

Meeting the Challenge: Career Development and Targeted Enrichment Programs Insuring a Viable Pipeline

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Rupert M. Evans¹, James A. Johnson², Andy N. Garman³, and Philip Kletke¹

Abstract

Minority enrichment programs play a vitally important role in current efforts to increase the number of health care providers from underrepresented racial and ethnic populations and other disadvantaged groups. However, the existence of minority enrichment programs is challenged by recent changes in the political and economic environment, including the sharp reduction of federal funding support in 2006. This article presents case studies of two longitudinal minority enrichment programs located in Chicago, Illinois: the Urban Health Program (UHP) of the University of Illinois at Chicago, and the Chicago Area Health and Medical Career Program (CAHMCPC) at Illinois Institute of Technology. Prior to the cuts in federal funding, in 2005, we conducted in-person interviews with administrative staff of the two programs. The qualitative data were supplemented with follow-up interviews conducted in 2008 with directors of the programs. During the interviews, we discussed how the programs responded to the budget cuts and how the programs viewed their future prospects. The results of the study indicated that adequate funding is crucial for the continued success of these minority enrichment programs in ensuring a viable health professions pipeline.

Keywords

health, diversity, minority, continuing professional development, social accountability

Introduction

In September 2004, the Sullivan Commission on Diversity in the Healthcare Workforce released its report, “Missing persons: Minorities in the Health Professions.” The report concluded that “access to health professions remains largely separate and unequal” (p. 4). The report further argued that increasing the diversity of the health care workforce is a necessary step toward the reduction of health disparities that adversely affect racial and ethnic communities in the United States. Various attempts to increase the diversity of the U.S. health care workforce were attempted. Included among these efforts were minority enrichment programs established in many universities and medical schools to promote careers in health professions to students who are from underrepresented minority (URM) groups or are economically disadvantaged. However, the programs are now threatened by sharp reductions in federal funding. Case studies of two minority enrichment programs examine how the program directors responded to the reductions in funding.

Background—Underrepresented Racial and Ethnic Groups in the Health Professions

According to the American Association of Medical Colleges, racial and ethnic groups are considered as “underrepresented” in a health profession if their proportional representation in that profession is less than their representation within the general population (Association of American Medical Colleges [AAMC], 2006). For example, 15% of the U.S. populations were Hispanic (all races), 12% were non-Hispanic African Americans, and 0.9% were non-Hispanic Native Americans (U.S. Census, 2010). Yet, these groups

¹Governors State University, University Park, IL, USA

²Central Michigan University, Mt. Pleasant, USA

³National Center for Healthcare Leadership, Chicago, IL, USA

Corresponding Author:

Rupert M. Evans, Governors State University, 1 University Parkway, G178
University Park, IL 60484, USA.
Email: revans@govst.edu

comprised approximately 2.8%, 3.3%, and 0.3% of U.S. physicians, respectively (AAMC, 2006). Based on this definition, Asians as a whole are not considered underrepresented in most health professions and are actually overrepresented based on their proportion of the U.S. population. However, some Asian subpopulations, such as Cambodian and Samoan ethnicities, are considered underrepresented (Smedley, Stith, & Nelson, 2003).

Before 1960, racial and ethnic minorities comprised less than 2% of new U.S. medical school enrollees (Cohen, Gabriel, & Terrell, 2002). Since then, the representation of minorities in medical school enrollments has risen appreciably. In the fall of 2007, 7.3% of new matriculates to U.S. medical school programs were Hispanic (all races), and 6.8% were non-Hispanic African American (AAMC, 2007). Despite the growing proportion of minority medical students during the past 40 years, the representation in medical school enrollment is still significantly below that of the U.S. population.

Method and Analysis

This study uses a Hermeneutic Dialectic Process methodology (Guba, 1990) to gather data in the qualitative part of this research. The analysis of the data began with the construction of the interview guide. This process was continually enhanced as the interviews progressed. The hermeneutic aspect consisted of depicting individual constructions as accurately as possible, while the dialectic aspect consisted of comparing and contrasting these existing individual (including the researcher's) constructions, so that each person interviewed confronts and came to terms with the constructions based on their own and other's perspectives (Guba, 1990). The belief that each of us (the interviewer and those interviewed) brought individual interpretations to the table was the basis for the methodology of this study. This method allowed for the interpretation of data in a collaborative and communicative manner, with the aim of generating one (or a few) construction(s) on a substantial consensus (Guba, 1990). Through this process, the researcher was able to address from a qualitative perspective whether or not the funding, program design, and outside program support for career development and enrichment programs affected the efficacy of the programs in producing a viable pipeline of racially/ethnically diverse health professions students.

