

About NIH

NIH Implementation of the American Recovery and Reinvestment Act of 2009 (Recovery Act)

The American Recovery and Reinvestment Act (ARRA) of 2009 (Pub. L. No. 111-5) was signed into law by President Obama on February 17, 2009. The legislation provided NIH with an unprecedented level of additional funding—\$10.4—billion to help stimulate the U.S. economy through the support and advancement of scientific research.¹³ Although NIH has broad flexibility to invest in many types of grants programs, the ARRA-funded projects aim to stimulate the economy and create or retain jobs, and have the potential for making scientific progress in 2 years. The impact of NIH ARRA funding is expected to extend beyond the investigators who receive the funds to also reach allied health workers, technicians, students, trade workers and others who will receive the leveraged benefits. Beyond the immediate economic stimulus, the long-term impact from the science projects, research training, and research facilities funded by the Recovery Act will have a positive impact on the health of the Nation for years to come.

NIH quickly developed implementation and spending plans for the \$10.4 billion in 2-year ARRA funding initiatives, and between March 4 and September 18, 2009, published 22 [Recovery Act FOAs](#). The response from the scientific community was extraordinary. Typically the CSR reviews 16,000 applications with the help of about 8,000 reviewers in each of NIH's three annual rounds of review. In 2009, in one round, CSR assessed about 40,000 applications (including ARRA applications), relying on the assistance of about 28,000 reviewers.

The bulk of the ARRA funds—\$8.2 billion—will be used for extramural awards for scientific research. In FY 2009, NIH funded \$4.73 billion in grants and contracts to universities, medical centers, hospitals, and research institutions throughout the country. Nearly 60 percent of ARRA funds are supporting new science, while approximately 40 percent of funds are accelerating the science of existing projects. Because of ARRA funds, over two summers approximately 5,000 students and science educators will gain hands-on experience in top research laboratories. Approximately \$137 million in ARRA funds were transferred from the NIH OD to the Common Fund to support and expand existing Roadmap programs and to address cross-cutting emerging needs and opportunities outside the Roadmap. (See also the section of this chapter on *Strategic Planning and Common Fund/Roadmap*.) One billion dollars in NIH Recovery Act funds was provided to NCCR specifically for the Extramural Construction program. Other approximate allocations are: \$500 million for NIH buildings and facilities; \$300 million for the shared instrumentation grant program; and \$400 million for comparative effectiveness research (CER),¹⁴ which can be awarded through a variety of mechanisms including Grand Opportunity Grants, Challenge Grants, R01s, and supplements. (Also see the section on *Clinical and Translational Research* in Chapter 3 for more information about CER).

¹³ Information about NIH ARRA-funded projects and their impact on the economy in terms of jobs created and retained is available at www.hhs.gov/recovery.

¹⁴ Comparative effectiveness research is the conduct and synthesis of research comparing the benefits and harms of different interventions and strategies to prevent, diagnose, treat and monitor health conditions in “real world” settings. The purpose of this research is to improve health outcomes by developing and disseminating evidence-based

information to patients, clinicians, and other decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances. To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patient populations and sub-groups. Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, diagnostic testing, behavioral change, and delivery system strategies. This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness and actively disseminate the results.

ARRA Funding for Extramural Scientific Research

For the \$8.2 billion in [Recovery Act funds for extramural research projects](#), NIH is implementing a strategy that focuses on:

