

Eastern Virginia Medical School Application Narrative Spencer Foreman Award for Outstanding Community Service

Given the circumstances of our medical school's birth, it is not surprising that Eastern Virginia Medical School has engaged in an extensive array of community service projects that are created and driven by students, residents, and faculty and are based on community needs. EVMS has aligned its educational, service, and scholarly missions to focus on the needs of the region. Matriculates select our school because of the service ethic that permeates our institution. That same ethic prompted a bold declaration from senior leadership in our 2011 strategic plan. **Our vision: Eastern Virginia Medical School will be recognized as the most community-oriented school of medicine and health professions in the United States.** The seeds for that declaration were sowed nearly five decades ago.

In 1960, the Hampton Roads community of Eastern Virginia (then referred to as Tidewater) recognized a critical need: a regional shortage of primary- and specialty-care doctors. At that time, the ratio of physicians to population in Eastern Virginia was 86 practitioners per 100,000 residents. In contrast, Richmond and Charlottesville boasted ratios of 183 and 281 doctors respectively. The result: Hampton Roads patients sometimes traveled nearly 100 miles to secure necessary specialty treatment. This was unacceptable.

By the early 1970s, the community gained permission from the state legislature to open a medical school — but no funding. Against long odds, local civic leaders and the community at large raised \$17.6 million, making EVMS one of the only medical schools founded by a truly grassroots effort. In fact, our current Surgical Assistant Program Director recalls as a child hearing the pleas to contribute to the founding of a medical school. And, like many in the community, he heeded that call. In this case, he gave all he had — five dollars in his piggy bank. Quite simply, EVMS was founded by the community, for the community. And that genesis infuses every aspect of our medical school guiding all our efforts.

The communities of Hampton Roads include 10 independent cities, seven rural counties, and the Eastern Shore. Most of these localities contain primary-care, mental-, or dental-health professionals shortage areas. Hosting a significant military presence, Hampton Roads serves as home to an estimated 2015 population of 1,724,876 people. Today, thanks to EVMS and the opportunities it created, the ratio of physicians to population in Eastern Virginia is 331 practitioners per 100,000 residents. EVMS is the health-care workforce generator for the region having trained 25 percent of the doctors and the majority of physician assistants, surgical assistants, arts therapists, psychologists, and public health professionals.

According to the 2013 American Community Survey, 19.2 percent of Norfolk residents lived below the poverty level as compared with 11.3 percent for Virginia overall. In one of Norfolk's most vulnerable neighborhoods, Young Terrace (the location of multiple EVMS service projects), 70.1 percent of the population lived below the poverty level.

Maximizing community service via the Brock Institute

From its inception, EVMS has identified regional health disparities and focused its training, clinical care, and research on addressing these needs. In November 2012, a \$3 million transformational gift established the M. Foscue Brock Institute for Community and Global Health. The **Brock Institute** rapidly has become the focal point for integrating EVMS' clinical, educational, and research programs, enabling EVMS to move more quickly toward its vision of becoming the most community-oriented school of medicine and health professions in the nation. The Institute allows EVMS to train the next generation of community-minded physicians and health-care professionals; to initiate and integrate efforts for students and faculty across all mission areas; and to become a model for other medical schools.

Both the founding director (2012-2014) and current Institute director (2014 to date) are practicing physicians and former Virginia State Health Commissioners, providing both the clinical and public-health perspectives necessary to focus attention on critical health disparities throughout the region. The goal of the Brock Institute is to put research into context and into practice, to convene collaborators around the region, and to educate existing and future health-care professionals to promote wellness and prevention thus improving the health of Hampton Roads. For example, in 2014 and 2015 the Brock Institute hosted a mental health summit bringing together mental health professionals, community service boards, hospitals, and community volunteers around the goal of improving mental health services throughout the region. Additionally, in conjunction with the EVMS Center for Health Analytics and Discovery, the Institute is working with several health databases to identify health disparities that inform educational and community outreach efforts.

