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Priming the Medical School Pipeline: Schools Reach Out to Teens in Minority and Underserved Communities

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—By Robin Warshaw, special to the *Reporter*

Rural, minority, and impoverished communities are feeling the impact of too few physicians. With the physician shortfall projected to be as high as 94,700 by 2025, medical schools are introducing pipeline programs to increase qualified applicants from middle and high schools in these underserved areas. The hope is that these students will seek careers in the health professions and then choose to practice in their home communities.

Students from underrepresented groups often do not receive the education, career guidance, or community support that make going to college—let alone going to medical school—a possibility for them. These students may know few health care professionals, especially from backgrounds similar to their own. They come from families and locales with limited economic resources or their schools may not offer advanced math and science courses.

Intervening as early as possible to provide exposure, enrichment, and support gives young people a better chance of becoming medical students, said Marc Nivet, EdD, MBA, chief diversity officer for the AAMC. “If we wait until college, we may have lost a lot of really talented youth who have the potential and ability to become the physicians we need. Medical schools need to grow and nurture the supply of talent early on by working with kids in grades K–12.”

Pre-college pipeline programs range from in-school academic enrichment, tutoring, and community service to concentrated summer experiences, often held on medical school campuses.

Florida State University College of Medicine (FSUCOM) in Tallahassee has an outreach program for middle and high schools known as SSTRIDE (Science Students Together Reaching Instructional Diversity and Excellence), which serves seven counties with primarily African American, black, Hispanic/Latino, rural, immigrant, or migrant populations.

“Our overriding goal is for the students to gain skill proficiency in math and science, get exposure to health careers, develop a passion for medicine, and be successful and college ready,” said Thesla Berne-Anderson, MS, director of undergraduate advising and outreach at the medical school. The program features an academic science curriculum, along with professional development, hands-on experiences, and field trips. Culturally diverse college undergraduates serve as tutors and mentors.

Among SSTRIDE students tracked, 98 percent enter college and 65 percent choose a science, math, or health major. Jonathan Reid Hester is one of them. Hester participated in SSTRIDE starting in seventh grade at his rural school. “I didn’t know what I wanted to do with my life,” he said. “[The program] was very influential.” Now a third-year medical student at FSUCOM, Hester plans to return to his rural community in Okaloosa County to practice after fulfilling a scholarship-related commitment to the U.S. Air Force.

Uchenna Ikediobi, MD, MPH, who began SSTRIDE in ninth grade, is another success story. “[Becoming a doctor] had been in the back of my mind...but the vision to make that happen was birthed through my involvement with SSTRIDE.” Ikediobi, a postdoctoral fellow in infectious diseases at the Yale University School of Medicine, will join the primary care faculty at the VA Connecticut Healthcare System, West Haven, in August and continue her research and teaching at Yale.

Cultural identity and self-confidence

Building cultural identity and self-confidence is part of the goal of the Dream Makers Health Careers Program, an effort since the mid-90s of the University of New Mexico Health Sciences Center (UNM HSC) Office for Diversity and several state school districts. “We want students to understand the wonderful depth, breadth, and richness they bring to the learning environment and to their patients and communities, said Valerie Romero-Leggott, MD, vice chancellor for diversity at UNM HSC.

Dream Makers groups meet twice a month, focusing on academics. English is not the first language for many participants who are often the first in their families to attend college. "We promote the development of students as advocates and leaders who are committed to serving the communities they come from," said Romero-Leggott.

In addition, UNM HSC offers a nonresidential summer program on its Albuquerque campus. The Health Careers Academy offers more than 100 hours of math, science, and language classes; ACT test preparation; and exposure to medical careers and professionals.

The Indians Into Medicine (INMED™) program at the University of North Dakota School of Medicine and Health Sciences in Grand Forks is a summer pipeline program. The INMED Summer Institute draws from an area so sparsely populated that it is considered "frontier" rather than "rural," said Eugene DeLorme, JD, director of the INMED program.

