

The Culture of Research

Samuel Broder, M.D., joined the NCI's Metabolism Branch (now part of CCR) in 1972, became Head of the Clinical Oncology Program in 1980, and was appointed NCI Director by President Ronald Reagan in 1989. He subsequently moved from government research into the private sector. Broder is currently Vice President and Chief Medical Officer at Celera, a company that first came to prominent public attention for its part in the race to sequence the human genome, and which now has a strong focus in personalized medicine. Twenty-five years after his pivotal contributions to the discovery of the first HIV-1 antiretrovirals, Broder reflects on the impact of his early discoveries and the research environment within the NCI that made them possible.

Twenty-five years ago, in collaboration with industry, my team at NCI developed the first series of drugs that were active against HIV-1. We were a small group, but we had seen the lethal and terrifying effects of AIDS on patients and we wanted to do something to provide tangible and immediate relief.

I was fortunate to work with brilliant colleagues, including Hiroaki "Mitch" Mitsuya and Bob Yarchoan. The NCI also had a strong investment in basic science that proved of central importance to HIV pathology. At the time, NCI had a constant and almost unique commitment to search for viral

causation of cancer and to discover retroviruses in particular. NCI also had a longstanding research interest in the relationship between immunodeficiency diseases and cancer.

And yet, as important as the people and the resources are that make up a research organization, I believe its success also primarily lies in its culture. In addition to its scientific focus, the intramural program's research culture itself—one that encouraged taking intellectual risks to advance the forefront of knowledge, one that encouraged a strong relationship between

bench and clinical work, and one that encouraged interaction with industry—was key to our success.

Pushing the Limits

In 1962, Arthur C. Clarke wrote in an essay titled "Hazards of Prophecy: The Failure of Imagination," that the only way of discovering the limits of the possible is to venture a little way past them into the impossible. That boundary, of course, is constantly shifting with advances in technology and insight. But, it is very important to have a research culture that allows you to cross that boundary in attempts to push the outer limits of the possible, without misconstruing it as a kind of failure. If pushing limits is not encouraged, then you will end up with people devising very conservative, tried-and-true research agendas, and it will be very difficult to shift the therapeutic paradigm for difficult-to-treat, lethal diseases.

Today, AIDS is a chronic manageable disease, with over 30 FDA-approved drugs available for its treatment. The death rate due to HIV has plummeted since the mid-1990s. At the same time, we still don't have a way of eradicating the virus from the body.

Many people said, at the time that we were starting our research, that we didn't know enough, that the basic



(Photo: S. Broder)

President Ronald Reagan visits the Broder laboratory at NCI.