This study consisted of 10 interviews across the two programs, Chicago Area Health and Medical Career Program (CAHMCP) and University of Illinois at Chicago (UIC) Urban Health Program (UHP). Five individuals represented the CAHMCP Program and five represented the UHP program. The results of the interviews were organized around themes. The interviews contained 15 questions asked of each of the subjects, the first 4 being demographic in nature, and the remaining 11 questions subjective and related to the structure and function of each program—program design

and implementation, institutional commitment, and outside program support from the local and corporate community.

Before conducting the interviews, a structured interview guide was developed, which ensured that the interviews were conducted in a consistent fashion and that all relevant areas were covered. To ensure the questions were clear and unambiguous, field-tests were performed via mock interviews with five individuals who were either program managers or members of an academic faculty.

This study, which focuses on factors associated with the effectiveness and efficiency of minority enrichment programs, relied heavily on key informants' responses to the following five questions:

1. What is the goal of your enrichment program?
2. How do you measure the success of your program?
3. What are the strengths of your enrichment program?
4. What are the barriers to the success of the programs?
5. What impact do you feel your program has in improving the pipeline of underrepresented minorities in the health professions?

The responses to Questions 2 through 5 were organized around themes. The themes are outlined in Table 1.

The analysis consisted of three parts. First, the two minority enrichment programs in the study are described, including a discussion of the similarities and differences among the groups. Second, the analyses from key informant interviews with executive and administrative staff of the two programs in 2005 are presented prior to the cuts in federal funding. Finally, the findings from the follow-up interviews, which were conducted with the program directors in early 2008, are presented.

The program offerings and descriptions came from a variety of sources. Both programs maintain websites that provided the program's mission, organizational structure, program design, activities, and the relationships with their academic partners. Financial data were obtained from the annual budget reports for the two programs along with a review of program's policies and procedures. Furthermore, the primary researcher toured the offices and facilities of both programs to obtain additional details of the program. The interviews with key informants and the administrative staff provided the most valuable information and provided additional descriptive information about each program (described below).

All of the interviewees were directors or in high-level administrative positions. All had master's degrees, and four of the interviewees had doctorates. Many of the interviewees had received graduate training in more than one substantive area. The most common areas of training were health administration, public health, and education. Both the CAHMCP and UHP programs served URM students from the following

Table 1. Themes Used to Present Findings From Key Informant Interviews.

Theme	Description
Student support	Counseling, coaching, training, and advice that students receive when applying to and entering into professional schools
% entering health professions	Percentage of students in the program who successfully complete their training and enter one of the health professions
Program visibility and marketing	Knowledge of the programs' existence in the community and undergraduate schools; and outreach activities to potential students and other stakeholders
Admissions	Number of students admitted to and entering professional schools
Recruiting	Number of students who are recruited into the MHPEP program
Retention	Number of students who are kept in the pipeline and matriculate into professional school
Graduation	Number of students who graduate from a health professions program
Staff quality	Background, qualifications, and commitment of the faculty, staff, and volunteers
Resources and funding	Financial and human resource support provided to the program

Note: MHPEP = Medical Health Professional Education Programs.

groups: African American, Hispanic/Latino, and Native American/Native Alaskan/Native Hawaiian. Both programs have representations from Asians and Caucasians. The CAHMCP program categorizes them as “affiliates, who are individuals who state they want to serve in health professions shortage communities,” while the UHP program describes them as “economically and educationally disadvantaged individuals.” The CAHMCP program also serves individuals of all races diagnosed with a learning disability.

When asked the question “What is the goal of your enrichment program?” interviewees from both programs gave similar responses. This supported the goals of the Illinois Board of Higher Education’s (IBHE) goal of being “dedicated to proactive efforts regarding the advancement of access and diversity throughout higher education in Illinois, and extending the voice of underrepresented student populations.” The Director of CAHMCP states, “To increase the number of underrepresented minorities in the health professions who practice in the State of Illinois.” And the Executive Director of the UIC UHP states,

To improve the quality of health care services for medically underserved urban populations, especially those in Health Professions Shortage Areas of Illinois, by expanding health professions education opportunities for underrepresented groups (African Americans, Hispanic Americans, Mainland Puerto Ricans, and Native Americans).

The responses from the other participants were in line with the themes of each of these quotes.

