Institute for Global Health
Make a World of Difference
INSTITUTE FOR GLOBAL HEALTH: MISSION AND OVERVIEW

Students at Northwestern University Feinberg School of Medicine recite the time-honored Hippocratic Oath on the day they are given their first white coats. It is a sacred and meaningful pledge, deeply ingrained in the fabric of the medical school, and at the foundation of Northwestern University’s expanding work in global health.

Our faculty and students recognize health as a fundamental human right, inherent in the dignity of every single patient. Northwestern physician-scientists come from, teach, and work all over the world. Over 10 percent of our first-year medical students are non-United States residents. Nearly all of the medical school’s applicants demand a global health experience as a part of their learning, listing global health work as an important career goal. In our increasingly interconnected work, the disparities that exist in healthcare are obvious and compelling; however, coupled with advancements in technology and knowledge, this interconnectedness also offers opportunities for solutions. Northwestern faculty and students recognize this responsibility, and are boldly partnering with one another and their international colleagues to invent new ways to tackle global health problems.

The Institute for Global Health at Feinberg will serve as the epicenter for medical research, education, clinical care, and service for the entire medical school community, integrating with University-wide graduate and undergraduate programs to deliver an unprecedented interdisciplinary approach to solving global health problems. As such, the Institute will be regarded nationally

HIPPOCRATIC OATH

I will respect the scientific gains of those physicians in whose steps I walk, and share such knowledge with those who follow...

I will apply to those in my care all measures which are required, avoiding those twin traps of over-treatment and therapeutic nihilism...

I will remember that I remain a member of society, with special obligations to all my fellow human beings...

I will prevent disease whenever and wherever I can.
and internationally as a premier academic leader in global health innovation and impact. Through the work of its members across Northwestern University, the Institute will continue to create and inspire compassionate physicians capable of addressing the most pressing global health issues and disparities.

One of the pillars of our strategic plan, global health expands the University’s impact at home and abroad.

Our research in global health involves collaboration among business, engineering, education and social policy, anthropology and sociology, communications and journalism, and naturally medicine. Our faculty and students work together on a global scale on issues ranging from HIV in Africa to nutrition, obesity, and diabetes in the United States to collaborative ways to respond to a natural disaster.

NORTHWESTERN UNIVERSITY’S 2011 STRATEGIC PLAN

CENTERS FOR INNOVATIVE RESEARCH, EDUCATION, AND PATIENT CARE WITHIN THE INSTITUTE FOR GLOBAL HEALTH

- Global Health Center for Infectious Disease
- Centers for Global Health Education and Research
  - Center for Primary Care Innovation
  - Center for Global Surgery and Rehabilitation
  - Center for Global Cardiovascular Risk
- Center for Global Health Cancer Care & Prevention
- Center for Global eHealth Innovation
The Institute for Global Health—the first of its kind as an integrated, interdisciplinary, fully realized academic entity—will provide cutting-edge research and compassionate care throughout the world.

The Institute consists of seven faculty-driven Centers for patient care, research, and education, including educational eHealth innovation. The Institute will be managed through a central administrative office acting to support the work of its faculty-led Centers. Each Center will comprise an exemplary team of global health leaders in the field, including a director, deputy director, program director, physicians, researchers, and fellows. Recognizing the need for rapid response to urgent global health crises (such as Ebola virus, HIV outbreaks, Nepalese earthquakes, and other instances in which Northwestern faculty have led relief and treatment efforts) and the value of its faculty’s entrepreneurial approach in trying out-of-the-box solutions to entrenched global problems, the central office will focus on providing administrative support, facilitate interdisciplinary collaboration and communication within and outside of Northwestern, assist in setting strategic collaborative goals, and seek the funds needed for faculty to pursue their work.

In partnership with Northwestern’s undergraduate programs in global health studies, including an interdisciplinary minor and a new adjunct major, the Institute will provide students with greater insight and experiential learning, helping them to think critically about global health challenges and practices. The Institute will promote interdisciplinary courses and programs across the University. By intersecting with a wide variety of global health electives campus-wide and field research projects across disciplines, the Institute will further help Northwestern to become a leader in the field of global medicine.

GLOBAL HEALTH ACROSS THE UNIVERSITY

GLOBAL HEALTH AT THE WEINBERG COLLEGE OF ARTS & SCIENCES

Global health education opportunities at Northwestern begin at the undergraduate level through our well-developed Program in Global Health Studies, which was established with a global health minor in 2004. Since then, interest in this program has increased dramatically, and has now grown to be one of the largest and most popular curricula in the Weinberg College of Arts & Sciences. Currently, some 300 students from all of Northwestern’s undergraduate colleges engage with one of the most comprehensive campus-wide programs in the country, combining a vibrant global health curriculum with unique academic and experiential opportunities abroad. The program has been recognized by the National Security Education Program, the National Institutes of Health, and Partners of the Americas. In 2013, the program was recognized as a national leader, being honored with the Senator Paul Simon Spotlight Award for Campus Internationalization.