1. [Expansion of the payline](#) to support peer-reviewed and approved, highly meritorious, grant applications from investigators across the Nation for whom funding was not available in FY 2008, as well as grant applications not otherwise likely to be funded in FY 2009 or FY 2010 because of budgetary limits.
2. [Revision Applications/Administrative Supplements](#) to expand the scope and accelerate the tempo of ongoing science through support of additional infrastructure and personnel on existing awards for additional activities that fit the intent of ARRA.
3. [Challenge Grants](#) to focus on health and science problems in 15 broad areas of scientific interest where significant progress can be made in a 2-year timeframe. Within each area, specific Challenge Topics were identified. NIH spent more than \$380 million in FYs 2009/2010 ARRA funds to support more than 800 grants.
4. [Grand Opportunity Program or "GO grants"](#) to support high-impact ideas that lend themselves to short-term, non-renewable funding, and may lay the foundation for new fields of investigation. The GO program supports large-scale research projects costing more than \$500,000 each that accelerate critical breakthroughs, early and applied research on cutting-edge technologies, and new approaches to improve the synergy and interactions among multi- and interdisciplinary research teams. NIH spent more than \$600 million in FYs 2009/2010 ARRA funds to support more than 350 grants.
5. [Signature Initiatives](#) to support new, exceptionally creative, innovative, and potentially transformative scientific opportunities in major research challenges, such as nanotechnology, health disparities, autism, genetic risk for Alzheimer's disease, and HIV vaccine research.
6. [New Faculty Awards](#) to support the recruitment of faculty to conduct research at U.S. institutions.
7. [Summer Research Experiences for Students and Science Educators](#) to provide summer jobs for high school/college students and teachers to work in science laboratories. These supplements encourage students to seriously pursue research careers in the health-related sciences and support student research experiences in NIH-funded laboratories. Awards were made to approximately 350 institutions (including small businesses), supporting 1,300 mentors, and providing about 5,100 summer research positions for 4,400 students and 700 teachers.

NIH began making Recovery Act awards in April 2009. About half of the ARRA funding available for the extramural scientific research was obligated in FY 2009, with the rest to be obligated in FY 2010. NIH grant awards funded by the Recovery Act have been made in all 50 States, the District of Columbia, and Puerto Rico.¹⁵

¹⁵ See <http://report.nih.gov/recovery/index.aspx> for a listing.

ARRA Funding for Extramural Construction

[Recovery Act funds for extramural construction](#) (\$1.0 billion) are building the Nation's capacity to conduct biomedical and behavioral research by providing support to domestic health professional schools, other academic institutions, hospitals, health departments, and research organizations. Funds are being used to improve facilities to meet the biomedical or behavioral research, research training, or research resource needs of an institution. Awardees must consider the use of "green" technologies and design approaches, and certain projects must obtain certification from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) or the Green Building initiative's Green Globes System Certification rating. NIH ARRA funding for extramural construction supports two main activities:

1. [The Extramural Research Facilities Improvement Program](#) to expand, remodel, renovate, or alter existing facilities, or to construct new facilities, for biomedical and behavioral research.
2. [The Core Facility Renovation, Repair, and Improvement](#) activity awards to renovate, repair, or improve core facilities, which are centralized shared resources that provide access to instruments or technologies or services, as well as expert consultation to multiple investigators supported by the core.

ARRA Funding for Shared Instrumentation

The [Recovery Act Shared Instrumentation](#) program (\$300 million) aligns with the existing Shared Instrumentation program, and provides grants to NIH-supported research institutions to provide multiple investigators with technologically sophisticated equipment to enable the conduct of federally sponsored research. The Shared Instrumentation program consists of two main activities:

1. [The Shared Instrumentation Grants](#) program supports grants to groups of three or more NIH-supported investigators for the purchase of commercially available instruments, such as confocal and electron microscopes, biomedical imagers, mass spectrometers, DNA sequencers, biosensors, and cell sorters costing from \$100,000 to \$500,000.
2. [The High-End Instrumentation Grants](#) program supports grants to groups of three or more NIH-supported investigators for the purchase of a single major item of biomedical research equipment costing from \$600,000 to \$8,000,000. Examples of such equipment include high-resolution mass spectrometers, cryoelectron microscopes, and supercomputers.

Awards are made to public and non-profit domestic institutions only, including health professional schools, other academic institutions, hospitals, health departments, and research organizations.

