation-and confidentiality of their comments, and encouraged them to be active participants who respected the opinions and perspectives of everyone in the group. I did not make it out of the room without being laughed at for having an “old-fashioned” tape recorder versus a new digital recorder.

Like individual interviews, focus groups are not without disadvantages. This group seemed to be comfortable with one another in their discussions, which was to no surprise given they were in class with one another every day for the duration of the academic year. They did not always agree, but they were respectful of one another in their discussions. There did not appear to be issues of “group think”- where people keep the peace by agreeing with one another (Fontana & Fey, 2003), or any moderator difficulties in managing the conversation. The discussions flowed with relative ease and agreeable or disagreeable discourse. The interviewer--a black male in his late 40s, held a doctorate in occupational and adult education, had experience in qualitative and quantitative research, and through my examination of the transcripts appeared to probe for clarification and easily encourage all of the participants to speak on the issues surfacing in the conversation.

Observational Data

Direct observations allowed the researcher to draw inferences on the meaning and perspective of non-participants. An understanding of observational data could not be obtained by relying on data exclusively (Maxwell, 2005). For this study, participants were observed in their natural setting and during their natural interactions and conversations. Medical students who were opposed to the post-baccalaureate program were observed during a heated meeting with the Vice President of Enrollment Management and the Director of Student Affairs on two occasions; faculty and clinicians were observed during their round-table admissions discussions on one occasion; and post-baccalaureate students were observed during their regular interactions and discussions with medical and other post-baccalaureate students in areas on the campus from July 2004 until May 2005. During a meeting with student leaders and administrators, one white male medical student and leader turned to me, apologized, and said, "I don't even know who you are because they did not inform us that you were even here either...I thought you were just another employee on campus." Another white male was clearly upset, although he controlled his facial expressions as best he could. The Vice President and Director were very unemotional in their responses to questions regarding the founding of the program and who was qualified to apply. "How are these people qualified to be here?" I observed the two white males and wondered to myself why they were so agitated by this program that appeared to pose no threat to them since they were already medical students.

In another voluntary meeting held in the C.A.M.E. auditorium, an entire medical class was expected to attend, but only six students--two white females and four white males--showed up to talk to the Director of Student Affairs and Vice President of

Enrollment Management. They asked the same questions as the second-year medical class leaders did in their meeting with exception to one annoyed male who asked why a person he grew up with was considered disadvantaged and insisted that he was not qualified to be in the program or disadvantaged by any means. After hearing the explanation of the program criteria he seemed perturbed and asked questions that explained his agitation. He asked, “Why do they get specialized tutoring and services and we don’t?” A few weeks later, the administrators were discussing the uproar of the program, and Lisa shared with me that another medical student even scheduled a meeting with the President of the College to discuss his support of such a program. These students were truly irritated with this program and its services. By observing the participants and non-participants, the researcher gained a sense of the medical school environment. Purposive sampling was used to maximize the extent of information obtained in the natural settings and were used to describe the interactions occurring in the environment (Angrosino & dePerez, 2003; Lincoln & Guba, 1985). Each observation lasted from 20–60 minutes. Field notes of my hunches, reflections, and understanding for this study were written prior to data analyses and later processed (Bogdan & Biklen, 1982; Creswell, 1998).

Unobtrusive Measures: Documents and Audio-Visual Materials

Another approach to gathering qualitative data is the collection of data through public or private documents and audio-visual materials (Creswell, 1998). Unobtrusive measures are steps taken to be non-intruding while collecting and assessing data during the research process (Berg, 2007). For the purpose of this study, demographic information was taken from admissions applications submitted to the Health Careers Opportunity Program (HCOP) and to the MSUCHS. I viewed data such as race and

ethnicity, gender, place of birth, county of residence, family background, statements made by applicants regarding their career aspirations, and prior impactful life experiences. The data provided further insight and perspective regarding the participant's educational and personal background and history, career motivation, and life experiences. I also captured email discussion between medical students that provided additional insight into the climate of the educational setting at the moment of the Post-Baccalaureate Program's inception. Additional audio-visual material such as university website pages, diversity plans, marketing materials, catalogs, yearbooks, staff, administration, faculty, and class pictures were observed to explore issues that arose in interviews and focus group discussions pertaining to diversity. All of these approaches expand the type of data acquired in the collection process.

Methods of Data Analyses and Syntheses

Creswell (2003) suggested a number of steps be taken in the process of data analyses which I followed with some variance. Interviews and discussions were first organized for analyses. I transcribed verbatim and arranged materials into different categories based on the source of information. For example, yearbooks, class pictures, brochures, and copies of website material were categorized as unobtrusive information. Second, data were reviewed to gain a general sense of the information and to reflect on what it meant. I looked for general ideas, reviewed notes regarding the demeanor of the participants and non-participants when they said it and listened for voice inflections. In some cases, I found discrepancies in what was said and what was written on an application and made notation of it. After reviewing the data, I then coded it. Coding is a process that allowed me to organize material into groups before assigning a meaning to them (Rossman & Rallis, 2006). I took text data, class pictures, segmented paragraphs

and labeled them with a term that may have started out as “racism” and ended up being categorized as a major theme called “Race.” They were analyzed for connectedness between themes. After coding data, textual data were entered into a spreadsheet database and clustered according to themes. These themes were synthesized repeatedly until the most descriptive wording for the topic was found and tabulated for frequency of events (Yin, 1989). These final themes were categorized as major themes, abbreviated as codes, and arranged in rows per topic. For example, “Diversity” was coded as “DIV”, the related quoted text was listed in the next column, and the last column was reserved for the participant’s coded name. Participant names were replaced with pseudonyms for anonymity when quoted within the narrative for a more fluid account of experiences. Finally, the meaning of the data analysis was captured. I shared and confirmed the process with my initial adviser which led to the development of descriptive findings, conclusions, and recommendations.

Ethical Considerations

Ethical issues related to protection of research participants are of vital concern (Berg, 2004; Marshall & Rossman, 2006; Merriam, 1998; Pring, 2000; Punch, 1994; Schram, 2003; Volpe & Bloomberg, 2008). A number of safeguards were put in place to protect participants. Participants in this study were repeatedly informed of the study’s purpose. Participants gave me written consent to participate in the study and to use personal information discussed and stated for the purpose of the study. Participants were informed that all information discussed would be confidential and their identities would remain anonymous. Participants were made aware that all related materials were stored where no person other than me had access to the data and my adviser.

Issues of Trustworthiness

In qualitative research, trustworthiness features consist of any efforts by the researcher to address the degree to which something measures what it purports to measure and the consistency with which it measures it over time (Volpe & Bloomberg, 2008). Guba and Lincoln (1998) contended that the trustworthiness of qualitative research should be assessed differently from quantitative research and its credibility, dependability, confirmability and transferability can be controlled for potential biases that might be present throughout the design, implementation, and analysis of the study (Volpe & Bloomberg, 2008). I gathered data through multiple sources and by multiple methods, which as a triangulation method, yielded a more complete description of the phenomenon being studied.

For issues of methodological and interpretive credibility or validity, the research questions and the explanation matched with the purpose of the study, theoretical framework, research questions and methods and the quality and rigor of the design (Mason, 1996; Robson, 2002). Dependability or reliability refers to the extent that research findings can be replicated by other similar studies. Lincoln and Guba (1985) stated that it is more important that the findings are dependable and consistent with the data collected. Inconsistencies were recognized, but not eliminated. Coding schemes and categories were used consistently and reviewed by my adviser and colleague (Miles & Huberman, 1994). My assumptions were clarified through an audit trail of notes of my understandings which were written down and validated issues surrounding confirmability (Lincoln & Guba, 1995). I discussed my findings with my adviser and colleagues to make certain that the reality of the participants was properly reflected (Creswell, 2003; Creswell & Miller, 2000; Lincoln and Guba, 1985; Marshall & Rossman, 2006; Mason,

1996; Maxwell, 2005; Merriam, 1998; Merriam & Associates, 2002; Miles & Huberman, 1994; Volpe & Bloomberg, 2008). Generalizing is not the intended goal of this study; however, transferability, ways in which whether and to what extent phenomenon in a particular context can transfer to another particular context, was the issue addressed (Lincoln & Guba, 1995; Patton, 1990). I attempted to address transferability by way of thick, rich description of the participants and the context. Rich and detailed description provided the basis for a qualitative account's claim to relevance in some broader context and may transport readers to the setting and give the conversation an aspect of shared experiences (Creswell, 2003; Schram, 2003; Volpe & Bloomberg, 2008).

