

PATHWAY PROGRAMS:

A promising pipeline to diversity and equity for tomorrow's physicians



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Napoleon Knight, MD, MBA, symbolizes the epitome of the American Dream. He received a medical degree from the University of Minnesota Medical School, trained as an emergency medicine physician, and ultimately joined Carle Health at a time when it was a single hospital. In a remarkable achievement that took three decades to reach, Knight was appointed Chief Medical Officer at Carle Health, now an integrated health care network based in Illinois.¹ However, Knight is a rarity in the medical field. He is the first African American chief medical officer at Carle Health, and as a male black physician, he represents less than three percent of the United States physician workforce.² In an interview with National Public Radio, Knight expressed his commitment to addressing the lack of diversity in medicine, suggesting that one of the keys to increasing physician diversity is to provide more meaningful resources, belief, and support during a child's formative years.

Knight recounts how his fourth-grade math teacher had faith in his class's potential, believing they could learn more difficult concepts. To demonstrate this, his teacher introduced the elementary-level class to statistics, inspiring them with his unwavering faith in their abilities to push themselves and achieve more than they thought was possible. Today, Knight makes it one of his key missions to mentor young African American students aspiring to become doctors one day.¹

Despite progress being made, minority groups remain significantly underrepresented in medicine. According to the Association of Academic Medical Centers' (AAMC's) latest "Physician Specialty Data Report," in 2021, 5.7 percent of practicing U.S. physicians identified as Black or

African American, 6.9 percent as Hispanic, 0.3 percent as American Indian or Alaska Native (AIAN), and 0.1 percent as Native Hawaiian or Pacific Islander.³ These groups combined constitute a lower proportion in the medical profession than their corresponding percentages in the racial/ethnic makeup of the general U.S. population.⁴ These discrepancies persist at the medical school level, as Black, Hispanic, and AIAN students remain underrepresented among medical school matriculants compared to the U.S. population.⁵

Increasing physician diversity is essential to ensure better patient outcomes and health care. This is demonstrated by the disproportionate number of minority groups in the U.S. who live in medically underserved areas and suffer from higher rates of disease and/or experience poorer health outcomes.⁶ Reflecting the diversity of the patient population in the physician workforce can help improve better quality care and patient outcomes. Black and Hispanic physicians are more likely to provide health care to minority and less financially secure patients and base their practice in underserved areas.^{7,8} There is also a wealth of data that shows a positive association between physician-patient racial concordance and overall patient satisfaction with the provider's delivery of care.^{9,10} Thus, greater diversity within the physician workforce is essential for improving the health of patients, particularly those from minority backgrounds.

Focusing on early disparities

A commitment to diversity, equity, and inclusion (DEI) is now ubiquitous in the medical workforce. Most hospitals and medical schools include DEI as part of their mission statements, and many have formal policies to ensure equitable and inclusive practices. However, despite strides being made to increase DEI in the physician workforce and medical school classes, more meaningful and effective advocacy is necessary to close existing gaps.

Pathway programs that provide outreach, direct mentorship, and instruction to underrepresented minority (URM) students, present as an effective, viable way to increase opportunities in medicine.

Unlike other forms of diversity initiatives, pathway programs address gaps in access to resources and provide support early in a student's life, thus allowing for a more equitable and prepared entry into the medical field. Significant gender, racial, and socioeconomic disparities exist for social and behavioral outcome measures at the elementary school and middle school levels. This is concerning because

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these measures are closely correlated with student academic achievement and employment later in life.¹¹ Therefore, it is essential to introduce meaningful engagement and resources early on for students from disadvantaged backgrounds in order to equip them with the necessary skills and knowledge to succeed in life. Early exposure to health care can ignite students' interest in the medical field, and bolster their confidence in pursuing a medical career. It can also provide a foundational understanding of the medical field and help students engage more effectively with academic and extracurricular activities, thereby enhancing their commitment and competitiveness as a future applicant. These initiatives are a testament to Knight's belief in the importance of guidance and role models during the early stages of life, and can be instrumental in helping individuals reach their full potential.

