

## **Behavioral and Social Science in the Administration's FY 2004 Budget**

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### **INTRODUCTION**

The National Institutes of Health (NIH), the National Science Foundation (NSF), the Department of Defense (DOD) and the Department of Education (ED) are the primary funders of behavioral and social science. Lesser but important support for some subdisciplines comes from the National Institute of Justice (NIJ), the Federal Aviation Administration (FAA), the National Aeronautics and Space Administration (NASA), the Centers for Disease Control and Prevention (CDC) and the U.S. Department of Agriculture (USDA). The federal government is the primary funder of both basic and applied behavioral and social science research. Highlights of the FY 2004 budget include:

- At NSF, behavioral and social science research is the focus of a new research priority area, "Human and Social Dynamics," with a proposed budget of \$24.5 million.
- Growth in behavioral and social science research at NIH would be modest in the President's budget, but that research may benefit from strong representation in trans-institute priorities such as the "Prevention" roadmap of Director Elias Zerhouni.
- Despite substantial appreciation for the critical role played by behavioral, cognitive and social science in helping the military adapt to an ever-changing global environment, DOD investment in this research would continue to decline in FY 2004.
- The Institute of Education Sciences (IES), the reorganized

federal education research agency, brings important changes in structure and function to federal education research efforts.

- The Administration's FY 2004 budget does not fulfill the promise implicit in the landmark education legislation, No Child Left Behind, to increase support for education research.

**NATIONAL SCIENCE FOUNDATION (NSF) SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES (SBE) DIRECTORATE** ([www.nsf.gov/sbe](http://www.nsf.gov/sbe))

Much of the behavioral and social science research at NSF is funded through the Social, Behavioral and Economic Sciences Directorate (SBE). The big news in SBE is that the "priority area" discussed for over three years becomes a reality in the proposed budget. Called Human and Social Dynamics (HSD), it joins Information Technology, Nanoscale Science and Engineering, Biocomplexity in the Environment, Mathematical Sciences, and 21st Century Workforce as NSF-wide research priorities. With a proposed budget of \$24.5 million that includes contributions from the other NSF directorates, the priority area seeks to understand change: its causes and ramifications, how to anticipate it, how the human mind and social structures create it, and how people and organizations manage it. These questions will be investigated using multidisciplinary approaches with already existing sophisticated research techniques as well as providing support for the development of improved tools for future investigations.

Envisioned as a five-year initiative with enhanced funding down the road, the FY 2004 areas of emphasis for HSD are: 1) enhancing human performance on the individual and organizational levels; 2) understanding decision-making under uncertainty; 3) comprehending agents of change, particularly in large scale transformations, such as globalization and democratization; 4) analyzing and modeling various aspects of HSD, including complex networks such as terrorism; 5) improving and using spatial social science techniques to explore HSD topics; and 6) developing and supporting instrumentation and data resources such as cognitive neuroimaging and longitudinal surveys to upgrade measurement and analysis of information from diverse sources.

The proposed budget also includes second-year funding for Science of Learning Centers to investigate how people learn by examining cognitive development and social contexts. In addition, two other areas where

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social and behavioral scientists have opportunities for funding include researching the relationship between human and natural systems within the Biocomplexity priority and investigating the social and ethical implications of Nanoscale Science and Engineering.

To fund this and other SBE programs, the Administration has proposed \$211.7 million for FY 2004, a \$10.6 million or 10.8 percent increase over the final FY 2003 appropriation of \$191.1 million (see Table II-7). The increase from FY 2002 to FY 2003 is confused by the inclusion of \$13.7 million from the U.S. State Department to the U.S. Civilian R&D Foundation. This money is found in the International Science and Engineering account, but is essentially a pass-through. Calculating the increase from FY 2002 to FY 2003 without these funds gives SBE an increase of 12.2 percent. A similar pass-through is expected in FY 2003.

Funding for the SBE directorate includes \$83.9 million proposed for the Social and Economic Sciences Division in FY 2004. Its new director, Richard Lempert, arrived in July from the University of Michigan. Aside from the HSD priority areas, the division also funds the social and ethical implications research for modern technologies, such as information technology and nanoscale science and engineering.

The Behavioral and Cognitive Sciences division, led by Philip Rubin, has a proposed FY 2004 budget of \$71.1 million. Funding will continue for research on cognitive neuroscience and human origins. The division hopes to support two new centers focusing on human-environmental interactions and will support the Coupled Natural and Human Systems component of the Biocomplexity and the Environment priority. In addition, the Children's Research Initiative, with its congressionally mandated funding of \$6 million in FY 2003, will continue.

The Science, Resources, and Statistics division, led by Lynda Carlson, provides policymakers, researchers, and other decision makers with high quality data and analysis for making informed decisions about the nation's science, engineering, and technology enterprise. The FY 2004 request will help fund data collection and analysis for the National Survey of College Graduates and implement improvements to the Survey of Research and Development Expenditures at Universities and Colleges. (For more on this division, see Chapter 22.)