The Importance of a Diverse Health Care Workforce

In recent years, a variety of studies have argued that to increase the diversity of the U.S. health care workforce, a

wide variety of policy enhancements must occur, including the reduction of health disparities (Cohen et al., 2002; Sullivan Commission Report, 2004). An increase in the supply of minority health care providers will likely increase access to health care in minority communities. Previous research showed that Black and Hispanic physicians are especially likely to treat disenfranchised patients and patients from their own race and ethnicity group (Xu et al., 1997). Research also found that Blacks and Hispanics as compared with other physicians are more likely to practice in neighborhoods where a high percentage of the population is from their own race and ethnicity (Saha, Taggart, Komaromy, & Bindman, 2000). Increasing the supply of URM physicians will aid in increasing the degree of racial concordance in physician–patient relationships. Recent studies found that minority patients often prefer to be cared for by physicians of their own race and ethnicity (Saha et al., 2000). When physicians of their own race and ethnicity treat patients, they have longer physician visits, have more engaged and responsive interactions with their physicians, have higher utilization of health care services, and are less likely to postpone seeking health care (Saha et al., 2000).

Both the UHP at UIC and the CAHMCP were developed as outgrowths from community demands resulting in legislative and policy funding and support. Since their inception in the late 1970s, much has changed on a national and local front from a political standpoint, yet Illinois State legislators have continued to support program funding for these Medical Health Professional Education Programs (MHPEPs) in part. Accordingly, the Evans’s (2006) report revealed that funding was identified as the most significant barrier to success for both programs; CAHMCP 50% and UIC UHP 56%. The presence of URM students plays a crucial role in preparing a culturally competent workforce (Cohen et al., 2002). The groups classified as URM students include ethnic groups including African American, Hispanic, and Native Americans whose representation among professionals in health sciences

is disproportionately less than their proportion in the general population (Toney, 2012). This argument is central to the University of Michigan's defense against antiaffirmative action lawsuits that challenged the admissions policies to their undergraduate school and law school (Cohen et al., 2002). A more diverse health care workforce will lead to greater diversity among medically trained health care managers, policy makers, and researchers, who in turn may increase the promotion and development of health policies and health care research priorities that would better suit the needs of the increasingly diverse U.S. population (Cohen et al., 2002).

Efforts to Increase URM's in the Health Professions

Any effort to improve health care services or control costs must consider the supply, distribution, use, and education of the health care workforce (Kovner & Salisburg, 1999). The health care workforce is large and diverse. It ranges from highly educated and highly paid professionals to caregivers, skilled technicians, and semiskilled workers. In 1994, there were approximately 12 million health care workers, which represent approximately 10% of the nation's total workforce. By the year 2018, the Department of Labor projected that health care services would jump to 15.3 million or 10.1%.

Concerning the period 2008-2018, a number of reports and studies indicate that there is a need to produce sufficient numbers and types of health professionals to meet the demands of a diverse society (Gupta & Konrad, 1992). Findings of the 1993 Pew Report stated that nurses and allied health professionals would be essential players on the future primary and preventive health care system. In addition, the report emphasized the need to increase the number of minority health professionals, which was also a goal of the Healthy People 2000 initiative and was carried over in the Healthy People 2010 efforts (U.S. Department of Health and Human Services, 2000).

One of the main barriers to better URM representation is the costs associated with health professions education. Many URM students do not have the economic resources required to finance a health profession career. In accordance with the National Institute of Medicine (IOM; 2004), on average, URM student resources are more limited compared with their majority counterparts: "Because of the cost barrier to URM students, they may be discouraged from entering health professions training programs when faced with the prospect of high debt" (p. 23). Many leaders in the health care field have called for a reexamination of the costs and financing of health professions training to significantly reduce or eliminate many training costs, particularly for those students who serve in the public sector. Promoting and encouraging health professionals to work in health care shortage areas are likely to increase access to care for medically underserved populations.

Public and private organizations have tackled the challenge and designed initiatives to assist URM students in financing the costs of their education and training. Some provide direct financial assistance to students and others indirectly support URM students through funding provided to institutions for diversity activities. All of the organizations, however, provide support to increase URM participation in health professions and reduce financial barriers, directly or indirectly, for students who experience difficulty financing their training (Transportation Research Board, 2003).

Another challenge to achieving better URM representation in health professions training programs relates to admissions policies and practices, which vary widely from discipline to discipline and among institutions. These variations are reflected in the differences in entrance requirements, discipline-specific criteria, and institutional mission. Almost all of the policies include standardized admission test data and qualitative information (e.g., applicants' personal characteristics, background, and motivation to enter health professions fields) to arrive at admissions decisions. Policies and practices influence racial and ethnic diversity in graduate health professions training programs. Standardized, norm-referenced tests (e.g., the Medical College Admission Test [MCAT], Dental Aptitude Test [DAT], and Graduate Record Examination [GRE]) are still critical in the admissions process. The IOM suggests that alternative admission models should be reviewed as well as their implications for URM applicant success in the admissions process. Finally, it is very important that organizations have an institutional climate for diversity. This includes strategies that encourage the introduction of diverse viewpoints and an appreciation of the uniqueness of the individual and the richness of the culture and backgrounds of the students. In most cases, there needs to be "holistic" institutional change. Evidence suggests that efforts to enhance diversity require comprehensive, systematic changes in the way institutions value and respond to diversity. By themselves, diversity programs (e.g., sensitivity training, cultural programs, and workshops) are unlikely to affect meaningful change absent systemic, integrated diversity efforts.

