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Special Report

The global challenge

Virginia Gewin¹

The international effort to address the health crisis in the developing world is providing a wealth of career opportunities. Virginia Gewin reports.



Michael Merson: global health is more than treatment.

The health crisis faced by the developing world is daunting, especially in infectious diseases. According to the World Health Organization (WHO), 8.8 million people were infected with tuberculosis in 2005 and 1.6 million died from the disease, which disproportionately affects the developing world. The HIV pandemic also continues to take its toll in this region. For industrialized nations, helping these countries to tackle such problems is a challenge — but it is one that is attracting increasing funds from governments in the developed world and philanthropic organizations. As a result, international efforts to improve global health now offer a wide range of career opportunities.

The kinds of skills required extend beyond the obvious front-line medical support and can encompass areas such as epidemiology, policy or economics. "Global health is prevention of disease, not simply treatment," says Michael Merson, director of the Global Health Institute at Duke University in Durham, North Carolina.



Nils Daulaire worries that career paths are ill-defined.

But for students who wish to pursue a career in global health, the path to success is not always easy to follow. Although a number of institutions have set up training programmes, departments and degrees devoted to the issue, it can still be difficult to find a way into the field. "It is an extremely robust job market for global-health professionals, but the challenge is finding an entry point because there's no defined career track," says Nils Daulaire, president of the Global Health Council, an alliance of global-health organizations based in Washington DC.

Much of the growth in global health has been funded by donations from organizations such as the Bill & Melinda Gates Foundation and the Global Fund to Fight AIDS, Tuberculosis and Malaria. These organizations tend not to be the primary employers, but the initiatives that they fund — to combat disease or generate new vaccines, for example — offer numerous opportunities. The sums of money flowing into the sector are significant. The Gates Foundation has spent some \$13 billion since 1994 on global-health programmes, and the Global Fund has provided \$7 billion since 2002 to fight the three leading health issues in the developing world.

More than medicine



A career in global health can involve policy, politics and economics as well as medical fieldwork. G. MENDEL/GLOBAL FUND/CORBIS

As a result, there is plenty of research-based work available, from developing AIDS vaccines through to deriving drugs to treat sleeping sickness. But global-health concerns require more than medical intervention. "One of the challenges here is that there are a lot of people entering this area from the clinical and the research side," says Daulaire. "And although both of those are important contributors to the mix, they are not the most critical elements to make a difference to the lives of the 2 billion poorest people in next decade." The skills in demand are management, cultural understanding and an anthropological viewpoint, he adds. Harold Jaffe, a public-health expert at the University of Oxford, UK, agrees, saying that behavioural scientists, economists and anthropologists can "play a role equally important to medical doctors."

The demand for such a range of skills has contributed to the emergence of health-management organizations, which take skilled scientists and put them to work in a country. Two Boston firms, for example, Management Sciences for Health and John Snow, together employ more than 2,000 workers worldwide focused on every aspect from the clinic to policy development.

And the demand for skills is very real. The US Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, for example, is currently recruiting epidemiologists to develop research protocols, to design studies and to track diseases rates. It is also actively looking for public-health advisers to manage health programmes such as immunization activities and AIDS prevention programmes. And it needs laboratory technicians, microbiologists and behavioural scientists to document the social change needed to prevent disease, as well as medical officers to oversee programmes in specific disease areas.

The WHO is looking for similar talents. And, although the focus of the international partnership of the GAVI Alliance is on delivery of vaccines, its needs are also wide-ranging. In addition to epidemiologists, it is increasingly looking for people with skills in programme management and the economics of public-health intervention. It has become increasingly important for non-government organizations and government agencies to monitor the effectiveness of global health programmes to show accountability.

Despite the interest in global health and the intense need for skilled professionals, there is not yet a cohesive career path in developed or developing nations that includes training in the requisite management skills, structured opportunities for overseas experience and well-defined entry-level positions.

"We've realized that training and career development are very fragmented and don't fit together as a proper career path," says Catherine Davies, a populations and public-health-science programme manager at the Wellcome Trust, Britain's largest research charity. To address this, the trust aims to increase its funding to create a series of training fellowships in public health and tropical medicine that should provide a career path starting at the MSc level and leading up to senior posts.

Experience counts

One of the major handicaps for US or European students trying to kick-start a career in global health, is their lack of in-the-field experience. "There is nothing early in one's career as valuable as prolonged field experience to prove you can handle the hardships of living in often difficult situations," says Daulaire. Both the CDC and the WHO offer internships for those hoping to gain overseas experience. Another way to gain experience is to join the US Peace Corps or work with non-profit organizations that are willing to accept volunteers (see ['Be prepared'](#)).

Across the United States, the number of training opportunities and faculty positions has increased in recent years. The University of Washington in Seattle, for example, is launching a global-health department that will house 50 faculty members and 500 students over the next few years.

Given the diverse skills in demand, it's not surprising that the training models range from medical to public-health models. The University of California, San Francisco, has created an MS and PhD programme in global health, for instance. And, in collaboration with the University of Washington, the University of Pennsylvania and Johns Hopkins University, it has also set up a programme for clinical scholars that allows residents in eight different disciplines to gain overseas experience through partnerships with Kenya, Uganda, Botswana and Tanzania.

Enhancing opportunities for those who live in developing countries is a priority for many US programmes. In addition to recruiting faculty members, the \$110-million Global Health Institute at Emory University in Atlanta, Georgia, has developed a drug-discovery training programme for South Africa. The US National Institutes of Health's Fogarty International Center has 16 programmes for scientists from both the United States and the developing world, most of which are focused on infectious diseases, including AIDS.

Targeted training

In Europe, initiatives such as those sponsored by the Wellcome Trust increasingly try to take training programmes to the countries in question rather than recruiting students from those countries and bringing them to Europe. Norway, for example, has supported the development of master's programmes in international health in conjunction with the Muhimbili University College of Health Sciences in Dar es Salaam, Tanzania.

Politics invariably plays a major role in global health, and it has become important for public-health students to learn the skills necessary to operate in highly politicized environments. Kelley Lee, a reader in global health at the London School of Hygiene and Tropical Medicine, says that students need to be more politically savvy to work with or for the dominant multilateral organizations, such as the WHO, World Bank and World Trade

Organization. In an effort to capitalize on multidisciplinary expertise, a collaboration between the London School of Hygiene and Tropical Medicine and the London School of Economics allows MSc students to take courses at both institutions.

Such initiatives may help to address the skills shortage in the sector. But these formal programmes don't come close to bridging the gap between scientific and clinical knowledge in the developed world and local need in the developing one.

Success may, ironically, put those trained in global health out of work, as the point of programmes funded by the Gates Foundation and the Global Fund is to put local people in the developing world in charge of their own public health. But the problem is too large and complicated to make global-health professionals obsolete any time soon.

Be prepared

Top tips for pursuing a career in global health.

- Get overseas experience. Make sure you are cut out for living overseas in difficult conditions with few resources. Programme directors lament the extra costs associated with people abandoning posts because they can't handle the conditions.
- Look for programmes that have well-established partnerships with developing nations.
- Network. Join the Global Health Council or other non-profit groups.
- Seek relevant short courses for your speciality, such as the advanced vaccinology course conducted by Mérieux Foundation and the University of Geneva, designed to educate scientists and biotech decision-makers about preclinical vaccine research as well as design and monitoring strategies for clinical trials.
- Look for mentors who understand the political situation in developing countries.

Virginia Gewin

1. Virginia Gewin is a freelance science writer based in Portland, Oregon.

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