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In This Issue

Journal of BEST PRACTICES
in Health Professions Diversity:
Research, Education, and Policy

The Journal Dedicated to the Education and Professional Development
of Diverse Students for Careers in the Health Professions

NAMME
National Association of Medical Minority Educators, Inc

Journal of BEST PRACTICES
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All manuscripts should conform to the *Publication Manual of the American Psychological Association* (6th ed.) with respect to format, style, grammar, punctuation, mechanics, and citation. They should be prepared for blind review. Authors are asked to submit an electronic version of manuscripts in Microsoft Word or ASCII text. Manuscripts may be submitted to:

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Transition to Open Access

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Table of Contents

Unprecedented Times: Advancing Minority Concerns in the Midst of COVID-19

As this issue goes to press, our nation is facing unprecedented times. We are in the midst of a global pandemic. Since December 2019, more than 6.1 million cases of COVID-19 have been confirmed worldwide, including 1.8 million in the United States (Johns Hopkins University & Medicine, 2020). Here, rates of morbidity and mortality among blacks and other communities of color are disproportionately higher than those for whites (Hooper, Nápoles, & Pérez-Stable, 2020; Yancy, 2020).

Initial surveillance data for COVID-19 reported in February/March 2020 focused primarily on age. The virus was thought most dangerous for people over 65 based on higher rates of hospitalization, ICU admissions, and deaths compared to other age groups (Centers for Disease Control and Prevention [CDC], 2020). In April 2020, the Lawyers' Committee for Civil Rights Under Law appealed to the Secretary of the US Department of Health and Human Services to begin collecting and reporting COVID-19 data by race/ethnicity (Williams, 2020). The concern? Most chronic diseases in the United States disproportionately affect communities of color, particularly Black communities, who suffer higher morbidity and mortality rates. Important signals about disease epidemiology were likely to be missed due to the lack of demographic data on COVID-19 patients.

Indeed, when the CDC began reporting the national data by race/ethnicity in April 2020, incidence of, and deaths from, COVID-19 were higher among Blacks than among other racial/ethnic groups (Artiga, Orgera, Pham, & Corallo, 2020; Hooper, Nápoles, & Pérez-Stable, 2020; Williams, & Cooper, 2020). Nevertheless, as of April 15, 2020, only 33 states were reporting COVID-19 data by race/ethnicity, meaning critical information about disparities continues to be underreported. H.R.6585, the Equitable Data Collection and Disclosure on COVID-19 Act, introduced in Congress in April 2020, would require the CDC to collect and report such information (Kelly, 2020). At the writing of this article, the bill is still pending.

According to the World Health Organization, "Health inequities are systematic differences in the health status of different population groups. These inequities have significant social and economic costs both to individuals and societies" (WHO, n.d.). There is increasing recognition that they are driven by social determinants of health (SDOH). The five primary SDOH categories—economic stability, education, social and community context, health and healthcare, and neighborhood and built environment—directly and indirectly affect our individual choices about our health outcomes (CDC, 2018).
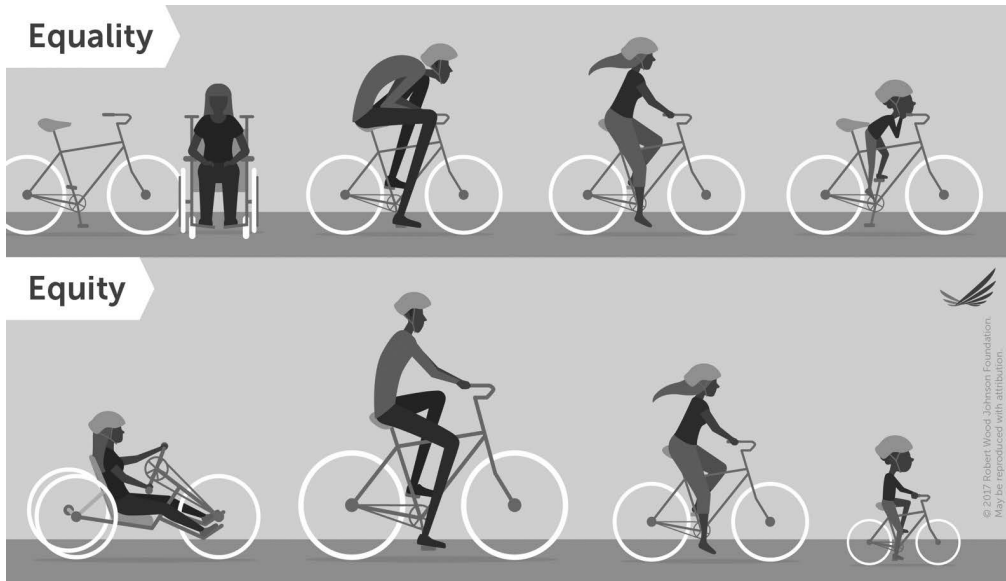
Figure 1: Visualizing health equity: One size does not fit all (RWJF, 2017)

The *Journal of Best Practices in Health Professions Diversity* provides a forum for the discussion of factors that promote or constrain the development and sustainability of a diverse health professions workforce. A diverse workforce is one strategy that can improve health outcomes and reduce disparities by increasing patient satisfaction, engagement, and adherence to treatment protocols. Given historical and systemic discriminatory practices that have, in many instances, limited educational opportunities for women, racial/ethnic minorities, and other population subgroups, programs and initiatives to increase educational equity are critical for diversifying the healthcare workforce.

This issue describes several initiatives to increase diversity in the healthcare professions. Kenya et al. describe how to establish and maintain a pathway program for underrepresented students pursuing degrees in medicine. Luaces et al. highlight a unique partnership between an academic program and a K–12 school system to introduce underrepresented students to health science careers. Bustamante et al. describe 10 years of initiatives to promote diversity in the American College of Sports Medicine through leadership and training.

In 2017, the Robert Wood Johnson Foundation published a picture demonstrating the difference between equality and equity (Fig. 1). The commonly accepted distinction holds that

equality means giving everyone the same resources, regardless of need, while equity means giving everyone the resources they need to ensure that everyone is able to achieve the same goal. The articles that follow highlight the importance of focused mentoring, training, and development activities for diversifying health fields. They demonstrate equity—adjusting programming and delivery to ensure success is achieved without compromising program or care quality.

As the world struggles to recover from COVID-19, we must not forget the stark differences in health outcomes it exposed. The same disease affects different communities differently, and different resources are required to ensure everyone achieves the same goal—stopping the spread. The programs, policies, frameworks, and strategies described in this journal incorporate equity in education to move our nation toward a more diverse workforce. By working together, we can rise together. We hope you enjoy this issue.

Melicia C. Whitt-Glover, PhD, FACSM

Guest Editor

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When History Is Our Lesson

History serves as a lesson only when we learn from it. In 1918, the world experienced a horrific flu pandemic. Close to 500 million people became infected; deaths were estimated as at least 50 million worldwide with about 675,000 in the United States, according to the Centers for Disease Control and Prevention (CDC). As of this writing, nearly 5 million of over 7 billion people have been infected by a flu-like virus called COVID-19; one and half million cases have been reported in the United States alone (Johns Hopkins University). The demographics of those affected in the year-long 1918 pandemic were said to be very similar to those now. Hauntingly, there were no vaccines then, as there are no failsafe vaccines to administer now. The 1918 world population experienced the pandemic in three waves, and if recommended strategies are not adhered to, and no vaccine found, current scientists predict the same with COVID. Our human behavior has been altered as a public health strategy to minimize the spread of the COVID-19 virus in the absence of a scientific solution in the form of a vaccine. The current state of affairs magnifies the need for us to realize, it's not what's happening externally that determines our lives, but how we respond to what's happening.

Our medical scientists, in collaboration with public health experts, must have the authority to determine solutions to the 2020 infectious disease pandemic. The 1918 pandemic provides an epidemiological and strategic window, but only if we study and learn from its historical lesson. Present and future resources must continue to support medical education and research, as the recipients serve as the linchpin for maintaining the health and well-being of our society.

In the current volume of the *Journal of Best Practices in Health Professions Diversity*, articles range from pipeline programs for entry into medicine to health professionals' development to highlighting a specific career in mental health. I encourage members of the National Association of Minority Educators (NAMME), Inc., to read this volume from cover to cover and reflect upon its content and research findings, allowing the information to advance your understanding and application of medical and health professions strategies and models. History can happen in minutes, but its lessons can last for generations when we learn from them!

Charles N. Collier, Jr., MS

NAMME, Inc. President

An Urban School District-University-Industry Partnership to Increase Diversity in the Health Professions: Lesson Learned from the University of Kansas Health Science Academy

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ABSTRACT

School-industry partnerships bring invaluable cognitive and material resources to K-12 but might inadvertently contribute to widening the achievement gap. Lack of social capital and industry connections make urban schools less likely to partner. This paper describes the University of Kansas (KU) Medical Center Health Science Academy, a university-industry-K-12 partnership designed to increase the number of underrepresented students in health science careers. Using data gathered from 1) meetings with stakeholders, 2) semi-structured interviews with key informants, and 3) focus groups with students, we present the features

that made the process and outcomes of this partnership a success. Preliminary results from our pilot year show that students experienced a positive change in their knowledge and intention to pursue a health career.

Keywords: ▪ Diversity ▪ Health Science ▪ Partnership ▪ Pipeline ▪ Urban Schools

INTRODUCTION

Partnerships between schools and outside agencies are an increasing educational trend but far from new. The 2001 No Child Left Behind Act revitalized the Educational Partnership Act of 1988 by identifying community, family, university, and industry partners as key allies for underperforming schools. Ample evidence in the literature supports the benefits of partnerships (Clark, 1999; Corbin, Chu, Carney, Donnelly, & Clancy, 2017; DeVito, 2016; Greene & Tichenor, 1999), particularly for science, technology, engineering, and mathematics (STEM) education (Madden, 2016; Seth, Carr, Jr, Wenger, McNair, & Tangorra, 2014; Tytler, Symington, & Clark, 2017; Tytler, Symington, Williams, & White, 2018; Tytler et al., 2015; Wrensford, Stewart, & Hurley, 2019). Collaborations with industry partners and universities bring to the classroom content expertise otherwise unavailable (Badgett, 2016; Clark, Tytler, & Symington, 2014; Radinsky, Bouillion, Lento, & Gomez, 2001; Willems & Gonzalez-DeHass, 2012; Wrensford et al., 2019). Industry and academic institutions envision these partnerships as avenues for developing a diverse workforce (Badgett, 2016; Clark, 1999; Clark et al., 2014; Erwin, Blumenthal, Chapel, Richardson, & Allwood, 2004; Goodlad, 1994).

K-12 relationships with universities and industries have immense potential to bring cognitive, social, and material resources to those most in need (Boland, 2016; Fincher, Sykes-Brown, & Allen-Noble, 2002). They may also increase future workforce diversity and preparedness (Blumenthal, Allwood, & Erwin, 1999; Coronado, Shuster, Ulrich, Anderson, & Loest, 2012; Erwin et al., 2004; Fincher et al., 2002; Tobias, Glazer, & Mentzel, 2018). However, results have been mixed. University, industry, and school partners have conflicting interests and vast logistical and cultural differences that create tensions and often hinder the collaboration's long-term survival (Badgett, 2016; Balser, 2017; Bridwell-Mitchell & Cooc, 2016; Chiu & Zhang, 2013; Stevens, 1999). Making partnerships available, equitable, and sustainable necessitates a change in their formation, which is strongly influenced by dedicated resources, teacher connections, and the strength of pre-existing partnerships (Bridwell-Mitchell, 2017). Schools in neighborhoods with greater occupational diversity are more likely to establish partnerships and provide opportunities to which students have already been exposed; schools with the greatest resource needs are least likely to partner (Bridwell-Mitchell, 2017).

A proactive approach is needed to ensure that disadvantaged school districts have access to the benefits of engaging outside partners.

For 20 years, the Office of Diversity and Inclusion (ODI) at the University of Kansas (KU) School of Medicine has partnered with Kansas City Kansas Public Schools (KCKPS) to provide enrichment opportunities for students interested in the health sciences through afterschool and summer programs (KCK Saturday Academy). KCKPS are in Wyandotte County, an urban area consistently ranked last in state health outcomes (Charkhchi, Wang, Caffo, & Yousem, 2019; Robert Wood Johnson Foundation, 2019; Wyandotte, 2019). The KU Health Science Academy is an expansion of other ODI pipeline efforts and a response to the districts' Diploma+ initiative, which focuses on graduating all students with a high school diploma—and additional credentials and workforce experiences—that demonstrate preparation for college and careers (Diploma+, 2019). The success of Diploma+ depends on developing strong partnerships.

As is often the case for high-needs urban districts, KCKPS has found forming partnerships challenging. Over 33 percent of its teachers have been teaching for less than three years; 86 percent of students come from economically disadvantaged backgrounds; and only 17 percent of county residents over the age of 25 hold a bachelor's degree (Tomkins, Zhang, & Heavlin, 2017). Such statistics make partnerships less likely to develop organically and more likely to require intentionality among all parties.

This paper describes the formation of the KU Health Science Academy and outcomes of its first year of implementation. An intentional partnership among an urban school district, an academic medical center, and an affiliated health system, the academy offered students in two KCKPS high school health science classes the opportunity to participate in a semester-long program at the KU Medical Center. Students and teachers connected with professionals and gained exposure to health careers and their connections with community activism. The partnership's success was contingent upon ensuring a mutually beneficial arrangement, institutionalizing the program, building in balanced power, and identifying, designating, and positioning institutional navigators to make progress.

METHODS

Study Design and Measures

Data were collected in the 2018-2019 school year for three purposes: 1) to guide partnership formation; 2) to measure the academy's effect on students' knowledge and intention to pursue a science-based career; and 3) to measure students' satisfaction.

For purpose 1, *to guide the formation of the partnership*, we used meeting notes and semi-structured group interviews with key stakeholders in the partnership (see Table 1) to conduct a landscape analysis. Three questions guided the group interviews: 1) Why don't we currently

have a partnership? 2) How would establishing a partnership benefit all parties? 3) What would we need to make this project sustainable? The data collection and analysis processes were initiated concurrently to guide future conversations.

For purpose 2, *to measure the KU Health Science Academy's effect on student's knowledge and intention to pursue a science-based career*, we administered the Health Science Academy Survey at the beginning and at the end of the program (Attachment 1). Students took the survey on-line using Qualtrics. The questions, based on social cognitive career theory (Lent, Brown, & Hackett, 2002), prompted students to report their knowledge of, interest in, and motivation and confidence to pursue health science degree programs and careers. The instrument was modeled on the STEM Career Inventory Survey (Kier, Blanchard, Osborne, & Albert, 2014), a validated and widely used instrument for secondary school students. To assess our survey's validity, two KUMC faculty members and one measurement expert evaluated it for clarity, relevance, and completeness. Two external evaluators evaluated the online version for readability and ease of use. Assessments developed for each curricular unit examined student knowledge and changes in interest using a retrospective pre-posttest format. Students rated their knowledge of and interest in specific topics and careers before and after attending the KU Health Science Academy using a three-point scale (none, some, a lot). Authors, researchers, and unit coordinators developed the content based on the unit's objectives, topics covered, and careers introduced.

For purpose 3, *to measure student satisfaction*, results of the unit assessments were combined with guided classroom discussion led by two members of the research team in both participating classrooms at the end of each unit. Students were asked the following questions: What did you learn during this unit? What got you excited about this unit? Would you consider a career in this field? What elements of this unit should be reconsidered?

All required documents, permissions, and identifications where collated into one contract that was approved by all partners, then reviewed with the students and signed by their parent or guardian. The data collection protocol, all aspects of study involvement, and teacher and parent/student consent procedures were approved by the university's Institutional Review Board.

Participants

Purposeful and snowball sampling were used to identify key individuals from KCKPS, KU, and the University of Kansas Health System (UKHS). Table 1 provides a list of stakeholders (n = 15) whose insights were gathered during three meetings and two semi-structured group interviews to inform the partnership process. Meetings and group interviews lasted approximately one hour. University staff led the interviews. Additionally, 22 university faculty, 17 health-system staff, and five community members taught in the KU Health Science Academy and contributed to curriculum implementation.

Table 1: Key Stakeholders

KU Health System	Kansas City Kansas Public Schools	University
VP of Operations	Director of Diploma+	Executive Vice-chancellor
Chief Culture Officer	Director of Career and Technical Education (CTE)	Executive Vice-chancellor's Office
Director of Patient- and Family-centered Services	Science curriculum specialist	Director of the Office of Diversity and Inclusion (ODI)
Director of Nursing Education	CTE curriculum coordinator	–
Support positions' department heads	Health Science teachers	–
Director of Marketing and Communication	–	–
Police and Public Safety	–	–

The inaugural class in Spring 2018 was comprised of 43 students enrolled in a health science class at two different high schools in the KCKPS district. They visited the KU campus twice a week for 1.5 hours each day. The district and university staff collaboratively identified participating teachers from a pool previously involved in *Teachers and Students for Community-Oriented Research and Education*, an NIH-funded project that "helped teachers develop and teach health science lessons that provide students with learning experiences that grow their interest and knowledge about the health sciences" (Battarbee, 2017; Fox & Lash, 2017).

Data Management and Analysis

Interviews were recorded using university-issued devices and stored on REDCap (Harris et al., 2009). Qualitative data were analyzed in two stages (Lauckner, Paterson, & Krupa, 2012). Stage 1 focused on identifying themes from group interviews, meeting notes, and student focus groups. Stage 2 involved cross-case analysis and common theme development. We used Qualtrics (2014), a secure web-based software, to create, administer, and store survey data. Statistical analysis was used to draw inferences from survey data.

RESULTS

The three main accomplishments of the first year of the KU Health Science Academy were the creation of the partnership, the development of the academy's infrastructure and curriculum, and the increase in students' interest in pursuing a health career.

Partnership Formation

The KU Health Science Academy is a partnership of the University of Kansas Medical Center (university), KCKPS, and the UKHS (health system). The university's prior engagements with KCKPS had focused on knowledge sharing rather than workforce development. The academy was the first initiative that the affiliated hospital formally joined. Table 2 presents an approximate timeline of partnership development. Once all partners agreed to participate, university staff held three, semi-structured group interviews that brought together university leadership, health system representatives, and school district personnel. The goal was to identify barriers, key players, partnership benefits, and sustainability strategies.