The program is designed to provide students with a deep understanding of how ecological, social, and political-economic forces interact to shape global variation in health. The minor is a seven course curriculum, which includes four required global health classes and three electives from a broad range of disciplines. In addition, Global Health Studies is one of only two undergraduate programs at Northwestern that requires an international experience. All students take the Introduction to Global Health class along with either Global Bioethics or Research Methods. As such, the core global health course requirements provide students with an understanding of the scope and nature of today’s major global health challenges, along with the ethical and culturally sensitive methodologies needed to conduct global health research. Beyond the required courses, students may select from a broad range of global health elective classes on topics such as: indigenous medicine, war and public health, international perspectives on mental health, achieving global impact through local engagement, and global bioethics.
To help facilitate the required international experiences for students, the program has developed partnerships with academic institutions in nine different countries, including: China, Cuba, France, Israel, Mexico, Serbia, Bosnia-Herzegovina, South Africa, and Tanzania. Many of these partners also provide clinical rotation opportunities for our medical students. These partnerships allow students to collaborate with their peers at our partner institutions to address a broad range of health issues, from the social and economic determinants of obesity in the United States and Mexico, to the constraints on access to healthcare in northern Tanzania. In addition, many of our students receive grants to pursue research outside the United States. This work is carried out under the supervision of a faculty mentor, and often forms the core of scholarly presentations and published papers.

Students emerge from the program with nuanced understandings of both the cultural and political realities that impact health policies and access in different societies, and the interdependent factors that can lead to poor health, as well as novel ways of addressing them. Upon graduation, our students engage in a variety of career paths. Over 50 percent of undergraduate students enrolled in the program are pre-medical students. Many go on to gain advanced training in medicine, public health, and the health sciences, while others pursue graduate studies in fields ranging from international development to anthropology. A number of global health students have worked in the Peace Corps and the Centers for Disease Control, have consulted for global health Non-Governmental Organizations such as Partners in Health and the Clinton Global Initiative, and have innovated in the private sector. They also have an impressive track-record of garnering prestigious external fellowships (including Fulbright, Princeton in Africa, and American India Foundation Clinton Fellowship, among others) to pursue further training and/or research in global health.

Current students benefit immensely from the experience and passion of our alumni. Our graduates remain committed and connected to the program, both virtually and in person, through our mentoring program. We are currently expanding alumni-specific programming to continue supporting our students in their professional pursuits after they graduate.

At the heart of the Institute for Global Health is a commitment to the principle of health for all. Global access to quality and sustainable healthcare necessitates a comprehensive approach. The Institute seeks to integrate the research and training environments, align campus-wide interdisciplinary efforts, and create global health leaders, all while targeting critical global health needs.

ADJUNCT MAJOR IN GLOBAL HEALTH STUDIES

The Program in Global Health Studies within Weinberg has developed an adjunct major that will complement the current minor. The adjunct major will allow undergraduate students the option of pursuing more in-depth training in global health in conjunction with their core disciplinary major. The 11-course major will require students to take seven global health courses along with four related classes in a range of departments, including Anthropology, Biology, Business, Engineering, Communications, Economics, Gender Studies, History, International Studies, Journalism, Linguistics, Philosophy, Political Science, Social Policy, and Sociology. As with the minor, all Global Health Studies majors will be required to complete an international public health experience.

ACCELERATED PUBLIC HEALTH PROGRAM (APHP)

In collaboration with the Program in Public Health at the Feinberg School of Medicine, the Program in Global
Health Studies is designing a new Accelerated Public Health Program (APHP) available to undergraduates of any major. This new curriculum will allow students to complete both their bachelor’s and Master of Public Health (MPH) in five years. Students interested in pursuing the APHP will apply into the program during their junior year. Once accepted into the program, students can begin taking public health courses at Feinberg during their senior year of undergraduate study. The fifth year is then devoted to full-time public health coursework, capped by the required Culminating Research Experience. This curriculum should be quite attractive to students, as it allows for the completion of the MPH one year earlier than traditional programs. Furthermore, the Global Health Studies adjunct major will provide ideal preparation for students wishing to pursue the APHP.