Community service as the heart of the educational experience

Another example of the Brock Institute's influence shows in a partnership that shapes incoming students' experiences immediately upon their arrival at EVMS. In collaboration with the United Way of South Hampton Roads and its United for Children program, medical and health-professions students spend their second day of orientation serving the community. Students from all educational programs travel to two public elementary schools that educate children from Norfolk's poorest neighborhood. As part of **Community Impact Day**, EVMS students fill backpacks with school supplies, create welcoming bulletin boards, and thoroughly clean the facilities, playground equipment, and grounds to ensure Norfolk children find a welcoming environment when they return to school (video, <https://vimeo.com/136012372>). This experience sets the tone for our students' academic careers. In fact, some of the students continue this service by participating in a weekly tutoring program for elementary school students and Saturday morning outreach aimed at improving the writing skills of 4th- and 5th-graders.

Closely linked with the Brock Institute is the **EVMS Medical Education Service Learning Program** — a required four-year, longitudinal service-learning curriculum that culminates in a senior-year capstone project. Students participate in one of five tracks: Underserved and Health Disparities, Geriatric and Chronically Ill, First Responder, Nutrition and Fitness, and Emerging Infections. We will discuss three of those tracks for the purposes of this narrative application:

- **Underserved and Health Disparities**

- **HOPES Free Clinic:** Health Outreach Partnership of EVMS Students was founded in 2011 as the first and only student-run free clinic in Virginia. Utilizing Norfolk Department of Public Health facilities, students from our MD and health-professions programs see patients during evening hours with attending physician supervision. The students provide long-term primary and specialty care to uninsured Norfolk residents. Under the guidance of a faculty medical director, students manage the practice and clinical operations including administrative and Quality Improvement (QI) functions. This unique interprofessional atmosphere allows 1st- or 2nd-year MD students or 1st-year physician assistant (MPA) students and more-experienced 3rd- or 4th-year MD students or 2nd-year MPA students to see the patient and present to the attending or resident physician. Continuity coordinators (students with additional training in health education and advocacy) connect with patients at the conclusion of each visit. These coordinators provide patients with health education based on literature created by 3rd-year clerks during their family-medicine rotations. Continuity coordinators schedule follow-up appointments for and maintain contact with patients between visits. More than 1,000 patients have utilized HOPES Free Clinic. More than 95 percent of EVMS medical students participate at HOPES, and there is a waiting list to serve on the clinical team. In 2014, students delivered more than 16 scientific presentations at national meetings and continue to present all over the country on scientific and QI work conducted at HOPES.
- **Medical Spanish:** From 2000 to 2009, individuals of Hispanic origin were the fastest growing population reaching 7.2 percent of Virginia's total census. However, Hispanics are often underserved due to the language barrier. In response to that need, EVMS developed a service-learning project that certifies students as Spanish-speaking clinicians. Currently, 40 MD students participate in the online education for the Medical Spanish service-learning program. EVMS also offers the program to its health-professions students as well as practicing health-care workers in the region. Currently, 22 non-MD participants utilize the online Spanish curriculum. Their computer-based learning is reinforced by interaction with a university Spanish professor and a Spanish-speaking clinician in simulated patient experiences and "lunch-and-learns." Participants then work in clinics and with Spanish-speaking church congregations to begin their community outreach. Through this experience, participants not only improve their language skills via practice sessions and clinical experiences, but also increase access to and quality of health care for those who primarily speak Spanish.

- **Geriatric and Chronically Ill**

- **Beyond Clinic Walls:** In an innovative outreach project that started with the EVMS Glennan Center for Geriatrics in 2010, students from all programs form interprofessional teams and make home visits to underserved elderly clients (video, <https://vimeo.com/41916026>). With the elderly participant, students check the food supply, inspect the home for safety hazards, review medications, and spend time socializing. Students do not provide any medical care. However, any issues identified by the students are communicated to EVMS Geriatrics Faculty as well as to community partners including Senior Services of Southeastern Virginia to help address the elderly participants' needs. In May 2012, Beyond Clinic Walls won a state award from the Commonwealth Council on Aging in the annual best practices award

competition. Teams of students continue their work to date with the Senior Services of Southeastern Virginia as their “community site” collaborator.