Barriers. Lack of resources—chiefly, lack of continuous funding—was often mentioned as a barrier. Many university programs have suffered from reduced budgets. Moreover, the university's efforts had been school-specific. Most arose from personal connections or requests from individuals working on campus; once they retired or left, the programs were hard to sustain. From the districts' perspective, additional resources and personnel were needed to navigate the academic bureaucracy. Staff attrition similarly hindered these informal and person-dependent partnerships.

When a campus-wide partnership was proposed, the common response was surprising: no one thought it was possible. The UKHS representative said that although they are constantly approached by school districts in the surrounding areas, they had never been approached by KCKPS: "Honestly, historically, we have waited for people to come and do the ask and the ask has never been made." A district administrator overseeing the Health Science Academy said, "I don't think anybody really thought that it was possible in terms of working together to make sure something like that can happen." Logistical barriers, such as transportation costs, the constraints of the school schedule, and adherence to K-12 curricular standards were also prevalent themes.

Key players. University, UKHS, and KCKPS participants were selected because their job descriptions related to the program's objectives. They knew their institutions well, were skilled at making connections between departments, the health system, and the community and could help to address barriers. Acting as cultural brokers, or navigators, for each institution, they were asked to draft a formal agreement and to lead curriculum development and implementation.

Benefits. From the KCKPS perspective, partnering with KU and UKHS aligns with

Table 2: Timeline of Partnership Formation

Fall 2017	KU receives request from KCKPS CTE Director for assistance in developing healthcare industry partnerships.
Spring 2018	KU faculty, staff, Executive Vice Chancellor, and leaders from the University Health System (i.e. Vice President of support operations, community liaison) meet to define interest. EVC, Health System, and school district representatives (see Table 1) meet to define needs, interest, and goals.
Summer 2018	The university legal team contacts the district to start drafting an agreement to institutionalize the partnership.
Fall 2018	Key players/institutional navigators are identified at the district office, participating schools, university, and health system. Health Science teachers, district curriculum directors, health system representatives, and university faculty meet 5 times to develop a curriculum aligned with competencies, standards, and workforce needs. Faculty receive requests to teach in the academy. All parties sign the contract. Transportation and space are secured
Spring 2019	Inaugural Class is launched and completes the Health Science Academy.

its mission and that of Diploma+ to bring relevance into the classroom. This collaboration would expose district students to a wide-variety of careers. One administrator commented, "I really wanted students to understand that there are opportunities out there beyond the ones that they generally think about like doctor or nurse ... there is allied health, support positions, and they need to know that." For KU, the local school partnership would undoubtedly advance its diversity goals since over 80 percent of KCKPS students come from underrepresented backgrounds; collectively, they speak more than 50 languages at home. For UKHS, the partnership advances one of their core goals: to attract and retain the most competent and engaged workforce in the area. "This is a win-win. We are having a horrible time filling out some positions," explained a KU Health System leader. "Even if the kids don't end up working here, maybe their families do, and that's great." All partners commented on how providing innovative educational opportunities could affect overall health outcomes and opportunities in the county.

    Sustainability. Given past experiences, all partners wanted the program to be institutionalized, with signed agreements and job descriptions that ensured designated time to carry out the mission. They strongly rejected the idea of "charity work" that would not always reflect all

parties' goals and was likely to disappear in the long run. As one KU Health System partner explained, "I don't want to do kind of the back-door approach in terms of volunteerism. I want to be targeted, so we can see improvements and outcomes. You know you can do a food kitchen, and people feel great when they leave, but at the end of the day, have you really impacted anything?" Formalizing the process was also perceived to balance power and to ensure the investment of all partners. In addition, the project had to be visible and publicly celebrated by all parties. Visibility would contribute to building historical memory around the project, that is, shared knowledge about the Academy amongst campus and community constituents that would therefore help attract more participants at every level. The Closing Ceremony for the 2019 Health Science Academy was celebrated on the University of Kansas Medical Center campus, with leaders of all entities represented and ample coverage by the KU and UKHS Communications and Media department.

Program Description

Aside from forming the partnership, a major accomplishment was developing the academy curriculum. The overarching goal of the KU Health Science Academy is to increase minority representation in health science fields. It has three short-term goals: 1) expose students to the health professions, 2) assist teachers and students in forming professional relationships, and 3) empower students to connect a career in the health sciences with community activism. Teachers, hospital leaders, and university faculty devised the curriculum. The students' time spent on campus was designed to supplement the curriculum of their regular Health Science class. Table 3 provides an outline of the on-site curriculum. The sessions used a variety of formats, such as panels, lectures, hands-on activities, tours, and flipped classrooms.

Simultaneously, as part of their coursework at school, students worked on a in-classroom project exploring health disparities in their community and how they, as students and county residents, could identify and help to address them (see http://www.kumc.edu/t-score-ks /units-and-lessons.html; Helmer, Schottdorf, Neef, & Battaglia, 2017). The goal was for students to use the methods of inquiry, data collection, and analysis introduced by different health professionals in the academy to solve local problems. Based on their topic, students were paired with a KU academic medical center research mentor, who provided feedback as students worked on developing a research poster to present their individual projects and findings. The academy is dedicated to ensuring that students see the connection between any health profession and improving public health outcomes that affect their communities.

Preliminary Student Outcomes

Students gained *a deeper and broader understanding of health careers.* Following the curriculum, 84 percent of respondents reported knowing about the different types of health science ca-

Table 3: Curriculum Overview

Unit 1: Hidden Carriers in Health Lead: UKHS	*Session 1*: Workforce panel Session 2: HIPPA *Session 3*: Hospital tour, support positions *Session 4*: Auditing a hospital room: ATP test
Unit 2: CPR Lead: UKHS	Sessions 1-4: American Heart Association (AHA) certification
Unit 3: Nursing Lead: School of Nursing (SON)	*Session 1*: Nursing specialties Session 2: Nursing in the community *Session 3*: Stroke identification and Clinical Skills Lab *Session 4*: Midwifery and STDs
Unit 4: Laboratory Science Leads: Clinical Laboratory Science, and Kansas IDeA Network of Biomedical Research Excellence (K-INBRE)	*Session 1*: Clinical Laboratory Sciences Panel *Session 2*: Lab safety and performing a lab audit *Session 3*: DNA Necklace Lab *Session 4*: Histology and imaging
Unit 5: Community-Based Research Lead: Population Health Department	*Session 1*: Community health research *Session 2*: Community health research methods *Session 3*: Community health research in action Session 4: Community health workers
Unit 6: Creating a Career Portfolio Lead: UKHS	*Session 1*: Exploring job availability *Session 2*: Developing your CV *Session 3*: Mock interviews

reers; 89 percent agreed that they knew about the different types of health science certificates and programs; and 86 percent reported their intention to attend college and earn a health science degree. From a workforce perspective, 58.1 percent of responding students strongly agreed that they intended to apply for a job at UKHS in the future, and 61 percent strongly agreed that they were interested in pursuing a job at our hospital. Overall, 90.3 percent of responding students strongly agreed or agreed to the statement that they knew about jobs in the hospital.

Students' and teachers' comments during whole-class focus groups aligned with the partnership's goals. One teacher pointed out, "Previously, [students] had a narrower view of healthcare. Now they can see how so many different careers come together to form the patient experience. Hospitals are like a mini-city with many people facilitating different tasks."

The academy expanded the students' views of viable career paths in healthcare. One said, "I learned that in the meantime of getting my degree, I can be a transporter and get to learn the facility and then become what I want to be. If I am a transporter, I will know my way around the hospital and the basic rules of the hospital and that will help me out a lot in becoming what I want." Students also established connections between health careers and improving community outcomes. One commented, "A topic that I really enjoyed was community health. It made me really think about my community and how I want to help my community in any way that I can. I think that everyone that gets the chance to do this is lucky."

Finally, UKHS leadership reported that the academy has the potential to prevent burnout. "They were so excited to talk about what they do," a hospital executive said about staff involved with the academy. "And that creates a sense of pride that they do not always get a chance to have. To be able to stand up and tell kids that are in school about a job like theirs is powerful. If you think about resiliency, one of the most important pieces to bounce back is finding joy in what you do." University and district faculty echoed those feelings. K-12 teachers shared that students took pride in coming to KU. One instructor noted, "They felt special, you know—the lanyard, leaving the school—but if you want to be part of this, you have to work hard, and that is a good message to send across the school."

DISCUSSION

Successfully partnering with urban school districts to increase health career interest among their diverse student bodies requires a novel approach. Part of our model reflects best practices outlined in the literature (Badgett, 2016; Fincher et al., 2002; Radinsky et al., 2001; Soto-Greene, Wright, Gona, & Feldman, 1999; Willems & Gonzalez-DeHass, 2012; Wohlstetter, Malloy, Chau, & Polhemus, 2003), but the specific focus on partnering with underserved K-12 districts is new. "Business as usual," or "waiting for them to come" will not elicit change. True commitment to achieving a diverse workforce requires an analysis of meritocracy, context, access barriers, and all partners' motivations. Partnerships must contribute to institutional goals. Power must be balanced; and all partners should add to, and benefit from, the design. The success of the KU Health Science Academy relied on mutually beneficial agreements, institutionalizing the program, building in balanced power, and most important, identifying and designating institutional navigators who are positioned to make progress (see Fig. 1).

To those ends, curricular alignment with grade-level standards and competencies is crucial to closing the achievement gap. The content of the academy curriculum reflects that intent. Balancing power includes investment but also empowerment. Transportation costs, for instance, were a concern from the beginning. Rather than adopting a "savior-like" approach and funding the cost, partners worked with the district to apply for outside funding needed to transport students to partner sites, a key goal of the Diploma+ initiative. Further,
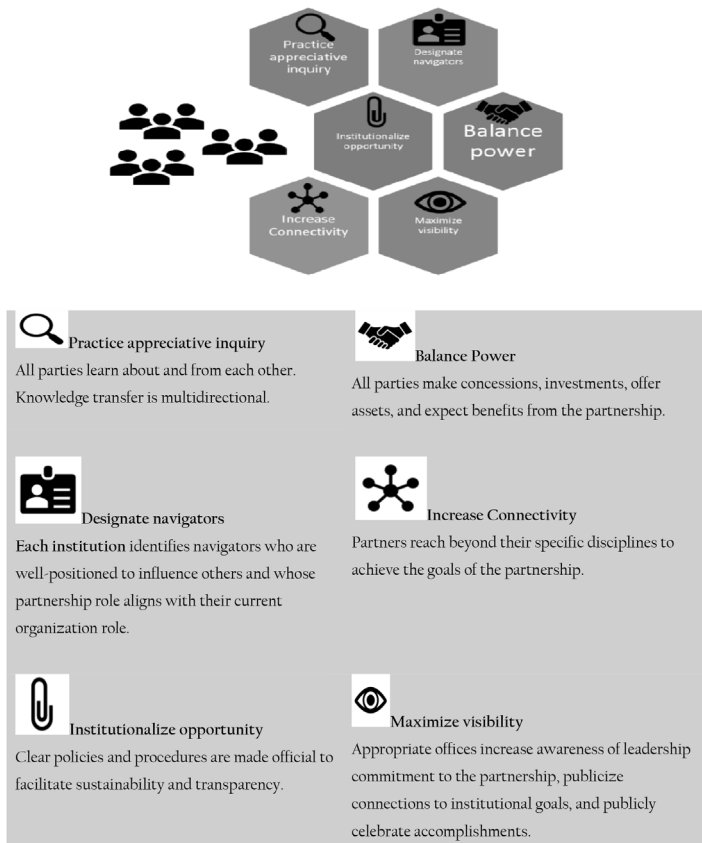
Figure 1. KU Health Science Academy Model

institutionalizing opportunity requires legal agreements that ensure continuous engagement and equal access opportunities for K-12 schools to gain access to career development for students. To make these experiences accessible to all students, universities must increase their visibility and proactively seek the engagement of underserved school districts that are less likely to have the resources needed to seek out these partnerships. Designated navigators can direct the university's legal counsel and marketing and communications personnel to appropriate administrators and teachers in school districts to create a comprehensive, perpetual affiliation agreements. In our case, formalizing the affiliation and addressing the numerous requirements up front facilitated program implementation and its continuation in the next academic year.

Finally, we must stop working in isolation. Our multidisciplinary approach to the KU Health Science Academy allowed students with different goals to discover career paths they did not know existed. It also proved cost-effective in achieving the diversity goals of many health professions schools on campus.

CONCLUSION

Building meaningful and enduring partnerships with diverse urban school districts could be a catalyst for increasing diversity in the future healthcare workforce and improving the health outcomes of the most vulnerable. As K-12 education develops ways to expose students to viable careers, both universities and health systems must reassess their traditional community-engagement approaches. Competition for limited resources and lack of social networks make high-needs urban school districts less likely to form industry partnerships, so partners seeking to engage with them must take a proactive approach. Adopting a business-like mentality that embraces cultural richness will build mutually beneficial partnerships. The KU Health Science Academy is currently in its second year and continues to receive full support from all partners. They see in this educational adventure a sustainable effort to increase opportunities for students, workforce diversity, and community well-being.

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**APPENDIX A: HEALTH CAREERS SURVEY:
HEALTH SCIENCE ACADEMY POST SURVEY—SPRING 2019**

Health Science Academy Students,

Congratulations on completing the Health Science Academy at KUMC! This survey asks questions about your experience with the Health Science Academy course as well as your knowledge, attitudes, and future aspirations related to health science careers and jobs. It should take less than ten minutes to complete, and all answers you provide will be kept strictly confidential.

1. Please enter your student identification number (on your ID card):
2. Please enter your initials (first letter of your first name, followed by first letter of your last name):
3. Please enter your date of birth (MM/DD/YYYY):
4. What is your race? Please mark all that apply.
☐ American Indian / Alaska Native
☐ Asian
☐ White
☐ Black / African American
☐ Native Hawaiian / Other Pacific Islander
☐ Other (please specify): _____
5. Are you Hispanic / Latino(a)?
○ Yes
○ No
6. What is your primary language?
○ English
○ Spanish
○ Other (please specify): _____
7. What is your gender?
○ Female
○ Male
8. What is the name of your teacher for this class?
9. What do you plan to do after completing high school?
○ 2-Year Community College
○ 2-Year Technical College
○ 4-Year University
○ Military
○ Work; No Plans to Attend College
○ No Plans
10. Please list your top three career choices (example: nurse, surgical technician, hospital administrator, etc.):

Please rate your level of agreement or disagreement with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
11. I plan to go to college and study in a health science field	○	○	○	○	○
12. I know about different types of health science certificates and degree programs	○	○	○	○	○
13. I am confident that I can complete a health science certificate or degree	○	○	○	○	○
14. I know about different careers in health science fields	○	○	○	○	○
15. I have role models that are in health science careers	○	○	○	○	○
16. I plan to become a health science professional	○	○	○	○	○
17. I am interested in working at University of Kansas Medical Center	○	○	○	○	○

18. Please list any specific health science careers would you like to learn more about:
Please answer this question by thinking about BEFORE and AFTER you participated in the Health Science Academy course:

	Not at all interested	Slightly interested	Moderately interested	Interested	Very Interested
19. BEFORE Health Science Academy, my interest in pursuing a health science career:	○	○	○	○	○
20. AFTER Health Science Academy, my interest in pursuing a health science career:	○	○	○	○	○

21. What health science or science courses do you plan on taking next year?
22. Please describe any plans you have to follow up with KUMC hospital staff or researchers
23. Please describe two or three Health Science Academy experiences that were most meaningful for you, and why:

Are Demographic Factors Associated with Diabetes Risk Perception and Preventive Behavior?

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ABSTRACT

Objective: To determine the relationship between perceived diabetes susceptibility, demographic factors, diet, and physical activity. **Design**: This descriptive, correlational study used multilevel modeling in a secondary analysis of data collected in a randomized controlled trial of genetic-risk testing and risk counseling for type 2 diabetes (T2DM) in primary care. **Sample**: 409 participants who had undergone genetic-risk testing for T2DM in primary care were randomized into either a standard risk assessment (SRA) arm for type 2 diabetes or an SRA plus results of genetic-risk testing (SRA+G) arm. **Results**: Perceived diabetes susceptibility was not significantly related to demographic factors but only to fruit-and-vegetable intake at 12 months after genetic-risk counseling (p = .04). Daily servings of fruits and vegetables had a significant, positive relationship with female gender (p = .006), age (p = .02), and Hispanic ethnicity at 3 (p = .002) and 12 months after baseline (p = .01). Daily servings of fatty foods were inversely related to age at baseline (p = .02) and 3 months later. At all three timepoints, Blacks were consuming more servings of fatty foods than were other groups. A positive rela-

tionship between age and moderate activity was significant at 3 months (p = .05). Vigorous activity was inversely related to age; higher among men at all three timepoints; and higher among Hispanics at baseline (p = .0038) and 3 months later (p = .0001). **Conclusions**: To plan effective, sustainable interventions, providers must understand the associations among demographic factors, individuals' risk perceptions, and lifestyle changes.

Keywords: ▪ Counseling ▪ Diabetes ▪ Prevention ▪ Risk Factors

INTRODUCTION

In 2012, an estimated 86 million, or 1 in 3, American adults had prediabetes, an intermediate state of hyperglycemia with glycemic parameters above normal but below the diabetes threshold (American Diabetes Association [ADA], 2016; Centers for Disease Control and Prevention [CDC], 2015). Prediabetes is more prevalent in minority populations; within the last ten years, prevalence has increased to 12 percent among non-Hispanic blacks but to 5 percent among non-Hispanic whites (Dall, Yang, Halder, & Pang, 2014; Zhou, Remsburg, Caufield, & Itote, 2012). Individuals with prediabetes are at greater risk for co-morbidities, such as cardiovascular, peripheral vascular, renal, and ocular conditions, along with metabolic instability (Zhou, Remsburg, Caufield, & Itote, 2012).

