

Training in Urban Medicine and Public Health: Preparing Physicians to Address Urban Health Care Needs

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ABSTRACT

Background: Wisconsin is facing significant physician shortages. The University of Wisconsin School of Medicine and Public Health (UWSMPH) launched Training in Urban Medicine and Public Health (TRIUMPH) to recruit and prepare medical students to serve people living within urban Health Professional Shortage Areas.

Methods: Students are selected based on their commitment to improve health equity for urban populations. They complete clinical rotations, core curriculum, and community projects in Milwaukee, Wisconsin.

Results: Full program graduates are more likely to match into residencies serving the urban poor (50/50, 100%) and pursue primary care specialties (40/50, 80.0%) compared to nonprogram graduates.

Discussion: The TRIUMPH program has been successful in its mission to encourage graduates to serve urban communities. The authors discuss urban health disparities, TRIUMPH outcomes, and the need for similar programs.

BACKGROUND

Wisconsin is facing significant physician shortages,¹ and the need for primary care physicians continues to grow. The Robert Graham Center projects that by 2030 Wisconsin will need an additional 742 primary care physicians, as well as other physician specialists to adequately meet the needs of the state's growing population.² These shortages are exacerbated by an aging population and increasing

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needs for primary care physicians due to expanded health insurance coverage by the Affordable Care Act.³

Many Wisconsin counties are designated as Health Professional Shortage Areas (HPSAs). This status is conferred by the US Health Resources and Services Administration to designate service areas, populations, or facilities with shortages of human resources to provide essential primary health care services.⁴ In early 2016 there were 126 primary care HPSAs in Wisconsin; 27 were designated as metro, 73 as nonmetro, 2 as frontier, and 23 were individual clinics serving rural populations (1 was undesignated). While just 27/103 (26.2%) of Wisconsin HPSAs are design-

ated as metro, due to the greater density of urban populations, 44% of people living in Wisconsin HPSAs (439,726 individuals in 2016) are urban medically underserved populations (MUPs).

Physician shortages are noticeable even in Milwaukee, Wisconsin's largest city, where an additional 57 primary care physicians would have been required to meet minimal thresholds for primary care physician coverage in 2013.⁵ Innovative strategies are needed to address physician shortages for urban medically underserved populations. This report describes promising early outcomes of Training in Urban Medicine and Public Health (TRIUMPH), the University of Wisconsin School of Medicine and Public Health medical education program designed to recruit, train, and retain physicians to work with urban MUPs.

METHODS

The University of Wisconsin School of Medicine and Public Health (UWSMPH), as an integrated school of medicine and public health, is dedicated to promoting health and health equity. Faculty and staff collaborate with statewide partners to design programs to reduce health disparities and to conduct research to measure the health status of populations.³ Additionally, the school offers educational programs to address the needs of

rural (Wisconsin Academy of Rural Medicine [WARM]), Native American (Native American Center for Health Professions), and remote populations (Global Health Institute).

Urban Health Track

TRIUMPH was designed to recruit and prepare medical students for careers to promote health and health equity for urban MUPs. The details of the curriculum and structure of TRIUMPH were outlined in a previous publication.⁶ Students relocate from Madison to live and learn in diverse Milwaukee communities for the third and fourth years of medical school. TRIUMPH provides a core curriculum, clerkships, and community and public health experiences for 16 third-year (M3) and 16 fourth-year (M4) medical students per year. Clinical, community and public health, leadership, and self-care skills are taught in an integrated fashion (Figure, Table 1). Each of these domains is linked to specific teaching methods, educational objectives, and competencies (available on request). The required M4 preceptorship is completed as a longitudinal experience in the student's specialty of choice and, whenever possible, in Federally Qualified Health Centers.

Students meet weekly in small groups and through intensive courses to complete the core curriculum. Community leaders, neighborhood residents, and local health professionals provide students with background on the historic, socioeconomic, and cultural determinants of health. Students reflect on their experiences, receive and provide peer support, and enhance their skills to promote resilience and compassion through case-based discussions and humanism rounds with faculty leaders.