Tracking the success of pathway programs

While medical pathway programs are expanding in number and reach, there has been little research or systematic evaluation of their long-term outcomes and student participant perceptions following completion. However, the available evidence supports the efficacy and effectiveness of these programs. Stephenson-Hunter, et al., conducted a comprehensive, mixed-methods survey study to evaluate matriculation rates into MD, PhD, and biomedical master's programs among students who had completed one of Albert Einstein College of Medicine's three summer enrichment diversity pipeline programs for high school and college students from underrepresented and diverse backgrounds. Results indicated that 73 percent of student respondents were either on track or had been accepted into a doctoral or master's program. Analysis of free-text responses to questions about the most beneficial aspects of the pathway programs revealed that the three top student takeaways were:

1. Dreams of working in health care became attainable;
2. They were able to envision their own career paths and develop a professional identity; and
3. They believed that such programs help to level the playing field and increase equality of opportunity to pursue a career in science of health care.

Notably, several of the respondents indicated that many of their college classmates had parents in the medical field who offered them guidance and insight to assist them with succeeding in the field.¹² Pathway programs can provide not only tangible resources and guidance for applicants who do not have access to such benefits, but also help to

break the cycle of privilege that disproportionately benefits those from more advantageous backgrounds.

Participants in the Doctors of Tomorrow pipeline program, an experiential-learning summer internship hosted by the University of Michigan Medical School for URM high schoolers in Detroit who wish to pursue health care careers, experienced similar benefits. In a qualitative study on the program's students, many of the respondents noted how they initially felt overwhelmed by their given responsibilities, but eventually realized their courage and capability, and were buoyed by the supportive expectations of their mentors and peers.¹³ The students' responses underline the importance of learning through immersive experiences, along with mentorship and advice resources.

Hill et al., conducted a quantitative evaluation of the Perelman School of Medicine's Provost's Summer Mentorship Program-Medicine, which is a month-long college preparatory experience for students from diverse backgrounds. They found statistically significant improvements in mindsets for confidence, sense of belonging, and physician mentorship.¹⁴

Across these studies, it is evident that students who participate in medical pathway programs experience a sense of belonging, increased self-confidence, and access to a supportive infrastructure that enables growth and opportunities for success.

A call to action

While pathway programs offer many benefits, they can be difficult to implement on a large scale due to the need to accommodate the distinct identities and requirements of the local community they are designed to serve. However, with the combined efforts of dedicated medical students and committed medical school administrations, more high quality and impactful pathway programs can be developed and mobilized to benefit individuals and communities.

At The Warren Alpert Medical School of Brown University, numerous pathway initiatives have been established through collaboration between the school's Office of Belonging, Equity, Diversity & Inclusion (OBEDI) and the student body. By emphasizing early exposure to medical education and clinical scenarios, some of Brown's pathway programs offer students from the middle school level and above the opportunity to gain valuable experience medicine.

With the support of Brown's OBEDI, there is a pathway program that focuses on introducing mentorship and clinical exposure in surgical subspecialties to high

school students from underserved and low-income areas in Rhode Island. The program consists of a series of workshops comprised of case studies, physician panels, pathway advice, and surgical skills workshops to provide students with a unique opportunity to gain insight into the world of surgery. This program aims to fulfill the need for a surgically-focused mentorship program for URM and socioeconomically diverse students in Rhode Island, and helps tackle the tremendous representation gap between surgical URM residents and their general U.S. population counterparts.¹⁵

Medical students across the country have the administrative support and resources to identify the unique education needs of the young student community in their local areas, and should have the passion to put forth initiatives that address these needs. Through mentorship, guidance, and exposure to the medical field, the necessary resources can be provided to ensure students from all backgrounds have the opportunity to reach their fullest potential.

Through collective dedication and hard work, we can nurture the next generation of physicians who will truly represent the beautiful and nuanced diversity of the U.S. and ensure that inspiring stories like Knight's will no longer be the exception to the rule, but rather the standard.

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