Prediabetes is a preventable medical condition, and evidence indicates that early preventive programs for adults will reduce its prevalence and progression. According to the ADA (2016), the standard of medical care for prediabetes includes weight loss through diet and physical activity. Preventive programs focused on these lifestyle modifications can prevent development of type 2 diabetes mellitus (T2DM); intensive nutritional and exercise interventions have delayed and reduced the incidence of diabetes by 58 percent (Glechner et al., 2015; Vojta, De Sa, Prospect, & Stevens, 2012). However, success requires participants' commitment. Many factors, such as demographics and perceived susceptibility, influence individual compliance and intervention sustainability. Understanding the associations among them will lead to individualized care. Therefore, this study will explore the relationships among perceived diabetes susceptibility, demographic factors, diet, and physical activity.

To plan effective lifestyle interventions for adults with prediabetes, healthcare providers must understand which demographics, such as age, gender, and racial/ethnic background, are related to adoption and adherence (Geiss et al., 2010). Several factors shape self-care behaviors, including minority-versus-majority race/ethnicity, younger versus older age, and presence versus absence of a family history (Strauss, Rosedale, & Kaur, 2015). Our beliefs affect how we perceive or interpret our risk for a disease or a disease process and our commitment to disease-prevention interventions. The literature presents strong evidence that illness

perceptions influence how we internalize disease management, disease processes, and emotional responses, and some evidence suggests that demographic factors influence preventive behavior, perceived disease risk, and emotional response (Strauss, Rosedale, & Kaur, 2015).

Healthy eating is a complex interaction between an individual's perceptions and control (Fukuoka, Lindgren, Bonnet, & Kamitani, 2014). The Food Pyramid guidance system recommends consuming five or more servings of fruits and vegetables per day; no significant association was found among fruit-and-vegetable intake, gender, and age (Zhou, Remsburg, Caufield, & Itote, 2012). Although dietary modifications have been identified as beneficial, no specific guidelines have been followed across research studies to date. Additionally, knowledge on how demographic factors influence eating habits is limited.

Physical activity aids in weight loss and delays T2DM progression. A 5-10 percent weight reduction; at least 150 minutes/week of moderate physical activity at least three days/week; and no more than two consecutive days without exercise are the standard of medical care for prediabetics (ADA, 2016). High-intensity programs increase weight loss and reduce new-onset diabetes (Balk et al., 2015). While the duration of an intervention and its outcome are positively related (Graves et al., 2011), little is known about how demographic factors influence perceptions of risk and engagement in physical activity.

The theoretical framework for the current study is an adapted version of the Health Belief Model (Strecher & Rosenstock, 1997; see Fig. 1). It is one of the most widely recognized conceptual frameworks for understanding health behavior, focused on individual-level change (Green & Murphy, 2014). According to the Health Belief model, an individual's decision to take a preventive action against a particular condition is influenced by four beliefs: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. Additionally, modifying factors such as demographics and knowledge about the disease, cue to action, influence all four beliefs. In this study, the main concepts include individual perceived susceptibility to ill health (risk perception); factors, such as demographics and cue to action, that modify these perceptions (modifying factors); and the likelihood of engaging in behavioral outcomes, including physical activity and diet (likelihood of action). Within this study, a standard risk assessment of T2DM served as the cue to action that may modify the likelihood of behavioral change. This modified framework will aid in illustrating the influence of modifying factors on individuals' perceptions, cues to action, and behavioral outcomes.

This study was designed to determine which demographic factors, if any, are associated with perceived susceptibility to diabetes and the adoption of, and adherence to lifestyle behaviors to prevent T2DM among at risk patients. Factors, such as age, gender, and ethnic/racial background, may have a strong association with compliance with, and the effectiveness of, lifestyle interventions in individuals with prediabetes. Specific aims include: (1) to examine whether demographic factors are related to perceptions of susceptibility to T2DM or diet and exercise behaviors among participants in a diabetes-prevention, risk-counseling intervention; and (2) to examine the relationships among these variables.
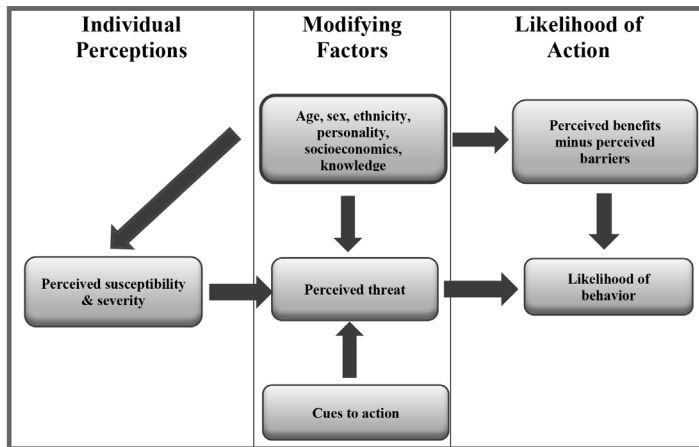
Figure 1. Health Belief Model

Parent Study

A randomized controlled trial (RCT) was conducted to assess the clinical and personal utility of incorporating T2DM genetic-risk testing into a comprehensive diabetes risk assessment performed in a primary care setting. Primary outcomes are the changes in insulin resistance and body mass index (BMI) after 12 months; secondary outcomes include changes in diet patterns, physical activity, waist circumference, and perceived risk for developing diabetes (Cho et al., 2012). Recruitment occurred in the clinical laboratory waiting areas of two primary care clinics located in Durham County, North Carolina. Participants were enrolled into one of three study arms. Those interested in genetic testing were randomly assigned to undergo *either* a standard risk assessment (SRA) for T2DM or an SRA and immediate disclosure of the results of genetic-risk testing (SRA+G). The SRA includes fasting glucose and BMI measures and notes race/ethnicity and age. In the third study arm, patients not interested in genetic testing for diabetes risk were *not* randomized and received only the SRA and no genetic-risk testing (No-Test) (Cho et al., 2012). Participants randomized into the SRA study arm received their genetic risk results at the end of the study.

During risk counseling, all participants received a pictorial profile indicating their individual risk factors for T2DM, such as fasting glucose, family history, and BMI. The profile included age for individuals over 45 years and race/ethnicity only when participants reported African American and/or Native American race or Hispanic ethnicity, as these groups are at higher risk for T2DM. The profile included genetic risk only for participants randomized to receive it; results noted the number of higher-risk alleles a patient carried out of the eight alleles tested (Cho et al., 2012).

Participants were asked to complete three study encounters over 13 months: (1) an in-person visit at baseline and (2) for risk counseling approximately 4-6 weeks after baseline, (3) a remote survey 3 months after risk counseling, and (4) a 12-month end-of-study visit. Surveys completed at each encounter were used to track patients' behavioral and emotional responses to diabetes risk information over time, including their perception of their personal risk for T2DM. Participants received $20 for each in-person study visit and were eligible for a drawing of additional cash prizes for completing the 3-month survey and 12-month visit (Cho et al., 2012).

METHODS

This study is a secondary analysis of data collected in an RCT of genetic-risk testing and risk counseling for T2DM in primary care. A total of 409 participants from two primary-care outpatient clinics received a comprehensive profile indicating their status on individual risk factors for T2DM. Study inclusion criteria were age 18 to 81 years, no self-reported history of diabetes, and not currently pregnant. Exclusion criteria included taking or having taken medication to treat diabetes; fasting glucose ≥ 7 mmol/L (≥ 126 mg/dL), tested at enrollment; and not fasting and unwilling to return for a fasting blood test. Duke University Health SystemInstitutional Review Board (IRB) approved the parent study and Winston-Salem State University IRB approved this secondary analysis.

Measures

Diet was assessed using the 16-item dietary multifactor screener from the 2000 National Health Interview Survey (NHIS) Cancer Control Supplement (Thompson et al., 2004; Thompson et al., 2007). Scores represent the number of fruit-and-vegetable servings per day and the number of high-fat food servings per day. Physical activity was evaluated using the World Health Organization's Global Physical Activity Questionnaire (GPAQ) (Bull, Maslin, & Armstrong, 2009; Trinh et al., 2009). Scores represent total days of moderate activity, total days of vigorous activity, and total days of moderate and vigorous activity.

The perception of susceptibility to diabetes was measured using a subscale of the Brief Illness Perception Questionnaire. This study used a five-point Likert-scale item: "What do you think of your chances of getting diabetes in your lifetime?" The lower the score, the higher the chance of getting T2DM. Physical activity, diet, and perceived susceptibility were measured at 3-timepoints: baseline, 3, and 12 months. Demographic factors were collected at baseline.

SPSS 22 software was used to calculate descriptive statistics, conduct bivariate analysis (chi-square, Spearman's correlation), and construct general linear models. For categorical and ordinal variables (gender, race/ethnicity, and perceived susceptibility), frequency and

percentages were calculated. For continuous variables (age, fruit/vegetable servings, fatty-food servings, and physical activity), means and standard deviations were computed. After reviewing the descriptive statistics, the dependent variables (perceived susceptibility, diet, and physical activity) were analyzed against the independent variables (age, gender, and racial/ethnic background) to determine relationships. These relationships were then examined against the data from each timepoint (baseline, 3 months, and 12 months).

Bivariate analyses were conducted to assess the influence of each demographic factor (gender, age, and race/ethnicity) on the perception of susceptibility to type 2 diabetes at each timepoint. A chi-square test was performed for gender; a Spearman correlation for age; and Fisher's exact test for racial/ethnic background. To address the effects of perceived susceptibility and demographic factors on diet and physical activity outcomes, a general linear model was constructed for each subscale outcome at each timepoint.

RESULTS

All 409 participants in the parent study were included in the secondary data analysis. Table 1 provides their demographic characteristics.

Table 2 shows no significant relationship between perceived susceptibility and gender, age, or race at any timepoint. Although perceived susceptibility had no statistically significant relationship to the demographic factors, it was included among the variables in the multilevel modeling based on the literature and the Health Belief Model.

In modeling behavioral outcomes, however, perceived diabetes susceptibility was significantly related to fruit-and-vegetable intake at 12 months (p = 0.04). A significant positive relationship emerged between fruit-and-vegetable servings per day and age (p = 0.02) and female gender (p = 0.006) in the 3-month survey and Hispanic ethnicity (p = 0.002) at 3 months and 12 months (p = 0.01). Fatty-food servings per day were significantly inversely related to age at baseline (β= -0.00746; p = 0.02) and at 3 months (B= -0.00523; p = 0.03). At all three timepoints, African Americans reported consuming significantly more fatty-food servings than other races. A significant positive relationship between age and days of moderate activity was reported at 3 months (p = 0.05). Vigorous activity was significantly inversely related to age and higher among men at all timepoints and significantly higher among Hispanics at baseline (p = 0.0038) and 3 months (p = 0.0001).

DISCUSSION

This study examined the association of demographic factors with perceived susceptibility to diabetes and participation in, and adherence to, lifestyle behaviors to prevent T2DM among

Table 1: Baseline Participant Characteristics, Type 2 Diabetes Genetic-Risk Testing Study (Cho et al., 2012)

Study Characteristics	n/mean	%/s.d.
Sex (n = 409)		
Male	131	30.47
Female	299	69.53
Race (n = 425)		
White	251	59.06
African American	127	29.88
Asian	20	4.71
Multiracial	21	4.94
Native Hawaiian or other Pacific Islander	2	0.47
American Indian or Alaska Native	4	0.94
Missing	5	
Ethnicity (n = 384)		
Hispanic or Latino	11	2.86
NOT Hispanic or Latino	373	97.14
Not Answered	46	
Fruit/Vegetable Intake (daily servings) (n=409)	2.46	1.87
Fatty-Food Intake (daily serving) (n=409)	0.73	0.89
Physical Activity (Days of Mod/Vig Activity) (n=409)		
Moderate Activity	4.93	4.39
Vigorous Activity	1.65	2.27
Perceived susceptibility for T2D (n=409)		
Definitely will get diabetes	18	4.4
Highly/very likely to get diabetes	242	59.17
Likely to get diabetes	100	24.45
Definitely will never get diabetes	49	11.98

Table 2: Relationship between Perception of Susceptibility to T2D and Gender/Age/Race

		Gender (chi_sq p-value)	Age (Spearman correlation p-value)	Ethnicity (Fisher p-value)	Race (chi_sq p-value)
Perception of Susceptibility	Baseline	0.3815	0.04687 (0.3444)	0.4618	0.0674
	3 months	0.8842	0.01325 (0.8052)	0.9098	0.1115
	12 months	0.6277	0.07240 (0.1902)	0.4390	0.5340

Table 3: Relationships between Demographic Characteristics and Dietary Behaviors

	Baseline		3 months		12 months	
	p	β	p	β	p	β
Fruit & veg servings	(n=301)		(n=317)		(n=301)	
Age	0.3058	0.0066	0.0639		0.0205	0.01578
Gender	0.2632		0.0061		0.2133	
Female		0.1999		0.4751		
Male (reference)		0		0		
Race	0.4550		0.5293		0.6317	
Ethnicity	0.0773		0.0023		0.0103	
Hispanic or Latino		1.0647		1.8272		1.6784
Not Hispanic or Latino (reference)		0		0		0
Perceived Susceptibility	0.0501		0.2675		0.0366	
Definitely will get diabetes		-1.0385				-0.9524
Very likely will get diabetes						-0.4650
Fatty-food servings	(n=365)		(n=317)		(n=301)	
Age	0.0246	-0.00746	0.0312	-0.00523	0.2313	
Gender	0.9489		0.8380		0.1436	
Race	0.0453		0.0021		0.0013	
Black		0.2262		0.2523		0.2888
Ethnicity	0.2568		0.8651		0.4468	
Perceived Susceptibility	0.6459		0.2942		0.0618	

Table 4: Relationships between Demographic Characteristics and Physical Activity Behaviors

	Baseline		3 months		12 months	
	p	β	p	β	p	β
Moderate Intensity Activity	(n=365)		(n=317)		(n=301)	
Age	0.9727		0.0496	0.05036	0.0720	00000
Gender	0.5313		0.4115		0.6625	
Race	0.0627		0.5661		0.8185	
Ethnicity	0.7313		0.9446		0.7916	
Perceived Susceptibility	0.7889		0.7609		0.6077	
Vigorous Intensity Activity	(n=365)		(n=317)		(n=301)	
Age	0.0035		0.0019		0.0045	
		-0.02568		-0.02861		-0.03146
Gender	<.0001		0.0002		<.0001	
Female		-1.2032		-0.9076		-1.2073
Male		0		0		0
Race	0.1468		0.3650		0.2410	
Ethnicity	0.0038		0.0001	3.2759	0.6015	
Hispanic or Latino		2.3771		0		
Not Hispanic or Latino		0				
Perceived Susceptibility	0.1163		0.1119		0.0738	
Total Activity	(n=365)		(n=317)		(n=301)	
Age	0.2313		0.4357		0.7450	
Gender	0.1479		0.6345		0.0326	
Female						-1.4608
Male						0
Race	0.5564		0.5047		0.9080	
Ethnicity	0.1492		0.1780		0.6548	
Perceived Susceptibility	0.4923		0.4335		0.2320	

adults at risk. None of the demographic factors was associated with perceived susceptibility; however, over 12 months, some significant relationships between demographic factors and diet and exercise behaviors emerged. According to the Health Belief Model, demographic factors are associated with individuals' perceptions and thus indirectly influence health-related behaviors. Illness perceptions have also been found to vary among subgroups with diabetes based on nonmodifiable, demographic risk factors; specifically, minority vs. majority race and ethnicity; younger vs. older age; and presence vs. absence of a family history of diabetes (Strauss et al., 2015). The current study found that age, sex, gender, and ethnicity were not associated with individuals' perceptions of illness.

Our distinct findings may be related to the fact that, in the primary study, following baseline data collection, all participants received a comprehensive profile indicating their risk for developing T2DM. It may have informed their perceived susceptibility and led to some preventive behaviors. However, the lack of relationship between demographic factors and perceived susceptibility did not change significantly over time. In fact, perceived susceptibility was only significantly related to fruit-and-vegetable intake at 12 months. These findings may suggest that individuals' perception of risk should be assessed over the long term or that it does not always immediately influence behavior. Illness perception and motivation for behavior change may develop through a longer process than expected.

Fatty-food intake and race were significantly related at all timepoints. Specifically, African-American participants consumed more fatty foods at all timepoints than other participants. Identifying this relationship is important because educational and counseling interventions related to dietary fat intake could help this population. Furthermore, these findings support other evidence that healthy eating is complex, and cultural factors may influence the process (Fukuoka et al., 2014). Overall, dietary change is difficult because food and cooking traditions are important parts of life. Lasting behavioral changes among adults at risk for diabetes will require educational and counseling programs that consider psychological and cultural factors.

In terms of physical activity, research indicates that age and gender affect readiness (Bouchard et al., 2012; Glechner et al., 2015). Our results reveal that the younger male participants were more likely to engage in vigorous activity. Bouchard et al. concluded that increasing age is associated with lower expectations and reduced readiness for lifestyle modification, and we found that age and gender showed significant relationships with vigorous activity at all timepoints (Cho et al., 2012). Understanding these factors will help health educators and providers to care for individuals more holistically.

The primary limitation of this study is related to the self-reported nature of much of the data. Bias is common in self-reporting of health behaviors, such as diet and exercise (Cho et al., 2012). Also, although the study sample was fairly diverse by race, only 2.86 percent was Hispanic. The overall level of diversity may be insufficient to generalize conclusions about demographic variables to the target population. The sample size was also not large enough to adjust the alpha for multiple comparisons across treatment groups. Last, age, gender,

and ethnic/racial background were examined in relationship to perceived susceptibility and adherence to lifestyle behaviors. Other variables, such as educational level, family history, or financial status, might influence an individual's perceived susceptibility and adherence to lifestyle behaviors. Future studies should explore these variables.

CONCLUSION

Research on illness perceptions has confirmed that patients' beliefs are associated with critical behavioral outcomes. Lifestyle modification is the most effective way to prevent and decrease the prevalence of T2DM. Recent analyses indicate that lifestyle interventions are the most cost-effective approach (Glechner et al., 2015). Understanding what influences an individual's perception is essential in implementing risk interventions. The current study informs providers, communities, and insurers on strategies for implementing generalized diabetes prevention programs among diverse populations. One strategy to consider when implementing a diabetes prevention program is to acknowledge that racial/ethnic background influence how one engages in behavior modification in diabetes prevention programs. Therefore, a personalized, culturally sensitive strategy may increase adherence to diabetes prevention programs among diverse populations. For example, regarding diet changes, an approach that gradually modifies rather than abruptly replaces or eliminates certain dietary intake may be a practical option. Future research should focus on how time influences illness perceptions and how patient outcomes may improve the sustainability of healthy diet and exercise behaviors.