CHAPTER IV

QUALITATIVE FINDINGS

This chapter presents the key findings gathered from interviews and discussions, by observation of participants and non-participants, and examination of documents and materials that may better inform pre-health advisers in their practice of advising disadvantaged students and higher education and medical school administrators seeking to diversify the medical student body. The findings may not be generalized to other post-baccalaureate programs. The three research questions that directed this study were: 1) What situational, institutional, and dispositional deterrents do non-traditional minority students encounter in the post-baccalaureate program? 2) How do non-traditional minority students in post-baccalaureate program address the situational, institutional and dispositional deterrents they encounter? 3) What experiences throughout their lives have impacted the post-baccalaureate students for dealing with deterrents?

The primary themes of significance that emerged from the data included: University of Adversity, Coping in Medical School, and Poor Academic Preparedness and Limited Resources. Additional subthemes were employed under each major theme to further describe its significance in this study. Participants' responses were analyzed and organized based on major themes found in the data. A fundamental operation in

analyzing qualitative data involves identifying units of information that involve a detailed description of the setting or individuals and their contribution to themes or patterns in the study's findings (Stake 1995; Wolcott, 1994). This chapter is comprised of descriptions of: a) the findings and quotations from the data collected, b) themes that emerged from the data for each research question and, c) a focus group and chapter summary of the findings.

Following is a discussion of the findings through descriptive quotations taken from the transcripts of focus groups and individual interviews in an attempt to portray multiple participant perspectives of the subject matter.

Responses to Research Questions

Research Question One:

What situational, institutional, and dispositional deterrents do non-traditional minority students encounter in the post-baccalaureate program?

Finding 1:

All of the participants (100%) interviewed expressed that the medical school campus was an adverse environment in which to learn while in the Post-Baccalaureate program.

Institutional Deterrents to Learning

University of Adversity

Competition

One of several findings in this study is that the post-baccalaureate students faced adversity in while in the program. They stated that the program made the environment even more competitive. Medical school culture is highly competitive and is composed of students who have always excelled academically and held top ranking in school

throughout their lives (Mitchell, Matthews, Grandy, & Lupo, 1983, p. 367). Linda stated, “Students become...cannibalistic and eat each other up...they are intense.”

The Post-baccalaureate program was viewed by medical students as an unfair and unmerited form of admissions and the post-baccalaureate students were subjected to demeaning interactions with medical students who believed they were unqualified because they could not gain admissions and needed academic assistance in order to do so. Jay stated, “...because we are actually taking two classes instead of four or six classes we are actually getting a “free ride” to them and they basically look down on us.” Teras explained that Steven was about to come to physical blows with a medical student until a professor intervened, “Somebody said something...and he told him that they could meet outside in the parking lot. Dr. Lewis said that didn’t need to happen.” Steven replied, “I don’t think I ever had trouble with one person that was top ten in his class. I don’t think anybody here, who was in the top 20 of their class, ever gave anybody here any trouble.” So, it was the people that were really struggling that knew that if, ‘I could have had the possibility to ease in like you had the possibility to do maybe I could do a lot better.’ Casey explained, “I mean people were just...pretty much they hated us. They were rude and disrespectful. They thought we weren’t as smart as they were. I think I got a lot of it in the beginning because I sat in someone’s seat and I didn’t know there were assigned seats although there aren’t any really. (Laughs) I got a lot of comments about sitting in someone’s seat.” Linda, Director of Student Affairs, reinforced what was expressed by stating:

You have this community where everyone is stuck on this same set of rules and everyone having to do X, Y, Z to get in and you introduce people who didn’t come in the same way it blew them away. It drove some students to distraction and some parents as well.

All of the participants expressed that medical students didn't know about the program and its services, which led to inaccurate understanding of the purpose of the program and caused major disruption for the participants. An email sent by a medical student class officer inviting class officers to an informational meeting with administrators from the Division of Enrollment Management and Student Affairs illustrates the tension regarding the program. In the email she reminded the officers to "...bring all of your questions, concerns, and an open mind (which means no attitudes please)..." An email sent by the second year medical student class president in response stated, "...I will attend the meeting but will reserve the right to have a negative attitude." Linda admitted, "We made a lot of mistakes...It got ugly quick...We didn't realize the impact of it."

Affirmative Action and Legacy

The disruptive interactions sparked a conversation regarding alternative admissions options such as legacy and affirmative action, which are accepted and unaccepted, respectively. A bilingual African American post-baccalaureate student, Betty, stated, "Some people are legacies or have their paths mapped out opposed to the people who had no idea or are pioneers in their family."

Oppositional Student Leadership

Some participants expressed the negative or positive influence leaders had over their peers. Jay pointed to the negative influence of a second year medical class leader, "The second year President...was very much a rude person...He would say things that were quite demeaning and it was very disconcerting...he should know better..." Linda, explained how she and student leaders attempted to remedy the negativity by getting students involved, "We basically told the medical students to get over it... settled their

fears about ranking and dispelled myths and then we took a student...who scored higher on the national boards than any other student in the nation ever before and he became a teacher within the HCOP... other medical student teachers within the Post-Bacc' program helped to dispel some myths as well."

Racial Matters

Some participants felt that the issue surrounding the issues of racism, race, or lack of a history of racial diversity was a reason for people not wanting the program on the campus. In the fall of 2004, the medical student population, which included the Post-Baccalaureate graduates, was: 80.3% white, 1.5% Hispanic, 4.4% Asian, 9.8% Native American, and 3.9% Black (OSHRE, 2004-2005). There were 16 visible racial minorities observed out of 89 students in the entering 2004 medical class picture; in 2003 there were 6 visible racial minorities observed in the entering medical class picture. There was no minority faculty with exception to one female basic sciences faculty member presumably of East Indian descent. The President/Dean of the MSUCHS at the time of the study was of Hispanic descent.

Although some could not confirm or deny race as a point of dissension, others felt it was less about race and more about a majority of the students resenting not having the opportunity to decelerate their classes. Betty expressed, "Race is factor in the reaction to the Post-Bacc' program. They think you need it because you can't get in regularly...an affirmative action thing...we are at the bottom of the food chain." While Linda stated, "I can't say it was or wasn't about race...they all...were treated as if they should be sitting in the back of the bus." Jenny conveyed a different perspective, "From my prospective, it made a difference to many people because they were jealous not racist."

Still, a majority of the participants stated that the lack of visible racial diversity was problematic for socialization and academic purposes and expressed that the claims of diversity by the college were false. Students stated the benefits of the program's diversity would be impacted on a personal level and in a broader more global perspective. Cheryl stated, "It's just been this way for so many years...upper class, mostly white so it's different." Steven added with enthusiasm, "...I, for one, have never hung out with a guy from Jamaica...nor have I been in a class with someone from Korea or Morocco. It's kind of interesting." Jay responded jokingly, "Welcome to Jamaica! (others laugh)" One white female clinician observed conversing with her colleagues felt faculty were teaching to a "sea of white faces."

An interesting observation of demographic data provided by two post-baccalaureate students, Steven and Gabriel, on the HCOP Post-baccalaureate and AACOMAS applications revealed that racial self-identification was changed from "Native American" on the HCOP application to "White" on the AACOMAS medical school application. Gabriel, a white disadvantaged post-baccalaureate student admitted, "...Race in Oklahoma is a source of irritation for me. It seems as though the Indians get preference. I am a veteran so why can't I get preference, but if you can't beat 'em, join 'em so I went looking to see if I could get an Indian card. I am not going to lie. I can't find anybody in family who is on the rolls..." This may have been at the crux of the concerns of Native Americans Cheryl and Triana and other minority students who discussed the importance of visible diversity and a shared life experience that the medical school did not provide. A medical student stated during a discussion, "They always say in the papers, 'Oh we have diversity and everything. We all know it's a lie. We see 20

percent and we look at the class and go hmmm...because we have others who are 100th or 1 millionth of Indian.” Another female minority medical student stated she had “no one to study with” and not having minority faculty at all “says something” about the university’s effort to recruit them. The changing of the racial self-identification signified that racial identity was situational - a luxury the visible minority students could not exercise even if they wanted to do so. I reviewed each of the MSUCHS medical class pictures as far back as the inaugural class of 1977 and the class pictures revealed zero to few visible minorities and minorities underrepresented in medical school in most of the classes. It was evident in the class pictures, the establishment of the post-baccalaureate program instantly diversified the racial demographic of the medical student body.

