

Weaving the Future of Cancer and HIV/AIDS Medicine

Our lives are connected by a thousand invisible threads, and along these sympathetic fibers, our actions run as causes and return to us as results. — Herman Melville

When a scientist gives a talk or writes an article that describes where a specific cellular protein is located in relation to other proteins it interacts with, he or she almost always relies on a graphic depicting the protein as a labeled oval with simple lines or arrows connecting it to its protein partners in a “transduction cascade.” As helpful as these graphics can be in understanding the immediate connections, they cannot begin to capture the complexity of the actual physiology, which can include “a thousand invisible threads” of protein and gene interactions in space and time. This complexity is true of both normal and disease physiology, and it is at the root of the challenges facing us in detecting, treating, and even preventing cancer and HIV/AIDS.

Research aimed at unraveling such complex diseases requires significant resources, patience, and the ability to rapidly change direction as the scientific understanding evolves. Thus, in weaving together our strategic plan, the Center for Cancer Research (CCR) faced the formidable task of articulating strategic objectives to guide our work while, at the same time, making those objectives flexible enough to allow our individual researchers and their collaborators both within and outside NCI to nimbly pursue new leads in even the most unexpected directions.

At the heart of our strategic plan are dual foci: understanding the causes and mechanisms of cancer and HIV/AIDS, and intervening in the earliest possible stages in the disease processes. Just as important as the strategic objectives that we have put into place to support these aggressive goals are the approaches we pursue that provide the critical connectedness that will maximize our chances of success. These include:

- Strongly supporting basic, translation, and clinical research, not as separate entities but as a seamlessly integrated set of specialties

- Building meaningful collaborations among investigators both within NCI and across the research community and establishing incentives that reward such work
- Training and mentoring the next generation of investigators, including active recruitment at all levels, as well as providing significant laboratory experience for promising young students
- Empowering our researchers and their collaborators with access to world-class scientific resources and technical expertise, which allows them to answer the questions that *need* to be addressed, not just those that *can* be addressed with more limited resources

Perhaps the greatest challenge facing us—apart from the formidable challenges raised by cancer and HIV/AIDS themselves—is making sure that everything we do under our strategic plan is connected to all other parts of CCR and NCI, to the cancer research and cancer patient communities, and to the wider scientific and global community so that all can benefit from our efforts and we, in turn, can benefit from theirs. We know that, like cellular proteins, we are connected by “a thousand invisible

threads” to the entire cancer community and beyond, and that everything we do can have an impact elsewhere. To that end, we are committed to making our work toward attaining our stated objectives as transparent and accessible as possible through scientific publications and meetings, through online databases and other electronic means, and through public communication vehicles like *CCR Connections* and our Web site.

Finally, we recognize that any strategic plan, including ours, is only as good as the talent, dedication, and passion of those who implement it. On that count, I have no doubts: Everyone at CCR, scientists and non-scientists alike, is a critical thread in a rich tapestry of expertise and commitment to curing—or at least managing effectively—cancer and HIV/AIDS for patients everywhere.

The CCR Strategic Plan is available at our Web site, <http://ccr.cancer.gov/news/ccr-strategic-plan.pdf>

Robert H. Wilttrout, Ph.D.
Director, Center for Cancer Research

