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## University Engagement in Global Health

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A new global health landscape has emerged over the past decade. Although infectious diseases still plague the poor in low- and middle-income countries, noncommunicable diseases cause the greatest proportion of deaths and disability worldwide.<sup>1</sup> The funding landscape has also changed: United Nations agencies play a smaller role in health financing than they once did, whereas the Global Fund to Fight

Globalization has driven many of these changes, as exemplified by the increased sharing, among countries and across government sectors, of both health risks and opportunities to respond to them<sup>2</sup>: even as globalization contributes to looming threats of new pandemics such as avian influenza, it fosters innovation and new opportunities for collaboration. In the next decade, we expect to see far more “reverse innovation”—

outcome or a key determinant of all eight Millennium Development Goals.

Social justice movements, often fueled by student activism, are a hallmark of university campuses. To serve student interests, universities have traditionally established programs allowing students to address real-world problems. More and more today, universities are also creating environments that support interdisciplinary scholarship and international research and are aligning their research and educational priorities. The field of global health has revealed gross disparities between low- and high-income countries and among subpopulations within countries and is thus a natural channel for student compassion and action. Its popularity among today's young people has been enhanced by celebrity champions and corporations that support high-profile campaigns to end poverty and genocide, the belief that health is a basic human right, and a multi-billion-dollar commitment over the past decade by public and private sources to fight the AIDS pandemic.

Such student passion for reducing health disparities and universities' efforts to become more global in a competitive market-

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AIDS, Tuberculosis, and Malaria, bilateral aid from the United States and the United Kingdom, and the Bill and Melinda Gates Foundation have grown as vital channels of assistance; current aid structures encourage greater ownership of and financial commitment to programs on the part of low- and middle-income countries themselves.

innovation moving from low- and middle-income countries to higher-income countries. Moreover, foreign-policy agendas increasingly focus on social issues such as poverty, health, and the environment. Health is now an important component of national security, is viewed as a sound investment for economic development, and is either a measurable

University Contributions to Improving Global Health.	
<b>Education and training</b>	Education and training programs equip the next generation with skills to solve complex global health problems, participate in collaborative teams across disciplines and professions, and work directly with partners in communities.
<b>Research</b>	Research reflects the shifting global burden of disease and requires collaboration among researchers with diverse investigator expertise in identifying and testing effective preventive and care interventions.
<b>Innovation</b>	Universities cultivate innovation in the discovery and design of technologies and programs and empower entrepreneurs to take proven innovations to scale for greater impact.
<b>Capacity building</b>	Collaboration with international partners helps fill critical, short-term gaps in health care personnel and research skills, while building long-term local human resource and infrastructure capacity.
<b>Technical support</b>	Universities can provide valuable technical support to programs by producing evidence-based knowledge on program effectiveness through program evaluation and implementation research.
<b>Service delivery</b>	Some universities provide health services to populations in need, either directly (particularly during natural disasters) or through establishment of affiliated organizations.

place for students and faculty have resulted in an unprecedented surge of global health as an academic field in the United States and, increasingly, elsewhere in the world. Since 1999, when the term “global health” was first used by the University of California, San Francisco, global health curricula, programs, centers, departments, and institutes have flourished. The Consortium of Universities for Global Health (CUGH), formed in 2008 to support this growth, now includes nearly 100 North American universities and colleges. CUGH estimates that the number of “comprehensive” global health programs at universities (programs involving faculty and students from more than one school, engaged in both research and education, and partnered with at least one institution in the Global South) increased from 6 in 2001 to more than 78 in 2011; approximately 250 North American universities now have global health education offerings. Global health is making its way into many undergraduate liberal arts

curricula<sup>3</sup> and is the focus of master’s degree programs. The Association of Schools and Programs of Public Health has developed a new global health competency model, and one fifth of U.S. medical specialty residency programs have global health activities.<sup>4</sup>

Global health as an academic field reflects the new global health landscape and is a driving force behind the globalization of higher education, with curricula emphasizing interdisciplinary approaches and requiring students to synthesize, evaluate, and apply knowledge relevant to complex real-world challenges such as tobacco use and obesity — key contributors to the rise of non-communicable diseases. Relevant educational programs integrate perspectives from numerous disciplines and specialties, such as cultural anthropology, psychology, economics, engineering, business management, policy, and law, instead of focusing only on subjects traditionally taught in schools of public health and medicine. To foster this approach,

many universities have created environments and promotion processes that support interdisciplinary collaboration among faculty from various schools and departments.

Many universities are developing new global health educational models. For example, Rice University’s Beyond Traditional Borders program requires students to address problems by pursuing potential solutions from inception to implementation, providing opportunities to connect classroom learning to field testing of those solutions.<sup>5</sup> At Duke, vertically integrated curricula allow undergraduates and graduate and professional students to share expertise and experience, improve their mentoring skills, and tie their classroom learning to their field experiences and the work of faculty. Many global health curricula offer opportunities for students from around the globe to participate together in fieldwork, academic modules, and service-learning internships, preparing learners to think creatively and holistically about global

health challenges, while instilling a culture of reciprocity. People living in places most affected by specific health challenges usually have the best insight into innovative control strategies and can provide excellent mentorship to students. Distance learning technologies can facilitate this exchange between the classroom and the field.

International, multidisciplinary research collaborations are generally far more attuned to the new global health landscape than initiatives led exclusively by institutions in high-income countries, as many past initiatives have been. These collaborations generally focus on translational research, population-level health, and determinants of health, addressing complex issues that disease-specific approaches may miss. Ideally, they include a capacity-building component, in which academic institutions in high-income countries partner with institutions in low- and middle-income countries that are seeking to establish world-class research programs.

In addition, innovation in technology development and delivery of health care services are key components of many current global health research agendas. Funding agencies increasingly look to universities to cultivate research geared toward innovation, as illustrated by the recent creation of the Higher Education Solutions Network by the U.S. Agency for International Development to help solve global development challenges, including those in health.

Maintaining the current mo-

mentum will require confronting formidable challenges. University administrative and other support services and offices require a range of expertise to address the legal, financial, operational, technological, ethical, and compliance issues inherent in working internationally. Ideally, all universities would embrace global health as an academic field and make it possible for students to enter it through myriad undergraduate, graduate, and professional degree programs. It would help if better-defined career paths for students were developed — for example, by establishing stronger linkages with U.S. government agencies and nongovernmental organizations working in global health, particularly in such areas as program evaluation and implementation research. Most important, there is a threat in some quarters of declining resources for global health, concurrent with an increasing need for these funds by universities, not only in high-income countries but also in low- and middle-income countries, as local investigators assume leadership roles and take greater ownership of their research studies. More external support is needed, but universities can also boost their internal fundraising efforts and cultivate specific philanthropic gifts to help launch or maintain global health programs, whether directed toward student education and training; faculty focused on recruitment, research, and education; or technology transfer. North American universities should also enhance efforts to work more collaboratively in implementing their programs.

There has been great progress in the past three decades in reducing child and maternal mortality, slowing population growth, and expanding AIDS treatment. Efforts by universities to advance the field (see table) could further reduce health inequities. And since global includes local, global health programs should also offer students and faculty opportunities to work within their own communities, translating the lessons they've learned from other countries and sharing their results with the international community. As the global disease burden increasingly necessitates moving away from disease-specific approaches, interdisciplinary collaboration in discovering and delivering better methods for disease prevention and treatment, particularly for noncommunicable diseases, will be key to future successes.

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