



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

JUL 30 2008

The Honorable Joe Barton
Ranking Member, Committee on Energy and Commerce
House of Representatives
Washington, D.C. 20515

Dear Mr. Barton:

This letter responds to your request to update you on implementation of the NIH Reform Act's provisions requiring trans-NIH research coordination supported by a Common Fund.

I am pleased to report that trans-NIH research has become a vital component of our research enterprise. The NIH Reform Act has enabled this Agency to adapt to new research opportunities while continuing to pursue the latest and best science. Congress has appropriated \$495.6 million to support such coordinated research projects as molecular libraries, metabolomics technology development, the human microbiome, epigenomics, computational biology, clinical research and high risk science. These endeavors reflect the value of research not defined by any single disease, but by gaps in our knowledge of human biological systems that play a role in all diseases.

As examples, the Microbiome and Epigenome initiatives are the result of technological advances and discoveries emanating from the Human Genome Project. The subsequent innovations in high-throughput sequencing and other techniques have given us tools to search for micro-organisms associated with the human body that have not been previously identified. The Microbiome project will decipher this underworld of particles and define their role in health and disease. Similarly, epigenetics follows the success of the Genome Project by focusing on the regulation of gene expression, leading to the understanding of how our genes respond to developmental and environmental signals. Such research efforts are accomplished solely through collaborations and the focus on basic biology unrelated to specific organ systems or diseases.

We also have created multiple-Institute collaborations for the Obesity Research Task Force, the Blueprint for Neuroscience, the NIH Nanotechnology Task Force and the NIH Pain Consortium.

This trend should continue in the best interests of scientific discovery. As I have repeatedly testified before Congress, the key transformation from yesterday's approach to medical research to the science of today has been the convergence of concepts, opportunities and needs across all conditions and diseases. As we learn more about the molecular causes of diseases, we have found great similarities among the mechanisms that lead to diseases – once thought unrelated. Increasingly, research in one field finds unexpected application in another. The greatest research advances of recent years involve the fields of molecular and cell biology as well as genomics and

proteomics. These applications will not be limited to specific diseases or populations. Greater interdisciplinary efforts will be required as the mysteries of human biology are uncovered. The approaches mandated by the NIH Reform Act will require NIH to seek new ways of conceptualizing and addressing scientific questions. The translation from discovery to patient care will be better facilitated.

The scientific boundaries between NIH's Institutes and Centers have become blurred by the interdisciplinary coordination among them. The functional integration required by the Reform Act has helped this process. As you consider legislation affecting NIH in the future, I caution you that it would be a grave mistake to go backwards in mandating disease-specific research at a time when barriers need to be torn down, not rebuilt.

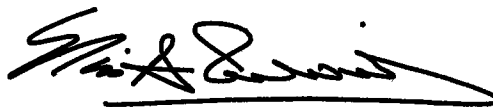
Recent discoveries demonstrate common characteristics for many varying diseases. These discoveries have spawned new ideas, methods and technologies leading to a new era of personalized medical treatment that will predict and preempt disease while requiring greater participation of patients in their own care. We are moving from the current paradigm of late, reactive intervention to a future paradigm of early intervention characterized by treatment tailored to the personal makeup of each patient.

We are discovering the underpinnings of disease at a staggering rate. For example, in the case of type 2 diabetes, one of the greatest health threats facing our Nation, we have progressed from having no knowledge of genetic factors tens years ago to discovering two genes associated with the disease five years ago, to 16 genes today. And in a matter of days, an additional 14 genes will be revealed. These discoveries are fueled by various components of medical research, including basic genomics that are part of our multidisciplinary approach to disease research.

We are certain that the best approach to research at NIH is the functional integration of research programs at our Institutes and Centers. The flexibility provided in the NIH Reform Act allows us to adapt to changes in science by pursuing the common factors of disease. Of course, NIH will focus on individual diseases, as appropriate and in accord with independent, peer-reviewed science. However, disease-specific mandates, while well intended, might undermine the progress we have made.

Please let me know if you are interested in additional details of NIH's implementation of the Reform Act. I have sent a similar letter to Chairman Dingell.

Sincerely,

A handwritten signature in black ink, appearing to read "Elias A. Zerhouni", with a long horizontal flourish extending to the right.

Elias A. Zerhouni, M.D.
Director



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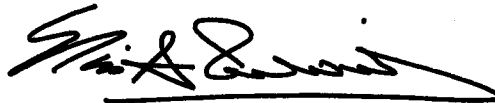
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