



Social and Behavioral Science across the Federal Government

A catalog of U.S. departments, agencies, and programs supporting social and behavioral science research

Social and Behavioral Science across the Federal Government, produced by the Consortium of Social Science Associations (COSSA), 2016	
COSSA is a nonprofit advocacy organization working to promote sustainable federal funding for social and behavioral science research and federal policies that positively impact the conduct of research. COSSA (pronounced "COH-sah") serves as a united voice for a broad, diverse network of organizations, institutions, communities, and stakeholders who care about a successful and vibrant social science research enterprise. COSSA membership is institutional and includes professional and disciplinary associations, scientific societies, research centers and institutes, and U.S. colleges and universities.	

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Introduction

Social and behavioral science research is supported at departments and agencies across the federal government, most predominantly at the National Science Foundation (NSF) and the National Institutes of Health (NIH). In addition, federally-collected statistics provide important data needed to conduct research that informs policy decisions. Taken together, federal social and behavioral science and statistical data help to provide answers to complex, human-centered questions. Federal investment in the social and behavioral sciences and statistics helps to ensure that policy-making is based on evidence and that tax-payer dollars are wisely allocated.

Support for social and behavioral science research takes many forms. Basic science agencies like NSF and NIH provide the lion's share of support to social scientists (though total funding pales in comparison to support provided to other scientific disciplines). For example, investments in social, behavioral and economic science accounts for less than five percent of the annual NSF budget; however, that funding supports more than two-thirds (67 percent) of all basic research in the social and behavioral sciences conducted at U.S. universities and other research institutions. Similarly, NIH provides significant funding annually for projects that seek to answer social and behavioral questions tied to human health.

Likely less appreciated is the extent to which other federal departments and agencies support or otherwise utilize social science research. Operational or "mission" agencies, such as the Department of Agriculture or the Centers for Disease Control and Prevention, do not typically list scientific research among their primary functions. However, research is often funded (or conducted in-house by agency scientists) in service of the agency's mission. In other words, scientific research—including social and behavioral science research—provides an evidence base that federal agencies can use to produce science-backed strategies for addressing issues of national importance, such as crime prevention, health care for the underserved, or early childhood education. In short, social and behavioral science research makes meaningful contributions across the federal government.

This Catalog of Social and Behavioral Science across the Federal Government was produced by the Consortium of Social Science Associations (COSSA) to offer a view into the various federal agencies and departments that have roles to play in social and behavioral science research. In it, we describe the various ways social science is supported and applied across different agencies and provide information on potential sources of grant funding or useful federal data resources.

It is important to note that funding available to federal agencies for grant-making is dependent on annual appropriations from Congress. Therefore, nothing in this compendium should be read as confirmation of any program's current status. Web links are provided for each agency and program mentioned in this document, which should be consulted for the most current information.

How to read this report

The federal departments and agencies included in this report are presented alphabetically. Agencies structurally housed within the U.S. Department of Health and Human Services (HHS) and the U.S. Department of Commerce (DOC) are covered individually; you will not find general HHS and DOC sections in this report.

For each included agency, information is provided about its scientific research activities generally as well as the extent to which social and behavioral science research is supported. In addition, sections include descriptions of key offices, institutes, initiatives and programs of interest to the social and behavioral science community.

The document is not intended as an exhaustive list of federal departments, agencies, initiatives, programs or priorities relevant to social and behavioral science research. Rather, this information is meant to illustrate the breadth of U.S. government support for social science research and to provide tangible examples of federal research and data sources.

Text presented in **bold** (with the exception of the sidebars) is hyperlinked to government and other websites where additional information can be found; full web links are included in the notes at the end of each agency section.

Finally, the term "social science" is used as shorthand throughout this report. It is implied that "social science" encompasses the breadth of the social, behavioral and economic sciences.

Agency for Healthcare Research and Quality

Overview

Housed within the U.S. Department of Health and Human Services, the Agency for Healthcare Research and Quality (AHRQ) is the only federal agency whose sole purpose is to generate evidence on how to improve America's health care system and disseminate that knowledge to health care providers, patients, hospitals, and public and private payers. It conducts and supports research on the health care system, both within AHRQ and at leading academic institutions, hospitals, physicians' offices, health care systems, and many other settings across the country.

AHRQ's mission is:

"To produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable, and to work within the U.S. Department of Health and Human Services and with other partners to make sure that the evidence is understood and used."

Social Science at AHRQ

AHRQ funds "health services research," an interdisciplinary field that brings together insights from the social and behavioral sciences (including economics, psychology, political science, and geography), medicine, public health, and systems science to generate evidence on improving the delivery of health care in America. In addition to researching how to improve the health care system, AHRQ develops evidence-backed training materials to ensure that programs and interventions are implemented effectively and conducts rigorous evaluation of the state of America's health care across a number of benchmarks. AHRQ also supports the work of the Patient Centered Outcomes Research Institute (PCORI)¹ and the U.S. Preventive Services Task Force (USPSTF)².

AHRQ's research portfolios include:

- Comparative Effectiveness³ Research that compares treatment options (drugs, medical devices, tests, surgeries, or methods of health care delivery) in order to understand which treatments work best for which patients
- Health Information Technology (IT)⁴ Research that uses new developments in IT to improve health care
- Patient Safety⁵ Research on preventing medical errors, healthcareassociated infections, and other risks to patient safety
- Prevention and Care Management⁶ Health services and behavioral research to prevent diseases and other negative health outcomes
- Value⁷ Research on how to reduce health care costs while maintaining quality
- Innovations and Emerging Issues⁸ High-risk, potentially transformative research

- AHRQ's annual budget in FY 2016 is \$428.5 million.
- AHRQ supports more than 250 grants each year, depending on its budget, which includes new, competing, and noncompeting grants.
- Funding mechanisms:
 - Requests for Applications
 - Program Announcements
 - Special Emphasis Notices
- AHRQ also supports cooperative agreements, training programs, and research program development awards.
- Because dissemination of research findings is a core part of its mission, AHRQ maintains several clearinghouses of evidence, quality indicators, best practices, guidelines, and measures.
- AHRQ produces the Medical Expenditure Panel Surveys (MEPS), the only national source of comprehensive annual data on how Americans use and pay for medical care.
- Scientific advisory body:
 - National Advisory Council for Healthcare Research and Quality

Learn more about AHRQ at: http://www.ahrq.gov

Funding Opportunities: http://www.ahrq.gov/funding/fund-opps/index.html

¹ http://www.pcori.org

² http://www.uspreventiveservicestaskforce.org

³ http://www.ahrq.gov/cpi/portfolios/comparative-effectiveness/index.html

⁴ http://www.ahrq.gov/cpi/portfolios/health-it/index.html

⁵ http://www.ahrq.gov/cpi/portfolios/patient-safety/index.html

⁶ http://www.ahrq.gov/cpi/portfolios/prevention-care-mgmt/index.html

⁷ http://www.ahrq.gov/cpi/portfolios/value/index.html

⁸ http://www.ahrq.gov/cpi/portfolios/innovations/index.html

Centers for Disease Control and Prevention

Overview

The Centers for Disease Control and Prevention (CDC) is another constituent agency of the U.S. Department of Health and Human Services. Its mission is to promote health and quality of life by preventing and controlling disease, injury, and disability. The CDC monitors health, detects and investigates health problems, conducts research to enhance prevention, develops and advocates sound public health policies, promotes healthy behaviors, implements disease prevention strategies, and maintains national health statistics.