Community and Institutional Partners

TRIUMPH is comprised of a rich network of community and institutional partners. The UWSMPH provides leadership and infrastructure. Aurora Health Care provides clinical training sites. Motivated physicians, health professionals, and community leaders serve as teachers. Community-based physicians and staff of Federally Qualified Health Centers serve as committed role models working within urban HPSAs. Community organizations partner with TRIUMPH by proposing health-related projects that would benefit from the contributions of medical students (80 hours/year). The state legislature provides financial support and reviews outcomes annually to ensure that the program is addressing state needs.

Selection of Students

Medical student applicants undergo a rigorous selection process that includes personal essays, letters of recommendation, curriculum vitae, and interviews. The selection committee is comprised of faculty, community leaders, and M4 TRIUMPH students. Students are selected based on their commitment to improve health equity for urban populations, their leadership potential, and their ability to handle the additional demands of TRIUMPH.

Figure. TRIUMPH Curriculum Framework^a



^aAdapted from: Strelnick et al. The residency program in social medicine of Montefiore Medical Center: 37 years of mission-driven, interdisciplinary training in primary care, population health and social medicine. *Acad Med.* 2008;83:378-389; and Pathman DE, Steiner BD, Williams E, Riggins T. The four community dimensions of primary care practice. *J Fam Pract.* 1998;46:293-303.

Program Growth and Changes

TRIUMPH was launched in 2009 as a third-year (M3), 6-month program with a pilot group of 6 medical students. Interest among students has grown steadily to attract students from Wisconsin and beyond, and community partners have eagerly welcomed students. TRIUMPH has expanded 3 times in response to student and community interest—first in 2010 when a 9-month M4 component was added, in 2011 when an abbreviated M3-only program was added, and again in 2014, when funding became available to replace the abbreviated program by doubling from 8 to 16 the number of students accepted per year into the M3/M4 program.

RESULTS

Since it was launched, 102 M3 students have enrolled in TRIUMPH. From 2010 to 2016, seven annual cohorts—a total of 69 students—have participated in the M3/M4 or full version of TRIUMPH; 50 have graduated. All of the full TRIUMPH program graduates to date have entered residencies that emphasize service to people living in urban low-income communities. Across the 6 full TRIUMPH cohorts that have graduated, 40/50 (80.0%) students have entered residencies in primary care specialties, a percentage twice that of the 40.2% of the UWSMPH's graduates not enrolled in either TRIUMPH or WARM over the

Table 1. TRIUMPH Skills Framework**Domain/Skills****Personal and Leadership**

- Explore humanistic values
- Share self-reflections, discoveries, and challenges
- Discuss critical events
- Enhance cultural awareness
- Develop healthy coping strategies
- Enhance networking skills
- Receive and provide peer support
- Develop self-confidence
- Clarify personal values and career goals
- Promote health equity and social justice

Clinical

- Provide patient-centered, compassionate care to patients from disadvantaged urban backgrounds
- Recognize and respond to social determinants of health
- Advocate to improve outcomes and reduce health disparities
- Access and enhance social and community resources
- Assist patients to navigate complex health systems

Community/Public Health

- Explore Milwaukee history, neighborhoods, social determinants
- Become familiar with local health care systems and financing
- Access public health data to identify and track disparities
- Identify community health assets
- Select priorities, strategies to improve health outcomes
- Deliver evidence-based community health promotion
- Collaborate with community leaders and organizations
- Cultivate relationships with colleagues and mentors

Integration/Application to Become Community-Engaged Physicians

- Model cultural humility and sensitivity
- Integrate personal, leadership, community, public health, and clinical skills
- Engage with communities to promote the health of a defined population
- Demonstrate leadership and advocacy skills to reduce health disparities
- Collaborate with interdisciplinary teams to improve health

Abbreviations: TRIUMPH, Training in Urban Medicine and Public Health.

Table 2. TRIUMPH Graduate Outcomes, 2010-2016

	Female	Primary Care Specialty	Wisconsin Residency	Wisconsin Home State
15-month TRIUMPH graduates (N=50)	62.0% (31)	80.0% (40)	32.0% (16)	66.0% (33)
6-month TRIUMPH graduates (N=31)	77.4% (24)	41.9% (13)	19.4% (6)	83.8% (26)
UWSMPH graduates ^a 2010-2016 (N=Varies)	9.3% (435) (N=882)	40.2% (361) (N=897)	30.4% (271) (N=892)	77.0% (621) (N=806)

^aGraduates not enrolled in TRIUMPH or the Wisconsin Academy of Rural Medicine.