ARRA Funding for NIH Buildings and Facilities

The intended recipients of [ARRA funding for NIH buildings and facilities](#) (\$500 million) are construction contractors. Awards are made through new or existing competitive contracts. Several major projects will be supported with Recovery Act funds:

1. [John Edward Porter Neuroscience Research Center Phase II](#) to complete the consolidation of neuroscience researchers into one facility from 10 Institutes and multiple disciplines.
2. [Building 10 F Wing Renovations](#) to support translational research for 9 of the 12 ICs that have

- clinical research programs in the new Clinical Research Center.
3. Build-Out of Building 3 to transform an unused, vacant building that could not be reoccupied as laboratory space into useable office space.
 4. Conversion of Building 7 at the Rocky Mountain Laboratories in Hamilton, Montana, to convert unused mechanical space to laboratories, providing critical space for NIAID research.
 5. Other Repair and Improvement Projects to improve the reliability and condition of NIH facilities.

Examples of specific ARRA funded activities are highlighted throughout the report in the topic sections that follow in Chapters 2 and 3.

Oversight

NIH implementation of ARRA is accompanied by an unprecedented level of oversight and reporting to ensure that Recovery Act funds are being used in accordance with legal and administrative requirements, and to provide the public with up-to-date data on the expenditure of funds. NIH activities include:

Performance Measures

NIH fully complies with all Recovery Act monitoring and reporting requirements, including monthly and quarterly reports. Moreover, NIH has established performance measures for the Recovery Act programs in extramural construction, buildings and facilities, shared instrumentation, and extramural scientific research. The measures are posted as part of the implementation plan for each funding area under “Strengthening Scientific Research and Facilities” on [the HHS page of the Recovery Act website](#). In addition, NIH has developed scientific research outcome and output goals for its ARRA funding. Details and data regarding the goals will be included in the FY 2011 and FY 2012 NIH Budget Requests.

Monitoring

In addition to established NIH policies, procedures, and oversight practices that monitor NIH grants, cooperative agreements, and contracts in accordance with established law and policies,¹⁶ the NIH Office of Management Assessment (OMA) and the Office of Financial Management will use the established NIH risk management framework for identifying, assessing, and testing of operational and financial risks and internal controls associated with implementing Recovery Act requirements.¹⁷ OMA will work with NIH offices responsible for implementing programs receiving Recovery Act funding, and report on the risks and controls to NIH and HHS leadership. The Division of Environmental Protection in the NIH Office of Research Facilities reviews the environmental plans and monitors compliance for all extramural construction awards. All Recovery Act funds are awarded separately from normal appropriations funds, and all awards issued with Recovery Act funds have special accounting numbers and codes to track the funds and awards.

¹⁶ Guidance includes OMB Circular A-110, OMB Circular A-123, *Management’s Responsibility for Internal Control*, sections of the Recovery Act including Section 1512, and the *Updated Implementing Guidance for the Recovery Act of 2009*.

¹⁷ Assessments will be done consistent with the statutory requirements of the Federal Manager’s Financial Integrity Act, the Improper Payments Information Act, and the OMB circular A-123 *Management’s Responsibility for Internal Control*.

Transparency

Recipients are kept informed of their reporting obligations—both existing NIH and Recovery Act reporting requirements—through special terms and conditions of award, administrative notices in the *NIH Guide* FOAs, contract solicitations, and program guidance. Further technical assistance is available to grantees and contractors from project officers and OER to ensure compliance with reporting requirements. Beginning in October 2009, recipients of ARRA funds are required¹⁸ to submit quarterly reports through the www.FederalReporting.gov website. These reports contain detailed information on the projects and activities funded by the Recovery Act.¹⁹ These reports are available to the public on www.Recovery.gov. NIH developed and provided outreach, oversight, and data quality reviews for the quarterly recipient reports required by the Recovery Act.

¹⁸ Section 1512 of the Recovery Act.

¹⁹ OMB Memorandum M-09-21, Implementing Guidance for the Reports on Use of Funds Pursuant to the American Recovery and Reinvestment Act of 2009. June 22, 2009. Available at: http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m09-21.pdf.

Accountability

In addition to the monitoring and oversight actions described above, the NIH performance appraisal system for program and business function managers incorporates Recovery Act program stewardship responsibilities, as appropriate, to ensure that managers are held to high standards of accountability in achieving program goals under the Recovery Act.