

Scientists: White House Ignores Public Health

by Marcia Merry Baker

The March 4 issue of *Science* magazine features a letter and supporting documentation from over 750 scientists, protesting the policy of the Bush Administration, since 2001, to focus funding for research on a select few microbial agents considered as candidates for bio-weapons, and to sharply reduce funding for research on bio-agents of general public health importance. As of Feb. 28, there were 758 signators, including the president-elect, and seven past presidents, of the American Society for Microbiology.

Such a mass initiative is unprecedented in recent decades. A few voiced similar concerns in the 1980s, calling for an all-out public health research effort at the time of both identification of HIV/AIDS, and the resurgence of previously conquered diseases. During that period, Lyndon LaRouche commissioned reports from a task force he had formed in the 1970s. He warned of the danger of growing neglect of public health causing a “biological holocaust” if full-scale research, sanitation, and public health infrastructure were not developed nationally and globally.

Open Letter to NIH

“An Open Letter to Elias Zerhouni,” Director of the National Institutes of Health (NIH), was first released on Feb. 28 of this year, on the website of *Science*, and copies were also sent to Dr. Anthony Fauci, Director of the National Institute for Allergy and Infectious Diseases of the NIH; to Dr. Jeremy Berg, Director of the National Institute for General Medical Sciences; to the relevant oversight committees in Congress; and to seven scientific associations (see *Documentation*).

The scientists’ action—uncommon in the academic realm—is in line with the unprecedented institutional, public objections to the Bush/Cheney “emergency”/warfare regime practices, expressed over the past 18 months from the ranks of the diplomatic corps, retired military, career intelligence officers, and others. The gist of their Open Letter is that, “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 NIH is a major funder of both on-site research, and grants to projects all around the country.

The six pathogens receiving the focus of NIH attention are those causing tularemia, anthrax, plague, glanders, melioidosis, and brucellosis. The number of NIH grants has shot

TABLE 1

Disease Cases vs. Priorities, for Pathogens Research

(U.S. Cases per Year)

Disease	Ave. Annual Cases 1996-2003
Disease from Six Bio-Warfare Agents Prioritized by Bush Administration	
Tularemia	122
Plague	0
Glanders	0
Melioidosis	0
Brucellosis	103
Anthrax	3*
Disease from Other Pathogenic Micro-organisms	
Tuberculosis	17,403
Salmonellosis	42,457
Shigellosis	22,567
Borreliosis	17,542
Legionellosis	1,334
Ehrlichiosis	591
Pertussis	8,252
Syphilis	38,007
Gonorrhea	346,765
Streptococcal Infection	685,508
Meningococcal Infection	2,290
Streptococcal Infection, Invasive	4,371
Streptococcal Infection, Drug-Resistant	3,083

*22 bio-terrorism cases, all in 2001

Source: Appendix 1, “Public Health Relevance of Prioritized Bioweapons Agents, Data for 1996-2003,” Feb. 28, 2005, posted on *Science Magazine* Online, www.sciencemag.org/cgi/content/full/307/5714/1409c/DC1.

up by 1,500% for these disease agents, when the time period 1996-2000 is compared with the period 2001 to the present. In contrast, the number of grants to study non-biodefense-related pathogenic microorganisms (tuberculosis, streptococcal agents, cholera, and so on) fell by 27% over the same time period; with a fall of 47% in grants for what’s called “model microorganisms” of this category.

Information from Appendix 1 of the Open Letter’s four appendices, is summarized in **Table 1**. The import of the data presented is that, while the six “Prioritized Bioweapons Agents” focussed upon by the Administration should be studied, it is a public health menace to underfund work on other microorganism threats, which are causing multi-thousands of cases of illness even in “normal” times.

Appendix 2 shows the “Increase in number of grants for research on prioritized bioweapons agents.” Appendix 3 documents the “Decrease in number of grants for research on non-biodefense-related microbial physiology, genetics, and pathogenesis.”

Appendix 4 reviews and recommends scientific work, under the heading, “Research opportunities in basic microbial science.” Here the scientists stress the importance of broad-

based research, and give their policy recommendations of what must be restored. They caution, "By allowing research funding on basic microbial genetics, physiology, and pathogenesis to decrease as a consequence of prioritization of research on bioweapons agents, the NIH and the United States risk losing research momentum and missing research opportunities. The funding decrease will hinder research progress, jeopardize research infrastructure, deny research training, and discourage research careers in basic microbial science. The threat to basic microbial science comes at a time when there are exceptional research opportunities and exceptional potential for breakthroughs."

Three areas cited are the need for new antibiotics, the benefits of pursuing "systems microbiology" (involving gene sequencing, newly developed mass-spectrometry, imaging technologies, and so on), and what's known as "model microorganisms."

Need for New Antibiotics

Concerning the need for new antibiotics, the scientists' document states: "The 2003 National Academy of Sciences report, 'Microbial Threats to Health,' warned that 'The world is facing an imminent crisis in the control of infectious diseases as the result of a gradual but steady increase in the resistance of a number of microbial agents to available therapeutic drugs,' and recommended that, 'The U.S. Secretary of Health and Human Services should ensure the formulation and implementation of a national strategy for developing new antimicrobials.'

"These threats are posed by bacterial agents now established in human populations. Tuberculosis is in global resurgence. The World Health Organization projects that there will be more than 10 million new cases of tuberculosis in 2005, and that there will be nearly 1 billion newly infected people by 2020, 200 million of whom will become seriously ill, and 35 million of whom will die. Additional threats are posed by other bacterial agents, including the agents responsible for salmonellosis, shigellosis, borreliosis, legionellosis, ehrlichiosis, pertussis, syphilis, gonorrhea, chlamydia, meningococcal infections, and staphylococcal infections. For each of these agents, strains resistant to multiple current antibiotics have emerged, and strains resistant to all current antibiotics either have emerged or are expected soon to emerge."

Among the overall policy recommendations posed by the scientists, to serve both public health needs, and provide for biodefense, are three main areas: "(1) Creation of new NIH initiatives for research on basic microbial science; (2) broadening of the NIH definition of biodefense, to include not only research on prioritized bioweapons-agents, but also research on basic microbial science; and (3) consolidation of study sections for research on prioritized bioweapons-agents with study sections for research on basic microbial science, thereby ensuring a uniform standard of evaluation and merit in study sections."

The policy proposals conclude, "We recommend that the NIH implement these actions. We further recommend that, as a first step, the NIH establish a committee of eminent microbiologists to plan and coordinate implementation of these actions."

Documentation

Researchers' Open Letter

This letter, signed by 758 research scientists, is published in Science, March 4, 2005.

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—**Table 1**).

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. . . .

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 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. 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.

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.

The complete list of signatories is available at www.sciencemag.org/cgi/content/full/307/5714/1409c/DC1.