Abbreviations: TRIUMPH, Training in Urban Medicine and Public Health; UWSMPH, University of Wisconsin School of Medicine and Public Health.

Table 3. TRIUMPH Graduate Specialties^a

	15-month TRIUMPH graduates N=50	6-month TRIUMPH graduates N=31
Emergency Medicine ^a	12.0% (6)	19.4% (6)
Family Medicine	42.0% (21)	16.1% (5)
General Surgery ^a	---	19.4% (6)
Internal Medicine	14.0% (7)	12.9% (4)
Internal Medicine/Dermatology ^a	---	3.2% (1)
Internal Medicine/Pediatrics	4.0% (2)	3.2% (1)
Internal Medicine/Primary Care Track	4.0% (2)	---
OB/GYN ^a	4.0% (2)	9.6% (3)
Ophthalmology ^a	---	3.2% (1)
Otolaryngology ^a	---	3.2% (1)
Pediatrics	14.0% (7)	9.6% (3)
Pediatrics/Psychiatry	2.0% (1)	---
Psychiatry ^a	4.0% (2)	---

^aNonprimary care specialties.

Abbreviations: TRIUMPH, Training in Urban Medicine and Public Health.

same time frame (2010-2016, Table 2). Nine full program graduates (18%) have completed Master of Public Health degrees. Graduates also have selected nonprimary care specialties critical to meet the needs of urban MUPs (Table 3).

Sixteen (32.0%) TRIUMPH graduates have remained in Wisconsin for residency training, including 6 at Aurora Family Medicine, 5 at the Medical College of Wisconsin, and 5 at UW-Madison. This is similar to the rate of UWSMPH's regular medical students graduating during 2010-2016 who remained in Wisconsin for their residency training (30.4%).

All of the 12 alumni who graduated from the full program and who had completed residencies will be/are practicing in urban areas, with 7 remaining in and/or moving back to Milwaukee. Seven will practice in clinics and hospitals that serve populations with at least 50% of people living in poverty; many others plan to return to practice in Milwaukee long-term.

DISCUSSION

TRIUMPH has been successful in recruiting, training and retaining physicians to work with urban MUPs. Participants have been more likely to enter primary care careers as compared to non-TRIUMPH and non-WARM students. Early outcomes confirm graduates are pursuing careers working with urban MUPs beyond residency graduation.

Several medical schools have developed initiatives to prepare students to work with urban underserved populations.⁷ Health professionals working in HPSAs face unique challenges that increase their risk of burnout, thereby increasing physician turnover in areas of greatest need.⁸⁻¹⁰ TRIUMPH is one of many innovative programs supported by UWSMPH to recruit and retain physicians to practice in these shortage areas.

TRIUMPH has grown and thrived due to several essential ingredients: UWSMPH, Aurora, and Milwaukee champions; motivated and capable students; experienced and receptive com-

munity partners; and state government support. Community partners have welcomed students and provided them with mentoring and real-life learning experiences. Community organizations have reported numerous benefits; each year they propose more projects than the number of students enrolled.⁶

TRIUMPH is 1 piece of a complex puzzle to address burgeoning health professional shortages and health disparities in urban communities. These outcomes confirm that with support, students can successfully complete medical school requirements as they are integrated into urban health systems, learn from and contribute to community organizations, and maintain their motivation to work with urban MUPs.

Our outcomes are limited by the lack of a control group and the fact that students who are selected for TRIUMPH demonstrate preexisting motivation to work with MUPs. Therefore, it is likely that many of these students may have pursued such career goals without participation in the program.

Early outcomes confirm that TRIUMPH has been successful in recruiting and preparing medical students to work with urban MUPs. Programs that prepare physicians to integrate community and public health, address the social determinants of health, and promote leadership, resilience and advocacy skills, should be bolstered and used to recruit and retain physicians to work in areas of greatest need. We encourage development of similar programs to strengthen the capacity of the health care workforce to serve people living in HPSAs in Wisconsin and beyond.

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