Gender Matters

While I observed the MSUCHS class pictures, the number of white women was increasingly present over the years and in the most recent years was almost half of the population of students in each medical class. Only one post-baccalaureate female Hispanic student, Casey, who was chosen to tutor students because of her demonstrated competence in histology, expressed that gender issues may have been at play on a few occasions:

Well, a lot of the class is guys. So if they didn’t understand something I would try to help them and I think a few didn’t want my help because I was a girl. Not very often...I know one guy would take criticism from a guy, but when I would say something he would ignore me.

Personnel

A few post-baccalaureate students stated their mistrust of admissions personnel and faculty who were non-minorities and were viewed as non-supporters of the post-baccalaureate program. Participants John and Marcus collectively stated, “We don’t trust

the admissions person...she looks at us funny...acts weird--like she doesn't know how to talk to us." Teras added, "I feel that certain parts of MSU Admission weren't necessarily happy to see this program succeed and that is a personal take. No one ever said to me, 'You don't belong here.' Linda stated that some faculty were supportive while others had a response of, "What's in it for me?" to be involved in the instructional aspects of the post-baccalaureate program. However, Sarah expressed, "A lot of the professors made sure that we were successful. They got us off to the right start."

Financial Limitations

A majority of the participants commented that they faced economic hardship due to their inability to work or receive financial aid. "Finances are a problem," stated Linda. Participants spoke specifically of the frequent mishaps regarding the delivery of post-baccalaureate stipends. Jay added with an exasperated laugh, "I haven't heard anybody talk about bills. That was a little stressful. They tell us that we can go to school, but we can't work...I have bills. It was really tough. You can't tell your landlord...that was hard...That was terrible." Cheryl added an explanation, "They give us a stipend-and it's not that much...but that stipend...never got it on time....You would think that the kinks would be worked out."

A few of the post-baccalaureate students suggested that a financial class should be provided so that students, especially those who were out on their own for the first time, could learn how to budget their money. Jenny said, "I was all alone when I first got here...it's real difficult to survive. A financial course would be helpful...The summer wasn't...helpful...I could have been working."

Some of the participants commented on how their financial limitations directly impacted their ability to provide for their families. A post-baccalaureate student, Teras, affirmed that his way of living was deeply affected by his inability to work, “I drive over an hour to school and the issue is my money is still late...Living that far away-the weather; will power; Pike Pass; gas...There were days...I didn’t go to school because I didn’t have enough money to get gas to put in the car or money on the pike pass...My wife is not taking...this well.”

Situational Deterrent to Learning Family Responsibilities

Some of the participants expressed that spending time with and trying to meet the needs of family members was an often overwhelming effort while in school. Cheryl commented, “I felt like I was a single mom. I always had the kids and I was away from my husband. I did my homework after I did their homework and go to all of the school activities and be there for them. I can’t just be there for myself.” During his interview, Teras exclaimed, “‘Baby! I am on the phone!’ There’s one of them-Basketball games and football games. Is the house payment going to get paid this month?”

Research Question Two:

How do non-traditional minority students in the post-baccalaureate program address the situational, institutional, and dispositional deterrents they encounter?

Finding 1:

All student participants (100%) interviewed expressed that their ability to cope with adversity while in medical school was facilitated through support from others and various experiences that developed resiliency and self-efficacy.

Coping in Medical School

Students who can successfully manage adversity do better in medical school.

Students are accustomed to performing well and when they do not are depressed, suicidal and are more likely to drop out of school. Linda stated, “Students become depressed very easily and if they fail academically, homesick, it’s unusual for them to not be on top or not be number one because they may have been in high school or college...” Post-baccalaureate students are no different although they seemed, against all odds, to successfully manage the stress of medical school and the added stressors brought on by the opponents of the post-baccalaureate program.

Facilitators of Learning

Self-Efficacy

All of the participants (100%) believed in their own ability to do well to become a physician. Teras stated, “Most of us are older...we will be better initially because of confidence and past experience.” Bobbie had extensive health careers experience before entering the Post-baccalaureate program, “I worked in the MSU biochemistry lab...as a nurse’s aid...in the pathology department assisting...in research. I learned how demanding the medical field could be even at a basic level. It...only reinforced my desire to become a doctor. I have succeeded this far through hard work...a persevering attitude...determination and belief...that I will ultimately be able to make the medical contributions to society at the level I first envisioned as a child.” Their successful work experiences and previous failures were a resource of wisdom and enabled self-confidence in their own ability.

Adaptation

All of the participants agreed that, as in other aspects of their lives, they had to adapt to be successful while in medical school. A male faculty member, Dr. Christopher, stated that the first post-baccalaureate class “did not perform well” on their very first examination in his class, but from that point on performed so well that some of them became tutors to both medical and post-baccalaureate students. Gabriel declared, “I was lazy when I came in, but they got rid of that real quick.” Betty stated, “I feel like I am a chameleon. I can adapt to any given situation. I do what I have to do to succeed,” and Triana explained, “The Post-Baccalaureate program helped all of us to adapt to our class loads by giving us more time to study each subject.” During a discussion, a medical student expressed, “No matter how prepared you are when you get to medical school you are not prepared enough...I took anatomy for a semester when I was an undergrad. When I got to med school I took anatomy in two weeks.” Another medical student emphasized:

One thing about medical school is that you learn how to adapt really quickly. If you do not adapt, you go home or you repeat classes. I didn't want to repeat classes or go home. It all comes down to how badly you want stay in school and thinking about how much money you owe if you don't stay in school. You do your best to make it to the next test, to make it to the next year and to make it past the boards to get your degree. You have to find out what's wrong and tweak it. There's not much room or time for error.

Resilience

All students expressed they were able to cope with adverse events because their own struggles in life prepared them to be able to overcome obstacles. Cheryl expressed medical school drama was “high school stuff....You realize that it doesn't matter how old you are that it is a part of human nature.” Casey, who lost a parent to cancer at a very

young age, echoed that life has helped her to develop “thick skin.” Teras explained why he almost gave up his dream of becoming a doctor:

Things got a little rough...we moved back home. I said, ‘I don’t wanna do this shit no more. Screw it! I am not going to medical school.’ I burned out...My wife was pregnant...and sick. My third one was in the hospital with RSV...We were 700 miles away from family and I just gave up...a job....paid for me to go back to school. I graduated and I didn’t get in and I said, ‘No. I am not giving up...I’ll try again next year.’

Steven explained, “It’s good for you not to have your whole life be a cakewalk. You won’t really have a conscience...later on in my life I can deal with that...I have had a little practice....” and then he added, “I won’t be referring any patients [to the people who mistreated me while in medical school]-I will remember.”

Supportive Relationships

An overwhelming majority of participants indicated that supportive relationships fostered their ability to endure hardships. For John, “spirituality is essential,” and Jenny and others expressed that their parents and others were always supportive, available, understanding and accommodating. Bobbie articulated that the post-baccalaureate cohort, “talk to each other” and she considered her husband a “support system” when she had problems.

Research Question Three:

What experiences throughout their lives have impacted the post-baccalaureate students for dealing with deterrents?

Finding 1:

Poor Academic Preparedness and Limited Academic Resources

Institutional Deterrents

Academic Preparedness

All participants indicated that their initial effort to prepare for making application to medical school was affected by lack of resources such as proper advisement, finances, and poor test-taking skills and preparation. Steven stated, “I feel like I wasn’t [ready for medical school curriculum] before the Post-Baccalaureate program and now it’s really caught me up.” Manny responded, “That’s a good point. I remember dissecting on a cat. This program actually allows us to work on a cadaver.” Cheryl explained, “Because I didn’t have the money, I couldn’t go to the best college. I didn’t get to have anatomy and do dissection, but now with this program I feel like I am up to speed.”

The MCAT. Participants stated that there was a need to test applicants prior to entering medical school for a background of knowledge, but that it was not, in their experience, a predictor of success. Jay said, “I don’t really believe in standardized testing too much... we are not all on the same playing field.” Teras recalled a conversation he had with military physicians regarding the medical school admission test, “In the military, they used to tell me I had to do well on the MCAT and I would ask them about it and they would say, “Oh! I don’t remember. It’s a bunch of bullshit, but you have to do well to get into medical school.”