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Improving Rehabilitation Counselors' Knowledge of Co-Occurring Disorders, Screening, Brief Intervention, and Referral to Treatment Practices

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ABSTRACT

This study evaluates the impact of screening, brief intervention, and referral to treatment (SBIRT) training on rehabilitation counselors' professional practices and core knowledge of co-occurring conditions; specifically, mental disorders and substance use. It focuses on a formal screening tool designed to identify consumers at risk for harmful alcohol and substance use behaviors. These tools provide a systematic way to ask consumers who seek treatment about alcohol and substance abuse problems. They reduce barriers that might impede early identification and prevention and advance positive outcomes as consumers work collaboratively with rehabilitation counselors.

Keywords: ▪ Co-occurring Disorder ▪ Rehabilitation Counseling ▪ SBIRT ▪ Substance Abuse

INTRODUCTION

Substance-use disorders as primary or co-occurring disabilities affect the rehabilitation process and pose significant challenges for both the consumer and the counselor. Compounding the problem, some consumers use substances at levels that are not disabling but put them at greater risk for developing substance-use disorders (SAMHSA, 2011). In particular, persons with disabilities are at high risk for substance-use disorders (Anderson, Ziedonis, & Najavits, 2014; Carroll Chapman, & Wu, 2012; Centers for Disease Control and Prevention [CDC], 2009; SAMSHA, 2011). The effects of substance-use disorders have far-reaching implications for the individual, family, workplace, community, and healthcare system. Research indicates that a majority of rehabilitation counselors (RCs) lack the requisite knowledge, skills, and training to detect substance-use disorders (Glenn & Keferl, 2008; Rogers-Bonoccorsy, 2010), which impedes their ability to appropriately serve individuals who may be at risk.

The shift in health policy to include behavioral health services (i.e., the Patient Protection and Affordable Care Act [ACA] and the Mental Health Parity and Addiction Equity Act) has created a demand for training in substance-use assessment and treatment for human service professionals, such as rehabilitation counselors (Cochran, Roll, Jackson, & Kennedy, 2014). Although not required to have specific skills in treating persons with substance-use disorders (SUD), rehabilitation counselors must have "the ability to recognize when an individual is experiencing complications due to alcohol and other drug abuse disorders" (Koch & Dotson, 2008, p. 134). They must address these problems prior to providing vocational assessment, training, and placement services. Screening, brief intervention, and referral to treatment (SBIRT) tools can help rehabilitation counselors to identify risky substance use among consumers.

Overview of SBIRT

SBIRT was developed by the Center for Substance Abuse Treatment (CSAT) of the Substance Abuse and Mental Health Services Administration (SAMHSA) in 2003; by 2008, it had been used to screen over 690,000 individuals (Madras et al., 2009). It allows professionals to screen for alcohol and substance abuse simultaneously and to establish the level of intervention or treatment needed (SAMHSA, n.d.). Madras et al. (2008) examined six varied healthcare sites where 459,599 patients were screened. They found SBIRT effective in screening for heavy alcohol use and substance use across all the healthcare settings and diverse populations with implications for long-term, positive treatment outcomes. In the six-month follow-up study, drug use was 67.7 percent lower, and heavy alcohol use was 38.6 percent lower among screened patients at four of the six sites. This study illustrates the urgent need for all rehabilitation counselors to adopt SBIRT measures to detect alcohol and substance abuse among all consumers seeking services.

Screening

The SBIRT process is initiated with a screening by which medical and rehabilitation professionals can quickly detect the consumer's level of substance use and determine whether further assessment and treatment is necessary. It evaluates the frequency and amount of alcohol and drug use and the difficulties their use causes (Koch & Dotson, 2008). The tools SBIRT recommends are simple and can be used by a variety of rehabilitation counselors (SAMHSA, n.d.). They include the Alcohol Use Disorders Identification Test (AUDIT), Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), and Drug Abuse Screening Test (DAST). These assessment tools focus on the severity of substance use and other associated behaviors and factors. Another instrument recommended for its simplicity and efficiency in identifying risky substance use is the CAGE questionnaire (Koch & Dotson, 2008).

Rehabilitation counselors must use the screening component proactively. They must integrate substance-use screening into the history portion of the intake process and use it at subsequent visits (Heinemann, Moore, Lazowski, Huber, & Semik, 2014). They should be comfortable when asking these questions as their manner directly affects how candid consumers will be in their responses.

Brief Intervention and Referral

Brief interventions are implemented if consumers' screening results indicate a moderate risk for alcohol and other drug abuse (AODA; SAMHSA, n.d.). Their purpose is to prevent increased abuse. They include one or more sessions of person-centered counseling or motivational interviewing to assess and encourage the desire to change (SAMHSA, n.d.). Counselors may also work with consumers to create specific plans to reduce alcohol or drug use and other risky behaviors. The intervention provides an opportunity for rehabilitation counselors to discuss treatment options and the benefits of quitting and to offer education, support, and referral for treatment. Once they have determined that the consumer needs more extensive treatment, they must have an arsenal of resources readily available to direct referral. Assisting consumers in obtaining the appropriate level of care is the essence of SBIRT.

In making referrals, rehabilitation counselors must carefully consider the specific medical needs of consumers who have co-occurring physical and psychiatric disabilities in combination with substance-use disorders. They must accurately assess consumers' mental health status. The progression of an illness or disability varies from individual to individual, so rehabilitation counselors must familiarize themselves with the consumer's medical history and current physical condition. The services offered by the substance abuse treatment program must be congruent with the other health services in progress. To determine the appropriate level of care, substance abuse treatment programs typically follow the American Society of Addiction Medicine (ASAM, 2001) patient-placement criteria: early intervention, outpatient

treatment, intensive outpatient/partial hospitalization treatment, residential/inpatient treatment, and medically managed intensive treatment.

Based on SBIRT evidence, rehabilitation counselors should be prepared to provide consumers with substance-use screening, assessment, and referral to treatment services. However, very little empirical research has examined rehabilitation counselors' knowledge about substance-use disorders or screening, assessment, and referral to treatment practices. The purpose of this study is to evaluate the impact of SBIRT training on rehabilitation counselors' core knowledge of substance-use disorders and their professional practices related to identifying and referring consumers at risk for harmful alcohol and substance-use behaviors.

The study addressed the following research questions:

1. To what extent do rehabilitation counselors (RCs) provide assessment services to clients with substance-use disorders?
2. To what extent do RCs perceive themselves as confident in providing substance-abuse screenings and referrals?
3. As a result of attending the SBIRT training, how much do RCs learn about alcohol and substance-abuse disorders and to what extent do their practices change?
4. Are practice, confidence, and knowledge related?

METHODS

Participants

Thirty participants attended a one-day, continuing education training workshop on Screening, Brief Intervention, and Referral to Treatment (SBIRT). They were recruited from state-federal vocational rehabilitation agencies throughout the state of North Carolina. They were selected based on the following criteria: (1) graduated from an accredited institution with at least a Master's degree in Rehabilitation Counseling, Human Services, or a closely related field; (2) actively employed as rehabilitation counselors or human services professionals; (3) currently providing services as either full-time or contractual employees of the North Carolina Department of Vocational Rehabilitation Service (NCDVRS).

Measures

The Alcohol and Other Drugs Vocational Rehabilitation Counselor Survey (AOD-VRC) was used to measure participants' knowledge, confidence, and practices. It was adapted from an instrument developed for emergency room nurses and physicians (Christensen, Boisse, Sanchez, & Friedmann, 2004). Seven items rate the frequency of practices along

Table 1: AOD-VRC Survey: Substance-Abuse Practice Items

How often do you…	Never	Rarely	Sometimes	Usually	Always
Ask consumers about alcohol or substance-abuse problems?	1	2	3	4	5
Ask about quantity and frequency of use of alcohol or other drugs?	1	2	3	4	5
Formally screen consumers for alcohol or substance-abuse problems using CAGE, CAGE AID, AUDIT, TWEAK, MAST, or SASSI questions?	1	2	3	4	5
Assess consumers' readiness to change their alcohol or substance-abuse behavior?	1	2	3	4	5
Discuss/advise consumers to change their alcohol or other drug-use behaviors?	1	2	3	4	5
Refer consumers with alcohol problems for further assessment or intervention?	1	2	3	4	5
Document your assessment, intervention, and referral to treatment?	1	2	3	4	5

four dimensions: screening, assessment, brief intervention, and referral to treatment. Each question begins with the phrase, "How often do you …" Responses are rated on a Likert-type scale ranging from 1-never, 2-rarely, 3-sometimes, 4-usually, and 5-always (see Table 1). Seven other items measure perceived confidence in performing the four dimensions of practice. Each question begins with the phrase, "I am confident in my ability . . .," and the 5-point Likert-type scale ranges from 1-no confidence to 5-high confidence (see Table 2). In addition, knowledge is measured using eighteen multiple-choice questions. Eight focus on substance-use disorder, and the other ten on alcohol-use disorder. Finally, demographic questions are included. Responses to the set of surveys enable an assessment of any increase in rehabilitation counselors' and human service professionals' knowledge of co-occurring mental health and substance-use disorders and their role in serving persons with possible alcohol and substance-use disorders.

Table 2: AOD-VRC Survey: Confidence Practice Items

I am confident in my ability...	None	Low	Medium	Moderate	High
To ask consumers about their alcohol or other drug-use or abuse problems.	1	2	3	4	5
To ask consumers about the quantity and frequency of their use of alcohol and other drugs.	1	2	3	4	5
To formally screen consumers for alcohol or other problems using screening instruments, such as the CAGE, CAGE-AID, AUDIT, TWEAK, MAST, or SASSI.	1	2	3	4	5
To assess consumers' readiness to change their alcohol or other drug-use behaviors.	1	2	3	4	5
To discuss/advise consumers to change their alcohol or other drug-use behaviors.	1	2	3	4	5
To refer consumers with alcohol or other drug-abuse problems for further assessment or interventions.	1	2	3	4	5
To document my assessments, interventions, or referrals for consumers with alcohol or other drug-abuse problems.	1	2	3	4	5

Procedures

We used a pre/post, within-subjects design to determine changes in knowledge based on participation in the SBIRT training workshop. An invitation was emailed to NCDVRS site supervisors, who forwarded the message to employees who met the criteria for participation in the study. Those interested in attending the training workshop contacted the site supervisor to initiate registration.

Before and after attending, participants completed all the required measurement instruments. Researchers had obtained approval from their university's Institutional Review Board (IRB) to collect and analyze the survey data, and they explained the research project to participants, who were made aware that their participation in the study and completion of the survey were voluntary. Their responses to the pre-and post-tests, including 1) the seven items rating the frequency at which they provided substance-abuse screenings and referrals, 2) the seven items measuring their perceived confidence in providing substance-abuse screenings and referrals, and 3) the eighteen items assessing their knowledge in the areas of alcohol and other drugs, were analyzed.

Participants attended the six-hour workshop off site and away from their work settings. It was divided into a morning session and an afternoon session, with two ten-minute breaks and a lunch break. First, all participants completed the pre-test. Next, they heard presentations on (1) the prevalence of substance use, (2) aspects of specific drugs and alcohol, (3) problems related to substance abuse, (4) co-occurring disorders, (5) screening, and (6) assessment. A question-and-answer session followed each presentation.

The second half of the SBIRT training workshop consisted of (1) modeling a scripted approach to broaching the subject with consumers, (2) practicing assessment, and (3) group discussions. Participants received copies of the DAST and CAGE assessment tools but were trained in how to use the AUDIT. Specifically, they were trained in how to engage in pre-screening, use the AUDIT, and initiate brief interventions, which might lead to treatment referrals for consumers assessed to be at risk for substance-use problems. A question, answer, and discussion session were provided at the end of the second session.

Upon completion of the SBIRT workshop, participants were administered the post-test to reassess two previous measures of interest, perceived confidence and knowledge, which included the questions from the AOD-VRC. Participants also completed a training workshop evaluation.

Data Analysis

Prior to testing the study hypotheses, we performed a descriptive data analysis to detect missing data and outliers. Descriptive statistical analysis was then employed to summarize the characteristics of study participants and to report their frequency of practice and perceived confidence when serving their clients with alcohol and substance-use disorders. Next, a Pearson correlation analysis examined the association among frequency of practice, perceived confidence, and knowledge score before participants attended the workshop. We also used an independent samples t-test to see if the knowledge score differed significantly between participants reporting higher frequency of practice (mean = 3.5 or above) and higher perceived confidence (mean = 3.5 or above). Finally, the effect of the continuing education workshop was tested by comparing the mean difference between the pre- and post-test scores on knowledge using a paired samples t-test at the significant level of .05. The effect size was calculated for the tests that were significant. Data were analyzed using SPSS version 24.

RESULTS

Demographic

Of the 30 participants, 27 (90.0%) were employed in the southeast region of North Carolina. The other two participants were employed in the northeast and southwest regions of North Carolina One participant submitted incomplete data, resulting in a total of 29 completed

data sets. Most participants were women (*n* = 25, 83.3%), employed in federal-state vocational rehabilitation agencies (*n* = 29, 96.7%), with 10 or more years' experience as rehabilitation counselors (*n* = 13, 43.3%), less than 2 years' experience in substance-abuse counseling (*n* = 15, 50.0%), but self-reported having seven or more hours of substance-abuse training (*n* = 19, 65.5%). Their mean age was 40.3 years (*SD* = 10.97). Approximately three-quarters identified themselves as Black or African American (*n* = 22, 73.3%); the remainder identified as White (*n* = 5, 16.7%), Latino or Hispanic (*n* = 1, 3.3%), or other (*n* = 1, 3.3%).

Again, the majority of participants (*n* = 22, 73%) reported having had formal training as a rehabilitation counselor in an accredited rehabilitation education program. Among them, thirteen were Certified Rehabilitation Counselors (CRCs; 59%); one was a Licensed Professional Counselor (LPC; 4.5%); two were Licensed Professional Counselor-Associates (LPC-As; 9.1%); one was a Licensed Clinical Addiction Specialist (LCA; 4.5%), and one was a Licensed Clinical Addiction Specialist-Associate (LCAS-A; 4.5%). While thirteen participants (43.3%) reported that their agencies had policies on screening and referral for substance-use disorders, 33 percent indicated that their agencies did not have these policies, and seven participants (23.3%) did not know whether their agency had such policies.

Practice

Questions on the instrument examined prior practices related to how frequently study participants approached clients with substance-abuse disorders. As shown in Figure 1, we found that most participants monitored their clients' alcohol and drug usage (*Mean* = 4.08, *SD* = .79; *Mode* = 5); measured their readiness to improve their behaviors (*Mean* = 3.37, *SD* = 1.35, *Mode* = 4); helped them to change their behaviors (*Mean* = 3.67, *SD* = 1.12, *Mode* = 4); and documented the cases (*Mean* = 4.07, *SD* = 1.25, *Mode* = 5). However, most of them reported that they did not use a specific instrument when screening their clients (*Mean* = 1.47, *SD* = .78, *Mode* = 1). In addition, participants appeared to refer their clients to other agencies but did not always or usually do so (*Mean* = 3.57, *SD* = 1.04, *Mode* = 3).

Confidence

We measured participants' confidence related to SBIRT before the continuing education workshop using seven questions. Each question asked about confidence in providing substance- abuse screenings and referrals to clinical practices. As seen in Figure 2, participants rated their confidence from moderate to high in most areas (see Fig. 3) including monitoring (*Mean* = 4.35, *SD* = .78, *Mode* = 5); intervening (*Mean* = 3.93, *SD* = .90, *Mode* = 4); referring (*Mean* = 4.23, *SD* = .86, *Mode* = 5); and documenting (*Mean* = 3.90, *SD* = 1.09, *Mode* = 5). However, they did not feel confident to screen clients using a valid instrument (*Mean* = 2.03, *SD* = 1.00, *Mode* = 1). These results indicate that rehabilitation counselors are generally confident in dealing with clients who engage in risky substance use.

Frequency of Practice
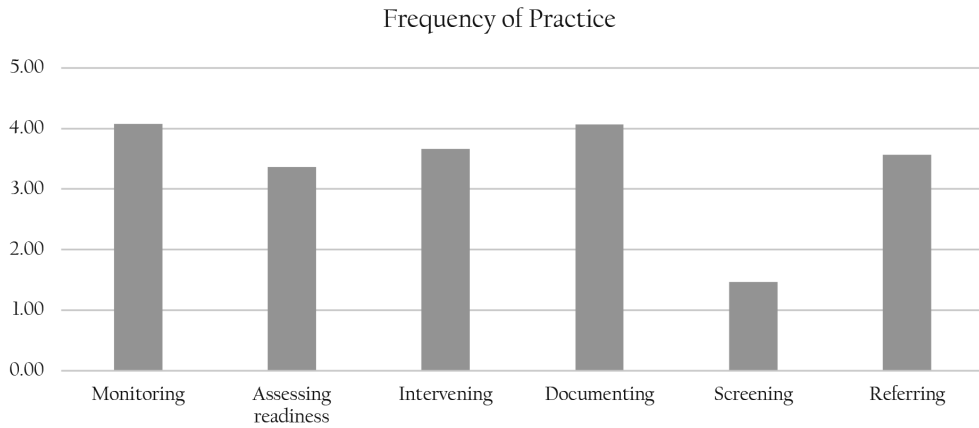
Note. Response scale 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Usually, 5 = Always

Figure 1. Frequency in approaching clients with substance-abuse disorders (n = 30)

Perceived Confidence
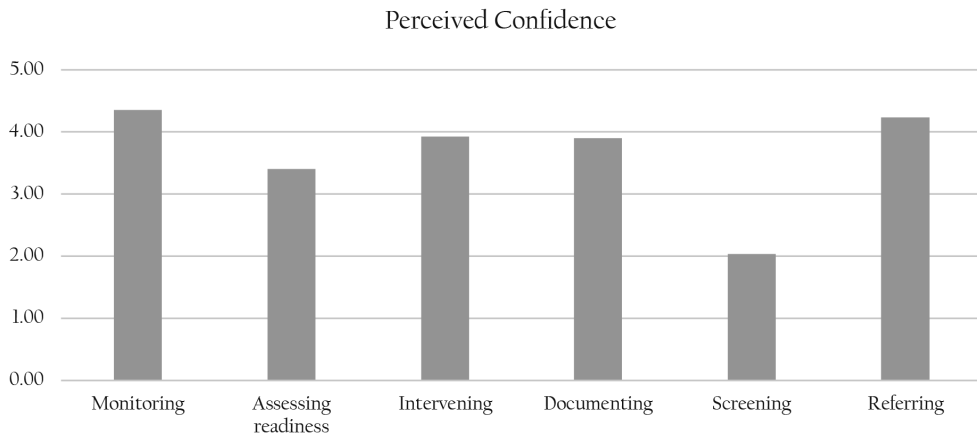
Note. Response scale 1 = No confidence, 2 = Low confidence, 3 = Medium Confidence, 4 = Moderate confidence, 5 = High confidence.