Diversity must be institutionalized and leaders—including university presidents, deans, governance bodies, department chairs, and other administrators—must clearly articulate the importance of diversity for the institutional mission. In addition, institutional leaders must establish clear guidance for all students, faculty, and staff regarding diversity goals and the roles all members of the campus community must adopt to attain diversity and inclusion goals.

Minority Enrichment Programs

Many medical schools and universities have established minority enrichment programs to promote careers in the health professions among students from URM groups and

among students who are economically disadvantaged. The support services provided by these programs may include personal counseling, the development of study skills, assistance in test preparation, networking opportunities, and financial assistance.

Minority enrichment programs vary considerably in organization and format. For example, summer enrichment programs, which typically last for several weeks, are designed to increase interest in the health professions and to help students successfully compete for admission into professional schools. On the other end of the spectrum, pipeline programs maintain long-term relationships with students, by providing support from high school to the completion of their training and entry into health professions.

Research Questions

Research Questions 1: Does funding, program design, and program support influence the effectiveness of career development and enrichment programs in improving the pipeline of racially/ethnically diverse students in the health care field?

Research Questions 2: Do the CAHMCP and UIC UHP have differences in their respective designs that have a positive or negative impact on the program's effectiveness?

Research Questions 3: How have the funding cuts from the government affected programs in continuing to improve the pipeline of racially/ethnically diverse students for the health care field?

Our study interviewed staff members from two minority enrichment programs in Chicago, Illinois: the CAHMCP (pronounced "Champ") based at the Illinois Institute of Technology and the UHP at the UIC.

A consortium consisting of the Illinois Institute of Technology and seven Chicago-area medical schools established CAHMCP (CAHMCP Description, 2006). Its mission was to increase the number of students from URM groups who are admitted to and graduate from Illinois medical schools. Later, the scope of CAHMCP's mission was expanded to include health professions other than medicine (e.g., dentistry, optometry, pharmacy, public health, etc.). CAHMCP identifies and recruits participants to the program at an early point in their academic development and provides academic counseling, motivation, and financial support until their entry into one of the health professions.

The UHP at the UIC has the mission of recruiting minority students into the health professions who wish, upon graduation, to practice in medically underserved urban areas (Amuwo, Scrimshaw, Adefuye, & Washington-Calvin, 2006). The program coordinates programs in each of six health colleges within the UIC system (medicine, dentistry, nursing, pharmacy, public health, and applied health science), including graduate programs. In addition, UHP

collaborates with the UIC's Early Outreach Program, which identifies talented minority students early in their academic careers and grooms them for college. It also collaborates with the UIC's Academic Center for Excellence to provide advice and academic counseling to university undergraduates who plan to enter the health professions.

Findings

CAHMCP and UHP are similar in a number of respects. Both programs began in the late 1970s, UHP in 1978 and CAHMCP in 1979. Their missions are comparable. Both are longitudinal intervention or "pipeline" programs, which identify and recruit promising middle school and high school students and provide them with academic and motivational support to develop the basic skills needed for a career in the health professions. With both programs, this support continues while they complete their training. Both programs target URM students, including African Americans, Hispanics/Latinos, Native Americans, Native Alaskans, and Native Hawaiians. CAHMCP includes a small number of Asians and Caucasians who have indicated a desire to serve in health professional shortage areas. The UHP program includes "economically and educationally disadvantaged individuals" of all races and ethnicities (CAHMCP Description, 2006).

There are also several significant differences between the CAHMCP and UHP programs. First, the two programs differ in their internal organization and in their relationships with affiliated institutions. CAHMCP serves a variety of medical schools, dental schools, and other health professions schools. However, it operates as an independent not-for-profit project. It is housed on the campus of the Illinois Institute of Technology but it has no direct ties to that university. In contrast, UHP is affiliated with only the UIC. Its activities are divided across eight colleges and programs. UHP's operations are, in some respects, more decentralized than CAHMCP's program, with the fact that the respective deans of each of the major health professions school control and execute the programs independently.