GLOBAL HEALTH TRACK IN THE MPH AND MASTER OF SCIENCE (MS) IN GLOBAL HEALTH

For undergraduate students interested in continuing their global health education on a graduate level, two options are offered through the Program in Public Health and the School of Professional Studies. The Program in Public Health will be introducing an official Global Health Track within their MPH program. This is a vibrant, classroom-based MPH concentration, including coursework in research methods, epidemiology, and healthcare delivery systems.

The Master of Science in Global Health (MSGH) is an online alternative to the Global Health MPH, designed for a multi- and interdisciplinary student population. The flexible format is ideal for non-traditional students such as working professionals or students living abroad. Although coursework and faculty overlap between the two programs, it is notable that the MSGH has a required praxis-based component, and travel to a resource-limited location is strongly encouraged.

The Institute for Global Health will support the simultaneous coordination and differentiation between the Global Health MPH and the MSGH. The Institute will offer global health undergraduates guidance on future career paths and graduate professionals with specialized skill sets and competencies.

IMPROVED OPPORTUNITIES FOR STUDENTS

Northwestern undergraduate and graduate faculty members conduct ongoing research projects all over the globe; yet, opportunities for students are limited by the requirements of their individual schools and departments. The Institute for Global Health will collate these extensive cumulative resources and strengthen relationships with global institutions, thereby creating new opportunities for global health students of any school and degree level. These resources will include National Institutes of Health grants (currently managed by the Center for Global Health), initiatives with global and local nonprofits through the MSGH and the Center for Primary Care Innovation, biomedical product development through Northwestern University’s Kellogg School of Management and McCormick School of Engineering and Applied Science, and a variety of independent research opportunities.
The emergence of global health research and training as a primary force in dealing with deadly disease and chronic illness is clear.

Metrics reveal that global health research has a profound impact, such as:

- Saving lives at birth;
- Providing sustainable education and training to local healthcare workers;
- Employing cutting-edge technology to track, study, and reduce mortality;
- Effectively treating chronic conditions like diabetes, hypertension, heart disease, and arthritis; and
- Curtailing the spread of infectious disease.

The Center for Infectious Disease will coordinate and support Northwestern University’s research, training, and clinical trial projects worldwide. Current areas of active research encompass the fields of infectious diseases and HIV, gynecology, bioengineering, and community medicine. Further international efforts are growing using other Northwestern research strengths in endocrinology, neuroscience, microbiology, and rehabilitative medicine.

The Center has partnership agreements with 18 academic institutions and nonprofit organizations worldwide, and currently attracts a high percentage of National Institutes of Health (NIH) training and infectious disease grants. Working with partner institution faculty, vital research provides solutions to pressing healthcare needs and supplies training to implement solutions under challenging circumstances in low-resource countries.

The Center’s primary source of sponsored research funding comes via the NIH Fogarty International Center, with other grants from the National Cancer Institute, the National Institutes of Allergy and Infectious Diseases, and the Centers for Disease Control. Current grants include:

- Advancing training of HIV clinician-investigators capable of performing translational research on AIDS-defining malignancies;
- Initiating training of oncology clinician-investigators;
- Developing training of pathology and virology scientists to perform research on oncogenic mechanisms and pathogenesis;
- Creating a multidisciplinary research team capable of performing advanced in-country research on AIDS-defining malignancies in Jos, Nigeria;
- Establishing comprehensive training programs at three African universities in biomedical engineering that include identification of critical health care needs, product design, delivery, clinical evaluation, scalability, and product launch; and
- Assessing liver fibrosis in Human Immunodeficiency Virus (HIV)/Hepatitis B (HBV) co-infected, as well as HIV and HBV mono-infected individuals in Dar es Salaam, Tanzania.
CENTERS FOR GLOBAL HEALTH EDUCATION AND RESEARCH

CENTER FOR GLOBAL HEALTH STUDIES (WEINBERG)

CENTER FOR GLOBAL HEALTH (FEINBERG)

The Centers for Global Health Education and Research within the Institute represent a unique global health sphere of intersecting programs at the undergraduate level through Weinberg and in conjunction with Feinberg.

CENTER FOR GLOBAL HEALTH STUDIES (WEINBERG)

MAKING GLOBAL HEALTH A TOP PRIORITY

Global health, as defined by the 2011 Strategic Plan, is an area of distinction and strength for the University, and is a major pillar of We Will. The Campaign for Northwestern. In the recent 2016 Global Task Force report, global health is once again highlighted as not only an area of strength, but also as an area to be nurtured and supported through integration and coordination.