Figure 2. Perceived confidence in approaching clients with substance abuse disorders (n = 30)

Knowledge

Participants were asked to answer eighteen questions about alcohol and substance-abuse disorders before and after attending the continuing education workshop to examine the effects of the study intervention. Data on knowledge were analyzed using a paired-sample *t*-test. Results indicate that attending the workshop significantly improved participants' knowledge. The increase in their mean score from the pre- to post-test was χ=2.43. This difference is significant (*p* <.001). Specifically, the mean difference in their knowledge about alcohol disorders was =1.87 (*p* <.001); for substance-use disorders, it was χ=.57 (*p* <.05). The effect sizes for the analyses of total knowledge and substance knowledge were found to exceed Cohen's convention (Maxwell & Delaney, 2004) for a large effect (*d* = .80). The effect size for the other analysis (alcohol knowledge) was moderate (see Table 3).

Relationships Among Practice, Confidence, and Knowledge

Pearson correlation coefficients were computed to examine the relationships among three paired variables, frequency of practice, perceived confidence, and pretest score on knowledge. We found a significant positive correlation between the frequency of practice and the perceived level of confidence in servicing clients with alcohol and substance-use disorders (*r* = .717, *n* = 30, *p* <.001). However, the relationships between frequency of practice and the knowledge test score (*r* = -.23, *n* = 30, *p* =.215) and perceived confidence and the knowledge test score (*r* = -.11, *n* = 30, *p* =.570) were negative, although not statistically significant.

An independent samples *t*-test was conducted to examine the mean differences in knowledge score between the high and low practice groups as well as the high and low confidence groups (see Table 4). Results indicate that participants who reported high frequency of practice (mean = ≥3.5) and high perceived confidence (mean = ≥3.5) scored lower on the knowledge test than their counterparts, but these mean differences were not statistically significant.

DISCUSSION

Overall, this research illustrated four important points. The vocational rehabilitation counselors surveyed were: 1) knowledgeable about alcohol and substance abuse but might require more training in the area of substance use; 2) confident in their ability to screen clients for alcohol and substance use but less confident about using a formal screening tool designed to identify substance-use problems; 3) uncertain about specific policies for screening and referring consumers with substance-abuse problems; and 4) hesitant to screen for substance-use disorders due to lack of knowledge in that area. We may reasonably assume that RCs receive the training necessary to be proficient in screening and assessment processes. However, they may not have the same exposure to specialized trainings addressing risky substance-use behav-

Table 3: Mean differences between knowledge pretest and posttest.

	χ	SD	df	t	Cohen's d
Total knowledge	2.43	2.10	29	6.36***	1.16
Alcohol knowledge	1.87	1.36	29	7.53***	1.37
Substance knowledge	.57	1.41	29	2.21*	.40

***significance level at .001; *significance level at .05;   = posttest - pretest.

Table 4: Mean differences in knowledge score between counselors who report high or low frequency of practice and those who report high or low perceived confidence.

	n	Mean	SD		df	t	p
Low Practice	15	12.33	1.68	.73	28	1.02	.317
High Practice	15	11.60	2.23				
Low confidence	11	12.46	1.92	.77	28	1.03	.311
High confidence	19	11.68	2.00				

 = posttest - pretest

iors or co-occurring substance-use disorders. Therefore, although confident in their ability to screen, they may not have the knowledge to support frequent practice. Moreover, the lack of clear policies and procedures may impede their ability to engage in routine, confident, and knowledgeable formal screenings for problematic substance use.

Vocational rehabilitation counselors play a critical role in the detection of substance-abuse problems among consumers with disabilities, who show a high prevalence of mental health disorders, and frequently use substances like alcohol (Bluestein, 2008; Brown, Bennett, Li, & Bellack, 2011). That work is fundamental to the physical and psychological well-being of people with and without disabilities has been well documented (Dutta, Gervey, Chan, Chou, & Ditchman, 2008). Consumers with substance-abuse problems who seek services from vocational rehabilitation counselors are more than likely to continue experiencing difficulty in reaching their employment goals. If vocational rehabilitation service organizations fail to promote consistent use of formal screening tools, then their success rates will be hampered by consumers who do not engage with and complete their programs. Clearly, these organizations should adopt the policy and practice of routinely screening consumers for risky substance-use behaviors.

Finally, our study supports further research on broadening the practice of formalized substance-use screening in the field of rehabilitation counseling. This study was limited by the

low number of participants; a larger sample would increase generalizability. Future research should also explore how the failure to adopt policies and procedures that support the use of formalized substance screening affects the vocational rehabilitation process.

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African American Nursing Students' Perceptions of their Professional Image in the Media

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ABSTRACT

Nurses are critical for making sure patients in a healthcare setting get the best care, and the United States needs more of them. However, recruiting new nurses may become more difficult, especially because the media do not often highlight the profession. This research project conducted semi-structured interviews among African American nursing students to get their perspectives on media images of nursing and the role they play in their professional interactions. Results showed two main themes: 1) lack of an image; and 2) negative effects on intercultural interactions. This exploratory study revealed a need to continue addressing African American nurses' roles in the media.

Keywords: ▪ African Americans ▪ Healthcare ▪ Media Images ▪ Minorities ▪ Nursing Students

INTRODUCTION

Nurses help to make the US healthcare system function efficiently and effectively. The approximately three million nurses in the United States include both registered nurses (RNs) and licensed practical nurses (LPNs). Although the nursing workforce is expected to grow by more than 10 percent within the next 10 years, the projected need remains an urgent problem due to the lack of nursing education programs, the increasingly older population, and the ever-increasing prevalence of chronic diseases, such as diabetes (Health Resources and Services Administration [HRSA], 2013; US Bureau of Labor Statistics [BLS], 2019). To address the nursing shortage, health organizations and nursing schools/programs are forming partnerships.

Some are working to increase understanding of and change the overall image of nurses in the media (American Association of Colleges of Nursing [AACN], 2019). As the US population becomes more diverse, more nurses must represent the populations they serve. Currently, African Americans make up roughly 10 percent of the nursing workforce, while slightly more than 8 percent identify as Asians, and less than 5 percent as Hispanic/Latinx (*Minority Nurse*, 2020). The field also has a gender gap. Slightly less than 10 percent of all registered nurses are men, and the percentage of male LPNs is even lower. This stark lack of diversity and gender proportionality is often overlooked. The media could increase awareness of the vital roles nurses play, mitigate inaccurate perceptions, and model diversity to attract more students to the field.

The Image of Nurses

Images of nurses in the entertainment media have changed over the century. Stanley (2008) examined the portrayal of nurses in feature films since 1900 and found that the earlier films present them as "self-sacrificial" or "sexy", but more recently, they have been shown as "self-confident" (p. 91) professionals. Nonetheless, the "naughty nurse" stereotype persists (Bridges, 1990; Hoeve, Jansen, & Roodbol, 2014), perhaps due to the salacious stereotypes of women generally. In another study, Stanley (2012) looked at the representation of male nurses in films and found more stereotypes, including effeminacy and incompetence. However, in the past decade, the public is starting to see more positive images of male nurses. For example, a television commercial shows a male nurse singing to comfort a child while giving her cancer treatments (Muehlbauer, 2012), and in another, a male nurse holds hands with an HIV patient.

Many depictions of nurses show a mere doctor's helper without professional skills (Roberts & Vasquez, 2004). Gordon (2005) asserts that in the media, especially television, doctors are shown doing the duties that nurses mainly perform, including the more "angelic" roles. The often- cited Kalisch and Kalisch (1986) study of the image of nurses across mass media

platforms found nurses were represented as less relevant than doctors. In a 2020 study, Abbas, Zakar, and Fischer found that nurses in Pakistan feel the media shows the profession as less knowledgeable than physicians.

However, during 2009, new television shows placed greater emphasis on the professional roles of nurses. Among them, *HawthoRNe,* featuring an African American woman, gave the audience an opportunity to view nurses in diverse roles (McHugh, 2012). Escobar and Heilemann (2019) note that producers/directors are starting to create shows focusing on nurses who are not stereotypical. These images could help to increase patient trust. For example, Donelan, Buerhaus, DesRoches, Dittus, and Dutwin (2008) found respondents have higher levels of respect for the profession when they watched news about nurses working during tragedies.

Some reports find that the nursing image is stronger in print media (Nurses' image still needs polishing, 2007), but a recent study showed that journalists do not cite nurses as much as they do other experts in the medical field, especially in stories about health policy, and may not seek them out for interviews (Mason, Nixon, Glickstein, Han, Westphaln, & Carter, 2018). The scant representation of nurses in the media (Meier, 1999) and the ambiguous messages about them could be affecting recruitment (Cleary, Dean, Sayers, & Jackson, 2018). The public may not have a clear understanding of the role nurses play due to their media representations (Summers & Summers, 2015).

Purpose of the Study

Because the image of nurses in the media could play a role in their recruitment, the main goal of this explanatory qualitative research study is to explore how African American nursing students perceive the image of African American nurses in the media. The research questions are: 1) How do African American nursing students see their professional image in the media?; and 2) How do African American nursing students think media images of nurses affect their experiences in a medical setting?

METHODOLOGY

The research sample consists of nursing students who self-identify as African American. They were asked to respond to a questionnaire delivered in a telephone interview. Items included: 1) What do you think about the image of African American nurses in television shows, documentaries, news stories, and on the internet? 2) How would you describe the overall image of US nurses? 3) How do you think the representation of African American nurses in the media affects African American nursing students' interactions in a medical setting? Other questions addressed effective communication in the workplace and the respondent's demographics. After ensuring the clarity and readability of each question, the proposal was submitted to, and approved by, the Institutional Review Board.

In December 2014, the researchers used snowball sampling to recruit participants. A total of seven African American nursing students agreed to complete the questionnaire; in qualitative research, the saturation point can be achieved with less than 10 participants (Creswell, 2013; Guest, Bunce, & Johnson, 2006; Isman, Warsame, Johansson, Fried, & Berggren, 2013; Polkinghorne, 1989). In addition, the homogeneity of participants can be used to decide on the sample size (Sim, Saunders, Waterfield, & Kingstone, 2018). Similar responses were immediately noticeable.

Semi-structured interviews were used to collect the data, an approach often associated with exploratory healthcare research (DeJonckheere & Vaughn, 2019; Whiting, 2008). The interviewing researcher asked specific questions and let participants give in-depth responses and express their thoughts (Adams, 2010). This format permitted the interviewer to listen to responses and inquire further to understand how participants felt about the image of African American nurses in the media (Berg, 2001).

The interviews were conducted on the telephone and lasted 15-25 minutes. They were recorded and transcribed, and the researchers developed themes from the data to define patterns (Boyatzis, 1998; Creswell, 2013). They highlighted important information by color-coding the comments and discerned specific patterns that pertained to the research questions (Braun & Clarke, 2006).

RESULTS

Study participants were six women and one man, all of African descent, and aged from the early 20s to middle 40s. Four were in an undergraduate nursing program, and three were in graduate nursing programs. All had experience in clinical settings.

Figure 1 represents their perceptions of how African American nursing roles are portrayed in the media and how those portrayals could be important for their professional interactions. The word cloud, which can be used in qualitative research (DePaolo & Wilkinson, 2014; Mathews et al., 2015), shows the words most commonly used during the interviews. Besides African American and nurses, they are: differently, television, seen, like, culture, patients, and doctors. The words advance two themes 1) lack of an image; and 2) negative effects on intercultural exchanges.

Theme: Lack of an Image

Participants' responses when asked about the overall nursing image in the media reflected the feeling that the nurse is not present. Also, many commented that even when a nurse is shown, the portrayal is sometimes neither relevant nor flattering.

Figure 1. Word cloud showing participants' perceptions of media images of African American nursing roles

"I don't feel like nurses get the recognition that they deserve. I feel like nurses are seen as doctors' chauffeurs... I don't think we are seen like doctors even though we do more physical work." (Participant 2, female)

"The image is scarce. Whereas in actual life, I have seen more in terms of nursing students than what I was expecting because of what I have seen on television." (Participant 4, male)

The participants felt the Black nurse image could be harmful to their role in the profession and for recruiting efforts among the Black community.

"If I am an employer, I am watching television, and I see the depiction of the African American nurse, and she is phony and may not necessarily enjoy her job and complaining, I feel like it decreases the chances that I would hire African American nurses because of the stereotypes that I see." (Participant 2, female)

These comments show that participants feel that even when nursing roles are shown in different types of media, the image may not accurately reflect them as a professional.

> "Most people base their opinions and views on what they see and know, and if we are not shown on television, then they assume nurses are Caucasians between 18 and 35." (Participant 7, female)

Theme: Negative Effects on Intercultural Interactions

In a healthcare setting, nurses engage with people of diverse age, race/ethnicity, education, language, gender, and many other differences. Participants assert that the poor representation of Black nurses in the media can make a difference in their interactions with patients.

> "I am a mental health nurse, and I think not knowing our background and where we come from, we are assumed to be more aggressive, or we start speaking loud and [are] perceived as a threat." (Participant 7, female)

> "You have to be mindful of the way you come across, the tone that you use, the way you may look at someone because everything can be perceived differently. But, within your culture, it may be okay." (Participant 3, female)

The comments show that these nursing students feel they are viewed by some patients as aggressive. They felt that this stereotype is an inaccurate perception that they must overcome upon meeting patients.

> "You can go introduce yourself, and you can tell this patient doesn't really want to be taken care of and doesn't trust you and doesn't believe in you. The patient might ask you where did you go to school or what brought you here." (Participant 5, female)

Participants felt that these negative attitudes extended to co-workers on the nursing team.

> "I feel like we are treated differently, and we get talked to differently, and it's very noticeable. It makes you lose your focus. It makes you lose your confidence and makes you not want to ask questions or mess up." (Participant 1, female)

To deal with workplace realities related to intercultural interactions, one participant explained the importance of adaptability:

> "You have to be able to switch based on a person's culture and their health status and education level." (Participant 6, female)

One strategy the participants recognize as a tool for positive engagement in the healthcare environment is to be prepared for unsupportive exchanges with both patients and medical staff, especially during initial encounters. Furthermore, they felt effective communication is critical, and stereotypical images of African Americans could result in negative exchanges.

DISCUSSION

The semi-structured interviews with African American nursing students showed two main themes: 1) lack of an image; and 2) negative effects on intercultural interactions. The nursing students agreed that media representations of nurses, especially Black nurses, may play a role in how they are viewed, not only among patients, but also among colleagues. They indicated that both a lack of representation and misrepresentation of Black nurses could become problematic in everyday exchanges with patients. As an undergraduate participant stated:

> "I feel African American nurses aren't as confident as we should be because of the media and because of stereotypes." (Participant 1)

Feelings of being stereotyped, along with possible lack of support, especially within a clinical setting, could be challenging for nursing students at all levels. A number of studies have shown that feelings of not being supported, especially due to race, can result in negative academic outcomes for nursing students (Amaro, Abriam-Yago, & Yoder, 2006; Loftin, Newman, Dumas, Gilden, & Bond, 2012).

Helping African American nursing students feel supported in both their academic and working environment is vital for their overall success, especially because they are so needed. Studies have shown that the race and other demographic features of medical providers can determine how a minority patient responds; commonalities can translate into higher trust levels (Garcia, Paterniti, Romano, & Kravitz, 2003; Street Jr, O'Malley, Cooper, & Haidet, 2008). To support minority nurses during their academic tenure, Payton, Howe, Timmons, and Richardson (2013) advocate for providing them with mentors of the same cultural background. Mentors with similar cultural backgrounds can help students to understand their experiences in both the classroom and the clinic.

Other areas where media representations may play a role is the lack of male nurses. Even though only one male nursing student participated in the study, the comments did give some insight into feelings about the lack of Black male representations in the media, nursing schools, and the profession. The male participant stated that seeing more Black men and men in general in nursing roles would be beneficial.

> "I think it would actually help, because it would show that this is something that can be done. A lot of people take the media for a life lesson because

> if they do not see it on TV, they may think it is not possible, and that is definitely not true at all." (Participant 4)

Positive images of male nurses in the media are critical to recruiting men into the profession.

CONCLUSION

Nursing is one of the most respected professions. A Gallup poll that looked at perceptions of "ethics and honesty" among professionals showed nurses ranked first (at 84 percent), above other occupations, such as medical doctors, police officers, and even clergy (Brenan, 2018). Therefore, representations of nurses in the media should be positive. As Hall (2003) asserts, representations help to create meaning.

In this study, participants acknowledged that they felt the general lack of images of nurses in the media could hurt recruitment, which is especially concerning when we have a nursing shortage. More television programs that present positive images of nursing and nonstereotypical roles could be beneficial for recruitment (Weaver, Salamonson, Koch, & Jackson, 2013). Moreover, the lack of depiction and overall unflattering representation of African American nurses and male nurses in the media could have a lasting impact on both the ability to recruit them and their treatment in healthcare settings. Consequently, those in nursing leadership roles should work with the media and nursing programs to improve representations of African American nurses and male nurses.

The current exploratory study was designed to add to the literature on nurse representation in the media and the importance of sensitive communication about minority populations within the industry. Its limitations include the small sample group and the use of a convenience sample through snowball sampling, so the findings are not intended to be generalizable.