- **First Responder**

- **Bystander CPR:** When medical students and their emergency-medicine physician mentors found that the City of Norfolk had the low 16 percent rate of return of spontaneous circulation after cardiac arrest as compared with the national average of 34 percent, they decided to take action. Their concern over cardiac arrest responses and deaths in the region resulted in the development of a service-learning project that qualifies medical students as certified Bystander CPR Instructors who work with an interprofessional team including community stakeholders to conduct trainings in high-risk communities. As part of the project, EVMS students ride along with Norfolk Fire and Rescue personnel to see firsthand some of the challenges faced by their first-responder colleagues. The students perform a needs-assessment survey and use GIS mapping to determine training areas of greatest priority. Students have surveyed more than 200 respondents so far. Two sample findings: 11 percent think that CPR could be delayed until the ambulance arrives and only 80 percent believe they would know if someone needed CPR. The 41 students enrolled have trained more than 370 community members to date (video, <https://vimeo.com/148920470>). One anecdotal success: The day after training, a Norfolk City employee witnessed a cardiac arrest, responded appropriately, and saved the person’s life.

Leveraging grants and external partnerships to change education and improve community results

EVMS also leverages external resources to integrate educational and community initiatives with clinical care. One recent example is the Transformative Education Advancing Community Health (**TEACH**) grant from the HRSA Bureau of Health Workforce. In 2015, we implemented curricular reform to change the way we practice clinically and the way we train the next generation of health-care providers. This approach culminates more than 20 years of HRSA-funded EVMS curriculum development aimed at reducing health disparities through training. Led by EVMS Family and Community Medicine, these efforts rely on strong collaboration between EVMS’ Pediatrics, and Internal Medicine, as well as the Master of Physician Assistant and Master of Public Health programs. Using this grant-funded curriculum development, we train interprofessional teams to practice and lead in transformed health-care systems with the goals of improving patient access, quality of care, and cost effectiveness.

In 2017 through the TEACH initiative, medical students and residents will train alongside our EVMS PA students and students from Old Dominion University’s dental-hygiene, counseling, and nursing programs in four safety-net clinics: HOPES, Western Tidewater Free Clinic, Sentara Ambulatory Care Clinic (where patients without insurance go upon hospital discharge) and Children’s Hospital of The King’s Daughters (CHKD) pediatrics clinic (where more than 80 percent of patients are insured by Medicaid). “Successful” patients identified by each clinic — those appropriately managing their chronic health conditions — as well as veterans and other retirees train as lay health coaches. These lay health coaches lead trainee teams that conduct needs assessments and provide clinical care and longitudinal case management for patients in the community at greatest risk for high health-care utilization and poor outcomes.

This TEACH grant (the only one awarded in Virginia to date) builds on more than 100 public-health modules developed for residents (HRSA Residency Training Grant, 2010-2015) and a predoctoral patient-centered medical-home curriculum (HSRA Predoctoral Grant, 2010-2015), as well as strong existing partnerships with the safety-net clinics where our medical students and residents already see patients. Within 10 miles of our Norfolk-based medical campus sit three universities— two historically black schools (Norfolk State University and Hampton University) and another (Old Dominion University) with large nursing, counseling, and dental-hygiene programs — whose students participate in the TEACH initiative.

As a result of curricula developed through these types of programs, EVMS consistently demonstrates a high rate of placement of its graduates at both the predoctoral and graduate levels in medically underserved and health-professions shortage areas — one reason for consistent support of our initiatives by HRSA Bureau of Health Workforce. In addition, of the 9,156 total EVMS alumni, 39 percent (3,571) currently practice in Virginia with 33.3 percent (3,046) practicing in a service area that includes Hampton Roads, the Eastern Shore and northeastern North Carolina. According to the most recent data available from the AAMC, EVMS ranks in the 87th percentile for graduating students who practice in family medicine and in the 83rd percentile for graduating students who practice in primary care.