The Office of International Science and Engineering, in its new upgraded status, and headed by Kerri Ann Jones, has a proposed FY 2004 budget of \$30 million. The Office provides support for the Foundation's international activities, including opportunities for overseas experiences for U.S. researchers in all scientific disciplines and collaborations with research institutions in other countries.

#### **DEPARTMENT OF DEFENSE (DOD)**

In August 2000, DOD completed a congressionally mandated report on Behavioral, Cognitive and Social Science Research in the Military. The Senate Appropriations Committee requested this evaluation due to concern over the continuing erosion of DOD's support for research on individual and group performance, leadership, communication, human-machine interfaces, and decision-making. In responding to the Committee's request, the Department found that "the requirements for maintaining strong DOD support for behavioral, cognitive and social science research capability are compelling" and that "this area of military research has historically been extremely productive" with "particularly high" return on investment and "high operational impact."

Within DOD, the majority of behavioral, cognitive and social science is funded through the Army Research Institute (ARI) and Army Research Laboratory (ARL); the Office of Naval Research (ONR); and the Air Force Office of Scientific Research (AFOSR). These military service laboratories provide a stable, mission-oriented focus, conducting and sponsoring basic ("6.1"), applied ("6.2") and advanced development ("6.3") research in the human systems area. All of the services fund research in the broad categories of personnel, training and leader development; warfighter protection, sustainment and physical performance; and system interfaces and cognitive processing. In addition, there are additional, smaller human systems research programs funded through the Office of the Secretary of Defense (OSD), the Defense Advanced Research Projects Agency (DARPA), the Marine Corps, and the Special Operations Command.

Despite substantial appreciation for the critical role played by behavioral, cognitive and social science in helping the military adapt to an ever-changing global environment, actual DOD investment in this research would continue to decline if levels in the FY 2004 budget were appropriated. Total spending on behavioral, cognitive and social science

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research would decrease from \$404.99 million appropriated in FY 2003 to \$376.76 million in the FY 2004 budget. Whereas basic research ("6.1") would increase by 6 percent, due to a substantial increase in the Navy's budget (Air Force "6.1" decreases slightly and Army "6.1" increases slightly), all three services cut their "6.2" and "6.3" funding. Navy "6.2" research would decrease by over 18 percent, and "6.3" research would decline by over 20 percent in FY 2004. (For more on DOD, see Chapter 6.)

A potential war with Iraq and heightened homeland security activities necessitate immediate spending on areas other than behavioral, cognitive and social science research. However, if the continued decline in support is finalized, it would come at a time when there are more, rather than fewer, demands on military personnel, including more rapid adaptation to changing conditions, more skill diversity in units, and increased information-processing from multiple sources.

#### DEPARTMENT OF EDUCATION

Reauthorization of the federal education research agency, the Office of Educational Research and Improvement, was completed in November, 2002. The reorganized and renamed Institute of Education Sciences (IES) brings increased authorized funding levels along with important changes in structure and function to federal education research efforts.

The federally funded proportion of education research has been a crucial component of the nation's overall education research portfolio, and will likely continue to be under the revamped agency. The continued federal focus on improving education results, combined with identification and implementation of research-based programs, is fundamental to the Administration's priority domestic legislation: No Child Left Behind (NCLB). This, and similar legislation mandating research-based education programs, makes increasing support for education research imperative for building research infrastructure and funding research programs necessary to direct policy and improve education results, close the achievement gap, and wisely use scarce education resources.

The Administration FY 2004 request would not fulfill funding hopes generated by the reauthorization. Because Congress provided increases in FY 2003 that were smaller than the Administration request for that

year, the FY 2004 budget would, comparatively, provide a mixture of modest gains as well as program eliminations.

Research gained \$45.9 million for FY 2004, from \$139.1 million to \$185 million. A major change in the new education research program, aided by the increases, would be the emphasis on large sample, randomized, controlled trials and rigorous peer review. The research portfolio for the coming year would be directed at addressing critical issues such as teacher quality; reducing behavior problems in schools; and developing effective reading, math, preschool, English as a second language, and character development curriculum. Also under IES, interagency projects would continue to examine the use of brain research on teaching and learning in classroom settings; identifying conditions that foster the use of research by teachers, school administrators, and policy-makers; and the implementation of promising practices and technologies. New initiatives would target improving student learning and achievement in pre-K through 12 reading, mathematics, and the sciences.

At the same time, funding for some dissemination efforts would be reduced. The Regional Educational Laboratories and Comprehensive Regional Assistance Centers would not be funded, eliminating a critical link in the research-to-practice continuum. Additional funds would be used to expand the What Works Clearinghouse, which focuses on research supporting the NCLB legislation. The National Library of Education and the ERIC clearinghouses would also be continued.