Another major difference between the two programs is how the programs are funded. UHP receives both state and federal funding, augmented by foundation grants received directly by the colleges. CAHMCP, however, receives a direct appropriation from the IBHE. CAHMCP received an average of US\$720,000 from the state to run its programs between the years 2000 and 2004, while UHP only received US\$90,000. Although UHP received far less money from the state, it received much more money from other sources. The total UHP program operated on an average budget of US\$1,566,185 within the academic years 2000-2004.

There are also differences in how the two programs are staffed. The CAHMCP program operates with seven paid full-time employees (FTE). The UHP program operates with four FTEs in a central office and an additional eight FTEs

who are employed by the Deans of the Colleges of Medicine, Dentistry, Public Health, Pharmacy, Graduate Studies, and Allied Health Sciences. There are an additional two FTEs in the Early Outreach Program and the Office of Admissions and Records.

Results From the Initial Key Informant Interviews

Program Goals (Table 1) identifies the themes used to present findings from key informant interviews. When asked the question, "What is the goal of your enrichment program?" key informants from both the CAHMCP and UHP programs gave similar responses. The Director of CAHMCP stated that the mission of that program is "to increase the number of underrepresented minorities in the health professions who practice in the State of Illinois." Similarly, the Executive Director of the UHP program stated that the mission of that program is

[t]o improve the quality of health care services for medically underserved urban populations, especially those in Health Professions Shortage Areas of Illinois, by expanding health professions education opportunities for underrepresented groups (African Americans, Hispanic Americans, Mainland Puerto Ricans, and Native Americans).

The responses from the other key informants were in line with the statements made by the program directors. Thus, the goals of both programs, as stated by the program directors and other key informants, strongly support the IBHE's goals of "proactive efforts regarding the advancement of access and diversity throughout higher education in Illinois, and extend[ing] the voice of underrepresented student populations" (CAHMCP Description, 2006).

Measures of Success (Table 2) present the key informant responses to the question "How do you measure the success of your program?" The most frequent responses among CAHMCP key informants indicated the percentage of students who enter the health professions and the number admitted to professional programs as the key measure of success. The key informants stated that they measure success by "the number of underrepresented students provided the opportunity to pursue a career in a professional health program" and by measuring "the number of students who matriculate from one level to the next."

The most frequent response among UHP key informants stated that the number of students who graduate from a health professions program is the key metric to success. However, some key informants also measured program success by other milestones in the students' academic career—for example, the numbers who are recruited into the program, who are admitted to professional programs, and who eventually enter the health professions. One UHP key informant

stated, "Every program component is evaluated individually. Each student is tracked to monitor their improvement in math, science and test results, especially in verbal and quantitative sections." Another key informant included as a measure of program success, "the number of individuals who return to serve the underrepresented communities of the State of Illinois."

Program Strengths (Table 3) presents key informant responses to the question "What are the strengths of your enrichment program?" One of the most frequent responses emphasized the support provided to students in the program as their key strength. A key informant from UHP listed as important program strengths "the academic support and counseling provided to students, review materials, tutoring, outreach, and stipends."

Key informants from both programs considered the quality of faculty and staff to be strength. In addition, the staff of both programs considered the long-term relationships with students to be an important strength. A UHP key informant stated that, "a major strength is the ability to follow students through training and practice." Similarly, a CAHMCP key informant noted that the program "functions as a family; participation is life long."

Barriers to Success (Table 4) presents key informant responses to the question "What are the barriers to the success of the programs?" The key informants from both programs considered the lack of resources and funding to be a significant barrier. A CAHMCP key informant noted that there was "not enough money or human resources to support additional students or expand programs" and that "state budgets cuts threaten continuation of the program." Funding concerns are also evident in the responses about the lack of resources to provide student support. A CAHMCP key informant noted the lack of "appropriate funding necessary to support students who have financial difficulties" and the lack of funds for "diagnostic testing and supplemental courses." In both programs, there were concerns that the lack of program visibility might present a barrier to the program's success. In addition, a number of UHP key informants expressed concerns about the university not fully engaged and accepting of the program's mission. One key informant stated, "the barriers to the success of the program consist of a lack of acceptance of the program by some faculty and administrators." Another stated that, "some of the admissions and faculty members are indifferent to the university's diversity goals." A third noted that there was "push back from majority students and faculty." A fourth UHP key informant indicated that the program faced obstacles presented by the entire educational system. "Students are not being prepared properly for higher education. Some of the reasons for this are social economic factors, educational achievement of the parents, financial support, family support, and low self-esteem."

Impact of the Program (Table 5) presents the distributions of responses to the question "What impact do you

Table 2. Key Informant Responses to “How Do You Measure the Success of Your Program?”