Continuing Medical Education as outreach

The close alignment of community service and our educational efforts is not limited to our MD and health-professions programs. We infuse those same principles into our continuing medical education offerings. The **Eastern Virginia Telemedicine Network** was originally created in 1998 through a partnership of EVMS, WHRO (the region's public TV and radio affiliate), Eastern Virginia AHEC, and others to provide CME credit to physicians and other health-care providers on the rural Eastern Shore. It has evolved as a significant resource for clinicians at the Hampton Veterans Affairs Medical Center (HAMVAMC) to view EVMS Department of Internal Medicine grand rounds. From July 2014 through June 2015, 620 CME hours were awarded to 99 HAMVAMC health-care providers.

Additionally, in collaboration with the Brock Institute and the EVMS Office of Faculty Affairs and Professional Development, the EVMS Office of Diversity and Inclusion hosts educational and professional development programs targeted at our faculty and health-care professionals in the community. These programs bring experts on health disparities research and intervention. During the April 2016 Minority Health Month, topics included community-based interventions in hypertension management in minority and low-income populations and advancing health equity in Asian communities. Similarly, the Brock Scholars monthly speaker program brings national leaders with expertise in minority health and vulnerable communities to help EVMS students, faculty, and community address health disparities in our area and globally (video, <https://vimeo.com/164614567>).

Expanding the diversity pipeline for medical and health professions from high school through post-secondary education

To materially impact the diversity pipeline, we must reach students before they begin their undergraduate careers. To that end, the Medical and Health Specialties Program at Maury High School was established in 1986 to promote accelerated proficiency in the sciences and to prepare students to pursue careers in the health professions. EVMS faculty and students instruct high school students in anatomy and physiology and expose them to health-care careers. The EVMS Office of Diversity and Inclusion recently implemented a tracking and longitudinal mentoring system to enhance the program. Currently, 166 Norfolk Public Schools students in grades 9-12 participate in the program — over a quarter of whom are African American. As evidence of the initiative's success, two program graduates currently serve as EVMS faculty. Most recently, a Health Care Career Exploration Event held in March 2016 gathered public high-school students from across Norfolk at Booker T. Washington High School to experience hands-on demonstrations. Health professionals from minority backgrounds and college students from Hampton University (an Historically Black College or University or HBCU) participated in the event to serve as role models and future mentors to the high school students (video, <https://vimeo.com/160004786>).

Additionally, the EVMS Office of Diversity and Inclusion has enhanced pipeline efforts with regional HBCUs by establishing collaborative early-identification and longitudinal-mentoring programs. In partnership with the local chapter of the National Medical Association, the mentoring program engages premedical students from Hampton University and Norfolk State University by forming mentoring chains consisting of premed students, EVMS medical students and underrepresented-minority EVMS community faculty.

Since 1992, EVMS has provided students with a 10-week mentored summer research experience known as the Summer Scholars Program. EVMS Pediatrics' Division of Community Health and Research (CHR) historically led this pediatrics-based initiative that has attracted undergraduate or recent graduates from 70 universities and 30 states. Diversity is a priority in the selection process with many students coming from HBCUs. In 2013, EVMS significantly increased the number of its own medical student participants, incorporating mentored projects across disciplines and providing multi-level mentoring between medical and undergraduate students. To date, EVMS has hosted 339 Summer Scholars.

As the national focus on medical education has broadened to include public health and prevention, health disparities, competency-based medical education, and health-care quality improvement, the scope of projects offered has expanded. Some Summer Scholars conduct QI projects to improve hospital and clinic processes. Others, mentored by community coalition leaders, investigate causes of obesity or asthma or explore how mental health impacts the physical health of communities. As with all EVMS programs, there is a strong interdisciplinary didactic component. The 2016 cohort of 38 students selected from more than 130 applicants will participate in a half-day program addressing health disparities, implicit bias in health care, and community-based participatory research. Six Summer Scholars projects will examine social determinants influencing the patient experience in HOPES, Western Tidewater and two other safety-net clinics.