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The American College of Sports Medicine (ACSM) Leadership and Diversity Training Program (LDTP): Harnessing Mentorship to Diversify Organizational Leadership

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ABSTRACT

In the 21st century, exercise-related fields face the daunting challenge of addressing inactivity and chronic disease epidemics driven by vast sociodemographic disparities related to gender, race/ethnicity, socioeconomic status, and disability status. The underrepresentation of scientists and practitioners from communities with the lowest physical activity and highest chronic disease rates makes responding more difficult and diversifying the field to focus on relevant perspectives a priority. For over a decade, the American College of Sports Medicine (ACSM), the world's largest physical activity-focused professional organization, has engaged in a variety of efforts to diversify its membership and leadership. These efforts are summarized here, along with progress, lessons learned, and future plans.

INTRODUCTION

In the early 1950s, British epidemiologists demonstrated that adults in physically active occupations had lower rates of coronary heart disease than those in sedentary occupations (Morris, Heady, Raffle, Roberts, & Parks, 1953). In the 1970s, the protective effects of physical activity for coronary heart disease and stroke were documented in large prospective cohort studies of longshoremen (Paffenbarger & Hale, 1975; Paffenbarger, Laughlin, Gima, & Black, 1970) and Harvard alumni (Paffenbarger, Wing, & Hyde, 1978). The enormity of the knowledge acquired since those initial studies is illustrated by the 2018 Federal Physical Activity Guidelines, which list 26 major health benefits of physical activity with strong empirical support (Piercy et al., 2018).

Benefits range from increased bone health to lower depression and reduced risk for four of the five leading causes of premature death (Piercy et al., 2018). An estimated 6-10 percent of the global burden of chronic disease and premature death can be attributed to inadequate physical activity (Carlson, Adams, Yang, & Fulton, 2018; Lim et al., 2012), while 15 percent is attributed to poor cardiorespiratory fitness (Blair, 2009). Although chronic disease mechanisms vary, physical activity researchers are now investigating how physical activity benefits us on the molecular level (Maruvada et al., 2017).

Ironically, this growth in knowledge has coincided with steep increases in sedentary time and decreases in overall physical activity, despite modest increases in leisure-time physical activity. From 1965 to 2009, total physical activity energy expenditure—including leisure-time, household, travel, and occupational physical activity—fell by 32 percent, and weekly sedentary time rose from 26 hours to 38 hours (Ng, S. W., & Popkin, 2012). From 1980 to 2013, the number of overweight and obese individuals increased from 857 million to 2.1 billion, a 245 percent increase (Ng, M., et al., 2014), and diabetes prevalence in the United States rose 355 percent, from 0.2 percent to 7.1 percent (Geiss et al., 2014). According to self-report, roughly half of adults in the US meet physical activity guidelines (Marquez, Neighbors, & Bustamante, 2010), but when device-based assessments are used, fewer than 8 percent do (Troiano et al., 2008).

Compounding low rates of adherence are vast disparities by gender, race, ethnicity, and socioeconomic status (Hawkins et al., 2009; Troiano et al., 2008). For example, 50 percent of Latinas report participating in zero minutes of leisure-time physical activity (Marquez et al., 2010). The identified disparities in physical activity mirror disparities in obesity and chronic disease rates. The magnitude of these disparities is so large they cannot be disentangled from

the overall obesity, chronic disease, and physical inactivity epidemics (Murray, Kulkarni, & Ezzati, 2005). For example, the estimated obesity rate among Asian-Americans is 11 percent, while the estimated obesity rate among African Americans is 48 percent (Ogden, Carroll, Kit, & Flegal, 2014).

Addressing these epidemics and the disparities driving them is especially daunting because the population subgroups with the lowest physical activity and highest chronic disease rates are also underrepresented in science and medicine. According to the National Center for Science and Engineering Statistics (NCSES, 2019), racial/ethnic minority groups underrepresented in science and engineering include Hispanics or Latinx, blacks or African Americans, and American Indians or Alaska Natives. Taken together, these groups constitute ~28 percent of the US population but receive only 9 percent of science and engineering doctoral degrees. Similarly, women make up 52 percent of the US population but hold only 38 percent of academic doctoral positions. Efforts to increase the number of diverse researchers and clinicians are unlikely to yield the desired results unless the racial gaps in professional pipelines are addressed through organizational networking and training activities.

THE AMERICAN COLLEGE OF SPORTS MEDICINE (ACSM)

Founded in 1954, the American College of Sports Medicine (ACSM) is the world's largest and most influential physical activity-focused professional organization. It has more than 50,000 members from 90 countries spanning more than 70 physical activity-related professions. The ACSM "advances and integrates scientific research to provide educational and practical applications of exercise science and sports medicine" with the ultimate goal of "helping people worldwide live longer, healthier lives" (ACSM, 2019). Its signature initiatives reflect this goal. The Exercise is Medicine® Global Health Initiative works to integrate the fitness and healthcare industries (Lobelo, Stoutenberg, & Hutber, 2014), and the American Fitness Index® ranks and compares the health-related behaviors, outcomes, policies, and infrastructure of America's 100 largest cities (ACSM, 2019; Patch, Zollinger, Coffing, Zollinger, & Ainsworth, 2019). Each year, more than 6,000 health professionals, scientists, and clinicians attend the ACSM Annual Meeting, with an additional 5,000-7,000 attending the annual meetings of its ten regional chapters.

In 1995, the ACSM made its most widely known contribution, partnering with the Centers for Disease Control and Prevention (CDC) to author the original Physical Activity Guidelines for Americans (Pate et al., 1995). They recommended that adults accrue 30 minutes of moderate-to-vigorous physical activity on most, preferably all, days of the week. A decade later, ACSM partnered with the American Heart Association (AHA) to update the guidelines (Haskell et al., 2007). The new guidelines, recommending 150 minutes per week of moderate-to-vigorous physical activity for adults (Haskell et al., 2007), have been carried

forward with modest adjustments in federal guidelines published in 2008 (DHHS, 2008) and updated in 2018 (DHHS, 2018; Piercy et al., 2018).

Hence, ACSM members have been at the forefront of global efforts to stem the physical inactivity and chronic disease epidemics for decades. They have conducted and disseminated thousands of research studies and synthesized findings to inform public health guidelines and campaigns. However, we have failed to move the needle at a population level, in part, because it requires addressing the health of subgroups historically underrepresented among our members. In response, the ACSM has sought to diversify its membership and leadership.

ACSM DEMOGRAPHICS AND DIVERSITY EFFORTS

The ACSM is composed largely of academic and medical professionals, and its membership mirrors the demographics of these fields. According to 2008 reports, 55 percent were men; 82 percent Caucasian, 8 percent Asian, 5 percent Hispanic, 4 percent African American, and <1 percent Arabic, Hawaiian, or Native American. The leadership was more homogeneous. The organizational structure consists of paid staff, administrators, volunteers, and fellows, who can be nominated to serve as elected officers (i.e., vice-president and president), elected trustees, or president-appointed committee chairs and members. ACSM fellowship is an elite status for long-term professional members, intended to recognize distinguished achievement in research and/or service to the profession and to encourage continued service to the ACSM in leadership roles. Fellowship is attained through a formal application and assessment process, and minimal requirements include a doctoral degree. In 2009, 82 percent of the 1,329 ACSM fellows were men. The demographic differences between members and fellows are stark; for example, in 2008-2009, 45 percent of members but only 18 percent of fellows were women. These disparities are a barrier to diversifying the organization's leadership since only fellows are eligible to serve.

Efforts to achieve racial-ethnic diversity in ACSM membership and leadership have a decades-long history, and recently, they have extended to socioeconomic background, gender, and disability status. Below, we focus on the ACSM's institutionalized efforts over the past decade, especially its signature Leadership and Diversity Training Program (LDTP). In 2003, ACSM President-Elect W. Larry Kenney, made diversity his platform. Dr. Kenney, a white man, brought his three African American children on stage during his presidential address and said to the crowd, "I want to tell my children that they too can one day be President of ACSM, but looking at our history I can't tell them that. I think it's time for that to change." He followed through by establishing the Task Force on Diversity Action.

THE ACSM LEADERSHIP AND DIVERSITY TRAINING PROGRAM (LDTP)

Current ACSM President and co-author Dr. NiCole Ruth Keith conceived the LDTP. In 2005, she had been an ACSM member for 14 years but was never able to access senior leadership and had experienced some difficult moments as one of very few black members. At the annual meeting, Dr. Keith's husband, Mr. Floyd A. Keith, was scheduled to discuss potential collaborations that could assist in diversifying ACSM with Drs. Bill Roberts and Bob Sallis, who would respectively become ACSM president and president-elect the following evening. Mr. Keith was Executive Director of the Black Coaches and Administrators Association, which was coincidentally having its conference in the same location. Also by coincidence, Dr. NiCole Keith shared an elevator with Drs. Roberts and Sallis—she was on her way to her room, and they were headed to meet with her husband. When they learned she was an ACSM member and Mr. Keith's wife, they invited her to join the meeting. Dr. Keith readily shared several ideas about increasing ACSM diversity.

Following the meeting, Dr. Roberts invited Dr. Keith to sit at his table during his inaugural dinner. She recalls that the only other people of color she could see in the room were Dr. Kenney's three children. At the 2006 annual meeting, Dr. Roberts invited Dr. Keith to join him for many events and introduced her to members of his professional network. In 2007, Dr. Sallis appointed Dr. Keith to chair the Ad Hoc Committee on Diversity Action, where her experiences with Dr. Roberts served as a blueprint for the LDTP.

Today, the LDTP works to mentor and retain members from minority groups underrepresented in medicine and science. Participants, termed *protégés*, must be ACSM members, involved in regional and national ACSM meetings and committees, presenting and publishing their findings, and pursuing ACSM fellowship. They are assigned mentors and granted funding to perform the steps necessary to remain involved with ACSM from student membership to the achievement of fellowship. Emulating Dr. Keith's experience in 2006, protégés are familiarized with the ACSM structure and decision-making apparatus, shown a path to fellowship, and connected with support networks that can help them to achieve their next career step. After over a decade of iteration, the defining characteristics of the LDTP structure are:

- Eligibility corresponds with the National Institutes of Health (NIH) definitions of minority groups underrepresented in science (NIH, 2019).
- Applicants are grouped into three levels—(1) Master's students, (2) doctoral students, and (3) postdoctoral trainees and junior faculty—and two categories—previous participants and new applicants.
- The assessment process is structured.

  1. At least two Diversity Action Committee members score applications based upon applicants' productivity, their articulated vision for future

contribution to the College, and their ongoing participation and service to the College.

2. The three highest scoring applicants at each level are accepted (nine slots), and the remaining applicants are rereviewed independently by three committee members and compete for the remaining eleven slots. Ten of the 20 slots are reserved for new applicants each year.

3. Applicants not receiving awards are invited to discuss ways to strengthen their application for the following year during a phone call with the LDTP Director.

- Awarded applicants are paired with an ACSM fellow based upon their mutual professional interests and region; 32 percent of mentors have been past presidents or vice-presidents.
- The pair enter into a formal mentor/protégé relationship with instructions, expectations, and shared activities defined prior to the upcoming ACSM annual meeting.
- Protégés receive full funding to attend the annual meeting, including flights, registration, hotel, and a per diem for meals.
- Throughout the 5-day annual meeting and scientific sessions, mentors are charged with bringing their protégés to all of their meetings and introducing them to their professional networks. Protégés are charged with sharing their goals and plans with their mentors and joining them for meetings and activities. Mandatory activities, which differ by career stage, are intended to familiarize protégés with the ACSM organizational structure and practices as well as the path to fellowship.
- Following the annual meeting, $500 is budgeted for each participant to visit the mentor's campus, research facility, or medical center during the year of the award.
- Participants are encouraged to re-apply each year for up to 5 years, or until they achieve fellowship, and to stay with the same mentor until awarded fellowship.

Full documentation, including application forms, scoring rubrics, activities by level, mentorship instructions, protégé instructions, and orientation presentations are available upon request by contacting the corresponding author (EEB).

The LDTP format is intended to generate strong bonds between protégés and mentors as the dyadic relationship evolves across years and career stages and with the ACSM, as they both become further invested in its mission. Each cohort is also expected to network with and support one another. We have continually observed mentors and protégés connecting across dyads; for example, many protégés develop strong nationwide networks with other protégés at more advanced career stages.

In our view, the features of the program that have led to success include: (1) the focus on relationships between and across protégé/mentor pairs; (2) their maintenance across career phases; (3) the structured activities with expectations communicated directly and clearly; and (4) the distribution of workload to avoid burnout among volunteer and professional staff.

The first feature—the mentor/protégé relationship—is primary in the protégés' experience. It facilitates their understanding of the structures and goals of the organization and enables them to see a leadership role for themselves and a path to get there. Participants often try a few mentors before finding the right fit, but once it is found, we have seen profound and lifelong relationships build. A knowledgeable network to help them navigate the pursuit of professional success in such a competitive field, where each career stage brings new challenges and requires adaptation, has unique value for underrepresented minority trainees.

The importance of the second feature—long-term maintenance of the mentor/protégé relationship—emerged unexpectedly. It evolves from year-to-year, moving from superficial introductions to the College in the first year to shared investment and professional collaborations in years 3 to 5. Eventually, the partners feel a sense of accomplishment, responsibility, and pride as the protégé becomes a fellow and the mentor's peer. This experience is built into university science and medicine doctoral programs, but gaining a mentor with no occupational incentive to steer the protégé's career in any specific direction is tremendously beneficial for protégés.

The third feature—clearly defined structure and communication—has proven profoundly important. Across hundreds of participants, we see a full range of abilities to establish and maintain relationships, exert effort, and engage with activities. Many mentors and protégés benefit from written instructions and expectations. These are operationalized through a 1-hour orientation for protégés on the first morning of the annual meeting in which expectations are reviewed and discussed in-person, and a Meet Your Mentor event on the first night, when initial introductions occur and expectations are briefly reviewed. In addition to the LDTP Director, a coordinator assigned to each level checks in on protégés and mentors and is available for troubleshooting when inevitable difficulties arise.

Finally, as in all volunteer efforts, a small group tends to take on a disproportionate amount of the work and, in time, burns out. The structure we have put into place—a director separate from the chair and three coordinators, one for each level—distributes the work and leadership. Many individuals carry a sustainable workload and get credit and recognition for their efforts. The structure is reinforced by the chair, Dr. Michael Brown (co-author), and the staff liaison, Ms. Chris Sawyer (co-author).

ACSM LDTP OUTCOMES AND DIVERSITY PROGRESS

To date—May 2020—102 individuals have participated in LDTP: 71 percent remain ACSM members; 16 have achieved fellowship status; six alumni have been elected to the Board of
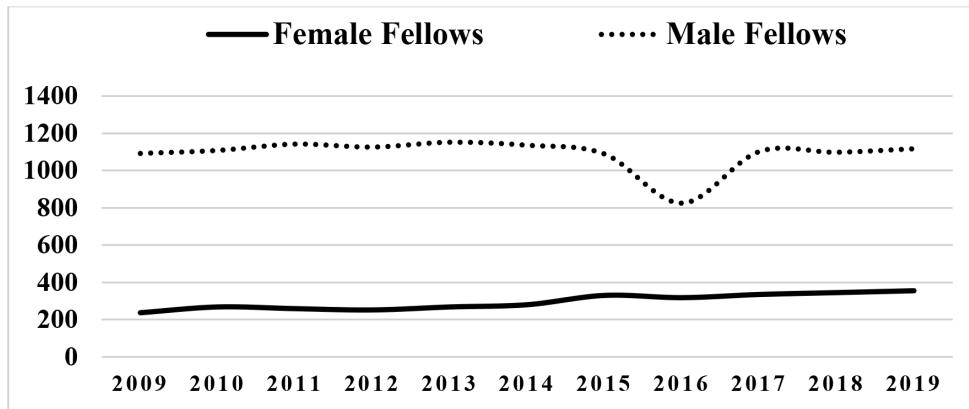
Figure 1. ACSM Fellows by Gender (2009–2019)

Trustees; and two alumni have served on regional chapter boards. Many more participants are still in the pipeline. Figure 1 shows the number of ACSM fellows by gender over the past decade. The total number of fellows has risen from 1,329 to 1,472, and the number of women has risen from 237 to 355, a 33 percent increase. Data on race are self-reported and under-reported, and due to ACSM's international membership, knowing the race of all members is impossible. However, each year since the inception of LDTP, we have observed an increase in the number of new fellows from underrepresented minority groups.

Figures 2 and 3 show ACSM member demographics from 2008 to 2019 by gender and race/ethnicity. Over the past decade, the number of members has risen from 20,007 to 22,128, and the proportion of female members has risen from 45 to 50 percent. Only 19 to 39 percent of members report race/ethnicity in a given year. Among those who do, the proportion of members identifying as Asian has increased from 8 to 10 percent; Hispanic from 5 to 7 percent, and African American from 4 to 7 percent. Arabic, Hawaiian, and Native American membership remains below 1 percent.