The Weinberg College of Arts & Sciences is uniquely positioned to build on this momentum in global health by establishing the Center for Global Health Studies within the interdisciplinary and cross-school Institute for Global Health at Feinberg. The Center aims to work collaboratively with the Institute, while maintaining a primary focus of integrating and expanding global health activities at Weinberg.

There are a number of global health initiatives within Weinberg and elsewhere on the Evanston campus. These include research and training in: the Buffett Institute for Global Studies, the Laboratory of Human Biology Research in Anthropology, the Program for African Studies, the Cells to Society Center in the Institute for Policy Research, International Program Development, the Center for Innovation in Global Health Technologies, the Global Health Initiative at Kellogg, and of course, the Program in Global Health Studies in Weinberg.

To fully realize global health as an area of strength, continued support for these and other existing global health activities is necessary. The establishment of the Center for Global Health Studies at Weinberg will help to integrate and solidify these activities.

OVERVIEW OF THE CENTER FOR GLOBAL HEALTH STUDIES

The Center will encourage “interdisciplinary thinking for a complex world” with a focus on both undergraduate and graduate education. As discussed previously, the current Global Health Studies minor will soon be complemented by an adjunct major and an Accelerated Program in Public Health (APHP) in collaboration with the Program in Public Health at Feinberg, which will allow students to obtain their bachelor’s and master of public health (MPH) in five years. In addition, a global health concentration in the MPH program is being proposed in close collaboration with the Program in Global Health Studies. A graduate certificate in global health also has been envisioned. Domestic public health opportunities will continue to be developed in Native American Health as well as in Refugee and Immigrant Health.

The Center will engage with the world by supporting and building on relationships with not only partners abroad, but domestically as well. The Center will encourage the responsible conduct of student research both here and abroad, will support faculty and post-doctoral research in global health, and will serve as a grant writing and management hub.

The Center will host visiting scholars from around the world, organize international workshops and conferences, support global and public health student groups, and prepare students for successful careers, all while also engaging with University alumni.
A FOCUS ON GROWTH

In order to fully realize our current goals for the program and to remain a leader in global health education and research, additional resources are needed. Additional faculty are needed to support the curriculum and the tremendous student interest in global health. With the addition of the new adjunct major and the APHP, the University expects that the demand will continue to rise.

The program is committed to expanding opportunities for students to perform international research. Faculty-led research initiatives have been particularly beneficial for our students. Consequently, targeted funding would allow for the development of additional transformative experiences at locations around the world.

One of the great successes of the Program in Global Health Studies has been its ability to attract students from all different disciplines (including medicine, science, social science, policy, humanities, engineering, journalism, and the arts) and backgrounds. We are committed to ensuring that all students, regardless of their economic background, are able to participate in the global health study abroad programs.

CENTER FOR GLOBAL HEALTH (FEINBERG)

The Center for Global Health at Feinberg is the nucleus for global health educational rotations, graduate medical education, and program activities for medical students, residents, fellows, and faculty. The Center integrates global education programming, funded through the Global Health Initiative (GHI) Fund, and supports faculty initiatives within the medical school. Working with academic partner institutions, the Center provides medical education training for medical trainees, facilitates faculty research, supports graduate medical education via a new two-year certificate program for residents, and offers bilateral student exchanges.

Since 2008, the GHI Fund has funded more than 800 Feinberg students and residents. The fund was founded by and is supported through the faculty physicians at Northwestern Medicine Primary and Specialty Care.

Over the past eight years, nearly 50 percent of Feinberg’s medical students have engaged in global health electives before graduation, compared to the national average of 30 percent. Northwestern leads the nation among top universities in global health rotations for medical students. Under the supervision of qualified, local healthcare providers, our trainees gain global health competencies that are integrated into Feinberg’s curriculum, including Community Engagement & Service, System-Based Awareness and Team-Based Care, Effective Communication, and Interpersonal Skills, among others.

The Center for Global Health Education implements rigorous pre-departure preparation for medical trainees focusing on global health ethics, safety and security, cultural competencies, global burden of disease, and developing clinical skills in low-income settings. The Center tracks and evaluates every Feinberg student elective, research, and public health project, maintaining formal relationships with our partners by establishing memoranda of understanding with international institutions.

In addition to the global health education program, the projects listed below detail ongoing GHI financial support for educational and research initiatives:

- Graduate Medical Education Certificate in Global Health;
- Post-graduate Fellowship in Global Health;
- Micro–Seed Awards for Faculty Research to develop student research projects;
- Global Partner Elective Scholarship Expansion; and
- Service Initiatives: Chicago Haiti Health Consortium and Hillside Health Care International and Feinberg Hospitalist Program.