Students primarily come from 24 Native American reservations in North Dakota, South Dakota, Montana, Wyoming, and Nebraska, although others are eligible and have attended from as far away as Alaska. The Indian Health Service funds the program.

Seventh- through 12th-graders who participate in the program live on campus and attend six weeks of classes in biology, chemistry, math, physics, communications, and study skills. They participate in the medical school's simulation laboratories and meet health care professionals, while also learning how medicine and Native American culture relate.

"The reality is, in their tribal communities, many don't have access to this type of coursework," said DeLorme. "[These students are] capable, they're competent, and they thrive."

Federal funding cuts eliminated other INMED programming for younger students, however, and budget cuts reduced enrollment in the summer institute from 90 grant-funded students in 2014 to 60 in 2016, DeLorme noted. HCOP's budget, funded by the Health Resources and Services Administration, dropped from \$35.6 million in fiscal year (FY) 2005 to \$14.2 million in FY 2016. The AAMC has been advocating for increased federal funding for pipeline programs like this.

The need remains great, DeLorme stressed. "In tribal communities, young people [in high school] often don't even have laboratories to do physics, chemistry, or biology."

Getting teens engaged in community health care

The Health Professions Affinity Community (HPAC) program created at Northeast Ohio Medical University (NEOMED) puts teenagers at the center of health care change. "We recognized that students could and should do more. Going beyond simply showing and telling students about health careers, we empower them to improve the health of their communities," said Erik Porfeli, PhD, assistant dean of community engagement and admissions.

Students in HPAC talk with people in their communities—often disadvantaged inner-city and rural areas—to identify a health concern such as depression or diabetes. The student group then partners with the community to develop a health improvement project, seek local resources to support the project, and to enact the project and assess outcomes. Teachers, community leaders, and 30 AmeriCorps volunteers support the effort. Students then share project results with their community partners and other HPAC groups at the annual HPAC Scholar's Day at NEOMED.

The program began five years ago, with 20 students in four schools. It now serves 2,000 students in about 150 HPAC groups. The young people have raised more than \$150,000 in grants, as well as community donations and in-kind support, Porfeli said, for projects benefiting nearly 15,000 Ohioans. Some students have later entered NEOMED's pre-medical/MD programs that collaborate with six university partners.

HPAC is being replicated at about a dozen universities in Ohio and elsewhere, including Cleveland State University, Youngstown State University, and UNM HSC. In New Mexico, one group of high school students teamed with a local nonprofit serving homeless families to promote early childhood learning and development.

"Our students were so proud. They felt like they really made an impact," said Diana V. Martínez, program manager in the UNM HSC Office for Diversity. "It reinforced their commitment to the health of their communities."

The challenge now for medical schools is to scale up pre-college programming everywhere and build continuity between middle and high schools, said Nivet. "Collective action" is required to address the challenge, he maintained. "More than one medical school in a community or state must come together and leverage their resources to have the kind of impact needed."

The Morehouse Pipeline: Reach One Each One

—By Rebecca Greenberg

Omar Danner, MD, trauma director and associate professor of surgery at Morehouse School of Medicine (MSM), believed he could do more than provide medical attention to the young victims of violence he frequently treated at Grady Memorial Hospital in Atlanta.

To create a pathway to encourage underrepresented high school students to enter the health care professions, Danner formed a pipeline program called Reach One Each One with Grady Health System and colleagues from MSM and Emory University School of Medicine.

Entering its sixth year, Reach One Each One accepts high-performing juniors and seniors who gain exposure to different medical specialties and access to "a multitude of diverse professional role models" through an intensive 12-week course. "Our goal is to lower the barrier of access for disadvantaged youth—to tear down the walls that have previously held them back and allow them to peer in the world of health care," said Danner.

Students not only observe clinical work, but receive career counseling, financial advice, and form relationships with professional mentors. About 61 percent of the program's 90-plus participants have gone on to enroll in pre-med college programs.