Undergraduate Advisement. Some participants stated they received poor advisement regarding preparation for medical school and sought advisement from more trustworthy sources. They stated they were uninformed and overlooked by advisers. Minority medical students discussed with one another that they had to ask for advice. Students also discussed how important it was to take undergraduate courses, like

histology, that were also part of the first year medical curriculum which they were discouraged from taking by undergraduate advisers. Betty stated, “The advisers...were not supportive of black females.”

Primary and Secondary Counseling. A few of the participants stated that favoritism, racism, or perhaps incompetence was at play while they were enrolled in their primary or secondary schools as they received zero to little academic counseling without the persistence of their parents. Betty said, “I don’t remember getting any counseling in high school at all,” and Cal expressed, “I was a junior and never even heard of an ACT prep course.” John said, “In middle school I had straight A’s. I was President of my high school class...the minority who was involved, but there was no school support. Mom and dad always supported me and gave me a push.”

Leaders. Throughout the interviews all participants referred to rumors being spread reportedly by medical faculty, administrators and department heads, about post-baccalaureate students and medical students. One medical student discussed openly that her moment for advisement was lost and said with great agitation why she didn’t seek assistance often:

They all say, ‘ “You can trust me” ’ and it is a lie! It’s classmates, people in admissions, professors-the school as a whole. In admissions, the administrator tells other people’s business. You can go in there to talk about something and someone else’s business just seeps into the conversation. They say, ‘Come talk to us about anything’ and then I say, ‘Yeah, I see why...gossip columnists!’-Mary

Mentors. During the course of the interviews, a few participants expressed the importance of having faculty, physician and peer mentors for advisement. Teras explained how useless a peer mentor is to the mentee when he or she is not vested in a peer’s academic success:

We had to share them with the medical students and there was a lot of bickering. We have second years...He called me...I told him who I was and he said...I already know everything. 'Let me know if you have any questions' and that was the last time I talked to him. I have asked to borrow some of his books for class and he gave them to someone else.

Situational Deterrents

Life Experiences

An overwhelming majority of the participants commented on the events that peaked their interest in medicine. These experiences taught them lessons about poor populations, underserved areas and the hard work and determination it takes to persevere tough times in order to accomplish a goal:

In July of 1994 my mother was diagnosed with cervical cancer. I had to take her to her weekly radiation and chemotherapy treatments. My father had died five years earlier of a heart attack. I had to display courage as my father would have done. She died in 1995. She lacked medical insurance and medicaid absorbed most of her medical treatment. My mom's condition was typical of the community that I grew up in--sick folks who could not afford the high cost of medical treatment. --Jay

At a young age hearing...about the problems of tuberculosis in the rural areas of my home country of South Korea...I met several overwhelming obstacles...There was no student financial aid available. I continued to believe...gained admission to a Junior College in the United States, took math and science classes...worked...-Bobbie

I was raised in a community with a large Native American population. One of the greatest needs of our people continues to be quality health care...the only medical attention I had ever received was through Indian Health Services. I understand firsthand the strengths and weaknesses of the system. One of which is that there are few Indian doctors...shadowing the doctors... many of our people suffer from diabetes and alcoholism...my time spent working at the hospital...reinforced my desire to turn my dream into reality. --Cheryl

Interview Findings

A focus group and individual interviews were held with post-baccalaureate students, administration and faculty. Participants were assured that their comments were

confidential and their identities would be anonymous and identified by a pseudonym. I contacted participants by email to survey the best available time and location in which to hold the focus group session and individual interviews. I was given permission to use their academic information as data references for the purpose of the study which was already accessible to due to the nature of the researcher's employment at the MSUCHS. An Informed Consent form was signed by participants. Before the discussions began, I briefed the moderators on the interview questions, answered questions, and emphasized the procedures for the session.

I greeted participants, introduced to the moderators and told them the session would be audio recorded, to speak loudly, and that I would transcribe the discussion verbatim and portions of the data collected would possibly be viewed by the doctoral chair guiding the study. The moderator/interviewer described his/her role, stressed importance of their perspectives from which themes would be identified and organized by significance and would remain anonymous and confidential. Following the discussion, five post-baccalaureate students were individually interviewed to clarify statements or to conduct an initial interview due to their absence from the focus group discussion.

Participants were asked four questions drawn from the three research questions in the study. They were asked to discuss the way their personal background affected the way they approached getting a medical education; daily things that impinged on their performance in medical school; and lastly, participants were asked to comment on the post-baccalaureate program's impact on the MSUCHS community.

The experiences of the post-baccalaureate students were seemingly pervasive over a lifetime. All of the student participants expressed that the medical campus was an

adverse climate of Type-A students who were competitive, lacking in interpersonal and leadership skills, and envious of the reduced load of the post-baccalaureate students- perhaps racist or unaccustomed to going to school with minorities to some degree. Some of the participants commented on hardships created by the Post-Baccalaureate program because they were not allowed to work or receive federal financial aid money and the stipends were untimely. One male student, Jay, was exasperated by the flawed process, “That was a drastic part of the program. Personally, sometimes I wouldn’t get paid for a month and we were supposed to get paid weekly.” Teras added that it took its toll on his marriage, “There are days we have fights.”

A majority of the students felt visible diversity among students, faculty, and staff would help them to feel less isolated and create a welcoming environment of a social and academic network of minorities and disadvantaged students. One male post-baccalaureate student, Gabriel, explained the impact of the program, “I think it brings the school up another level! To the status of some of your Ivy League-type schools that have had a post-baccalaureate program...” Linda expressed, “We are on the cusp of doing a better job...more outreach that needs to be done...I want this place to be a reflection of the world.”

Participants recalled initial experiences that sparked a desire for them to become a physician, which taught them the value of empathy, hard work, and persistence. Teras stated, “Several people and, almost all of the post-baccs, have worked somewhere before. There probably are some harsh feelings, but personally I don’t care. I want a medical license and if they don’t understand where I came from that is their problem.” The experiences of the participants seemingly helped them develop an ability to be resilient,

informed their understanding of the world, and strengthened their unrelenting desire to succeed.

Their educational deficiencies and work experiences were varied. Participants were veterans of the U.S. Armed Forces and employed in various health fields, and they held bachelor and master's degrees in pre-medical subject areas, public health, engineering, and business. Despite their successes, many of the participants expressed that they experienced educational inequalities, which involved high parental involvement and self-motivation when they were young to ensure their success.

Participants in this study commented on the ways they faced institutional and situational deterrents throughout their lives and while in the post-baccalaureate program. No participant expressed any experiences with dispositional deterrents.

Chapter Summary

This chapter reported findings in three areas revealed by this study. Findings were structured according to the research questions and data from the focus groups, individual interviews and observed documentation revealed perceptions in relation to their experiences while enrolled as students in a post-baccalaureate medical program. A wide-range of quotations from participants is included in the description, which represent the reality of the participants being studied.

One of two primary findings in this study is that the medical school campus was an adverse academic environment in which to learn. All of the participants expressed their perception of what made the medical school environment adverse and talked about the competitive environment, failings of the school to inform the medical community about the program, financial limitations, and issues of race and diversity that made them

feel isolated. These discussions precipitated other discussions regarding cultural ignorance, personality types found in medical school and the unfortunate and powerful influence of negative and unsupportive leadership. Though equipped to deal with them, these deterrents created additional hardship and distractions for students.

The secondary finding was that participants expressed that their ability to cope with adversity while in medical school was facilitated through various challenging experiences throughout their lives prior to pursuing a career in medicine. Those experiences and supportive relationships developed their belief in their own abilities and fostered a skill in adapting and being resilient to their environment.

The third finding was that an overwhelming majority of participants recalled an initial experience that sparked their interest in the health careers and those experiences precluded deterrents that affected their ability to be properly prepared for medical school, but ultimately did not stop them from being triumphant. Participants discussed how the lack of relevant academic pre-requisites, poor advisement, poor test-taking skills and preparation, and lack of finances rendered them unprepared. It appeared that faculty was a resource in dealing with deterrents while in the post-baccalaureate program.

Students who need help are seemingly viewed as weak, undeserving, and unqualified; medical school is evidently demanding and requires students to be motivated, self-efficacious, somewhat self-directed, resilient, and able to cope with adverse events. Post-Baccalaureate programs are apparently empowering to minorities and disadvantaged students seeking a medical degree.