OPPORTUNITIES FOR SYNERGY WITH OUR UNDERGRADUATE PROGRAMS

Develop supervised global health research and mentorship opportunities

Develop research ethics training for undergraduates preparing to study abroad

Develop shared research and training sites abroad
CENTER FOR PRIMARY CARE INNOVATION

Global health is rooted in primary care medicine, which is the treatment of all chronic care issues and infectious disease. In the global health arena, chronic care issues such as cardiac care, high blood pressure, diabetes, obesity, and cancer are now more prevalent than infectious disease.

Opportunities to achieve major improvements in healthcare are abundant via primary care medicine. To take opportunity and turn it into high-level impact, we need not only primary care physicians, but leaders in primary care. To address this vital challenge, the Center for Primary Care Innovation seeks to improve the health of our communities by developing successful platforms to innovate and transform primary care clinical education, research, leadership training, and clinical practice.

As the United States population grows and ages, the number of people with chronic diseases who need primary care is rapidly increasing. There are critical concerns about whether we will have enough physicians to meet these needs. The number of medical students and residents entering this field is on a serious decline. Currently, only one-third of physicians in the United States work in primary care. In contrast, in most countries, primary care physicians comprise over half of all physicians.

The vision of the Center is simple: To be the nation’s premier thought leader on effective strategies to improve primary care education and practice, both here and around the world.

These strategies include:

• Establishing Primary Care models of education, mentorship, training, and scholarship;
• Exploring and implementing best practices in clinical preventive services for routine patient visits;
• Offering rigorous evaluations of clinical programs to improve patient care and safety; and
• Expanding primary care rotations in rural, under-served, and international locations.

Beginning July 1, 2016, the Center is engaged in a five-year, multi-million dollar collaborative agreement grant from the United States Department of Health and Human Services to conduct system-level research to study the social determinants of health and advance primary care training to produce a workforce that can effectively address the behavioral, social, cultural, and economic factors that impact health. Northwestern is the only university in the nation to receive this grant to study the social determinants of health.

OPPORTUNITIES FOR SYNERGY WITH OUR UNDERGRADUATE PROGRAMS


Health and Society program through Feinberg

Chicago Health and Medicine Concentration
In 2015, the Lancet Commission on Global Surgery released its report entitled *Global Surgery 2030*, which argues that worldwide sustainable human welfare will be impossible unless the international community addresses the enormous global burden of disability from surgical disorders. More than 90 percent of the world’s six million deaths from injury each year occur in low- to middle-income countries. More than five billion people around the world cannot access the treatment needed should they bleed after childbirth, suffer a burn, or break a hip. The resultant innumerable preventable deaths and catastrophic expenditure is a global crisis that cannot be ignored.

Surgery is a complex, interconnected system involving first responders, transportation, communications, physician and allied health capabilities, infrastructure, industry, and supply access. As emergency relief workers in the aftermath of the Nepalese earthquakes, Feinberg surgeons learned first-hand some frustrating truths: the ability to save patients was limited by the absence of common, basic surgical equipment; collaboration between relief organizations and leadership from local government was woefully lacking; and, when the world’s attention turned away, international commitments evaporated quickly. Longterm solutions are needed but will not come easily.

The Center for Global Surgery and Rehabilitation seeks to address critical deficits in surgical access, quality, and outcomes in resource-poor settings, focusing on understanding and improving systems of care, capabilities of medical personnel, and infrastructure needed to deliver high quality, efficient surgical care. The complex,

**CENTER GOALS**

- Cultivate physicians experienced in research, policy, and surgical skills, who bring the commitment and compassion to reduce the burden of untreated surgical disease in resource-limited areas and to ensure the next generation of capable surgical leaders.
- Facilitate the understanding and elimination of socio-economic, cultural, and environmental barriers to surgical access by seeking collaboration amongst diverse faculty and students.
- Ensure appropriate training and/or support for faculty and students to be efficient agents of change in health services, advocacy, administration, and coalition-building.
- Advance the development of transformative technologies.
- Promote thoughtfully conceived and executed medical mission projects, providing short-term burden of care alleviation for resource-limited populations, while simultaneously training local clinicians, Feinberg students, and faculty.
- Collaborate with other international organizations to alleviate the burden of surgical care for those in resource-limited areas, develop tools to study outcomes, and seek ways to eradicate the barriers to quality, timely, and cost-effective elective and trauma surgery and rehabilitation.
entrenched issues involved will require groundbreaking innovation, integrating expert ideas from many disciplines, compassion, dedication, and experience. The Center will promote and support partnerships in research and clinical programs between our faculty and their peers in low-resource communities, other university programs, and with other stakeholders organizations (private, philanthropic, and governmental).