Social Science at CDC

CDC relies on insights from the social and behavioral sciences to "explore the effects of behavioral, social, and cultural factors on public health problems" and to rigorously evaluate public health interventions, policies, and programs. The CDC mainly relies on its own in-house scientists, although some centers do offer extramural research grants from time to time.

One topic the CDC does *not* currently conduct research on is the causes and prevention of gun violence. A 1996 amendment to the CDC's appropriations bill prohibited the agency from using funds for injury prevention and control "to advocate or promote gun control." This rider (referred to as the "Dickey amendment" after its author Rep. Jay Dickey) was interpreted by the CDC as a ban on all research related to gun control. Although efforts have been made in recent years to lift the ban, and now-former Rep. Dickey has himself publicly advocated for its repeal, the amendment currently stands. It should be noted that CDC is not prohibited from conducting public health surveillance and collecting data related to the prevalence of gun violence, which it does through its **National Violent Deaths Reporting System (NVDRS)**¹⁰.

Learn more about the CDC at: http://www.cdc.gov

Funding Opportunities are available through CDC's Centers (see below).

National Center for Environmental Health

The National Center for Environmental Health (NCEH) works to prevent illness, disability, and death resulting from interactions between people and the environment. NCEH conducts public health surveillance of environment-related health problems and applied research in the form of epidemiological studies, laboratory studies, statistical analyses, behavioral interventions, and operations and systems research. It works to improve environments based on scientific findings through dissemination, communication, establishing standard and recommendations, and providing training and assistance.

- CDC's budget in FY 2016 is \$6 billion in appropriated funds; about two-thirds of CDC's funding goes to support state and local health departments.
- CDC is comprised of about 25 offices, institutes, and centers.
- CDC mainly relies on inhouse scientists, although some centers offer extramural research grants from time to time.
- CDC houses the National Center for Health Statistics, which is one of the 13 principal statistical agencies.
- Scientific advisory bodies:
 - Advisory Committee to the CDC Director
 - NCHS Board of Scientific Counselors

NCEH is organized into three divisions: (1) **Division of Emergency and Environmental Health Services**¹¹, which focuses on chemical weapons elimination, environmental health services, healthy community design, childhood lead poisoning prevention, and cruise ship sanitation; (2) **Division of Environmental Health Hazards and Health Effects**¹², which works on issues related to air pollution and respiratory health, asthma, clean water, climate and health, national environmental public health tracking, health studies, and radiation; and (3) **Division of Laboratory Sciences**¹³, which conducts activities related to laboratory quality assurance, national biomonitoring and exposure reporting, newborn screening, and nutritional indicators.

Learn more about NCEH at: http://www.cdc.gov/nceh

NCEH does not routinely offer extramural research funding.

National Center for Injury Prevention and Control

The nation's leading authority on violence and injury prevention, the National Center for Injury Prevention and Control (NCIPC), researches how to prevent violence and injuries and creates and disseminates tools to keep people safe, healthy, and productive. NCIPC conducts research internally and offers extramural funding opportunities. Both intramural and extramural research are guided by the CDC's **Injury Research Priorities**¹⁴:

- Unintentional Injury Prevention Includes prescription drug overdoses, older adult falls, motor vehicle injury, and traumatic brain injury
- Violence Prevention Includes cross-cutting violence prevention, child abuse and neglect, youth violence, intimate partner violence, sexual violence, and self-directed violence

NCIPC funds 11 university-based **Injury Control Research Centers**¹⁵ that conduct research and serve as training centers. The Centers support interdisciplinary research that draws from medicine, engineering, epidemiology, law and criminal justice, behavioral and social sciences, biostatistics, public health, and biomechanics.

NCIPC also conducts surveillance and produces data on fatal and nonfatal injuries, violent deaths, and the costs of injuries and violent deaths. Its **National Violent Death Reporting System (NVDRS)**¹⁶ is a unique resource, a national comprehensive database that pools information on violent deaths from multiple sources, including death certificates, coroners' reports, police reports, and crime lab reports. NCIPC also provides direct support to state health departments to strengthen their capacity to use and collect injury data and implement prevention strategies through its **Core Violence and Injury Prevention Program**¹⁷.

Learn more about NCIPC at: http://www.cdc.gov/injury/index.html

Funding Opportunities: http://www.cdc.gov/injury/fundedprograms/foa/index.html

National Center for Health Statistics

The National Center for Health Statistics (NCHS) is the nation's principal health statistics agency and one of 13 federal principal statistical agencies. Its mission is to provide statistical information to guide actions and policies to improve the health of the American people. NCHS conducts data collection and analysis on births, deaths, diseases and health conditions, health status, health-related behavior, nutrition, preventive services, reproductive health, health insurance coverage, health care use and services, and the health care system. NCHS's hallmark surveys and products include:

- National Health and Nutrition Examination Survey (NHANES)¹⁸ Combines interviews with physical examinations to take objective measurements and report on the health and fitness of American adults and children
- Health, United States¹⁹ An annual report that compiles health data to give an overall picture of the nation's health across a variety of measures
- National Health Interview Survey (NHIS)²⁰ Collects data on a broad range of topics related to health status and healthcare utilization through personal household interviews
- National Vital Statistics System (NVSS)²¹ Assembles data on births, deaths, marriage, and divorce from vital registration systems across the country

Learn more about NCHS at: http://www.cdc.gov/nchs

NCHS does not routinely offer extramural research funding.

National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention

The National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention (NCHHSTP) works to save lives, prevent infection, and reduce health disparities associated with HIV, viral hepatitis, sexually transmitted diseases (STDs), and tuberculosis (TB). The Center is made up of five divisions, one for each of its four key disease areas and a fifth focused on adolescent and school health. NCHHSTP primarily disseminates evidence-based information to health departments and other partners, but it also conducts applied research, surveillance, and evaluation of programs.

Learn more about NCHHSTP at: http://www.cdc.gov/nchhstp

NCHHSTP does not routinely offer extramural research funding.

National Center for Chronic Disease Prevention and Health Promotion

The mission of the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) is to help people and communities prevent chronic diseases and promote health and wellness for all. Its work focuses on cancer; community health; diabetes; heart disease and stroke; nutrition, physical activity, and obesity; oral health; population health; reproductive health; and smoking and tobacco use. NCCDPHP monitors chronic diseases and risk factors and conducts and translates research and evaluation to enhance prevention. The Center disseminates evidence-based findings to communities through technical assistance and support, health communication, developing evidence-based health policies, and implementing prevention strategies.

Learn more about NCCDPHP at: http://www.cdc.gov/chronicdisease

Funding Opportunities: http://www.cdc.gov/chronicdisease/about/foa.htm

National Institute for Occupational Safety and Health

The National Institute for Occupational Safety and Health (NIOSH) conducts research and makes recommendations to prevent worker injury and illness. NIOSH both conducts its own research in-house and

offers extramural grants. Research is guided by the **National Occupational Research Agenda (NORA)**²², which is a partnership program that sets research priorities based on (1) the number of workers at risk for a given injury or illness, (2) the seriousness of the hazard, and (3) the probability that new information and approaches will make a difference. The NIOSH portfolio is divided into research on 10 occupational sectors and 7 cross-sector issues that affect workers across industries.

