

# A Global Science Corps

BY HAROLD VARMUS

**O**VER THE PAST CENTURY, while average life expectancies in much of the world rose from less than 50 years to nearly 80 years—thanks to advances in biomedical research, medical care, and public health—the well-being of those who live in developing nations has lagged far behind, with average life expectancies in some of the world's poorest countries remaining below 40 years.

The reasons for this sad state of affairs are familiar. Most developing countries lack the financial resources to promote the measures for prevention and treatment of disease that have been widely adopted in advanced economies. Medical science has not made the hoped-for progress against illnesses that are especially prevalent in poor countries, in part because research is largely conducted in wealthier countries. Poor nations rarely have the means to address their own health problems effectively because indigenous capacities in science, technology, and medicine have been undermined by poverty, social and political instability, and disease itself. The persistent out-migration of many of the best young minds further cripples such societies by removing future leaders, educators, and researchers—those required to develop a modern community that includes science and technology.

The effects of brain drain are exacerbated by governments' weak support for whatever talent remains in science education. In Africa, for example, faculty are so severely underpaid that most of them must take second and even third jobs to survive, and their teaching loads are heavy. These conditions make it virtually impossible to do serious research. Also, governments in Africa give almost no support for graduate students, so faculty do not have the quick hands and fresh thinking that help propel research in the United States. These overburdened faculty also lack modern equipment and ready ways to update their skills.

Despite these obstacles, small scientific programs of high quality do exist, even in some of the poorest countries. But in my view, such communities could be enhanced considerably, and their successes more likely replicated, by the simple sustained presence of trained scientists, young or old, from the developed and the advanced developing countries.

I first raised this idea at the Nobel Jubilee Symposium in Stockholm in December 2001, in an address that can be read at [www.mskcc.org/mskcc/html/6285.cfm](http://www.mskcc.org/mskcc/html/6285.cfm). Since then, the proposal has

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gained a name—the Global Science Corps, or GSC; the beginnings of financial support (from the Rockefeller Foundation); and an administrative home (at the Science Institutes Group, a small international team of senior scientists to which I belong). As the idea currently stands, GSC volunteers will include individuals of varied nationalities and at different career stages who wish to share their skills and experience. They may be, for example, older scientists who are nearing retirement or have recently retired, faculty members seeking sabbatical experiences that will expose them to new scientific problems, and trainees finishing postdoctoral work and looking for novel and valuable experiences before making permanent career commitments.

A major objective of the GSC is that local scientists and students gain directly from their training and research collaboration with the foreign volunteers; put more formally, the GSC is an important way to help “develop human capital” locally. The volunteers will also share their expertise beyond the host facilities, lecturing at some of the nations' other institutions, visiting university laboratories, and spreading their knowledge through the educational systems. They themselves will benefit from exposure to science in another culture, new research collaborations, access to unfamiliar clinical and biological materials, and chances to address urgent local challenges such as malaria, AIDS, and food-security issues.

The GSC is not, of course, an entirely new idea. But although it has overtones of the Peace Corps, its focus on science and highly trained personnel is distinctive. And it pays homage to many predecessors—such as the famous British geneticist J.B.S. Haldane, who worked with his wife at a genetics station in India for the last seven years of his life.

Another instructive model can be found in a program also coordinated by the Science Institutes Group—the Millennium Science Initiative (MSI), one of several efforts designed to strengthen research facilities in developing nations. The MSI has established Centers of Excellence in several middle-income but relatively science-poor countries. MSI scientists residing in these countries provide planning and leadership, which ensures a focus on issues of local importance and on training for local scientists.

A Global Science Corps, funded in conjunction with other efforts such as the MSI, could be a powerful tool to help developing countries cultivate expertise that is desperately needed for promoting science and for improving the health and social well-being of their people. I urge readers interested in helping with such programs to visit our Web site ([www.msi-sig.org](http://www.msi-sig.org)). **H**