Only six percent of all surgical procedures performed occur in the world’s poorest countries where one-third of the world population lives. Significant investment in surgical systems is required. The Center for Global Surgery and Rehabilitation will help to produce a future generation of Northwestern-educated leaders with the requisite interest, compassion, skills, and ethical compass to seek and institute effective solutions.

Current faculty projects are piloting innovative ways to improve access to quality and efficient surgical care. The two projects featured below highlight both the desperate need for and promise of this work.

**THE NEPAL TEMPLATE: COMBINING SHORT-TERM MEDICAL MISSION WORK WITHIN THE CONTEXT OF A LONGTERM PARTNERSHIP**

Hospital improvements, developed through several years of work between Operation Walk, Northwestern faculty, and Nepal Orthopaedic Hospital (NOH), included critical surgical equipment, an intensive care unit, streamlined clinical protocols, and surgeon and allied longterm health training.

These were unexpectedly tested when NOH became the epicenter of earthquake relief, caring for hundreds of catastrophically injured poor. Operation Walk and Northwestern’s longstanding relationship with and intimate knowledge of the hospital and the capacity of its staff allowed for the rapid mobilization of support (financial, equipment, and personnel). An expert surgical team was sent, customized to meet the hospital’s needs. This partnership resulted in the care of thousands of patients injured in the earthquakes.

Operation Walk Chicago/NOH teams were among the first responders. Due to enhanced resilience of the hospital following ongoing structural and care improvements from their multi-year partnership, care for the patients injured in the earthquakes was delivered in a remarkably cost-efficient way. The Center for Global Surgery and Rehabilitation will apply this innovative model for trauma intervention in other settings where surgical resources are most lacking.

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**Bolivia Trauma Care Initiative**
(Supported in part by the Global Health Initiative Fund)

- **Goal:** reduce trauma fatalities through an improved responder system
- Pilot project instituting a systems-based approach to improve outcomes
- Develop and institute a novel trauma care registry
- Data collected determines culturally appropriate prevention strategies

**Operation Walk Chicago**
(Ongoing Feinberg faculty program)

- **Goal:** develop a sustainable way to deliver costly but necessary joint replacement surgery in a low-resource country
- Seven-year clinical and educational partnership with Nepal Orthopaedic Hospital, a charitable facility
- Collaboration has focused on facility-wide upgrades in operating rooms, recovery rooms, rehabilitative services, and surgical and nursing care
- Physician continuing education in-country and remotely

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**OPPORTUNITIES FOR SYNERGY WITH OUR UNDERGRADUATE PROGRAMS**

- Supervised Global Health Research course and mentorship opportunities
- International Perspective on Mental Health; Managing Global Health Challenges; Health and Humanitarianism; comprehensive health intervention
- Disability and Global Health: Mumbai project with Operation Smile
- Refugee and Immigrant Health
- BME International Electives and BME D43 grant with Kellogg School of Management and McCormick School of Engineering
CENTER FOR GLOBAL CARDIOVASCULAR RISK

BACKGROUND

Heart disease is the leading cause of death and disability around the world—not HIV, not tuberculosis, not malaria, but heart disease, with approximately 16 million heart and stroke deaths every year worldwide, or nearly one out of every four. And although heart disease death rates have declined by more than 50 percent in the United States over the past quarter century, rates remain high in many lower resource countries.

Heart disease also commonly affects people at younger ages in poorer country settings. For example, the average age of a first heart attack in India is seven to ten years younger than it is in the United States. Death rates from heart disease in the United States have fallen because of a combination of population-level policies and individual-level treatment. We are introducing the Center for Global Cardiovascular Risk to help translate what is working successfully here in the United States into action around the world. Through the Center, we also will seek to learn from other populations and cultures to further improve the care we provide to our own patients here at home. This Center will aim to engage with the wider world in a longitudinal, sustainable, and mutually beneficial fashion.

RESEARCH

Northwestern has a history of high-impact global cardiovascular health research, including studies led by professor emeritus Jeremiah Stamler, MD, who was the principal investigator of the United States-People’s Republic of China study from 1983 to 1994, and the landmark INTERSALT and INTERMAP studies, the latter of which continues through today.