Finally, over the past decade, half of the ACSM Board of Trustees have been women. Trustees are elected as representatives of their membership category, including Medicine, Basic and Applied Science, and Education and Allied Health. Some elected trustees independently represent international members and students. In 2016, the position of Diversity, Equity, and Inclusion (DEI) trustee was established to ensure that the board always has three members who are attentive to DEI considerations when decisions are made. In 2009, Dr. Keith became the first member of an underrepresented minority group to be elected to the Board of Trustees. In the ten years since, seven underrepresented minority members have been elected, five of whom were former LDTP participants.
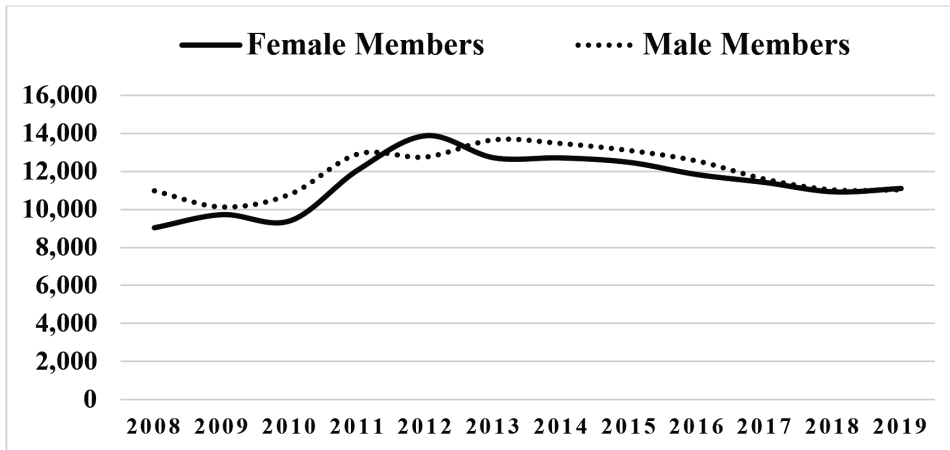
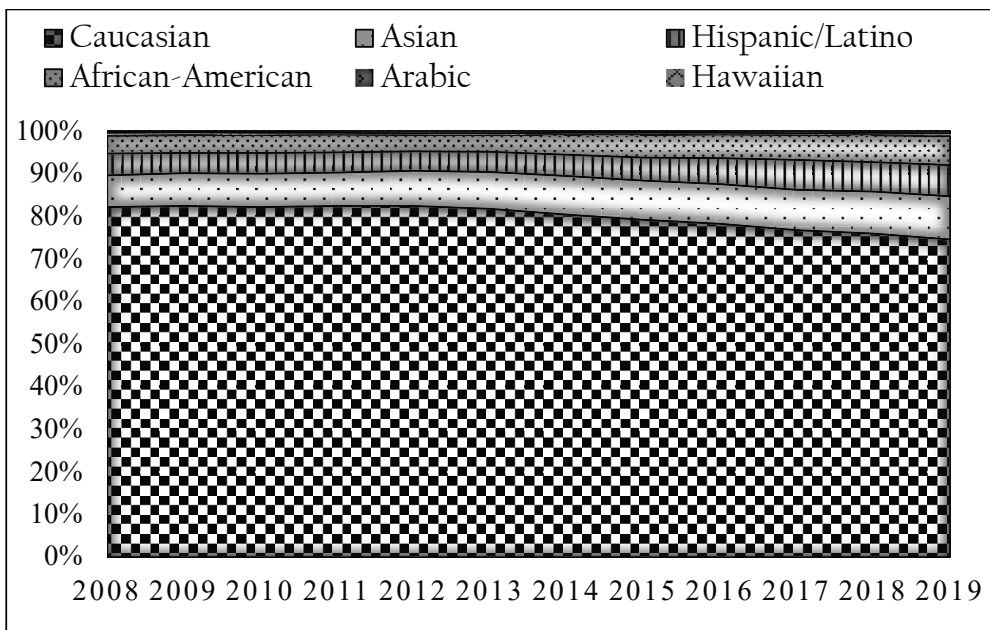Figure 2. ACSM Members by Gender (2009–2019)

Figure 3. ACSM Members by Race/Ethnicity (2008–2019)

MENTORSHIP AS A PART OF COORDINATED DIVERSITY PROMOTION

We do not contend that the ACSM's gains in diversity are solely due to the LDTP or the Diversity Action Committee. With few years and relatively small numbers (20 participants per year, 10 repeat and 10 new), the LDTP has the potential to groom future officers and trustees in the coming decades but not to shift the demographics of 20,000 members. Rather, any larger gains are due to many concurrent, integrated efforts and societal trends. Table 1 provides an overview of past and ongoing ACSM diversity-focused programs, initiatives, and policies; they represent the platforms of several past-presidents, including Drs. W. Larry Kenney, Barbara Ainsworth, Lawrence Armstrong, Walter Thompson, and current President NiCole Keith. Efforts have included the establishment of an organization-wide diversity statement, mentorship programs, an annual diversity symposium, an annual diversity reception, an annual women's breakfast, monitoring the demographics of members and leaders, monitoring DEI-related programming, and a professional network for alumni of ACSM mentorship programs.

Beyond this broad suite of programs and activities, we have also focused on integrating efforts. For example, all LDTP applicants who are not awarded participation in a given year have been referred to the Federation of American Societies for Experimental Biology (FASEB) Maximizing Access to Research Careers (MARC) Dream program, a mentorship program associated with the 30-year-old travel awards program discontinued by the federal government in 2020 (FASEB, 2019). Similarly, LDTP mandatory activities include the Annual Diversity Reception, the Annual Joint Symposium on Diversity, the Minority Health and Research Special Interest Group meeting, and the Diversity Advancement Network (DAN) meeting. The DAN organizes the over 200 protégés who have participated in various ACSM mentorship programs into four working groups on (1) communications, (2) research, (3) outreach and networking, and (4) professional development. One aim is to extend our pipeline to the undergraduate level by reaching out to students at ACSM regional meetings.

OVERCOMING OBJECTIONS AND BUILDING CONSENSUS

ACSM members and leaders have discussed and debated the initiatives described above. Each effort has direct costs, indirect costs in the form of volunteer and staff time, and an opportunity cost since each dollar and hour put toward diversity is not put toward other worthy pursuits, including scientific discovery and health promotion, which is the ACSM mission. Acknowledging these costs, the ACSM is fully invested in diversifying. We have achieved broad support by having difficult conversations honestly and consistently. Intelligent individuals who are deeply invested in the ACSM have raised legitimate, well-founded concerns and questions, including: (1) How can we justify spending a minute of time on diversity when

Table 1: Past and Current ACSM Diversity Activities

Activity	Years	Description
Leadership and Diversity Training Program (LDTP)	2008-Present	The LDTP aims to retain and advance members from groups underrepresented in science by offering mentoring to Master's students, doctoral students, and postdoctoral trainees and junior faculty. They must be ACSM members, involved in regional and national ACSM meetings and committees, delivering ACSM professional presentations and publications, and pursuing fellowship.
FASEB MARC Dream Program	2015-2020	The FASEB MARC travel award helps to defray costs related to ACSM meeting attendance. It pairs applicants with mentors and structured activities to familiarize them with the College.
Mentoring Women to Fellowship (MWF)	2016-Present	The MWF program pairs female ACSM members who have doctorates but are not yet fellows with a fellow who mentors them in navigating the fellowship process.
Joint Symposium on Diversity	2008-Present	The Annual Joint Symposium on Diversity partners with an external organization to provide a cutting-edge presentation on diversity at the ACSM annual meeting. Past partners include the Robert Wood Johnson Foundation and the National Research Mentoring Network.
Monitoring membership and diversity-related programming	2018-Present	The Diversity Action Committee monitors organizational demographics and diversity programming related to such topics as health equity, health disparities, and underrepresented minority groups.
Diversity Advancement Network (DAN)	2018-Present	The Diversity Advancement Network is composed of the 200+ alumni of ACSM mentorship programs and works to connect and support them and to expand recruitment efforts.
Exercise is Medicine® Underserved Populations Committee (EIM USP)	2010-Present	The EIM USP supports the broader EIM Global Initiative to ensure that underserved populations receive the benefits of the overall EIM effort.

(continued)

Table 1: Past and Current ACSM Diversity Activities (continued)

Activity	Years	Description
Strategic Health Initiative on Health Equity	2011-Present	Informed by Dr. Barbara Ainsworth's presidential platform—Healthy, Inclusive, Active—the initiative focuses on increasing health equity and eliminating health disparities. ACSM is partnering with several national organizations to develop strategies to increase health equity.
Minority Health & Research Special Interest Group (MHR SIG)	2001-Present	The MHR SIG connects researchers and practitioners interested in minority health to facilitate research collaboration and presentations at the annual meeting.
Strategic Initiative for Women's Health	1994-Present	The Strategic Health Initiative on Women, Sport, and Physical Activity addresses current concerns through clinical practice, research, public information, leadership/ mentoring programs, and advocacy. The committee also manages the MWF program and the women's breakfast.
Annual Diversity Reception	2007-Present	Each year, mentor-protégé pairs from LDTP, FASEB MARC Dream, and MWF are recognized at a reception. All past and current presidents, vice-presidents, and trustees receive invitations
Josephine L. Rathbone Memorial Breakfast	1982-Present	This breakfast serves as a tribute to the extraordinary women involved with the college. Josephine L. Rathbone was the only female founder of the college. A true trailblazer for ACSM, the breakfast honors her remarkable life.
Three Trustee Positions Dedicated to Diversity and Inclusion	2017-Present	Each year, members elect one trustee to focus on diversity and inclusion. There are no demographic restrictions for candidates. Each elected trustee holds a three-year term. Therefore, in any given year, three individuals are present in this position.

that minute could be used to collect data or treat patients? (2) How can we spend finite money on diversity efforts when that money could be used to pursue more direct ACSM goals? (3) As we diversify demographically, what if we also diversify our goals and waste time fighting about which direction to go? (4) As we diversify, what if we lose the culture and norms that have made ACSM so successful?

These questions led us to seek professional consultation, to investigate the scientific literature on organizational diversity, and to think through how best to design our diversity efforts to achieve our organizational mission and avoid potential pitfalls. That is, accepting and working through the objections has led to stronger, more comprehensive, more thoughtful, and more robust approaches to organizational diversity. Among the factors sparking widespread support are: (1) close bonds between scientists, clinicians, and practitioners, who respect and value each other's expertise and accomplishments and have long histories of collaboration; (2) trust in the leadership and in one another to pursue the ACSM's best interest; (3) clearly articulated, shared goals, which all members embrace with a sense of purpose and urgency, and which are communicated clearly to all mentorship program participants; (4) most members' desire for the organization to become more inclusive and representative; (5) the clear connection between membership and leadership diversity and promoting health and physical activity, our primary goals; (6) the scientific literature demonstrating that diverse groups have advantages over groups of like-minded experts in predicting and solving problems where diversity is relevant (Page, 2008); and (7) the framing of diversity initiatives as part of the organization's broader growth strategy; diversity is not a zero-sum game but crucial to expanding our size and influence.

CONCLUSION

The ACSM diversity statement reads:

> ACSM is committed to diversity. ACSM values and seeks diverse and inclusive participation within the fields of exercise science and sports medicine. It promotes expanded diversity in membership, involvement, and access to leadership. Diversity within ACSM creates a working and learning atmosphere that encourages varied perspectives and an open exchange of ideas. ACSM will review programming annually to best determine how to maintain diversity initiatives.

In pursuing the realization of this vision, ACSM has deployed a large, sustained effort. The LDTP has been an indispensable tool. Seeing the protégés develop and contribute has deepened ACSM's culture of industrious volunteers with a shared passion for scientific discov-

ery and health promotion. We cannot imagine separating diversity from mentorship. Each mentor instills the values of science and medicine while showing the protégé a path toward professional contribution. Sustained mentorship develops leaders among populations who otherwise may be excluded, ensuring that their insights and experiences are brought to bear on the problems organizations wish to solve.

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Tips for Building a Pathway to Medicine for Underrepresented Minority Students

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ABSTRACT

Racial and ethnic minorities will account for the majority of the US population by the year 2045. More physicians of color are urgently needed to attenuate the growing health disparities between ethnic populations. While the number of available medical school seats has increased by over 25 percent in the last decade, admission of underrepresented racial and ethnic minorities has stagnated. Blacks, Hispanics, and American Indians combined represent 33 percent of the US population yet account for only 13 percent of admitted students. Medical pathway programs are a popular strategy for diversifying representation, but the elements that make them successful have not been precisely defined. This article provides detailed suggestions on how to establish and maintain a pathway program for underrepresented minority students interested in medicine.

Keywords: ▪ Pathway Programs ▪ Medical Education ▪ Underrepresented Minorities ▪ Pipeline

INTRODUCTION

Within 25 years, racial and ethnic minorities will outnumber non-Hispanic Whites in the US population (Colby & Ortman, 2015). Minorities currently account for nearly 40 percent, and as this value continues to rise, health professionals will become responsible for people from a vast range of sociocultural backgrounds (US Census Bureau, 2019).

Research shows that patients treated by racially concordant providers demonstrate better health outcomes, yet Blacks, Hispanics, and American Indians combined currently account for just one-tenth of all US physicians (Acosta, Poll-Hunter, & Eliason, 2017; Xierali & Nivet, 2018). One factor contributing to the dearth of minority physicians is their disproportionately low acceptance rate into medical schools (AAMC, 2019; Acosta, Poll-Hunter, & Eliason, 2017). In the last decade, the number of available medical school seats has increased by more than 25 percent, yet Blacks, Hispanics, and American Indians combined represent only 13 percent of admitted students (Acosta, Poll-Hunter, & Eliason, 2017; Xierali & Nivet, 2018). The Association of American Medical Colleges (AAMC, 2019) identifies these three groups as "underrepresented minorities", or racial and ethnic populations whose employment in medicine is incommensurate "relative to their presence in the general population."

To decrease the diversity gap, several universities have implemented pathway programs to prepare minority students for success as prospective medical students (Gardner, 2018). While many of these initiatives have existed for decades, published information describing how an institution develops, implements, and evaluates a premed pathway for underrepresented minorities is limited. As the Sullivan Commission on Diversity in the Healthcare Workforce reported, racial and ethnic minority students' education is often of considerably lower quality than non-Hispanic White students' (Sullivan, 2004). The effects are often reflected in poorer performance on standardized exams and lower graduation rates (Thernstrom, 2002). Pathway programs aim to provide the additional support—mentoring, counseling, and skill building— needed to overcome barriers faced early on in the health education pipeline (Sullivan, 2004).

The University of Miami Miller School of Medicine has offered high school and college pathway programs for over thirty years. Aligned with our university's mission, these programs are designed to prepare diverse applicants to apply to, and succeed in, medical school. Support for the development and expansion of our training programs has significantly increased the diversity of our own medical school classes. For example, in 2015, our graduating class had 33 underrepresented minority students; in 2019, there were 63.

As we continue to refine the content in our programs, we recognize the importance of describing them, disseminating guidance, and sharing lessons learned. Based on our experience, we offer a series of tips for initiating and administering medical pathway programs that foster the holistic development and academic potential of underrepresented minority students.

STAGE I: PLANNING

Tip 1: Define Program Objectives Aligned with the Institutional Mission

The content and design of your premed pathway should reflect your institution's vision and mission. Clearly defined objectives help instructors to establish course-specific learning outcomes and students to determine their personal academic needs. They also provide measures of success that mirror the core values of medical education. For example, our mission at the University of Miami Miller School of Medicine is to transform lives through education, research, innovation, and service. Accordingly, our pathway programs are designed to address each of these four pillars. Each of our programs, ranging from high school to graduate-level education, is rooted in cognitive science research on how students learn, providing learners and instructors with a measurable framework. Our students participate in a research methods course and must identify a research topic of interest to an underserved population. By conducting research, students learn basic research skills, grasp the importance of clinical research in advancing patient care, and increase their awareness of research collaborations in community medicine (Laidlaw, Aiton, Struthers, & Guild, 2012). Equally important, aligning pathway goals with institutional goals prompts leadership buy-in, contributes to the organization's educational resources, and helps to ensure program credibility and sustainability.

Tip 2: Determine Financial & Human Capital Needs

Arguably, the most important step in establishing your pathway is determining the necessary human and financial capital, which extend beyond the costs of administrative structure and curriculum development. Before design, development, and recruitment can begin, conduct a needs assessment to determine the current status of your resources. Personnel who can dedicate time to the program and time-intensive planning and recruitment efforts are critical for successful implementation and prevention of financial loss. In our experience, working with a limited staff often means that each team member must play many roles. For example, one person may be responsible for program assignments, daily correspondence, online announcements, and organizing the schedules of between 50–100 research assistants, students, and faculty members.

At UMMSM, our Office of Diversity & Inclusion is a six-person team responsible for the planning and execution of four summer pathway programs. Each serves 25 students at various points in their secondary or postsecondary education. For a group of our size, the commitment is easily 25–40 hours per week in addition to our standard administrative and faculty roles.

Expenses, such as printing, promotional gear, and mileage, also affect the bottom line. Table 1 summarizes the administrative cost per student associated with each of our current

Table 1: Summary of Administrative Costs per Student for Office of Diversity & Inclusion Pathways at the University of Miami Miller School of Medicine.

.	Careers in Medicine (HS)	MCAT Preparation	Minority Students in Health Careers
Target Group	Rising Seniors	Undergraduate & Graduate Students	Undergraduate & Graduate Students
Program Length	7 weeks	8 weeks	7 weeks
Description	- Nonresidential	- Nonresidential	- Residential
	- Promotes health sciences interest	- KAPLAN MCAT prep	- Enhances student strengths & competitiveness
	- Core science curricula		
	- Science of learning	- Science of learning	- Core science curricula
	- Financial aid advising		- Science of learning
		- Med school application guidance	
		- Mock interviews	- Med school application guidance
		- Physician shadowing experience	
			- Mock interviews
			- Physician shadowing
Cost	**- $5,400**	**- $5,400**	**- $7,000**

pathway programs. It includes books, meals, transportation, housing, scrubs, and related supplies. In designing our programs, we recognized that the cost of a 6-8-week immersive prep program could severely limit our recruitment efforts. Providing stipends to address such barriers demonstrates our deep institutional commitment. Without first itemizing an operating budget, effectively executing such a time- and labor-intensive program is nearly impossible.

External funding sources can help you to fulfill your institution's pathway vision. Many colleges and universities face increasing financial pressures. To ensure our students were fully equipped with the resources our programs promise, our dean of diversity, with the support

Miami-Dade Population by Race, 2019 ▲

◼ Black/African American, 17.9% ◼ American Indian, 0.3% ◻ Asian, 1.7% ◻ 2 or More Races, 1.2% ◼ Hispanic/Latino, 69.1% ◻ White, 13%

2019 Pathway Enrollment by Race

◼ Hispanic/Latino, 34% ◼ Black/African American, 56% ◻ Asian, 2% ◼ American Indian, 0% ◻ 2 or More Race, 8% ◻ White, 0%

▲ U.S. Census Bureau. QuickFacts. Miami-Dade County, Florida; United States. 2019. Available from: census.gov/quickfacts/fact/table/miamidadecountyflorida,US/PST045219#qf-flag-Z
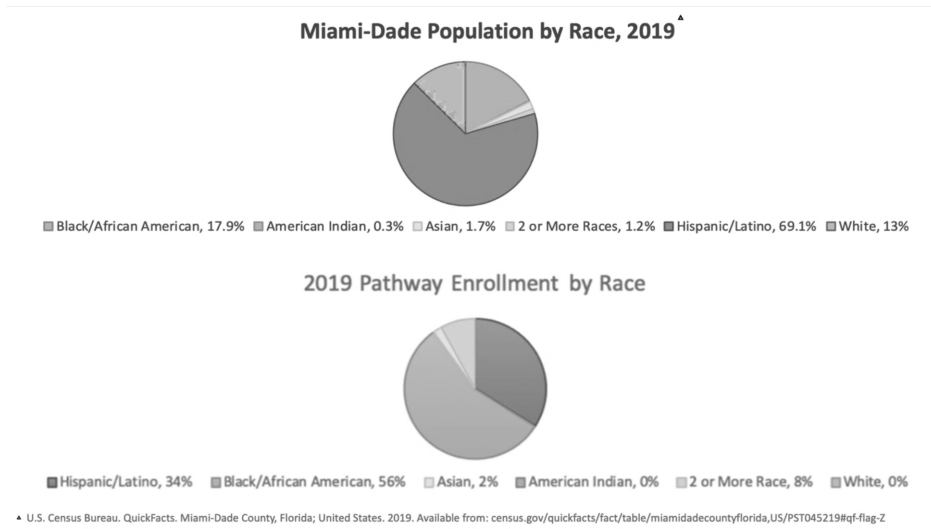
Figure 1. Racial Breakdown of the 2019 Miami-Dade County Population and 2019 Summer Pathway Classes at the University of Miami Miller School of Medicine.

of our Office of Development, secured a grant from the US Health Resources and Services Administration (HRSA). Federal grants and foundation gifts provide capital, prestige, and publicity to support your program.