Sector Programs include:

- Agriculture, Forestry and Fishing²³
- Construction²⁴
- Healthcare and Social Assistance²⁵
- Manufacturing²⁶
- Mining²⁷
- Oil and Gas Extraction²⁸
- Public Safety²⁹
- Services³⁰
- Transportation, Warehousing and Utilities³¹
- Wholesale and Retail Trade³²

Cross-Sector Programs include:

- Cancer, Reproductive, Cardiovascular Disease³³
- Hearing Loss Prevention³⁴
- Immune, Infectious, and Dermal Disease Prevention³⁵
- Musculoskeletal Health³⁶
- Traumatic Injury Prevention³⁷
- Health Work Design and Well-Being, which includes Economics³⁸, Total Worker Health³⁹, and Work
 Organization and Stress-Related Disorders⁴⁰

NIOSH also supports **Core and Specialty Programs⁴¹** that represent core activities, mandated special emphasis areas, and methodological approaches. These include climate change, health hazard evaluations, occupational health equity, prevention through design, and productive aging and work.

Learn more about NIOSH at: http://www.cdc.gov/niosh

Funding Opportunities: http://www.cdc.gov/niosh/oep/funding.html

⁹ http://www.cdc.gov/mmwr/preview/mmwrhtml/su5502a6.htm

¹⁰ http://www.cdc.gov/violenceprevention/nvdrs

¹¹ https://www.cdc.gov/nceh/eehs

¹² https://www.cdc.gov/nceh/ehhe

¹³ https://www.cdc.gov/nceh/dls

¹⁴ http://www.cdc.gov/injury/pdfs/researchpriorities/cdc-injury-research-priorities.pdf

¹⁵ http://www.cdc.gov/injury/erpo/icrc

¹⁶ http://www.cdc.gov/violenceprevention/nvdrs

¹⁷ http://www.cdc.gov/injury/stateprograms/index.html

¹⁸ http://www.cdc.gov/nchs/nhanes.htm

¹⁹ http://www.cdc.gov/nchs/hus.htm

²⁰ http://www.cdc.gov/nchs/nhis.htm

- ²¹ http://www.cdc.gov/nchs/nvss.htm
- ²² http://www.cdc.gov/niosh/nora
- ²³ http://www.cdc.gov/niosh/programs/agff
- ²⁴ http://www.cdc.gov/niosh/programs/const
- ²⁵ http://www.cdc.gov/niosh/programs/hcsa
- ²⁶ http://www.cdc.gov/niosh/programs/manuf
- ²⁷ http://www.cdc.gov/niosh/programs/mining
- ²⁸ http://www.cdc.gov/niosh/programs/oilgas
- ²⁹ http://www.cdc.gov/niosh/nora/sectors/pubsaf/default.html
- 30 http://www.cdc.gov/niosh/programs/pps
- 31 http://www.cdc.gov/niosh/programs/twu
- 32 http://www.cdc.gov/niosh/programs/wrt
- 33 http://www.cdc.gov/niosh/programs/crcd
- 34 http://www.cdc.gov/niosh/programs/hlp
- 35 http://www.cdc.gov/niosh/programs/idid
- 36 http://www.cdc.gov/niosh/programs/msd
- 37 http://www.cdc.gov/niosh/programs/ti
- 38 http://www.cdc.gov/niosh/programs/econ
- 39 http://www.cdc.gov/niosh/twh
- 40 http://www.cdc.gov/niosh/programs/workorg
- ⁴¹ http://www.cdc.gov/niosh/programs

Department of Agriculture

Overview

The U.S. Department of Agriculture (USDA) invests in research to improve the quality and performance of America's farming sector and to better understand its impact on society. This includes significant research investments in plant and animal biology, engineering, and technology, in addition to more limited support for social and behavioral science. USDA's scientific work is organized under the office of the **Under Secretary for Research, Education, and Economics (REE)**⁴². The REE mission area encompasses the Agricultural Research Service (which does not fund any social science), the **Economic Research Service**⁴³, the **National Agricultural Statistics Service**⁴⁴, and the **National Institute of Food and Agriculture**⁴⁵.

Social Science at USDA

While the majority of USDA's scientific activities are focused on the natural and technological sciences, the Department does support social, behavioral, and economic research to address topics like the impact of agriculture on the economy and labor force, the performance of agriculture-related markets, and the impact of the agriculture sector on nutrition and health. This research is primarily funded by the **National Institute of Food and Agriculture**⁴⁶, which contributes to the agriculture research programs and infrastructure at land-grant colleges and universities and makes awards through a competitive peer review process. In addition, USDA is home to two **federal principal statistical agencies**, the **National Agricultural Statistics Service**⁴⁷ (primarily a producer of agriculture data) and the **Economic Research Service**⁴⁸ (which conducts economic research and analysis).

National Institute of Food and Agriculture

The National Institute of Food and Agriculture (NIFA) is USDA's primary extramural funding agency. Its mission is to advance knowledge for agriculture, the environment, and human health and wellbeing by funding targeted research, education, and extension projects and programs. NIFA provides funding for projects conducted in partnership with the State Agricultural Experiment Stations, the State Cooperative Extension System, land-grant universities, colleges, and other research and educational institutions.

NIFA relies on three funding mechanisms: competitive grants, capacity (formula) grants, and non-competitive grants. The Institute supports science across six national **challenge areas**⁴⁹:

- Childhood obesity prevention
- Climate variability and change
- Food safety
- Food security
- Sustainable bioenergy
- Water

- Three USDA agencies support/use social and behavioral science:
 - National Institute of Food and Agriculture (NIFA)
 - National AgriculturalStatistics Service (NASS)
 - Economic ResearchService (ERS)
- The FY 2016 budget for NIFA, USDA's primary extramural funding agency, is \$1.3 billion.
- NIFA awards competitive grants through the Agriculture and Food Research Initiative (AFRI).
- Funding mechanisms:
 - Competitive grants
 - Capacity (formula) grants
 - Non-competitive grants and agreements
- USDA houses two of 13 principal statistical agencies:
 - National Agricultural
 Statistics Service
 - Economic Research
 Service
- Scientific advisory bodies:
 - National Agricultural Research, Extension, Education, and Economics Advisory Board
 - National Advisory
 Committee on Agriculture
 Statistics

Learn more about NIFA at: http://nifa.usda.gov

Funding Opportunities: https://nifa.usda.gov/search-grant

Agriculture and Food Research Initiative

NIFA administers USDA's largest competitive grants program, the Agriculture and Food Research Initiative (AFRI), which supports investigator-initiated research with strong potential to contribute to breakthroughs in agricultural science.

AFRI's Foundational Program⁵⁰ supports grants across six priority areas identified in the 2014 Farm Bill:

- Agricultural economics and rural communities
- Agriculture systems and technology
- Animal health, production, and products
- Bioenergy, natural resources, and environment
- Food safety, nutrition, and health
- Plant health, production, and products

In addition, AFRI also solicits proposals across NIFA's six national **challenge areas**⁵¹ listed above, as well as an **Education and Literacy Initiative**⁵² that provides fellowships to undergraduate, graduate, and postdoctoral students.

Learn more about AFRI at: https://nifa.usda.gov/program/agriculture-and-food-research-initiative-afri

Economic Research Service

The Economic Research Service (ERS) is one of two **federal principal statistical agencies** within USDA. Its mission is to "inform and enhance public and private decision making on economic and policy issues related to agriculture, food, the environment, and rural development." ERS conducts peer-reviewed economic and social science research and reports on the health of the farm and agriculture sector and the food security system both in the U.S. and internationally.

Most of its research is conducted in-house and is disseminated through agency-published reports, its online magazine *Amber Waves*⁵³, and articles in peer-reviewed professional journals. ERS also occasionally funds **extramural grants and cooperative agreements**⁵⁴, although these are not issued with much regularity.