More recently, assistant professor Mark D. Huffman, MD, MPH, has been leading a heart attack quality improvement clinical trial across 63 hospitals in Kerala, India, in his and his team’s effort to take strategies that have been successful in improving heart care in the United States to other parts of the world. By working closely with the Cardiological Society of India - Kerala Chapter, the team is trying to reduce the burden from heart attacks in India. Dr. Huffman has a long track record of working in India. He served as one of the first cardiologists supported by the NIH’s prestigious Fogarty International Center global health fellowship, and later became Northwestern’s first recipient of the NIH’s highly competitive five-year “Pathway to Independence” grant to continue his research in India while a faculty member at Northwestern. His team has created an outstanding infrastructure that has already supported a second cardiology fellow with another student scheduled to work in Kerala in 2016.

Dr. Huffman has created a satellite of the Cochrane Heart Group, a research organization based in the United Kingdom that aims to evaluate and synthesize evidence to improve health policy and healthcare decision making through systematic reviews. With more than 50,000 cardiovascular publications each year and growing at a rate of 20 percent every year, the need for evidence synthesis for better decision making is growing exponentially. The Cochrane Heart Group satellite leverages Northwestern’s strengths in library science, health and biomedical informatics, and cardiovascular medicine to help influence health and
healthcare policy around the world. The Cochrane team has used its work to directly influence or change the World Health Organization’s biennial Model List of Essential Medicines, research activities within Doctors Without Borders, and guidelines for the European Society of Cardiology. This model of research and care can be used going forward to aid our initiatives in reducing cardiovascular risk worldwide.

TRAINING

Northwestern faculty have extensive expertise in bidirectional global cardiovascular health research training.

• Northwestern has hosted and continues to host numerous visiting scholars interested in cardiovascular health research training, including individuals from low- and middle-income countries.

• Northwestern faculty mentor students, residents, and fellows to pursue internationally mentored clinical research fellowships through the Fogarty International Center and the United States State Department’s Fulbright program to gain the skills, experiences, and relationships to build a career in global health.

• Northwestern faculty lead high-profile programs that attract trainees from around the world, including: Darwin R. Labarthe, MD, PhD, MPH, professor of preventive medicine, has served as co-director of the International Ten Day Teaching Seminar on Cardiovascular Disease Epidemiology and Prevention, which was founded by Dr. Jeremiah Stamler nearly 50 years ago.

Dr. Huffman is the senior program advisor to the World Heart Federation’s Emerging Leaders program, which aims to increase capacity for implementation science, health systems, and health policy research.

IMPACT

Millions of people around the world have the potential to live longer, healthier lives if we can disseminate what we know here in the United States to populations in need. It has always been clear that death and disability exact a very high price on communities like those we see in urban and rural India. That price is high not only in terms of human suffering, but also in basic economic terms. Families are pushed into poverty or borrow against their limited assets to cover the costs of care. Premature death and disability depress the economic growth of any society, and global direct and indirect costs from chronic diseases such as heart disease are estimated to cost $47 trillion by 2030. Therefore, a major goal of the Center for Global Cardiovascular Risk’s work will be to translate knowledge into action, strengthen local health systems, reduce the risk of heart attack and stroke, and improve health policy and global cardiovascular health.

OPPORTUNITIES FOR SYNERGY WITH OUR UNDERGRADUATE PROGRAMS

Supervised Global Health Research course
Social Determinants of Health course
Cancer care in the developing world is nearly non-existent given the complexity of the disease, its many forms, and a lack of access to equipment, supplies, and trained physicians. Yet, synergies in cancer education, screening, and treatment abound in global health at Feinberg. The Center for Global Health Cancer Care and Prevention, in partnership with the International Relations Institute at the Robert H. Lurie Comprehensive Cancer Center of Northwestern University and in synergy with global academic partners, will work to bring humanitarian cancer education and treatment programs to under-served areas worldwide.

One development is a new cancer care program in a rural Tanzanian hospital. Harnessing the power of eHealth and mHealth technology, along with tools like brochures on breast cancer and self-examinations translated into Swahili, we are bringing cancer care where it has never been before.

In partnership with the Lurie Cancer Center and the Global Health Initiative Fund, we also are bringing necessary screening equipment and supplies for enhanced diagnosis and care. Our work with our local and international partner institutions helps us to fulfill our commitment to positively impact the lives of those living with cancer here and around the world.

We also aim to aid large population research studies. Population science-based cancer research at Northwestern, especially in regard to cancers with population disparities, presents an extraordinary opportunity to study disease patterns and improve treatment on a global scale. These robust collaborations will lead to definitive educational and translational clinical advances that benefit patients and families at home and across the globe.