CHAPTER V

DISCUSSION, IMPLICATIONS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this case study was to explore the perceptions of minority and disadvantaged post-baccalaureate students of why they completed a bachelor's degree yet did not gain admission into medical school. Chapter 1 presented background information on the need for more diversity in the medical professions, the legal challenges of affirmative action, and minorities and disadvantaged students in post-baccalaureate medical education programs and in medical school. Chapter 2 presented a review of the literature concerning minorities and disadvantaged learners in medical professions, deterrents and facilitators of medical school admissions, and the post-baccalaureate medical education programs as an alternative admissions option. The methodology and procedures that guided this study was presented in Chapter 3. Chapter 4 presented the exploratory cases. Chapter 5 is a summary of the findings, reports the conclusions which emerged from the themes and concludes with implications of this research and recommendations for practice and further studies.

This case study presented data gathered from nonreactive and unobtrusive measures of observation on the part of the researcher, individual interviews and focus

group discussions conducted by moderators selected for their impartiality. The 15 participants were post-baccalaureate students, members of faculty and medical school administration. The data collected were coded, analyzed, and organized by research question and by primary themes of significance and supportive subthemes guided by the framework outlined in chapter 2. These three research questions guided the study:

- 1) What situational, institutional, and dispositional deterrents do non-traditional minority students encounter in the post-baccalaureate program?
- 2) How do non-traditional minority students in the post-baccalaureate program address the situational, institutional and dispositional deterrents they encounter?
- 3) What experiences throughout their lives have impacted the post-baccalaureate students for dealing with deterrents?

These research questions were answered by the findings in chapter 4.

The prevailing findings in this study revealed that post-baccalaureate students expressed that while in the post-baccalaureate program they faced an adverse, but typical, environment in which to learn; that their ability to cope with adversity was facilitated through support from others, each other, and various experiences that developed resiliency and self-efficacy. Students also recalled initial life experiences and personal events that sparked their initial desire to become a physician and the deterrents they faced that prepared them in dealing with and adapting to the deterrents faced while in medical school. As the researcher, I acquired an understanding of the post-baccalaureate program benefits, medical school culture, and the supports needed to successfully overcome deterrents. This chapter examines, interprets, and synthesizes the findings and is organized and aligned with each of the research questions:

1. The deterrents faced prior to being admitted to and while in the post-baccalaureate program and facilitators pertinent to the success of students. (Research Questions 1, 2 and 3)

In an attempt to understand what has been created, the category is directly tied into the research questions and provides insight into the findings. Literature on the minorities in the health careers and medicine and minorities in post-baccalaureate programs and medical school are taken into consideration when trying to understand the perceptions of students who faced and dealt with deterrents while in the post-baccalaureate program.

Interview Reflections

Deterrents and Facilitators. The three research questions sought to determine the deterrents non-traditional minority and disadvantaged students encounter prior to and while in the post-baccalaureate program, how they dealt with deterrents, and which life experiences equipped them for dealing with deterrents. Participants indicated they faced institutional dispositional and situational deterrents created by the institution that administered the post-baccalaureate program. One of the post-baccalaureate participants, Gabriel, commented that the competitive atmosphere, program misinformation and inaccuracies led to allegations of affirmative action and accusations of being unqualified, which led to severe peer conflict. Gabriel stated, “This program needs to be one of the front labels and they definitely need to communicate-new employees and faculty, the public-and educate them on what this program is about.” Besides the lack of knowledge and understanding of post-baccalaureate programs and negative treatment by student leaders and perceived disapproval of school personnel, students also dealt with being unable to work and receiving ill-timed, small stipends on which to live. Untimely stipends were, as another post-baccalaureate student, Cheryl, added, “. . .just another thing

that we had to deal with.” Michael Rainey (2001), Acting Associate Dean for Academic Affairs, SUNY Stony Brook, School of Medicine, gave further insight to this perspective when he wrote:

students come from economically disadvantaged backgrounds and cannot afford the high cost of medical tuition and living expenses without assistance... They are also more likely to come to medical school with a higher undergraduate debt than non-minority students... Failure to obtain adequate financial support during periods when they are experiencing academic problems, are in a remedial mode, or are on leave of absence, can contribute to eventual dismissal or withdrawal from school.

Medical students who take traditional routes to medical school face financial adversity as well. Financial aid officers spend a lot of time counseling students about the costs, debts, loans and loan repayment programs that help fund a medical education. Once initial financial eligibility has been determined, medical students who experience unforeseen emergencies can take out private loans, if their credit is in good standing, or if approved by the financial aid administrator can request adjustments to their financial aid packages (https://www.aamc.org/services/first/first_factsheets/112012/unforeseen_emergencies.html).

However, it has been well documented that minority medical students often start their studies with higher undergraduate debt, are more likely to use their financial aid to care for family members, and receive less financial assistance from their families than do non-minority students (Rainey, 2001). Minority students also need more scholarships than are available, usually have family members who are unable to assist them due to poor credit standing, and are less likely to ask for assistance for various reasons-lack of trust, matters of confidentiality and denial are just a few (Rainey, 2001). Post-baccalaureate students were not eligible for federal financial aid due to their non-student status and had weekly

stipends to pay personal expenses; there was no option to adjust their financial aid budget if an unexpected need transpired. The implication of this is that while all medical students may be aware of the costs of medical school and some may have the financial means to pay for a medical education, minorities and disadvantaged medical students face more financial difficulty than non-minority students, which is worsened by the institution's untimely payment of inadequate stipends; minorities and disadvantaged students in post-baccalaureate programs owe additional debts due to an extra year of financial assistance needed to complete the program. This decreases their academic, professional and personal satisfaction and forces them to seek employment outside of school, taking the focus away from and negatively impacting their medical studies (Odom, Roberts, Johnson, & Cooper, 2007).

Students were likely able to deal with the deterrents early in life primarily because of their self-efficaciousness and resourcefulness. With exception to two post-baccalaureate students, they were the first generation to become physicians and were seemingly self-motivated and self-directed in their journeys to medical school and when faced with deterrents, as they did in the post-baccalaureate program, they were seemingly prone to leaning heavily on family members, spiritual practices, supportive and trusted faculty and administrators, peer and physician mentors and competent advisers to assist them in carrying out their plans as they had in the past when faced with obstacles; no student appeared to doubt their own ability or to see themselves less deserving and unqualified to become a physician because they had already been successful in overcoming obstacles in prior life experiences. However, some participants recalled feeling tired of struggling with obstacles and entertained the idea of giving up. It can be argued that prior work and

life experience in the health professions enables minority and disadvantaged students to succeed in post-baccalaureate and medical education. Post-baccalaureate student, Jenny, commented:

I knew when I was younger I wanted to go to medical school because I used to volunteer at the hospital. I thought I was preparing myself for medical school to become a doctor... Make sure that you want it bad enough. It doesn't matter how smart you are. Use your networking sources. Put yourself out there-- Determination, drive, and resiliency...if the administrators didn't think that we were capable of doing it they would not have put us in school.

The ability of the student to persist was possibly reinforced by the isolation of the post-baccalaureate class from medical students who protested their presence in the school which caused them to rely on and confide in each other for added camaraderie and academic support. However, it appeared that some medical students befriended the cohort and others were unsure of how to approach them. It was possible post-baccalaureate students from the 2003 class could have had more allies than foes, had more conversations been initiated between the groups. Cheryl expressed, "I think when they asked...we would take the opportunity to inform them about the program, but that is just it. Most of them didn't ask and we certainly didn't volunteer so it just kind of stayed that way all year." Many of the post-baccalaureate students expressed that may have been unlikely that opinions about them and their qualifications to be in medical school would have changed even if misconceptions and inaccuracies had been presented prior to the program's inception by the MSUCHS administrators. This implies that mistakes will be made in start-up programs, but that educational opportunities, such as this program, should be properly introduced and publicized, the benefits of its goal of diversity in the

health professions workforce clearly explained and detailed, and communication between students and post-baccalaureate students should be encouraged through group activities.