The agency's research is structured among **three divisions**⁵⁵ (not including its IT division):

- Food Economics Conducts research on topics including food safety and consumption, government assistance programs, diet, and the economy's food sector
- Market and Trade Economics Focuses on the factors that affect U.S. and global agricultural markets
- Resource and Rural Economics Focuses on the intersection between the agriculture sector and the environment, the economics of the agricultural research enterprise, and the structure of the rural economy

Learn more about ERS at: http://www.ers.udsa.gov

Funding Opportunities: http://www.ers.usda.gov/about-ers/grant-funding-opportunities.aspx

National Agricultural Statistics Service

USDA's other principal statistical agency is the National Agricultural Statistics Service (NASS). NASS provides timely, accurate, and useful statistics to a user base that includes researchers, public sector decision-makers, private corporations, and the general public. The agency conducts roughly 450 surveys every year and prepares reports on virtually every aspect of U.S. agriculture, including production of food and other agricultural products, farming costs and finances, use of various agricultural techniques, and agriculture-sector demographics. Objective and accessible data released by NASS helps keep agricultural markets fair, stable, and efficient.

NASS conducts the **Census of Agriculture**⁵⁶ every five years. The Census contains consistent, comparable, and detailed county-level agricultural data. It collects information on all areas of farming and ranching operations, including production expenses, market value of products, and operator characteristics, providing a detailed picture of U.S. agriculture for researchers and decision-makers alike. The next Census of Agriculture will be conducted in 2017.

Learn more about NASS at: http://www.nass.usda.gov

NASS does not generally offer external funding opportunities.

⁴² http://www.ree.usda.gov

⁴³ http://www.ers.usda.gov

⁴⁴ https://www.nass.usda.gov

⁴⁵https://nifa.usda.gov

⁴⁶ https://nifa.usda.gov

⁴⁷ https://www.nass.usda.gov

⁴⁸ http://www.ers.udsa.gov

⁴⁹ http://nifa.usda.gov/challenge-areas

⁵⁰ http://nifa.usda.gov/funding-opportunity/agriculture-and-food-research-initiative-foundational-program

⁵¹ http://nifa.usda.gov/challenge-areas

⁵² https://nifa.usda.gov/program/afri-education-and-literacy-initiative

⁵³ http://www.ers.usda.gov/amber-waves.aspx

⁵⁴ http://ers.usda.gov/about-ers/grant-funding-opportunities.aspx

⁵⁵ http://www.ers.usda.gov/about-ers/agency-structure.aspx

⁵⁶ http://www.agcensus.usda.gov

Department of Defense

Overview

The Department of Defense (DOD) funds approximately one-half of all research and development supported by the U.S. federal government. About 20 percent of this funding goes to intramural research with the rest going to extramural research partners, predominantly in the private industry sector (e.g. for advanced defense technology and weapons development).

Most DOD research and development funding comes from the Research, Development, Test, and Evaluation (RDT&E) account. Science and technology activities under RDT&E are further divided into Basic Research (6.1), Applied Research (6.2), and Advanced Technology Development (6.3); additional RDT&E accounts exist for systems development, prototypes, and demonstration, which receive the majority of RDT&E funds.

DOD's R&D budget is organized into branch-specific and department-wide activities. For example, the Army Research Laboratory (ARL), the Office of Naval Research (ONR), and the Air Force Office of Scientific Research (AFOSR) each employ program managers that exercise broad autonomy in distributing research dollars. When it comes to securing DOD research funding, it is key to engage directly with program managers as the Department does not use a standard peer review process for awarding research dollars like, say, the National Science Foundation. Instead, program managers are tasked with funding projects that best support DOD's mission.

In addition to research and development from the RDT&E accounts, DOD funds peer-reviewed medical research through the **Defense Medical Research Program**⁵⁷ and the **Congressionally-Directed Medical Research Program (CDMRP)**⁵⁸. Social and behavioral science research is supported primarily through the **Minerva Initiative**⁵⁹.

Social Science at DOD

The primary source of social and behavioral science research funding at DOD is the Minerva Initiative⁶⁰, a university-based social science research initiative founded in 2008. While it is the only DOD activity dedicated exclusively to funding social and behavioral science research, the branch-specific research agencies also support social and behavioral science research. For example, ARL studies human factors integration, cognitive social interactions, and soldier performance through its Human Research and Engineering Directorate⁶¹. Similarly, ONR supports research related to human factors, quality of life, and training effectiveness⁶², and the Defense Research and Engineering Enterprise has a directorate dedicated to Human Performance, Training, and Biosystems⁶³, which sponsors research similar to that of ARL and ONR.

Lastly, while the Congressionally-Directed Medical Research Program⁶⁴ primarily focuses on biomedical research, it also offers funding opportunities in psychology, including the study of post-traumatic stress disorder.

- DOD's annual budget in FY 2016 is approximately \$573 billion. About 12 percent is dedicated to funding research and development, with a fraction of one percent spent on social science research.
- Most research is done in branch-specific laboratories; however, DOD also supports University-Affiliated Research Centers (UARCs).
- DOD does not utilize a standard peer review process for all of its programs.
 Program managers are given broad responsibility and autonomy to fund projects relevant to DOD's mission.
- Funding mechanisms:
 - Broad AgencyAnnouncements
 - Occasional targeted solicitations from the Congressionally-Directed Medical Research Program
 - Annual Minerva solicitation for social and behavioral science projects
- Scientific advisory body:
 - Defense Science Board

Minerva Initiative

The Minerva Initiative funds basic research in the social and behavioral sciences to understand regions of strategic importance to the U.S. and the social, cultural, political, and behavioral forces present there. The priority research topic areas for FY 2016⁶⁵ include:

- Identity, Influence, and Mobilization
- Contributors to Societal Resilience and Change
- Power and Deterrence
- Analytic Methods and Metrics for Security Research
- Innovations in National Security, Conflict, and Cooperation

Funded projects in these areas seek to address issues such as:

- Understanding how information is spread, how risk is perceived, how and why people move, and how organizations change
- Understanding the effects of a lack of government and/or presence of corruption, understanding the economic drivers of human behavior, and discovering whether there is a causal relationship between environmental stress and stability
- Developing theories and models to understand and define rising military power and to understand changing social structure

The Minerva Initiative funds individual researchers, teams of researchers, and multi-university teams to perform basic research in the five core topic areas listed above. A **Funding Opportunity Announcement**⁶⁶ is usually issued annually.

It is important to note that the Minerva Initiative does not enjoy its own budget authority or appropriation from Congress; rather, it receives its annual budget through contributions from DOD's various services and branches (i.e. ARO, ONR and AFOSR). Given this uncertainty, it is difficult to predict year to year how much funding will be available for Minerva grants or how many projects will ultimately be funded.

Learn more about Minerva at: http://minerva.dtic.mil/index.html

Funding Opportunities: http://minerva.dtic.mil/baa.html

⁵⁷ http://cdmrp.army.mil/dmrdp

⁵⁸ http://cdmrp.army.mil/funding/phtbi.shtml

⁵⁹ http://minerva.dtic.mil

⁶⁰ http://minerva.dtic.mil

⁶¹ http://www.arl.army.mil/www/default.cfm?page=31

⁶² http://www.onr.navy.mil/Media-Center/Fact-Sheets/Human-Systems-Integration.aspx

⁶³ http://www.acq.osd.mil/rd/hptb/about/index.html#legislation

⁶⁴ http://cdmrp.army.mil/funding/phtbi.shtml

⁶⁵ http://minerva.dtic.mil/topics.html

⁶⁶ http://minerva.dtic.mil/baa.html

Department of Education

Overview

Education is primarily a state and local responsibility in the U.S. It is the states and communities, along with other organizations, that establish schools and colleges, develop curricula, and determine requirements for enrollment and graduation.