**CENTER GOALS**

- Establish oncology models of education, training, and mentorship.
- Identify and implement best practices in clinical preventive services for cancer stricken patients.
- Work in partnership with the Lurie Cancer Center and local providers to assess clinical programs to improve patient access, prevention, and treatment for cancer care.
- Expand cancer care educational rotations in under-served global locations.
- Create scholarship opportunities in global health cancer care.
- Collaborate with the Lurie Cancer Center, a founding member of the National Comprehensive Cancer Network, to develop and share effective global health guidelines in cancer care.

**OPPORTUNITIES FOR SYNERGY WITH OUR UNDERGRADUATE PROGRAMS**

- Supervised Global Health Research course - mentorship opportunities
- Managing Global Health Challenges
Bringing the knowledge and resources of Northwestern to the world through our Center for Global eHealth Innovation is breaking new ground across top academic institutions in this country, and will benefit the world at large. Whether it is building an education program in breast cancer, prostate, or cervical cancer screenings, creating academic collaborations in country, or providing distance-learning for training and best practices, our aim is to reduce suffering and health disparities across the globe.

eHealth (electronic health technology) is a critical way to conquer geographic chasms and build a bridge of knowledge and care. Educational eHealth aids in the care of patient populations on a humanitarian level. It can lead to clinical care that employs remote diagnosis and treatment of patients using telecommunications technology. It is a vital enterprise that includes distance-learning, diagnostic doctor-patient care, peer consultation, and a portal of communication for our international patients who come to Northwestern.

The mission of the Center for Global eHealth Innovation is to work collaboratively and responsively University-wide to deliver the best education and clinical global healthcare via state-of-the-art technology. We will do this by partnering with expert faculty in the field and through the adoption and development of new standards to implement existing and emerging eHealth and mHealth technologies. The Center for Global eHealth Innovation will have an international reputation for excellence in providing a broad range of informative and practical education for healthcare providers worldwide. In support of this process, the Center adopts and promotes relevant applications and seeks to develop new ones.

The purpose of the Center is to link the University’s educational activities with our partner institutions worldwide. The Integrated Media Services group at Feinberg currently provides services including lecture capture and web broadcasting, video-conferencing for surgical and clinical broadcast, and broadcast of physician continuing education for events and symposiums. The Center also consults in the design, maintenance, and operation of medicine-specific conference and broadcast facilities. This, in turn, will create a digital library that will expand our global reach in medicine and research.

The creation of a formal Integrated Media Group customized for global health via the Center will:

- Create an accessible, digital, password-protected library of pertinent educational information related to global health in a wide variety of disease-specific areas;
- Advance impactful distance learning opportunities and programs for partner institutions, including serving specific-use cases in remote areas;
- Promote and create standards in media computing in international and rural settings;
- Provide small and large event media captures and broadcasts for medical trainees, faculty, and alumni, as well as learning and advancement at partner institutions;
- Develop eHealth and mHealth applications and infrastructure to support global health activities University-wide; and
- Support research and translational efforts in the multidisciplinary science of mobile and wireless technologies applied to healthcare for global health problem-solving.

The Center for Global eHealth Innovation and Feinberg’s Integrated Media Services group will serve as a core team around which Northwestern media groups can collaborate to advance media technologies used educationally and clinically, and explore emerging technologies to benefit global medicine research and education at every level.

OPPORTUNITIES FOR SYNERGY WITH OUR UNDERGRADUATE PROGRAMS

Analytics for Social Good: collaborative projects with Kellogg School of Management
Collaboration with The Garage
Facilitation of virtual projects for undergraduates
AN EXTRAORDINARY VISION WITH A PROFOUND IMPACT

The Institute for Global Health will actively engage the world through a cross-pollination of knowledge and effective partnerships. Endowed funding to create a sustainable Institute for Global Health will provide long-term stability and promote continued growth while ensuring reliable annual income for the Center in perpetuity. This Institute will heighten the global reach of the University for the greater good, significantly address health inequalities, and save lives worldwide.

It is Northwestern at its best.

WE WILL.

Promote a network across Northwestern’s schools and departments, and with partners around the world, to improve the health of populations, funding solutions to pressing international medical concerns through innovative interdisciplinary research, education, policy, clinical care, and public health.

Assist Northwestern faculty and students with administration and funding for faculty-driven projects, leveraging collaboration to continue organic, entrepreneurial growth.

Encourage Northwestern faculty and students to perform international, in-country medical care, research, and education in low-resource communities, side-by-side with and at the invitation of their host country peers, designed to meet specific needs of the community and in response to local vision and expertise.

Recruit top global health faculty and encouragement of Northwestern faculty to develop interest and expertise in global health.

Partner with international businesses, hospitals, and other stakeholder organizations in the pursuit of improving the health of global populations.

THE INSTITUTE FOR GLOBAL HEALTH