

## An Open Letter to Elias Zerhouni

The NIH peer-review process and NIH investments in research on microbial physiology, genetics, and pathogenesis have made possible remarkable advances in science and public health and have underpinned the development of recombinant DNA technology and the biotechnology industry.

However, the NIH peer-review process, and the research sector responsible for these achievements, are threatened by unintended consequences of the 2001 02 decision by the NIH National Institute for Allergy and Infectious Diseases (NIAID) to prioritize research of high biodefense, but low public-health significance (see Appendix 1) (*I*).

This prioritization, which was implemented by creation of funding set-asides, special funding review panels, and special funding review procedures, has transformed NIH-supported research in microbial physiology, genetics, and pathogenesis.

The result has been a massive influx of funding, institutions, and investigators into work on prioritized bioweapons agents: i.e., the agents that cause tularemia, anthrax, plague, glanders, melioidosis, and brucellosis. The number of grants awarded by NIAID that reference these agents has increased by 1500% (from 33 in 1996 2000 to 497 in 2001 to January 2005; see Appendix 2) (*I*).

Over the same period, there has been a massive efflux of funding, institutions, and investigators from work on non biodefense-related microbial physiology, genetics, and pathogenesis. The number of grants awarded to study non biodefense-related model microorganisms has decreased by 41% (from 490 in 1996 2000 to 289 in 2001 to January 2005; NIH Microbial Physiology and Genetics Initial Review Group; see Appendix 3) (*I*), and the number of grants to study non biodefense-related pathogenic microorganisms has decreased by 27% (from 627 in 1996 2000 to 457 in 2001 to January 2005; NIH Bacteriology and Mycology Initial Review Group; Appendix 3) (*I*).

The diversion of research funds from projects of high public-health importance to projects of high biodefense but low public-health importance represents a misdirection of NIH priorities and a crisis

for NIH-supported microbiological research.

The diversion of research funds comes at a time when research on non biodefense-related microbial physiology, genetics, and pathogenesis is poised for significant breakthroughs, made possible by the application of genomics, proteomics, and systems-biology methods (see Appendix 4) (*I*). These breakthroughs, and the accompanying dividends for public health and economic development, now either may not occur, or may occur only outside the United States, to the detriment of the U.S. national interest.

As researchers who have served on the NIH Microbial Physiology and Genetics and NIH Bacteriology and Mycology Initial Review Groups, or who have received grants reviewed by those Initial Review Groups, we urge you to take corrective action (see policy recommendations in Appendix 4) (*I*).

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Affiliations for these signatories and the names and affiliations of over 700 additional signatories are available in the Supporting Online Material (1).

#### Reference

1. Appendices and a complete list of signatories are available in the Supporting Online Material at [www.sciencemag.org/cgi/content/full/307/5714/1409c/DC1](http://www.sciencemag.org/cgi/content/full/307/5714/1409c/DC1).

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