Meeting community needs through care for underserved and isolated communities

Founded by the community to address a critical shortage of health providers and a dearth of specialty-care service lines in the region, EVMS has focused on the specific health needs of underserved communities in Hampton Roads since the medical school's creation. A few current examples of this focus include:

- **CHR/CINCH/ESHC:** EVMS Pediatrics' Division of Community Health and Research (CHR) houses two longstanding and impactful community coalitions. The Consortium for Infant and Child Health (CINCH), a 200-member health coalition, implements successful initiatives across Hampton Roads. Community members determine areas of focus for CINCH and those priorities have changed over its 25-year history. Current foci include obesity and asthma prevention/amelioration with a planned expansion to maternal/child health. The second coalition, Eastern Shore Healthy Communities (ESHC), was founded in 2009 to address the growing tide of obesity in this remote rural area. Since 2009 (under its current director), CHR has been awarded 80 grants totaling nearly \$9 million for community-based programs. Funders include the NIH (Academic-Community Partnership Program), CDC, the Virginia Foundation for Healthy Youth (VFHY), Virginia Department of Health, HRSA Bureau of Health Workforce, Institute of Medicine, the March of Dimes, Obici Hospital Foundation, and American Academy of Pediatrics Community Grants.
- **Booker T. Washington (BTW) Student Care Center:** The Brock Institute and EVMS Department of Family and Community Medicine championed the medical school's creation of and involvement in this school-based clinic, so that the 1,000+ students at this public high school (located in a high-poverty, inner-city neighborhood) are the first beneficiaries of a cutting-edge partnership to bring comprehensive medical services to a student care center housed on-site. The center opened in the fall of 2015 and is funded by Optima Health Foundation in partnership with Norfolk Public Schools, the City of Norfolk, the United Way of South Hampton Roads United for Children program, and EVMS. The center provides BTW students access to medical services beyond the scope of what school nurses provide. Examples include health exams, mental-health and substance-abuse services, and referrals to specialists or other community services. BTW students provided input on the most critical medical issues they faced to assist in the design of the center (video, <https://vimeo.com/143762834>).
- **Respiratory health initiatives:**
 - **Allergic asthma:** Children with allergic asthma are identified in EVMS campus partner Children's Hospital of The Kings Daughters (CHKD). Clinicians and trainees complete an individual asthma action plan for management at the child's school. This plan — developed by CINCH in 2006 — has become a state-endorsed best practice. Children from low-income families are referred to CHR, which provides home remediation and caregiver education via three grants from HUD. More than 250 families have participated to date with significant increases in caregiver quality of life and self-efficacy and decreases in asthma morbidity resulting. CINCH sponsors A2 Asthma Expert and Asthma 101 trainings for school nurses and other staff.
 - **Vaping:** Faculty from CHR and MPH students are now engaged in community-based participatory research with the YMCA to discover what attracts youth and young adults to the use e-cigarettes with the goal of developing risk messaging to prevent it. Community education then provides a basis for advocating for policy change (video, <https://vimeo.com/145147100>).
 - **Smoking and air quality:** Since 2005, CINCH has worked with interested community members to implement tobacco pricing strategies to discourage use, prevent coal plants being built near neighborhoods, expand a restaurant smoking ban, create the "smoke-free ride" campaign where community members pledge they will not smoke in cars (video, <https://vimeo.com/120196696>), and implement smoke-free policies in public housing.
- **Diabetes and obesity prevention initiatives:**
 - **EVMS Strelitz Diabetes Center of Western Tidewater:** In 2012, 70 percent of adults in the Western Tidewater Health District were identified as overweight or obese. Of the nearly 3,000 residents EVMS screened there since 2011, half have pre-diabetes or diabetes. As a result, diabetes rates and deaths from diabetes in this underserved rural community were surging to some of the highest in Virginia. In spring 2015, with support from the Obici Foundation, EVMS expanded its clinical presence to rural Western Tidewater to address its diabetes epidemic (video, <https://vimeo.com/119791823>).
 - **Obesity prevention:** These initiatives focus on developing multi-sector partnerships to enable communities to make policy, systems, and environmental changes to improve health. EVMS students play a role in planning and delivering community education around these initiatives. Representative activities include increasing walkability by adding crosswalks and sidewalk repair to shopping