Likely, the MSUCHS has some work ahead with regard to sustaining its efforts to recruit qualified minority and disadvantaged students as it seems minorities and non-minorities, faculty and students, are not buying into its claims of diversity-visual or not. It appears that visual diversity in student, faculty and staff populations is extremely important to minority students as it enables them to identify potential social networks and trustworthy sources of professional knowledge and academic support. A sustained recruitment effort would apparently make minorities attending the MSUCHS feel as though it was a genuine effort and not a trend that comes and goes with the availability of federal grant initiatives. Perhaps they feel as though more visible diversity in faculty, staff and student populations, and not just that which comes through the Post-Baccalaureate program, would expose the opponents of the program to students who are most unlike themselves (mostly white, male and descendants of physicians) but who are equally driven, capable, and deserving to be a medical student. This implies that minorities feel alone in medical school and while they are accustomed to being few in number in higher education, they still desire to study in a diverse environment as it benefits not only their academic achievement, but enhances the growth and intellectual capacity of students, faculty and personnel. Lisa Tedesco, Vice President and Secretary of the University of Michigan stated:

Students who experience the most racial and ethnic diversity in classroom settings and in informal interactions with peers show the greatest engagement in active thinking processes, growth in intellectual engagement and motivation and growth in intellectual and academic skills (Tedesco, 2001).

Ultimately, it seems that the benefits of this type of medical education program is that post-baccalaureate students are likely to return to their own communities to provide medical care when others who are not from the community and have no vested interest in it or its people may simply serve their time and eventually pursue medical careers outside of the underserved community. They are also able to bring to work environments a different life experience, cultural knowledge, and medical focus than what may currently exist in non-diverse healthcare worksites and communities. If this is the case, then diversity in post-baccalaureate education is seemingly a way to combat issues surrounding health care disparities in non-minority and minority populations and medically underserved areas.

Participants indicated that advisers were not supportive, discouraged them from applying to medical school and advised them not to take classes that would be offered in the first year of medical school. It appears that lack of advisement and academic support was pervasive in the pre-medical advising programs. Given the importance of the role of an adviser in the academic endeavors of a student, the absence of encouragement and informed pre-health advisement implies that poor advisement may play a key factor in the attrition of minority and disadvantaged students in pre-health professions programs and in the under- preparation of minorities applying to medical school. Studies suggest how vital advisement is to minority and disadvantaged students seeking application to medical school:

Anecdotal evidence suggests that a significant number of minority students have expressed dissatisfaction with the academic and/or pre-health advising they received at their undergraduate institutions. Many have perceived their advisors to be unsupportive. Indeed, there are successful health professionals who give accounts of advisors or faculty members who advised them to give up their goal of a career in a health profession. (AADS, 1999)

Pre-health advisement was lacking for participants. However, while in the post-baccalaureate program, participants seemed to relish the “open door” availability of faculty for advisement. Students experienced difficulty in classes, such as histology, and sought advice from faculty advisers on ways to have better learning outcomes.

With exception to the seemingly unsuccessful summer MCAT preparatory class, the post-baccalaureate students appeared to be up to speed on the expectations of the academic load in medical school and who to approach for advisement and academic support. The MCAT preparatory program seemed to be an institutional deterrent that most of the post-baccalaureate students could not overcome; only male students improved their scores significantly to meet regular admission standards. It was seemingly a recurring frustration for students who took the test more than twice and saw no improvement even with the preparatory instruction. Betty stated her ideas about its purpose in the admissions process:

I am waiting to see how that accounts for anything...I don't think it has anything to do with whether or not you'll be a good physician or not. It's a weed out process...When you get down to numbers and you see that it costs \$1500 that totally weeds out the lower, middle class...We have had some conversations about how the MCAT is constructed and statistically African Americans fare the poorest. I don't know. I don't how or why or who makes the test and I am not saying it is racially biased, but there is something wrong with those numbers.

I am not sure what our preparation program really helped or not because I wasn't scoring well before I took it and I wasn't scoring well after I took it. I have taken it so many times it's hard to tell whether one program is going to help it.
(laughed) - Gabriel

Testing is a major hurdle for entry into medical school (Taylor & Rust, 1999). Poor performance on the MCAT seemingly explains why the post-baccalaureate program is important in the selection of qualified minority and disadvantaged applicants. Most of

the students' overall and science grade point averages met regular admissions standards, but for most, the MCAT score did not. The recurring issue of testing inequality implies that- even with MCAT preparatory courses, capable minority and disadvantaged students may still fail to score well on the standardized tests and are hindered from gaining entrance into medical school, and that other options to medical school matriculation must be considered during the application process.

Re-Examining Assumptions

Assumptions stated in chapter 1 were based upon the researcher's professional experience at the time of this study. They are discussed in relation to the analysis of the findings in this case study.

The first assumption was that pre-health coursework does not prepare minorities and disadvantaged students to gain admission to medical school, but decelerated coursework will better prepare these students for medical school. There was evidence in this assumption. The sample of participants expressed that the program's decelerated medical courses prepared them adequately for the first-year medical school curriculum.

The second assumption speculated that the outcome of the Medical College Admission Test (MCAT) will not result in a rise in test scores after post-baccalaureate participants take part in the MCAT Preparation course offered by the HCOP. This assumption turned out to be true with exception to two students who improved performances on the test. Students expressed that the test preparation courses did not aid in raising their scores and could not pinpoint an explanation.

The third assumption held that post-baccalaureate students will face financial limitations. This assumption turned out to be true as students expressed their frustration

in not being able to work, receive federal financial aid, or contribute significantly to their existing expenses, which resulted in tensions with family members and creditors.

The fourth assumption is that post-baccalaureate students are highly motivated. This assumption was partially true in that participants obviously expressed a desire to become physicians and with confidence applied to medical school and the post-baccalaureate program. However, a few students expressed that they were initially lazy or unmotivated because of the decelerated coursework and had to be prodded by a family member or reminded that they were going to fail if they did not learn to utilize their time wisely, prioritize things in order of importance, and study for coursework and exams.

The final assumption is that post-baccalaureate students will matriculate into medical school. This assumption held true as every post-baccalaureate student passed their pre-medical coursework and matriculated medical school the following academic year at the MSUCHS.

Summary of Interpretation of Findings

The experiences of post-baccalaureate students in a pre-medical education program were depicted in this chapter. In summary, prior discussion illustrates the variety of experiences of minority and disadvantaged students seeking admission into medical school through a post-baccalaureate pre-medical education program. The dialogue reveals a variety of reasons why students feel unprepared for medical school, even after completing a bachelor's degree. It offers viewpoints as to the strengths and weaknesses of the medical institutional culture, an explanation for how they addressed deterrents while in the program, and the life experiences and support that aid in their ability to cope, adapt and be resilient from beginning to end.

The analysis of the findings in this case study are specific to these post-baccalaureate students since the number of research participants was small and the study was focused on their perceptions as to why they did not matriculate to medical school and how they addressed deterrents that surfaced while in the post-baccalaureate program. The perception of medical students who matriculated into medical after their first application is not characterized in this case study. Qualitative research is potentially subjective by nature. Due to the employment background of the researcher as Program Manager of the Post-Baccalaureate program, the interpretation presented by the researcher was discussed with colleagues in order to limit any potential preconceived notions.

Conclusions

The purpose of this case study was to explore the perception of minority and disadvantaged post-baccalaureate students of why they obtained a bachelor's degree yet did not gain admission into medical school and how they addressed deterrents prior to and while in the post-baccalaureate program. The research questions and the findings lead to the conclusions regarding the following areas: (a) perceptions that medical school environment would be welcoming and services well-established, (b) coping ability of participants, and (c) what aids or deters the preparation of minority and disadvantaged students. A discussion of the key findings and conclusions drawn from this research is next and is followed by the recommendations of the researcher and a concluding reflection on this case study.

Perceptions that Medical School Environment Would Be Welcoming and Services Reliable

The first key finding in this study is that all of the participants expressed that students face adversity in the medical school environment. A conclusion taken from this finding is that medical students should not expect the culture to be without peer conflict nor institutional services, especially if new, to be unfailing. While medical school classes are composed of intelligent and academically driven students, students may need time, even still, to adapt and grow from their exposure to new academic concepts, highly motivated personalities, and people from different backgrounds. In the same respect, the services provided to students by an institution are not fail-proof and are subject to personnel oversights, technical delays and errors, which may be modified once assessed and analyzed for improvement. It can also be concluded that the purpose of medical school is to prepare students for professional careers as physicians, the preparation is rigorous, demanding, and not always welcoming, predictable, and timely.

The Coping Ability of Participants

Another key finding was that all participants expressed that their ability to cope with adversity while in medical school was facilitated through support from others and various life experiences that developed resiliency and self-efficacy. During the first year of the program, students faced peer conflict and institutional deterrents, such as financial and academic challenges to successfully complete coursework. A conclusion from this is that support from others and life experiences developed resiliency and self-efficacy that is essential to minority students' ability to cope with adversity.