At the federal level, the U.S. Department of Education's mission is to:

"Promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access⁶⁷".

The Department of Education (ED) plays a leadership role in "the ongoing national dialogue over how to improve the results of our education system for all students."

Social Science at ED

The Department of Education supports social and behavioral research primarily through the Institute of Education Sciences (IES), in particular at the National Center for Education Research (NCER) and the National Center for Special Education Research (NCSER).

Social and behavioral science research supported by IES includes research designed to help address students' "social skills, behaviors, or underlying cognitive features that support social-behavioral competencies." IES supports education research that is informed by social and behavioral science, including research that seeks to increase the understanding of how humans learn, the understanding of learning environments, teaching, sociocultural processes, and the numerous factors that contribute to learning.

Institute of Education Sciences

The Department of Education's Institute of Education Sciences (IES) is the federal government's principal agency for conducting research on education.

Its mission is to:

"Expand fundamental knowledge and understanding of education and to provide education leaders and practitioners, parents and students, researchers, and the general public with unbiased, reliable, and useful information about the condition and progress of education in the United States, about education policies, programs, and practices that support learning and improve academic achievement and access to educational opportunities for all students, and about the effectiveness of federal and other education programs."

IES also supports the development of research standards for use as evidence in grant competitions, including improving quality through the use of administrative data.

- The Institute of Education Sciences serves as the primary federal agency for research and statistics on education.
- In FY 2016, the IES budget is \$618 million.
- IES houses one of 13
 principal federal statistical
 agencies, the National Center
 for Education Statistics
 (NCES).
- The Department of Education is also home to federal programs supporting international education and foreign language studies, including Fulbright-Hays and Title VI programs.
- Funding mechanisms:
 - Competitive grants
 - Cooperative agreements
- Scientific advisory body:
 - National Board for Education Sciences

IES is comprised of four centers discussed in greater detail below:

- National Center for Education Research (NCER)⁶⁹
- National Center for Education Statistics (NCES)⁷⁰
- National Center for Education Evaluation and Regional Assistance (NCEE)⁷¹
- National Center for Special Education Research (NCSER)⁷²

Learn more about IES at: https://ies.ed.gov

Funding Opportunities: http://ies.ed.gov/funding/overview.asp

National Center for Education Research

The National Center for Education Research (NCER) supports early childhood to adult education research on some of the nation's most immediate educational needs and challenges. This includes support for programs of scientifically rigorous research designed to build an evidence base in education to improve decision-making and nurture more effective practice. Activities within NCER are organized around research topics such as reading and writing, early learning, mathematics and science education, effective teachers and effective teaching, and education systems and policies.

The agency also supports research training programs, including those designed to help early- and mid-career education researchers enhance their skills and learn new methods of research. In addition, through expansion of its support for research and enhancement of the **What Works Clearinghouse**⁷³, NCER invests in research, development, evaluation, and dissemination. These activities are part of IES' efforts to develop and identify interventions and approaches that are effective for improving student learning and achievement from early childhood through postsecondary and adult education so that State Education Agencies (SEAs), Local Education Agencies (LEAs), and schools are equipped with the information and tools needed to deliver a high-quality education to all children.

Through NCER, IES supports the following research programs:

- Education and Special Education Research Programs⁷⁴ Research priority areas include curriculum, instruction, assessment (including the identification of students with disabilities), quality of the education workforce, and systems and policies that affect these conditions and their interrelationships
- Statistical and Research Methodology in Education⁷⁵ Supports the development of "new approaches to extend and improve existing methods and to create other tools that would enhance the ability of researchers to conduct" IES-funded research
- Partnerships and Collaborations Focused on Problems of Practice or Policy⁷⁶ Supports collaborations
 between researchers and practitioners to address high-priority research questions of state and local
 agencies
- National Research and Development Centers and Special Education Research and Development
 Centers⁷⁷ Engage in research, development, evaluation, and national leadership activities designed
 to improve the education system and student achievement. Competitions to create new centers are
 held periodically
- Research Networks Focused on Critical Problems of Education Policy and Practice⁷⁸ Allows research to address real, pressing educational challenges by providing infrastructure that promotes sharing of ideas and enables dissemination of results

NCER also supports a number of research training⁷⁹ activities:

- Research Training Programs in the Education Sciences⁸⁰
- Pathways to Education Research Training Program⁸¹

Learn more about NCER at: http://ies.ed.gov/ncer

Funding Opportunities: http://ies.ed.gov/funding

National Center for Education Statistics

The National Center for Education Statistics (NCES) is the primary federal entity for collecting and analyzing data related to education and serves as one of 13 federal principal statistical agencies. NCES is congressionally-mandated to collect, collate, analyze, and report complete statistics on the condition of American education; conduct and publish reports; and review and report on education activities internationally. NCES also supports the collection, analysis, and dissemination of education-related statistics in response to both legislative requirements and to the particular needs of data providers, data users, and education researchers. The Center assists public and private educational agencies and organizations in improving their statistical systems, in addition to conducting longitudinal and special data collections designed to report on the standing and advancement of education.

High priority activities for NCES include:

- Early Childhood Longitudinal Study, Birth Cohort of 2018 (ECLS-B:18)⁸²
- National Postsecondary Student Aid Survey (NPSAS)⁸³
- Student Loan Repayment and Default Study⁸⁴
- School Survey on Crime and Safety (SSOCS)⁸⁵
- School Crime Supplement (SCS)⁸⁶
- My Brother's Keeper (MBK)87

NCES' **National Assessment of Educational Progress (NAEP)**⁸⁸ is the only longitudinal, nationally representative assessment of educational progress of American students. NAEP administers paper-and-pencil assessments periodically in mathematics, reading, science, writing, the arts, civics, economics, geography, U.S. history, and in Technology and Engineering Literacy.

NCES collects data in five areas: (1) cross-sectional studies, (2) longitudinal studies, (3) international studies, (4) administrative data collections and support, and (5) statistics.

Cross Sectional Studies provide data about public and private schools, staff, and households. They include the following activities:

- Adult Training and Education Study (ATES)⁸⁹
- National Household Education Survey (NHES)⁹⁰
- Fast Response Survey System (FRSS)⁹¹
- Private School Survey⁹²
- Schools and Staffing Survey⁹³

NCES also supports the **Survey of Earned Doctorates in the U.S.**⁹⁴, which is administered by the National Center for Science and Engineering Statistics (NCSES) at the National Science Foundation with support from the

National Endowment for the Humanities, U.S. Department of Agriculture, National Institutes of Health, and National Aeronautics and Space Administration.

NCES' **Longitudinal Studies** collect information on the same students over time using a set of surveys that follow the students over various age spans. The programs include:

- Early Childhood Longitudinal Study⁹⁵
- Kindergarten Class of 2010-2011 (ECLS-K:11)⁹⁶
- Middle Grades Longitudinal Study⁹⁷
- High School Longitudinal Study of 2008 (HSLS:09)98
- Beginning Postsecondary Student Longitudinal Survey (BPS)⁹⁹
- Baccalaureate and Beyond Survey (B&B)¹⁰⁰

The International Studies¹⁰¹ program allows for insight into the educational practices and outcomes in the U.S. through comparisons with other countries. The program includes projects designed to coordinate the participation of U.S. citizens (adults, students, teachers, and principals), and schools in international education studies. These activities include "collaborating with international organizations to develop, improve and disseminate comparable international education data; and coordinating national implementation and data collection of these studies." Activities include:

- Indicators of National Education System Projects (INES)¹⁰²
- Program for the International Assessment of Adult Competencies (PIAAC)¹⁰³
- Program for International Student Assessment (PISA)¹⁰⁴
- Progress in International Reading Literacy Study (PIRLS)¹⁰⁵
- Teaching and Learning International Survey (TALIS)¹⁰⁶
- Trends in International Mathematics and Science Study (TIMSS)¹⁰⁷

NCES' Administrative Data Collections and Support category is a source of basic descriptive data collections from elementary and secondary level public schools. It also includes public and private postsecondary institutions and activities that support improvement of data standards and technical assistance. The program's key activities include:

- Common Core Data (CCD)¹⁰⁸
- Common Education Data Standards (CEDS)¹⁰⁹
- Integrated Postsecondary Education Data System (IPEDS)¹¹⁰

In the area of **Statistics**, NCES supports the **Library Statistics Program**¹¹¹ (including the Academic Libraries Survey and the School Library Media Center Survey), the **School District Demographics System**¹¹², and technical assistance to **Statewide Longitudinal Data Systems**¹¹³.