Themes	Distribution with respect to themes		
	CAHMCP	UIC UHP	Both programs combined
Student support	8%	6%	6%
% students entering health professions	38	17	26
Program visibility and marketing	—	6%	3%
Admissions	38%	17%	26%
Recruiting	—	17%	10%
Retention	—	—	—
Graduation	8%	22%	16%
Staff quality	—	11%	6%
Resources and funding	8%	6%	6%
Total %	100	100	100
No. of responses	13	18	31

Note: CAHMCP = Chicago Area Health and Medical Careers Program; UIC UHP = Urban Health Program at the University of Illinois, Chicago.

Table 3. Key Informant Responses to “What Are the Strengths of Your Enrichment Program?”

Themes	Distribution with respect to themes		
	CAHMCP	UIC UHP	Both programs combined
Student support	29%	27%	28%
% students entering health professions	36	7	21
Program visibility and marketing	—	20%	10%
Admissions	—	13%	7%
Recruiting	—	—	—
Retention	—	7%	3%
Graduation	—	13%	7%
Staff quality	36%	13%	24%
Resources and funding	—	—	—
Total %	100	100	100
No. of responses	14	15	29

Note: CAHMCP = Chicago Area Health and Medical Careers Program; UIC UHP = Urban Health Program at the University of Illinois, Chicago.

believe your program has had in improving the pipeline of underrepresented minorities in the health professions?” In general, the key informants believed their impact was evident in the number of students entering the health professions and the number admitted into professional training programs. A CAHMCP key informant noted that, “our programs have prevented the state of Illinois from having a large deficit in the numbers of underrepresented health professionals.” Similarly, a key informant from UHP noted,

The program has definitely contributed to improving the pipeline of underrepresented minorities in the health professions. This is illustrated through the number of graduates from the UIC medical program. If the program were discontinued, students would have difficulties in the program, which could lead to dismissal. The pipeline would be disrupted.

Follow-Up Interviews With Program Directors

Follow-up interviews were conducted with the directors of both of the programs highlighted in the initial study to determine what if any changes have resulted from the federal cuts in the programs’ funding. According to CAHMCP data, since the early 1980s, the program’s “pipeline” has been traversed by more than 4,000 individuals who have earned at least baccalaureates in the sciences and more than 1,300 of whom have gone on to be medicine, osteopathy, dentistry, veterinary science, optometry, pharmacy, public health, and podiatry (MODVOPPP) professionals. A CAHMCP middle school-level student has better than a 95% probability of completing college in 5 years or less and a 80% probability of being enrolled in postbaccalaureate degree study within 2 years following completion of his or her undergraduate degree. CAHMCP grads also include professionals such as

Table 4. Key Informant Responses to “What Are the Barriers to the Success of the Programs?”

Themes	Distribution with respect to themes		
	CAHMCP	UIC UHP	Both programs combined
Student support	10%	33%	21%
% students entering health professions	—	—	—
Program visibility and marketing	—	11%	5%
Admissions	10%	—	5%
Recruiting	10%	—	5%
Retention	10%	—	5%
Graduation	10%	—	5%
Staff Quality	—	—	—
Resources and funding	50%	56%	53%
Total %	100	100	100
No. of responses	10	9	19

Note: CAHMCP = Chicago Area Health and Medical Careers Program; UIC UHP = Urban Health Program at the University of Illinois, Chicago.

Table 5. Key Informant Responses to “What Impact Do You Feel Your Program Has Had in Improving the Pipeline of Underrepresented Minorities in the Health Professions?”

Themes	Distribution with respect to themes		
	CAHMCP	UIC UHP	Both programs combined
Student support	10%	18%	15%
% students entering health professions	50	24	33
Program visibility and marketing	10%	18%	15%
Admissions	—	12%	7%
Recruiting	10%	12%	11%
Retention	10%	—	4%
Graduation	10%	12%	11%
Staff quality	—	6%	4%
Resources and funding	—	—	—
Total %	100	100	100
No. of responses	10	17	27

Note: CAHMCP = Chicago Area Health and Medical Careers Program; UIC UHP = Urban Health Program at the University of Illinois, Chicago.

educators at all levels, practitioners in law, stock brokers, engineers of nearly all stripes, business persons, elected political representatives, journalists, visual and performing artists, public administrators, environmental scientists, military officers, social scientists, and theologians. In fiscal year 2007, the state legislature through the IBHE awarded the program US\$800,000 of new funding because of this sustained history of success. CAHMCP was able to bridge the budget cuts in fiscal year 2003 through philanthropy and a significant grant from State Farm Insurance Company.

For fiscal year 2009, the Governor and General Assembly appropriated US\$3.9 million to the IBHE for grants to the CAHMCP, the Illinois Math and Science Academy Excellence 2000 Program, and the University Center of Lake County. The CAHMCP program received US\$900,000 of this appropriation. These grants are designated under IBHE administrative rules; that is, the purposes of

the appropriations are specified. These funds will allow this program to continue their legacy of successfully increasing the number of minority students entering medicine, dentistry, and other health care disciplines.