destinations in Portsmouth's low-income neighborhoods, helping African-American churches develop menus that include healthier choices, and working with employers to set up lactation rooms and review break policies to facilitate continued breast feeding. Additionally, a multidisciplinary team developed the CHKD Healthy You Program that provides parent-child education classes and a "gym in a bag" for overweight and obese children and youth. Since 2008, CHR has been awarded more than 40 grants to address obesity in the community. Funders include the NIH (Academic Community Partnership Program), CDC REACH (Racial and Ethnic Approaches to Community Health) and ACHIEVE (Action Communities for Health, Innovation and Environmental Change), Virginia Foundation for Health Youth, and Virginia Department of Health.

- **Women's health initiatives:**

- **Improving birth outcomes:** According to the 2016 County Health Rankings, Hampton Roads' birth outcomes are generally poor. For example, teen births per 1,000 are 48 in Norfolk, 63 in Portsmouth, and 54 on the Eastern Shore as compared to 27 for Virginia overall. Infant mortality per 1,000 is 11 in Norfolk and Portsmouth and 10 on the Eastern Shore as compared with 7 in Virginia overall. As a result, EVMS identified this as a priority in its 2015-2018 Strategic Plan and has led several initiatives sponsored by the Virginia Department of Health and the March of Dimes. The EVMS Department of Family and Community Medicine implemented a group medical-visit model of prenatal care and the EVMS Department of Pediatrics has supported local Resource Mothers and Stork's Nest initiatives aimed at teen mothers. EVMS faculty and staff work with Old Dominion University nursing program students to provide prenatal care information and baby items.
- **Patient Safety Initiatives:** In 2005, the EVMS Department of Obstetrics and Gynecology partnered with Sentara hospitals to implement Ob Right, an evidence-based program promoting clinical standards and guidelines for safe pregnancies and deliveries. One example of success: in 2010, the rate of elective deliveries was reduced to less than 1 percent at 5 of the 6 participating Sentara hospitals compared to the Virginia rate of 19 percent.
- **Women's Health and Infertility Study:** Since 2013, Art Therapy and Counseling students and faculty have participated in the multistate study where art therapy is being used to improve depression in women experiencing infertility.
- **Every Woman's Life:** As part of this program in the Sentara Ambulatory Care Clinic, EVMS Combined Family Medicine and Internal Medicine residents provide breast and pelvic/pap screenings for underserved, predominantly minority women meeting age and income criteria. This offers residents a training experience while providing a much-needed service in the community. Approximately 12,500 underserved minority women have been screened in Norfolk and Portsmouth from 1997 to date with 2.4 percent being treated for breast or cervical cancer and pre-cancer.

An evolving yet focused commitment

Many U.S. medical schools are moving "Beyond Flexner" to incorporate social mission into medical education. And many have impressive community-based programs. However, several facets of our approach, taken together, set EVMS apart. First, we have been engaged in community service since our inception in 1973. We continually evolve aligning our efforts with our mission as we grow. Second, we recognize the importance of rigorously collected community health metrics. Indeed, the Brock Institute partnership with regional hospitals and health departments, along with data analysis by the EVMS Center for Health Analytics and Discovery, allows us to drive educational, clinical care, and research activities to better serve our community. However, our years spent in communities have taught us that we must take our cue from community members themselves. If something is not a priority for them, whatever we do with grant funding will not be sustained when the grant is over. We never lose sight that we are the learners, and our grassroots community members are the teachers. Third, our learners are out in the community almost from day 1. Orientation week finds our students in public schools with the most at-risk children and youth in our city. Fourth, and perhaps most important, our practice of linking every community learning experience with a focused, competency-based didactic curriculum maximizes and adds value to the experience for our learners, faculty, and the communities we serve.

EVMS has entered a time of intense focus, not adding new programs for the sake of broadening efforts. Instead, we ensure community service endeavors, first and foremost, meet genuine community needs, and then, as secondary criteria, ensure these activities enhance the educational experience, and/or advance our research. We believe the rigorous application of these two criteria to our community service efforts is the key to achieving our vision of becoming the most community-oriented school of medicine and health professions in the United States.