Learn more about NCES at: http://nces.ed.gov

Funding Opportunities: http://nces.ed.gov/whatsnew/Solicitations.asp

National Center for Education Evaluation and Regional Assistance

The National Center for Education Evaluation and Regional Assistance (NCEE) "conducts unbiased large-scale evaluations of education programs and practices supported by federal funds; provides research-based

technical assistance to educators and policymakers; and supports the synthesis and the wide spread dissemination of the results of research and evaluation throughout the United States."

NCEE houses the Regional Educational Laboratory Program, the What Works Clearinghouse, the Education Resources Information Center (ERIC), and the National Library of Education, each discussed in greater detail below

The **Regional Educational Laboratories (REL)**¹¹⁴ partner with school districts, state education departments, and others to apply research findings to improve academic outcomes for students. The program emphasizes providing technical assistance on performing data analysis functions, evaluating programs, and using data from State longitudinal data systems for research and evaluation that address issues of policy and practice.

The What Works Clearinghouse (WWC) ¹¹⁵ provides reviews of high quality research for educators to enable evidence-based decision-making. The Clearinghouse collects available evidence on particular educational interventions and includes more than 700 publications that are available to educators. Additionally, there are more than 12,000 reviewed studies also available to researchers, educators, and policymakers in the online searchable databases. The Clearinghouse also provides reviews of existing evidence against its standards.

The **Education Resources Information Center (ERIC)**¹¹⁶ is a web-based library of education research and information. It provides access to bibliographic records of journal and non-journal literature from 1966 to the present and currently has more than 1,000 journals indexed.

The **National Library of Education (NLE)**¹¹⁷ is the federal government's primary resource for education information for use by the public, education community, and government agencies. NLE's collection emphasizes education, as well as law, public policy, economics, urban affairs, sociology, history, philosophy, and information science. A depository under the Federal Depository Library Program of the U.S. Government Printing Office, documents produced by various other federal government agencies are available at the Library.

Learn more about NCEE at: http://ies.ed.gov/ncee

Funding Opportunities: http://ies.ed.gov/funding

National Center for Special Education Research

The National Center for Special Education Research (NCSER) supports special education research designed to increase the knowledge base concerning children with disabilities. NCSER's research also focuses on school readiness; achievement in the core academic content areas of reading, writing, mathematics, and science; and examining behaviors of students with disabilities or at risk for disabilities to provide support in learning in academic contexts. NCSER also supports research examining the functional skills that can assist in improving education outcomes and individuals transitioning to employment, independent living, and postsecondary education.

The Research Training in Special Education: Early Career Development and Mentoring¹¹⁸ program provides grants to institutions of higher education designed to prepare individuals to conduct relevant special education and early intervention research that advances knowledge within the field. The program is designed to address issues of importance to education policymakers as well as education practitioners.

Special Education Research and Development Centers¹¹⁹ support a focused program of research that may include several researchers working on separate studies that are designed to contribute to the understanding

of a particular topic. The Accelerating the Academic Achievement of Students with Learning Disabilities¹²⁰ research initiative funds studies on "developing and evaluating interventions to accelerate the reading and mathematics achievement of third through eighth grade students with or at risk for learning disabilities who demonstrate the most intractable learning problems."

Learn more about NCSER at: https://ies.ed.gov/ncser

Funding Opportunities: http://ies.ed.gov/funding

Office of Postsecondary Education

The role of the Department of Education's Office of Postsecondary Education (OPE) is "to strengthen the capacity of colleges and universities to promote reform, innovation and improvement in postsecondary education; promote and expand access to postsecondary education and increase college completion rates for America's students; and broaden global competencies that drive the economic success and competitiveness." It is also where the Department's international education and foreign language studies programs reside.

The International Education and Foreign Language Studies (IEFLS)¹²² programs support comprehensive language and area study centers within the United States, research and curriculum development, and opportunities for American scholars to study abroad. The programs also serve important economic, diplomatic, defense, and other national security interests. The programs of interest to social science researchers include:

- American Overseas Research Centers¹²³
- Foreign Language and Area Studies Fellowships¹²⁴
- Institute for International Public Policy¹²⁵
- International Research and Studies¹²⁶
- Language Resource Centers¹²⁷
- National Resource Centers¹²⁸
- Technological Innovation and Cooperation for Foreign Information Access¹²⁹
- Undergraduate International Studies and Foreign Language Program¹³⁰
- Fulbright-Hays Training Grants—Doctoral Dissertation Research Abroad¹³¹
- Fulbright-Hays Training Grants—Faculty Research Abroad¹³²
- Fulbright-Hays Training Grants—Group Projects Abroad¹³³
- Fulbright-Hays Seminars Abroad—Bilateral Projects¹³⁴

Learn more about the OPE at: http://www2.ed.gov/about/offices/list/ope/index.html