What Facilitates and Deters the Preparation of Minority and Disadvantaged Students

Participants identified several factors that they perceived aided or deterred their learning and preparation for medical school. The third finding of this study was that participants recalled initial personal and work experiences that sparked and sustained their interest in medicine, which served as preparation for dealing with deterrents. Students faced situational, dispositional, and institutional deterrents prior to the post-baccalaureate program and overcame the hurdles, which instilled in them a belief that they could do the same while in the post-baccalaureate program. Additionally, all of the students cited the lack of appropriate academic support services and appropriate financial resources required to be properly prepared. Throughout their primary, secondary, and post-secondary education, minority students recalled being ignored, having few or no testing and advanced course preparation, and being ill-advised or receiving little advisement regarding pre-health curriculum as an undergraduate. Students also explained, that although they were used to being the only minority in a classroom or school setting, the lack of minority students and faculty made them feel isolated, unrecognized, and unsupported. However, students identified medical school faculty and some staff as supportive and available for advisement. The first conclusion that can be drawn from this is that minority and disadvantaged students are faced with overcoming numerous financial, social, psychological and academic deterrents throughout their educational endeavors. Secondly, to move forward they need support services and interest groups in place to facilitate their success. The final conclusion drawn from this finding is that minorities and disadvantaged medical students advance through the

educational system due to their own motivation, experiences, and determination to achieve becoming a physician.

Recommendations

Recommendations based on the findings, analysis, and conclusions of the case study include that students take coursework in content areas that will be tested on the MCAT; select courses that fulfill medical school requirements, general degree requirements of the university and departmental or specific degree requirements for their major. Many medical schools already encourage a similar background in many of the required pre-medical courses and have established minority and multicultural medical student organizations and support services. Therefore, some of the recommendations may already be in place. However, there are still many undergraduate institutions that do not have these recommendations in place. The recommendations that follow are for: (a) pre-health professions advisers, (b) higher education and medical school administrators, and (c) further research.

Recommendations for Pre-Health Advisers

1. Pre-medical students should select courses that have a strong base in biochemistry, genetics, microbiology and cell biology; the natural sciences such as biology, chemistry, mathematics, and physics and courses in the social sciences and humanities for a more in-depth and rounded application. Generally, pre-health professions advisers do not encourage students to take courses such as histology and physiology in undergraduate curriculum. However, it is recommended that minority and disadvantaged students take these courses, attend curricula seminars and workshops in preparation for the first year medical

curriculum, which makes the first year of medical school less stressful and the student more prepared for and at least familiar with rigorous medical curricula and terminology.

2. Students should prepare for taking the MCAT by enrolling in MCAT workshops and should take the MCAT once they have taken all required subject matter by their junior year of college. Perhaps they can even be directed to medical schools that use holistic and non-cognitive variables that better serve minority and disadvantaged students who do not perform well on standardized admission tests, but tend to have high GPAs, participate more in student and community service activities, and may have ties to the underserved communities.
3. Advisers should provide a timeline for pre-medical students for preparing for medical school; inform students of the application timeline and the importance of the application process and deadlines; encourage students to look into the admission requirements of the medical school of interest and to develop a professional relationship with the medical school admission and recruitment staff prior to applying.
4. Additionally, it is recommended that minority and disadvantaged students are encouraged to join minority medical student organizations and other professional organizations, which aid in minority recruitment and retention and provide opportunities for support, mentoring, education, decision-making, leadership opportunities and to be informed of relevant issues in the field of medicine.
5. Advisers should seek training through professional organizations to develop their skills in advising students including minorities and disadvantaged students.

Administrators should support these resources as they are beneficial to advisers and key to understanding and identifying the deterrents, such as limited financial resources, that minorities face in higher education and in pursuit of professional careers. This training makes for better insight and advisement practice which leads to a better informed student.

Recommendations for Higher Education and Medical School Administrators

More attention should be given to professionals in academic services and student affairs. These individuals are often perceived as the gatekeepers to medical education and are trusted to create an academic environment that is not only rigorous, but fair and welcoming to all students, especially disadvantaged students and minority students.

1. Medical school administrators should institutionalize a long-term educational pipeline program that establishes community-based and institutional partnerships and targets and tracks disadvantaged students and minorities in elementary school, middle school, high school, college, and post-baccalaureate education who are motivated academically and demonstrate an interest in exploring and in preparing for a career in the health professions. Students who are self-motivated and self-efficacious, have demonstrated resiliency and leadership, and have demonstrated community service, strong communication skills and supportive relationships should be identified and their families should be educated on the process of preparing for and funding a higher and professional education.
2. Administrators should create a more holistic medical school application that considers non-cognitive criteria in addition to academic qualifications and the MCAT score. The findings suggest that the college admissions policies stand in

the way of medical school admissions for a large number of minorities and disadvantaged students. Finding a way to eliminate the need for standardized tests as an admission standard or to supplement it with other pertinent factors better serves the minority/disadvantaged applicant pool.

3. An aggressive effort should be made to recruit qualified male and female minority faculty and to identify minority mentors
4. Additionally, administrators should establish minority and multicultural support groups, activities, events, and encourage participation in national meetings with other minority and disadvantaged medical students; professional diversity and stress management workshops should be provided for all students.
5. Students should also be directed to appropriate resources for various counseling services pertaining to financial and psychological issues. Administrators should be professional and student information should remain confidential in these matters at all times.

Research Recommendations for the Future

Many opportunities for further study were revealed during this study in order to gain more of a comprehensive understanding of why minority and disadvantaged students are graduating with a bachelor's degree and not gaining admission to medical school. Cross (1981) stated that adult learners face three types of deterrents-institutional, situational and dispositional. Students indicated that they had faced these types of deterrents and successfully addressed them due to their past experiences of triumphantly managing obstacles with the assistance of dependable, supportive resources.

With this in mind, review of the literature revealed that there are few qualitative studies that explore and describe the perceptions of minority students in medical education. In addition, more research should be conducted to explore the graduation outcomes of minority and disadvantaged applicants at medical colleges who use long-standing, non-traditional approaches to admissions. There are gaps in the research regarding who is most likely to encounter academic difficulty in medical school and when and why they encounter it. Lastly, further research should explore when, why, and how students drop out of the medical education pipeline.

With this also in mind, students communicated in their experiences that the lack of advisement was a deterrent to their learning and preparation prior to medical school. There is inadequate information regarding the required training outcomes of pre-health advisers, faculty, recruiters, and administrators to identify and meet the needs of minority and disadvantaged students in higher education or medical school or the rewards and incentives given to faculty who serve as advisers to students. More studies should be conducted to explore the value of advisers and student organizations to all pre-health students, including minorities and disadvantaged students and whether or not pre-medical undergraduate courses taken in the first year of medical school are helpful to disadvantaged populations.

Final Reflections

The problem of inequity in education has been a recurring issue. Participants were asked to take part in the study because they were minorities and disadvantaged students who were denied admission to medical school even though they had successfully completed a bachelor's degree. Likely, stories of resiliency could have come from non-

minorities as well. It is imperative to aggressively invest in the education of all citizens. Until then, it will remain an issue of primarily educating students whose families can afford an exemplary and professional education and have access to outstanding resources, remediating students who spend a lifetime struggling to catch up, and institutions and workforces continuing to be devoid of a diverse and capable student body. Our nation is scattered with communities that are chock-full of missed and delayed opportunities.

The national discussion that we're having is misplaced. We're having a national discussion about education as a selection process—who is going to go where? What we need is a national discussion about education as an opportunity structure. It's the difference between discussing the ceiling and the floor. We need a discussion about the floor. What's the floor out here for everyone to stand on, so that if we provide this floor and they get on it then they have a real opportunity to be citizens? -Robert Moses, 2001

Epilogue

The 2003 and 2004 post-baccalaureate students were all successful in their effort to gain admission to the MSUCHS. The 2003 class recently completed their residencies and are scattered all over the country. Cal, from the 2003 post-baccalaureate cohort, became President of the first year medical class and is now a physician with the United States Army. Cheryl did not pass the medical boards her on her first attempt, but was successful on her second attempt and graduated on time with her class. Jay received an award and scholarship. Betty, from the 2004 cohort, had a very serious setback regarding a private issue, but completed her medical education. Casey and Teras became tutors to medical students in histology. All of the post-baccalaureate students who participated in this study are currently practicing physicians.