The National Center for Education Statistics (NCES) would receive a \$5.6 million increase, from \$89.4 million to \$95 million. NCES would continue the collection, analysis, and dissemination of education-related statistics. The National Assessment of Educational Progress and the National Assessment Governing Board would also maintain their ongoing activities. Technical assistance for development of assessments required of states under the NCLB legislation would increase by \$5.7 million over FY 2003, from \$90.2 million to \$95.9 million. (For more on the Department of Education, please see Chapter 5.)

#### **NATIONAL INSTITUTES OF HEALTH (NIH)**

Behavioral and social and science research (BSSR) benefited, as did many other areas of science, by the doubling of the NIH budget that was completed in FY 2003. BSSR funding growth would continue, although

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at a more modest pace, under the FY 2004 proposal. According to NIH's estimates from the Office of Budget (see Table 1 below) growth of BSSR research from FY 2002 to FY 2003 would be approximately \$177 million. From FY 2003 to FY 2004, increases in the amount of BSSR funded by NIH would be less than half that, approximately \$88 million.

**Table 1.** Behavioral Research and Social Science Research in Selected NIH Institutes and Centers (dollars in millions)

Participating ICs	FY02 Actual.	FY 03 Est.	FY 04 Est.
NCI (Cancer)	\$248.6	\$261.9	\$271.0
NHLBI (Heart, Lung, Blood)	108.7	115.8	118.7
NIDDK (Diabetes)	42.0	45.0	47.0
NINDS (Neurological Disorders)	71.0	76.2	77.8
NIAID (Allergy and Infectious)	33.9	37.7	39.0
NIGMS (General Medical Sciences)	11.3	11.9	12.5
NICHD (Child Health)	250.2	269.4	280.4
NIA (Aging)	243.5	261.8	271.7
NIMH (Mental Health)	408.7	441.2	457.7
NIDA (Drug Abuse)	377.3	407.5	422.6
NIAAA (Alcoholism)	183.1	192.2	198.0
NHGRI (Human Genome)	15.7	16.8	17.5
NIBIB (Bioengineering)	1.0	5.6	5.9
NCCAM (Complementary Medicine)	14.4	15.5	16.0
NCMHD (Minority Health)	0.7	0.8	0.8
OD (Office of the Director)*	25.3	25.2	22.0
Total NIH	2,399.5	2,576.6	2,664.5

\* The decrease in the amount of BSSR in the Office of the Director (OD) budget is an artifact of a more accurate accounting (that is, salaries and overhead removed from the OBSSR budget). The OD budget is likely too low because it does not include research and training from offices in the OD other than OBSSR.

Source: NIH Office of Budget estimates.

Information on the amount of BSSR funded by each institute and center is collected by the NIH Budget Office as part of what is informally called "the disease list" (a multi-page list of diseases, conditions, etc. for which NIH is required to report its research expenditures to Congress). Nearly all of the institutes and centers at NIH include at least some BSSR in their research portfolios. While the data collected by the Budget Office are somewhat less than reliable in specific instances, the trends shown in

Table 1 are seen by the institutes as good general reflections of their behavioral and social science research investments.

Behavioral and social science research is well integrated in most NIH institutes and centers, and it is no longer uncommon for behavioral studies to be featured in remarks by the NIH Director and NIH news releases. Exceptions to BSSR's inclusion, which may be temporary, are NIH's bioterrorism initiatives which are heavily focused on facilities and molecular research. On the other hand, BSSR research will likely figure in initiatives related to prevention, which is one of the "roadmap" priority areas announced by NIH Director Elias Zerhouni, MD.

The Office of Behavioral and Social Sciences Research (OBSSR) in the Office of the NIH Director coordinates research initiatives that are relevant to multiple NIH institutes and centers. OBSSR's appropriations for FY 2002 and FY 2003 were \$23.70 million and \$25.93 million respectively. The Administration's budget proposal for FY 2004 is \$26.18 million, an increase of barely 1 percent.

Initiatives and activities planned by OBSSR include four new Requests for Applications in FY 2003. Following a research initiative on health behavior change, a new initiative focuses on the challenging issues of maintenance of long term behavior change. Other areas of focus are pathways linking education to health, and a second generation of research grants on mind-body interactions and health. The Office also encourages research on methodology and measurement in the behavioral and social sciences, social and cultural dimensions of health, and research on ethical issues in human studies.

In February, 2003, the director of OBSSR, Raynard Kington, MD, PhD, was appointed Deputy Director of NIH, taking the position vacated by Ruth Kirschstein, MD when she became Senior Adviser to the NIH Director. Dr. Kington, a physician-health economist, served as Acting Director of the National Institute for Alcohol Abuse and Alcoholism during its search for a permanent director in 2002. The search will open in the spring for his replacement, who will be the third director of OBSSR since the Office was established in 1995.