Funding Opportunities: http://www2.ed.gov/about/offices/list/ope/news.html

⁶⁷ http://www2.ed.gov/about/overview/fed/role.html

⁶⁸ http://ies.ed.gov/ncser/pubs/20162002/pdf/20162002.pdf

⁶⁹ http://ies.ed.gov/ncer

⁷⁰ https://nces.ed.gov

⁷¹ https://ies.ed.gov/ncee

⁷² http://ies.ed.gov/ncser

⁷³ http://ies.ed.gov/ncee/wwc

⁷⁴ http://ies.ed.gov/funding/ncer_progs.asp

⁷⁵ http://ies.ed.gov/funding/ncer_rfas/methodology.asp

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<sup>76</sup> https://ies.ed.gov/funding/ncer rfas/partnerships colab.asp
<sup>77</sup> https://ies.ed.gov/ncer/projects/program.asp?ProgID=13
78 http://ies.ed.gov/funding/ncer rfas/networks.asp
<sup>79</sup> https://ies.ed.gov/funding/ncer rfas/training.asp
80 https://ies.ed.gov/funding/ncer rfas/training.asp
81 https://ies.ed.gov/funding/ncer_rfas/training_pathways.asp
82 http://nces.ed.gov/ecls
83 https://nces.ed.gov/surveys/npsas
84 https://www2.ed.gov/about/overview/budget/budget16/justifications/w-ies.pdf
85 http://nces.ed.gov/surveys/ssocs
<sup>86</sup> https://nces.ed.gov/programs/crime/surveys.asp
<sup>87</sup> http://www2.ed.gov/rschstat/statistics/surveys/mbk/index.html
88 https://nces.ed.gov/nationsreportcard
89 https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013190
90 https://nces.ed.gov/nhes
<sup>91</sup> http://nces.ed.gov/surveys/frss
92 https://nces.ed.gov/surveys/pss
93 https://nces.ed.gov/surveys/sass
<sup>94</sup> http://www.nsf.gov/statistics/srvydoctorates
95 http://nces.ed.gov/ecls
96 http://nces.ed.gov/ecls
97 http://nces.ed.gov/surveys/mgls
98 http://nces.ed.gov/surveys/hsls09
99 http://nces.ed.gov/surveys/bps
100 http://nces.ed.gov/surveys/b&B
101 http://nces.ed.gov/surveys/international
<sup>102</sup> http://nces.ed.gov/pubs2012/2012007/index.asp
103 http://nces.ed.gov/surveys/piaac
104 http://nces.ed.gov/surveys/pisa
105 http://nces.ed.gov/surveys/pirls
106 http://nces.ed.gov/surveys/talis
107 http://nces.ed.gov/surveys/TIMSS
108 http://nces.ed.gov/ccd
109 http://ceds.ed.gov
110 http://nces.ed.gov/ipeds
111 http://nces.ed.gov/surveys/libraries
112 http://nces.ed.gov/surveys/sdds
113 http://nces.ed.gov/programs/slds
114 http://ies.ed.gov/ncee/edlabs
115 http://ies.ed.gov/ncee/wwc/aboutus.aspx
116 http://ies.ed.gov/ncee/projects/eric.asp
117 https://ies.ed.gov/ncee/projects/nle
118 https://ies.ed.gov/funding/ncser rfas/ncser earlycareer.asp
119 https://ies.ed.gov/ncser/RandD
120 https://ies.ed.gov/funding/ncser rfas/ncser accelerating.asp
121 http://www2.ed.gov/about/offices/list/ope/index.html
122 http://www2.ed.gov/about/offices/list/ope/iegps/index.html
123 http://www2.ed.gov/programs/iegpsaorc/index.html
124 http://www2.ed.gov/programs/iegpsflasf/index.html
125 http://www2.ed.gov/programs/iegpsiipp/index.html
126 http://www2.ed.gov/programs/iegpsirs/index.html
127 http://www2.ed.gov/programs/iegpslrc/index.html
128 http://www2.ed.gov/programs/iegpsnrc/index.html
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¹²⁹ http://www2.ed.gov/programs/iegpsticfia/index.html

¹³⁰ http://www2.ed.gov/programs/iegpsugisf/index.html

¹³¹ http://www2.ed.gov/programs/iegpsddrap/index.html

¹³² http://www2.ed.gov/programs/iegpsfra/index.html

¹³³ http://www2.ed.gov/programs/iegpsgpa/index.html

¹³⁴ http://www2.ed.gov/programs/iegpssap/index.html

Department of Homeland Security

Overview

The Department of Homeland Security (DHS) is an operational agency responsible for ensuring the safety of the American homeland. Upon its creation in 2002, several existing and newly created federal agencies were consolidated under the DHS umbrella, including U.S. Customs and Border Protection, U.S. Citizenship and Immigration Services, U.S. Coast Guard, Federal Emergency Management Agency (FEMA), U.S. Immigration and Customs Enforcement, U.S. Secret Service, and the Transportation Security Administration.

DHS invests in research through its Science and Technology (S&T) Directorate, which conducts basic and applied research, development, demonstration, testing and evaluation activities with the goal of delivering effective and innovative insight, methods and solutions for the critical needs of the homeland security enterprise. The S&T Directorate can issue requests for proposals via DHS's **Broad Agency Announcements**¹³⁵, although this happens infrequently.

The Directorate organizes its research efforts into six main areas, including:

- Support for First Responders¹³⁶
- Borders and Maritime Security¹³⁷
- Chemical and Biological Defense¹³⁸
- Cybersecurity¹³⁹
- Explosives¹⁴⁰
- Resilient Systems¹⁴¹

Quick Facts

- DHS's annual budget in FY 2016 is \$49 billion, with only \$579 million dedicated to research and development (about 1.1 percent).
- The DHS Science & Technology Directorate is responsible for advancing the Department's research interests.
- Funding mechanisms:
 - Broad Agency
 Announcements
- Scientific advisory body:
 - Homeland Security
 Science and Technology
 Advisory Committee

Each activity, with the exception of first responder efforts, is funded by the **Homeland Security Advanced Research Projects Agency (HSARPA)**¹⁴². HSARPA's Resilient Systems Division in particular supports research to enhance the ability of individuals, communities, and systems to prevent, respond to, and recover from adverse events. Its areas of focus include Community Resilience, Critical Infrastructure, Cyber-Physical Systems, Decision Support, Evaluation Research, and Security and Identification.

The Science and Technology Directorate's **Office of University Programs**¹⁴³ supports 13 Centers of Excellence that conduct research on areas critical to homeland security. Current Centers of Excellence include the:

- Center for Borders, Trade, and Immigration Research, led by the University of Houston
- National Center for Risk and Economic Analysis of Terrorism Events, led by the University of Southern California
- National Consortium for the Study of Terrorism and Responses to Terrorism, led by the University of Maryland

The Office of University Programs also funds programs at minority-serving institutions to build a diverse, well-qualified homeland security science and engineering workforce.

Social Science at DHS

In general, DHS and the Science and Technology Directorate do not overtly emphasize social and behavioral research. However, these sciences make important contributions to several of the Department's priority areas, including identifying threats and suspicious behavior, improving cybersecurity, helping to prepare for and respond to natural disasters, and understanding the relationship between human factors and our national security.

Social science is also supported by DHS' Apex Programs¹⁴⁴, which look strategically at security challenges and use expert insight to advance technology and support security efforts. Apex programs address topics such as border protection and situational awareness, bio-threat awareness, natural disasters, cyber infrastructure, airport security, and first-responder preparedness. Further, supporting the Apex programs are various "Technology Engines" that provide the needed technology and infrastructure to all the programs to tackle the questions under their purview. For example, the Behavioral, Economic, and Social Science Engine (BESS-E)¹⁴⁵ assists Apex programs in analyzing the social and behavioral implications of new techniques, programs, and policies.

DHS is the newest cabinet-level agency and has gone through several changes since its inception in 2002. As related to social and behavioral science research, the Department has notably dissolved its Human Factors and Behavioral Science Division within the Science and Technology Directorate.

Learn more about the DHS Science and Technology Directorate at: http://www.dhs.gov/science-and-technology

Funding Opportunities: https://www.dhs.gov/science-and-technology/business-opportunities

¹³⁵ https://baa2.st.dhs.gov/portal/public/Menu.action?page=baa_current_solicitations

¹³⁶ https://www.dhs.gov/science-and-technology/first-responders

¹³⁷ https://www.dhs.gov/science-and-technology/maritime-border-security

¹³⁸ https://www.dhs.gov/science-and-technology/st-cbd

¹³⁹ https://www.dhs.gov/science-and-technology/cyber-security-division

¹⁴⁰ https://www.dhs.gov/science-and-technology/explosives-division

¹⁴¹ https://www.dhs.gov/topic/resilience

¹⁴² http://www.dhs.gov/science-and-technology/hsarpa

¹⁴³ https://www.dhs.gov/science-and-technology/office-university-programs

¹⁴⁴ https://www.dhs.gov/science-and-technology/apex-programs

¹⁴⁵ https://www.dhs.gov/science-and-technology/bess-e

Department of Housing and Urban Development

Overview

The Department of Housing and Urban Development (HUD) works to end homelessness, strengthen cities, increase access to quality housing, and address infrastructure-related responses to natural disasters. HUD primarily provides resources to help expand access to housing and does not spend a large proportion of its budget on research.