In December of 2005, the researcher gave birth to her second child and never returned to work at the MSUCHS. In April of 2006, the HCOP program was discontinued, federal grant funds were rescinded and the researcher and staff were laid-

off of work and never replaced. The middle school and high school programs were discontinued. The Post-Baccalaureate Program was institutionalized, renamed, and changes included selecting 8 disadvantaged applicants instead of 10. Students became eligible for financial aid, were charged tuition, and were required to pay all application fees.

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APPENDICES

APPENDIX A

Oklahoma State University
Institutional Review Board

Protocol Expires: 7/12/2005

Date: Tuesday, July 13, 2004

IRB Application No ED04114

Proposal Title: The Health Careers Opportunity Program: Deterrents Faced by Minority Students in a Post-Baccalaureate Medical Education Program

Principal Investigator(s):

Monica E. Browne

Gary J Conti

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact me in 415 Whitehurst (phone: 405-744-5700, colson@okstate.edu).

Sincerely,



Carol Olson, Chair
Institutional Review Board

APPENDIX B

Informed Consent Form

Part 1: Research Description

Participant Name: _____

Principal Researcher: Monica E. Browne-Hagans

Title of Research: The Health Careers Opportunity Program: Deterrents Faced by Minority Students in a Post-Baccalaureate Medical Education Program

You are invited to participate in a research study that explores why minority and disadvantaged students graduate with a bachelor's degree yet do not gain admission to medical school. Your participation in this study requires an interview during which you will be asked questions about your opinions and attitudes relative to your experience in seeking a medical education. The duration of the interview will be approximately 120 minutes. With your permission, the interview will be audio taped and transcribed, the purpose thereof being to capture and maintain an accurate record of the discussion. Your name will not be used at all. On all transcripts and data collected you will be referred to only by way of a pseudonym.

This study will be conducted by a moderator who will facilitate the group discussion or the individual discussion. The moderator holds a doctoral degree in Occupational and Adult Education from Oklahoma State University. The interview will take place at a time and location that is mutually suitable.

Risks and benefits:

This research will hopefully contribute to understanding why minorities and disadvantaged students who graduate with a bachelor's degree do not gain admission to medical school and to better inform pre-health advisers and the practice of higher education and medical education. Participation in this study carries the same amount of risk that individuals will encounter during a usual classroom activity. There is no financial remuneration for your participation. Food and beverages will be provided.

Data Storage to Protect Confidentiality:

Under no circumstances whatsoever will you be identified by name in the course of this research study, or in any publication thereof. Every effort will be made that all information provided by you will be treated as strictly confidential. All data will be coded and securely stored, and will be used for professional purposes only.

How the Results Will Be Used:

This research study is to be submitted to the Faculty of the Graduate College in partial fulfillment of requirements for the degree of Doctor of Education at Oklahoma State University, Stillwater, Oklahoma. The results of the study will be published as a dissertation. In addition, information may be used for educational purposes in professional presentation (s) and/or educational publications.

Part 2: Participant's Rights

- I have read and discussed the research description with the researcher. I have had the opportunity to ask questions about the purposes and procedures regarding this study.
- My participation in this research is voluntary. I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status, or other entitlements.
- The researcher may withdraw me from research at her professional discretion.
- If, during the course of study, significant new information that has been developed becomes available that may relate to my willingness to continue to participate, the investigator will provide this information to me.
- Any information derived from the research that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- If at any time I have any questions regarding the research or my participation, I can contact the researcher who will answer my questions. The researcher's phone number is 918-xxx-xxxx. I may also contact the researcher's faculty advisor, xx, at 918-xxx-xxxx.
- If at any time I have comments or concerns regarding the conduct of the research, or questions about my rights as a research subject, I can write the Oklahoma State University Institutional Review Board (IRB) at 415 Whitehurst Hall, Stillwater, OK, 74078. Alternatively, I can call the IRB at 918-405-744-5700.

- I should receive a copy of the Research Description and this Participant's Rights document.
- Audio taping is part of this research. Only the principal researcher and the members of the research team will have access to written and taped materials. Please check one:

() I consent to be audio taped.

() I do NOT consent to being audio taped.

My signature means that I agree to participate in this study.

Participant's signature: _____ Date: ____/____/____

Printed Name: _____

Investigator's Verification of Explanation

I, _____ (Researcher), certify that I have carefully explained the purpose and nature of this research to _____ (participant's name). He/She has had the opportunity to discuss it with me in detail. I have answered all his/her questions and he/she provided the affirmative agreement (i.e., assent) to participate in this research.

Investigator's Signature: _____ Date: ____/____/____

APPENDIX C

Semi-Structured Interview Questions

What situational, institutional, and dispositional deterrents did non-traditional minority students encounter in the post-baccalaureate program?*

1. What is your perception of the impact the post-baccalaureate program has had on the MSUCHS community?

How did minority and disadvantaged students in the post-baccalaureate program address the situational, institutional, and dispositional deterrents they encounter?*

2. How have you dealt with the reaction to your participation in the post-baccalaureate program?

What experiences throughout their lives impacted the post-baccalaureate students for dealing with deterrents?*

3. What things in your daily life have affected your performance in the program?
4. How has your personal background affected the way you approach getting a medical education?

*Research questions in bold print; interview questions are numbered

VITA

Monica Eileen Browne

Candidate for the Degree of

Doctor of Education

Thesis: THE HEALTH CAREERS OPPORTUNITY PROGRAM: DETERRENTS
FACED BY MINORITY STUDENTS IN A POST-BACCALAUREATE
MEDICAL EDUCATION PROGRAM

Major Field: Occupational and Adult Education

Biographical:

Education: Graduated from Booker T. Washington High School, Tulsa, Oklahoma in June, 1988; received a Bachelor of Arts degree in Sociology at Oklahoma State University, Stillwater, Oklahoma in December, 1996; completed the requirements for the Master of Human Relations degree in Human Relations at the University of Oklahoma, Tulsa, Oklahoma in June, 2000; completed the requirements for the Doctor of Education in Adult Education at Oklahoma State University, Stillwater, Oklahoma in December, 2011.

Experience: Employed by Fayette County Public Schools as a Substitute Teacher and Special Education Paraprofessional, Fayetteville, Georgia, 2008-2011; Employed by the United States Bureau of the Census as an Temporary Enumerator, Atlanta, Georgia, 2009; Employed by Robert Half, Inc. as a Contract Employee, Tulsa, Oklahoma, 2007-2008; Employed by Oklahoma State University Center for Health Sciences College of Osteopathic Medicine as a Program Manager, 2002-2006; Employed by Oklahoma State University-Tulsa as a Human Resources Specialist, Tulsa, Oklahoma, 2001-2002; Employed by State of Oklahoma Department of Human Services as Social Services Specialist in Family Services and Child Welfare, Tulsa, Oklahoma, 1997-2000; Employed by Children's Day Nursery as a Lead Teacher, Tulsa, Oklahoma, 1996-1997.

Professional Memberships: Society of Human Resource Management, National Association of Advisors for the Health Professions, Golden Key International Honour Society

ADVISER'S APPROVAL: Dr. Katye Perry

Name: Monica Eileen Browne

Date of Degree: May, 2012

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: THE HEALTH CAREERS OPPORTUNITY PROGRAM:
DETERRENENTS FACED BY MINORITY STUDENTS IN A POST-
BACCALAUREATE MEDICAL EDUCATION PROGRAM

Pages in Study: 127

Candidate for the Degree of Doctor of Education

Major Field: Occupational and Adult Education

Scope and Method of Study: Research indicates that the effort to increase the number of minorities underrepresented in medical schools across the United States has wavered for more than 40 years and has never been successful in reaching minority population parity. Using the conceptual framework of barriers to adult learning, this case study was designed, through triangulation of data sources and methodology, to explore the perceptions of 13 minority and disadvantaged students enrolled in a post-baccalaureate medical education program in an effort to understand why they graduated with a bachelor's degree yet were not admitted to medical school.

Findings and Conclusions: This research revealed that minority and disadvantaged students received poor academic preparation and advisement and faced adverse conditions; for minority students, support from others and life experiences develop resiliency and self-efficacy that is essential to their ability to cope with adversity. Recommendations are offered to pre-health advisers and higher education and medical school administrators and for further research.

ADVISER'S APPROVAL: Dr. Katye Perry