Tip 3: Establish Specific Enrollment Goals

Pathway programs aiming to increase racial diversity in medical providers should establish specific enrollment goals based on the communities your institution serves. For example, as Figure 1 shows, Miami, Florida, is a majority-minority county: nearly 90 percent of the city's population identifies as underrepresented minority (US Census Bureau, 2019). In stark contrast, as few as 13 percent of our admitted students are from underrepresented minority groups (Acosta, Poll-Hunter, & Eliason, 2017). Research demonstrates that minority practitioners are more likely to work in underserved areas and increase their access to healthcare (Alsan, Garrick, & Graziani, 2019; Laurencin & Murray, 2017). Increased diversity among providers can increase the number of stakeholders engaged in establishing quality-care policies and innovative studies on the factors that contribute to health disparities. To achieve these ends, pathway programs must recruit a student body representative of the communities we serve.

Reflecting the racial composition of Miami-Dade County, over 95 percent of students in UMMSM pathway programs are underrepresented minorities who identify as Hispanic/Latinx and/or Black/African American. To achieve this diversity, pathway program administrators strategically collaborate with teachers, counselors, and principals at schools with large diverse populations to encourage applications from promising students potentially interested in a medical career. We are often invited to select schools to offer an in-person presentation that includes a Q&A session with a current medical student who participated in the pathway program. Potential recruits can see how participation will prepare them for success in the medical school application process.

STAGE II: IMPLEMENTATION

Tip 4: Develop Evidence-Based Scholastic & Extracurricular Lessons

Building appropriate curricular content for a medical pathway program should be grounded in the institution's vision of a modern physician's learning profile and the students' prior content knowledge and the competencies required to prepare them for the next stage in their academic pursuits and lifelong learning. Our course content was guided by Thomas & Kern's Six-Step Approach to Curriculum Development: (1) problem identification, (2) targeted needs assessment, (3) goals and objectives, (4) educational strategies, (5) implementation, and (6) evaluation and feedback (Thomas, Kern, Hughes, & Chen, 2016). Our curricular design considers each student's personal abilities, gender and sociocultural identity, extracurricular interests, and perception of teaching and learning.

To deliver a coherent curriculum across disciplines, adopting an educational theory framework is necessary. Our program administrators and instructors agreed to incorporate the principles of self-regulated learning theory into our instructional strategies. This theory correlates positively with academic achievement (Zimmerman, 1990) and facilitates evidence-based approaches to both teaching and learning (Cleary & Zimmerman, 2012). As a socio-cognitive construct, self-learning theory can be described as the strategic application of motivational, behavioral, and metacognitive strategies to achieve intended learning outcomes (Cleary & Zimmerman, 2012). Self-regulated, active-learning methods can be taught with task strategies from the learning sciences, such as spaced retrieval practice (i.e., self-testing at regular intervals) and interleaving (i.e., studying various subjects in a review session), which have been shown to increase long-term retention (Brown, Roediger III, & McDaniel, 2014). Placing evidence-based learning and teaching strategies at the core of curriculum development and implementation levels the playing field for socioeconomically disadvantaged students by providing them with efficacious educational opportunities that are often limited for schools in low-income districts (Goldhaber, Lesley, & Theobald, 2014).

Tip 5: Build Your Program on Student Strengths, Not Deficits

When recruiting and preparing low-income minority students for academic medicine and STEM fields, programs must prepare for the heterogeneity and complexity of their backgrounds and experiences. Johnson and Bozeman (2012) emphasize the multilayered and interrelated challenges students face. They suggest building "asset bundles", defined as the specific set of abilities and resources that help individuals to succeed in educational and professional tasks, including, but not limited to, science and research.

Instead of focusing on shortcomings that students must remedy to increase their chances for medical school eligibility, our approach identifies their strengths as a starting point for building five asset bundles, each associated with educational achievement and improved, sustainable diversity:

Educational Endowment: focuses on the student's math and science foundation and using innovative teaching mechanisms to provide quality content;

Science Socialization: ensures that students can envision themselves in a STEM profession; relates the academic curricula to their social experience and exposes them to successful academics and practitioners with whom they have something in common to build their self-efficacy toward becoming doctors and scientists;

Network Development: develops positive social capital through mentoring, extracurricular activities, and peer relationships with a network of professionals from similar backgrounds;

Family Expectations: encompasses the cultural dynamic between the students and their families to create a viable plan for the students' academic realization; and

Material Resources: ensures that our program stipends cover any costs students may incur, including books, meals, transportation, housing, and professional attire, to reduce attrition and support academic success.

Tip 6: Train a Representative Team of Staff & Educators

Racial and ethnic minority faculty at medical schools have been identified as key factors in increasing pathway participation of minority medical students (Merchant & Omary, 2010; Meza, 2017). The presence of minorities on medical school faculties improves career awareness and self-efficacy among underrepresented students and provides support as role models, educators, and mentors (Merchant & Omary, 2010). Pathway programs must recruit representative faculty and staff who are dedicated to advancing diversity in medicine. Students gain formal and informal support from culturally aware staff, who are experienced in overcoming shared barriers in medical school environments.

Our administrators recruit underrepresented minority faculty and medical students to serve as instructors and teachers' assistants. To support consistency across the curriculum, our instructors are required to present written learning outcomes for their courses and to describe culturally effective teaching strategies that will help participants to achieve them. In addition,

our office employs an academic enhancement specialist, who reviews the curricular objectives and content with each instructor to ensure culturally relevant teaching strategies are used. All staff and educators are required to take part in a one-day orientation and training session to reinforce the program guidelines and ensure the team functions as a cohesive unit.

Tip 7: Build Partnerships with Local Stakeholders

Early integration of program partners and stakeholders will have a significant impact on success and sustainability. Partners can range from community organizations and school systems to student mentors and volunteers. When they are enlisted early enough, local stakeholders can have a meaningful role in the design and development of your curriculum, which eventually supports increased participation and support. For example, community youth organizations can help us to recruit participants and offer support services to help students apply to medical school once they have completed the program. Similarly, community health clinics can provide training opportunities through internships.

At UMMSM, we have established partnerships with Miami Dade County Public Schools and several community programs to support pathway recruitment efforts. For example, CHAMP, a street-based, HIV-education initiative led by a minority faculty investigator, disseminates information and encourages promising students to apply to our pathway programs in their school-based presentations. CHAMP also trains minority medical students to conduct outreach in resource-poor neighborhoods, and they lead many presentations, providing role models as someone who overcame similar barriers to school.

STAGE III: EVALUATION

Tip 8: Evaluate Your Impact

We have used several assessment strategies to determine the impact of premed pathway programs at UMMSM. For many years, we measured success primarily by the number of students participating. Over time, we began to reach out for follow-up data regarding students' application process, acceptance status, and interest in continuing to pursue medical school. Approximately five years ago, we hired an administrative assistant to follow up with all past pathway participants by email and/or phone to determine whether they had applied to medical school, been accepted, and/or decided to pursue a different career in the health sciences. As email spam and transient phone numbers commonly annoy young adults, these methods have had little success. Our administrators continue to work with university educators and researchers to determine a more effective process to track students' progress and to evaluate the impact of our programs.

At present, our revised evaluation plan has three pillars. Since improved self-efficacy has

been associated with a more successful transition to medical school among minority students, a major goal of our pathways is to enhance participants' conviction that they can be successful in medical school (Kosobuski, Whitney, Skildum, & Prunuske, 2017). Thus, our first evaluation method asks students to complete an assessment of their level of confidence that they will be accepted into medical school both before and after participating in the program. Changes in self-efficacy are used to determine program impact. Students also complete a one-page evaluation of their instructors, expressing likes and dislikes related to teaching style and materials used in their curriculum.

Three years ago, as we started to revise our pathway programs, we began to track changes in minority admission rates to our medical school. Ideally, if our pathway programs lead to a more qualified pool of applicants, our medical student body will reflect more diversity. We found that minority admission rates have nearly doubled since 2015. The number of minority graduates from our medical school also reflects the impact of our efforts.

Tip 9: Disseminate & Publish!

To increase the number and effect of premed pathway programs, we must publish manuscripts describing their development, evaluation strategies, and funding mechanisms that support sustainability. By publishing and disseminating the outcomes, protocols, and assessments we have developed, we can identify gaps, and other institutions can avoid the implementation and evaluation challenges we experienced. Potential and current program developers and administrators can identify best practices and opportunities for collaboration between institutions. Publications are a common metric of expertise in a given area, and their number and citation are crucial for promotion in US medical schools and academia generally. Disseminating data in peer-reviewed publications could lead to the advancement of more underrepresented minority students and faculty within your institution and increase your prospects for securing external grant support as you raise awareness of your program's needs and its contribution to the sponsors' goals. As more minorities achieve leadership positions within US medical schools, they bring an innate knowledge of common challenges facing prospective minority medical students, which can contribute to expanding opportunities.

CONCLUSION

The underrepresentation of African Americans, Latinx, and Native Americans in the healthcare workforce fosters the dire health inequities experienced by disadvantaged minority communities. Premed pathway programs can have a significant impact on medical school application and enrollment rates for minority students, but few publications provide details about their planning and design.

Medical institutions seeking to increase their minority enrollment would benefit from strategic programs that expand access to the requisite knowledge and resources. Minority students need a wide range of social and academic support services, including mentoring, that improve and sustain diversity within the physician workforce. The tips described here express the assets and strategies that we have found useful in developing our pathway programs.

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Becoming a Mental Health Therapist

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> **Ubuntu** - a South African proverb that when loosely translated means
> *'I am because you are, and because you are, I am.'*

When I consider how I stumbled into the mental health field, I know for certain that divine intervention led me to become the professional I am today. As a child, I aspired to be a lawyer; as a young adolescent, I only cared about video games and sports; as a high school student, I was sure I would become a rapper; when I grew into adulthood, I obtained a Bachelor of Science degree in Computer Science. I never imagined that I would become a Licensed Mental Health Therapist. Mental health was rarely mentioned in the environment I grew up in. In fact, I do not recall hearing the words *mental health* or *therapist* until my college years. However, in retrospect, I can see how all of these phases of my life prepared me for my ultimate purpose: to help individuals improve their emotional intelligence, identify negative patterns and behaviors, and develop positive management strategies in order to achieve optimum mental health.

I remember as if it were yesterday. Here I am, in panic mode because I have been a college graduate for four months now, and I'm still unemployed. In this moment, I am beginning to understand why I was often advised to move away from my rural city, so I would be able to put my Computer Science degree to use following graduation. In desperation, I contacted a friend who helped me secure a position as a Direct Support Staff Member at a local adult group home, making $7.50 an hour. It was a defining moment in my life. While assisting adults with intellectual disabilities/developmental disorders (ID/DD), I discovered a newfound love for learning and understanding human behavior on a more profound level.

After about a year of working at the group home, I was able to transition into a new role, providing community-based services to adults, with a local private mental health agency. After about two years in this position, I WAS HOOKED! At that point in life, I knew three things about myself as a professional for sure: I loved working one-on-one with clients; I felt most comfortable engaging with individuals from vulnerable populations; and helping people feel better and improve their quality of life was unusually rewarding.

Fast forward to the present time, I am now Kenneth A. Joyner, MSW, LCSW, co-owner of Therapeutic Interactions Counseling Services, PLLC. Therapeutic Interactions is a private mental health practice located in Pitt County. My founding partner and I noted a service gap in mental health treatment for African American men. Pitt County currently has a dearth of available African American male therapists, despite the fact that a great many of its mental health clients under the age of 18 identify as male African Americans. Our practice was established to provide services to underserved individuals with the hope of lessening health disparities. Through direct therapy, outreach services, and educational training, the agency is working to improve awareness and increase the accessibility of services for this population. I am honored to have the opportunity to serve those with whom I share a similar cultural background and experiences.

My role feels surreal at times, but my clients serve as a constant reminder of reality. The progress I have witnessed as a result of the services I am able to provide is invaluable. I can truly say that my consumers are my role models. The services I provide are built on the foundation of their stories. My career is extremely rewarding because it is the one place where I get to see "everyday heroes" rewrite their stories and use their new strengths to navigate their plans.

My early experience working with ID/DD adults ignited a passion to study human behavior. This zeal guided me to an amazing profession that allows me to facilitate improvements in the management of mental health conditions of vulnerable populations. Individuals are not given the luxury of choosing the families, circumstances, and/or environments they are born into; all these elements shape beliefs, feelings, and behaviors. Every human being deserves an equal opportunity to receive support and access to information/resources to achieve optimal mental health. I am elated to contribute to the promotion of health and reduction of health disparities in my community.

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Division of Nursing

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A state-of-the art university, WSSU offers nursing faculty and students opportunities to engage in high-impact practices using the latest technological advances in education. In its Simulated Virtual Hospitals, nursing faculty and students team with faculty and students in physical therapy, occupational therapy, rehabilitation counseling, exercise science, and clinical laboratory science, working collaboratively as next-generation healthcare professionals.

Supported by the Center of Excellence for the Elimination of Health Disparities, faculty work with distinguished researchers on healthcare problems that affect vulnerable and disenfranchised populations.

Grounded in the principles of health equity and social justice, the Division of Nursing (DON) is poised to improve healthcare in the community and beyond. Through its international partnerships, DON reaches beyond boundaries to influence healthcare globally.

Recognized as the #1 HBCU nursing program in the nation by HBCU Colleges and the second-best nursing program in North Carolina by Best Nursing Colleges, WSSU celebrates NCLEX-RN first-time pass rates and FNP certification rates above state and national benchmarks.

Join the Team as we prepare School of Health Sciences (SOHS) and Division of Nursing education strategies for the 21st century, transforming health careers across the globe.

The Division of Nursing seeks highly qualified faculty to teach in its BSN, MSN, and DNP degree programs. Our faculty focus on research, teaching, and practice and are encouraged to expand their expertise in these areas. Traditional undergraduate, accelerated, and RN-to-BSN options prepare registered-nurse leaders. The MSN program provides Master's and certificate options for Advanced Nurse Educators and Family Nurse Practitioners. The DNP is both a post-Master's and BSN-to-DNP program focusing on the translation of research to improve clinical practice and patient outcomes. Methods vary across traditional classroom, hybrid, and online course delivery.

Applicants must hold a Master's degree in nursing, and a doctorate in nursing or a related discipline with an active program of research or scholarship and practice is preferred. Minority candidates are especially encouraged to apply. Faculty positions include 9- and 12-month appointments, and benefit packages are exceptional.

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Winston-Salem State University

Preparing over 6,000 diverse undergraduate and graduate students for success in the 21st century, Winston-Salem State University offers quality educational programs in an environment of faculty-shared governance. The university is dedicated to student development through excellence in teaching, scholarship, and service. As a comprehensive, historically Black, accredited constituent institution of the University of North Carolina, Winston-Salem State University contributes to the social, cultural, intellectual, and economic growth of the region, the state and beyond.

The Division of Nursing

The Division of Nursing at Winston-Salem State University is a premier nursing school based on excellence in education, research, and public service and the diversity of its student population and program offerings. The curriculum provides experiences that allow students to develop effective communication and critical thinking skills, while implementing therapeutic interventions, promoting health, and preventing disease using evidence-based practice strategies. These experiences include the theory, clinical practicums, and public service essential for delivery of professional nursing in a variety of settings to diverse populations.

Prior learning, life, and health experiences are considered in the admissions criteria for a student population diverse in age, gender, ethnicity, and academic level. DON fosters an environment conducive to personal and professional growth and lifelong learning for students and faculty, who engage in mutually beneficial relationships with the community and other healthcare providers in ways that complement the educational mission. Values, such as kindness, compassion, justice, loyalty, cultural competence, and sensitivity, take root here. A consistent focus on excellence reflects a commitment to continuous growth, improvement, and understanding.

Winston-Salem, North Carolina

Winston-Salem, the City of Arts and Innovation, is located between the Blue Ridge Mountains and the Outer Banks of the Atlantic Ocean. Only a short drive from metropolitan Charlotte and Raleigh, it forms the Piedmont Tried Region with the cities of Greensboro and High Point. Winston-Salem demonstrates a strong and unwavering commitment to the arts, excellence in healthcare research and technology, and is home to four renowned institutions of higher education.

Winston-Salem's economy is information and technology-based in the areas of healthcare, research, and finance. Its mild climate allows residents to enjoy all four seasons. Local attractions include School of the Arts and symphony performances, restaurants, shopping, historic landmarks, gardens, contemporary art galleries, vineyards,, national sporting events, and outdoor recreation.

Faculty Position Openings

WSSU Division of Nursing position openings are electronically posted to the WSSU Human Resources website. To review them, go to www.wssu.edu, click on "Administration", "Human Resources," and "Employment Opportunities." Applications require a cover letter, curriculum vitae, and letters of reference, which may all be submitted electronically.

For questions related to faculty positions, please contact Tammy Cunningham, University Program Specialist to the Associate Dean of Nursing, at cunninghamt@wssu.edu or 336-750-2659.

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