The UIC did not fare as well and their program suffered substantial decreases in funding. The IBHE only awarded UIC US\$71,829. This funding level only allowed them the ability to continue one program in collaboration with Chicago Public Schools (CPS), which proposed to implement the Window to Academic Success, a program to support UIC and Chicago State University's (CSU) early intervention programs that motivates and prepares elementary and secondary students to pursue higher education, and strengthen and expand the pipeline for health profession programs. This application meets the goals of Illinois's commitment to “Increase the number and diversity of citizens completing training and education programs.” The rest of the

programs to increase minority representation in the health professions were moved back to the individual colleges with only a coordinating role from the UHP. The UIC has state commitment, even with the funding cuts to continue to support the UHP's mission to improve the quality of health care services for medically underserved urban populations. Special focus on those in Health Professions Shortage Areas of Illinois is given by expanding health professions education opportunities for underrepresented groups (African Americans, Hispanic Americans, Mainland Puerto Ricans, and Native Americans). The UIC celebrated their 30-year anniversary of the program and proudly profess that approximately 70% of the African American and Latino physicians who practice in Chicago are UIC graduates. The journal *Black Issues in Higher Education* has ranked UIC third for the past 15 years among the top 100 institutions in granting medical degrees to minority students.

Discussion

URM students are more likely than non-URM students to come from low-income families; however, most low-income students are White. Policies that solely target financial support to low-income students may or may not successfully help URM students to access and succeed in health professions training programs. Therefore, it is important to implement financial strategies in conjunction with other "race-conscious" interventions targeting, for example, admissions and accreditation policies.

Contributing to the problem is the recent attack on programs that attempted to improve diversity in higher education—for example, the lawsuits filed against the University of Michigan and the University of California programs. Another example is the affirmative action rollbacks across several states that produced severe reductions in African Americans in college, law, and medical school admissions (Turner, González, & Wood, 2008). The sudden and radical change in African American enrollments lead one to the racial scoring gap between African Americans and Caucasians on standardized business school admissions tests (Turner et al., 2008). In a race-blind admissions system, admissions officers must rely heavily on test scores. Because of grade inflation and extreme differences in academic rigor between various undergraduate institutions, grade point averages from different schools are of little value to officials who must decide whether to admit a given student. In a race-blind admissions environment, scoring results on standardized admissions tests will lead to the rejection of all but a small percentage of African American applicants.

Implications for Future Research

This study suggested the need for further research in the area of developing the health professions workforce and ensuring the diversity of that workforce. This study only addressed

the pipeline of URM students in a few targeted health professions. A logical follow-up study could address additional research to assess diversity among health professionals not only within medical careers but also in executive administration and academia. This will further identify the benefits of diversity for holistic health care service delivery system.

This study did not address comparisons between individuals who participated in the MHPEP and those who did not because of data limitations. The data from such a study could answer in a quantitative way the impact of the programs. Another area for further study could include studying qualitative attributes of applicants that may more accurately predict success in health professions careers (e.g., patient sensitivity, leadership, commitment to service, cultural competence, linguistic ability, and interpersonal skills). Furthermore, an interesting research area could compare the peak years of URM participation in the mid-1990s to current years, to determine whether there was a reduction in URM applicants and evaluate the causes of those reductions.

Study Limitations

After collecting the data related to student participation in the two MHPEP programs, some important limitations were discovered that prevented testing of the original hypothesis. The most important limitation was that the data available were for those individuals who participated in the MHPEP programs. To test the hypothesis related to the programs' ability to ensure entrance into professional school, data would be needed on two groups of individuals: those who participated in MHPEP and those who did not. If those data were available, the study could measure odds of admission based on the participation in the MHPEP program. Because of the aforementioned limitation, an alternative analysis plan was developed and an alternative hypothesis was constructed and used in the study.

The interaction and influences of three factors limited the interpretations and conclusions of this study: the researcher's biases, the interpretive method, and the selection of the case. These factors, although limiting, are acceptable components of qualitative research methodology. Outcome bias can result from the use of unreliable methods or instruments as well as inadequate sample size or comparison groups. Selection bias can also exist in the admission requirements between the different universities. The CAHMCP program, for instance, had a special relationship with Rosalyn Franklin School of the Health Professions (formerly Chicago Medical School), which worked with the CAHMCP program to ensure the most favorable outcome for the students. The two MHPEP programs serve a similar demographic population, but there are differences in the program offerings and approaches. In addition, each program had dissimilar levels of support and/or resources.

There are a number of ways to ensure the reliability and validity of this research study. The comparative case study

approach strengthened the external validity of the research. To ensure internal validity, the tools used to collect the data were standardized to clearly define the scope and purpose of the study. In addition, the questions were field-tested on three program directors to ensure they were creditable and well understood. The study focused on the intended construct and purpose of the study, and not on any other problem or issue. However, as the interviews were not tape-recorded, the interpretation of the notes was susceptible to recall bias. This made the researcher depend solely on the ability to interpret the notes accurately.

Conclusion

This study is supported by the literature and illustrates that the CAHMCP and UIC UHP programs are effective in producing a pipeline of URM health professionals. Both programs are, however, at risk due to the recent funding cut both at the state and at federal levels makes it difficult for the programs to continue. A further review of UIC UHP graduates and enrollees shows that the average number of enrollees from 2000-2004 was 737 students; when compared with the 2007-2011 findings (1,095 students enrolled), it is concluded that enrollment for the MHPEP program has improved vastly over the compared period by 48%. The average UHP number of graduates across all colleges from 2000-2004 was 201 students; when compared with a 2007-2011 program review (233 average students graduated), it is concluded that graduation rates also improved at approximately 16% over the compared years. There continues to be a growing proportion of people from ethnic minority groups in the U.S. population and still there is a glaring shortage of minority health professionals and researchers in the country. This disparity is expected to worsen during the coming decades. Data support the fact that Blacks, Hispanics, and American Indians comprise 26% of the U.S. population and they receive only 16% of the undergraduate degrees and 9% of the doctoral degrees in science and engineering (Shavers et al., 2005). Only 11% of psychology PhD recipients are members of these URM groups (Olson & Fagen, 2007). The National Institutes of Health (NIH) reported that between 1999 and 2003, 4.6% of individuals with support from individual or institutional research training grants of different types (e.g., F31, K01, K08, T32, T34, or T35) were Black, 5.6% were Hispanic, and 0.18% were American Indian. The National Institute of Mental Health (NIMH) reported that in 1998, 16.9% of T32 trainees were Black, Hispanic, or American Indian (NIH, 2001). Although about 10% of NIH trainees are members of these ethnic minority groups, they make up only 3% to 4% of the principal investigators on NIH- and NIMH-funded research and program grants (Shavers et al., 2005). Shortages of health professionals in the United States in general and URM health professionals in particular will have a serious impact on health care in the next 10 years. In 2001, the American Hospital Association (AHA) predicted

shortages of health care workers. The association surveyed hospital vacancies and found shortages of more than 10% for nurses, imaging/radiology technicians, and pharmacists. Similarly, high vacancy rates were seen across urban/rural settings and different regions of the country. Over one in seven hospitals report a severe shortage of nurses with more than 20% of RN positions vacant (AHA, 2001). These trends are continuing while the population is aging. The uninsured and underinsured are continuing to grow and disparities abound. Programs similar to the two in this study are critical in continuing to have a viable URM pipeline to the health professions.

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Author Biographies

Rupert M. Evans Sr. is an Associate Professor of Health Administration and Chairman and Director of the Healthcare Administration Program at Governors State University. Dr. Evans is a Harvard Macy Scholar, a Fellow in the UIC Public Health Leadership Institute and a Fellow in the American College of Health Care Executives. He holds a Doctorate of Healthcare Administration from Central Michigan University, Master degree in Public Administration and Health Services Management from Golden Gate University and BA in Environmental Studies from California State University Sacramento. Dr. Evans is the past President and CEO of the Institute for Diversity in Health Management.

James A. Johnson specializes in organization development and international health systems research and development. He is a medical social scientist and professor in the DHA program where he teaches *comparative health systems*, organizational behavior, and systems thinking. He is the former chair of the Department of Health Administration and Policy at Medical University of South Carolina where he founded the first DHA program in the United States. He is an active researcher and health science writer with more than 100 journal articles and 14 published books. His latest book is titled *Comparative Health Systems: Global Perspectives* where he and coresearchers analyzed the health systems of 21 countries worldwide.

Andy N. Garman is the CEO of the National Center for Healthcare Leadership and a practitioner/faculty member in the Department of Health Systems Management, Rush University in Chicago, where he has been affiliated since 1998. He provides consultative support to Rush University Medical Center as well as other healthcare organizations and professional associations in areas including strategic and workforce planning, executive assessment, development and succession planning, and competency modeling.

Philip Kletke is a renowned educator and researcher. He served as a visiting research professor at Governors State University and as faculty in the Health Administration Department. Prior to that, he was a researcher with the Health Research and Educational Trust and company of the American Hospital Association.