HUD supports **University Partnerships**¹⁴⁶ in its Office of Policy Research and Development to help universities implement community activities and support education initiatives related to urban development.

Social Science at HUD

HUD relies on social science research to improve policies intended to strengthen housing and communities and to monitor the housing market. These activities fall under the purview of the Office of Policy Development and Research (P&DR)¹⁴⁷, whose strategic goals¹⁴⁸ are to:

- Strengthen the nation's housing market to bolster the economy and protect consumers
- Meet the need for quality affordable rental homes
- Utilize housing as a platform for improving quality of life
- Build inclusive and sustainable communities free from discrimination
- Transform the way HUD does business

PD&R released its **Research Roadmap**¹⁴⁹ in 2013, which is a strategic research plan that helps to guide PD&R's policy-relevant research investments. PD&R's research activities include demonstration projects; data collection, surveys, analysis, and dissemination; research dissemination; peer review of highly influential scientific assessments; and field research. The office produces the **American Housing Survey**¹⁵⁰ in cooperation with the Census Bureau and maintains numerous other databases on the housing and mortgage market as part of its **research information service and clearinghouse**¹⁵¹. Unsolicited research proposals are accepted if they relate to the aforementioned strategic goals.

Learn more about PD&R at: https://www.huduser.gov/portal/home.html

Funding Opportunities: http://portal.hud.gov/hudportal/HUD?src=/program_offices/administration/grants/fundsavail

- HUD spent approximately \$60 million on research and development activities in FY 2016.
- The majority of HUD research is mandated by Congress.
- HUD distributes grants through partnerships with universities and graduatelevel research fellowships.

¹⁴⁶ https://www.huduser.gov/portal/oup/grants.html

¹⁴⁷ https://www.huduser.gov/portal/home.html

¹⁴⁸ https://www.huduser.gov/portal/about/strat_goals.html#1

¹⁴⁹ https://www.huduser.gov/portal/about/pdr roadmap.html

¹⁵⁰ http://www.census.gov/programs-surveys/ahs.html

¹⁵¹ https://www.huduser.gov/portal/home.html

Department of Justice

Overview

As a mission agency, the Department of Justice (DOJ) focuses on law enforcement activities, litigation, and detention facilities. Approximately seven percent of DOJ's budget is dedicated to grants, which are distributed primarily through the Office of Justice Programs; this includes grants to state law enforcement agencies and other mission-related activities as well as research grants.

The Office of Justice Programs (OJP) and the National Institute of Justice (NIJ) both award grant funds. OJP helps disseminate information and best practices while NIJ, a division of OJP, helps provide evidence-based tools and knowledge to help address challenges in criminal justice.

Research priorities of NIJ include advancing the scientific basis of forensic sciences, expanding the use of DNA evidence, understanding causes of crime, identifying helpful services for victims of crime, helping prevent the use of illegal drugs, and identifying components of successful reentry programs.

Learn more about OJP at: http://ojp.gov

Funding Opportunities: http://ojp.gov/funding/Explore/CurrentFunding Opportunities.htm

Social Science at DOJ

There has been broad integration of social and behavioral sciences into the efforts of the Department of Justice, including support for psychology, criminology, law, and forensics, among other fields. Additionally, DOJ houses one of 13 **federal principal statistical agencies**, the Bureau of Justice Statistics.

Most of DOJ's social and behavioral science research is directed by the National Institute of Justice, including both intramural and extramural research. A detailed description of research priorities can be found below.

The social and behavioral science research community is also well-represented on the Office of Justice Programs **Science Advisory Board**¹⁵², which includes professionals in social research, law, criminology, psychology, statistics, social justice, and public policy.

National Institute of Justice

Through the National Institute of Justice (NIJ), DOJ supports extramural research at educational institutions, local and state agencies, faith-based organizations, other federal agencies, and federally-funded research and development centers. NIJ employs a peer review process to review and award grants.

- Of DOJ's total FY 2016 budget (\$29.1 billion), only 0.2 percent (or \$69 million) is dedicated to research and development activities.
- Research awards are primarily made to educational institutions, non-profits, state and local agencies, individual researchers, and faith-based organizations.
- Through the National Institute of Justice, DOJ is working to bolster the criminal justice research infrastructure by supporting young researchers.
- DOJ houses one of 13 federal principal statistical agencies, the Bureau of Justice
 Statistics.
- Scientific advisory body:
 - Office of Justice Programs
 Science Advisory Board

NIJ issues solicitations each year based on that year's research priorities. NIJ's **research priorities for FY 2016¹⁵³** include:

- Policing practices, officer training, technology, and wellness
- Examination of violence and victimization among college-aged victims
- Illegal drug markets and criminal behavior
- Correctional officer safety and the use of restrictive housing
- Understanding the causes and effects of firearms violence and reducing firearm violence
- Developing best practices for testing and interpreting physical evidence

The submission of unsolicited proposals is discouraged by NIJ. In addition to the more traditional grant-issuing process, NIJ uses **Challenge Competitions**¹⁵⁴ that pose specific questions in search of practical solutions. NIJ has released a variety of challenges relating to crime forecasting, gun safety technology, data visualization, and body armor.

Additionally, NIJ sponsors a variety of graduate fellowship programs¹⁵⁵, including a social and behavioral science research fellowship¹⁵⁶ and a multidisciplinary STEM fellowship program¹⁵⁷. It also supports the W.E.B. Du Bois Program¹⁵⁸ to advance the study of race and crime, a Visiting Fellows Program¹⁵⁹ to support researchers in residence, and fellows sponsored by the American Association for the Advancement of Science¹⁶⁰, Society for Research on Child Development¹⁶¹, and American Psychological Association¹⁶².

Learn more about NIJ at: http://www.nij.gov

Funding Opportunities: http://www.nij.gov/funding/Pages/current.aspx

Bureau of Justice Statistics

The Bureau of Justice Statistics (BJS) is DOJ's principal statistical agency and the preeminent source of crime and justice data. BJS collects, analyzes, and publishes information about crime, crime victims, and criminals. It also disseminates information about the operation of justice systems at all levels of government.

The main topics of data collection include:

- Corrections
- Crime type
- Criminal justice data improvement
- Employment and expenditure
- The federal justice system
- Indian country justice statistics
- Law enforcement
- Victims

BJS also collects data on victimization, populations in correctional facilities, federal criminal offenders, case processing, courts, and victim demographics. BJS sponsors and releases dozens of data collections each year¹⁶³. It also highlights data on its main topic areas (listed above) through its **Key Statistics tool**¹⁶⁴.

Finally, BJS also supports a **Visiting Fellows Program**¹⁶⁵ to support senior-level social science researchers and/or statisticians with specializations in survey methodology, mathematics, criminology, demography, economics, or behavioral science.

Learn more about BJS at: http://www.bjs.gov

Funding Opportunities: http://www.bjs.gov/index.cfm?ty=fun

¹⁵² http://ojp.gov/sab.htm

¹⁵³ http://www.nij.gov/about/director/pages/rodriguez-fy16-solicitations.aspx

¹⁵⁴ http://www.nij.gov/funding/Pages/challenges.aspx

¹⁵⁵ http://www.nij.gov/funding/fellowships/Pages/welcome.aspx

¹⁵⁶ http://www.nij.gov/funding/fellowships/graduate-research-fellowship/Pages/grf-sbs.aspx

¹⁵⁷ http://www.nij.gov/funding/fellowships/graduate-research-fellowship/Pages/grf-stem.aspx

¹⁵⁸ http://www.nij.gov/funding/fellowships/dubois-fellowship/pages/welcome.aspx

 $^{^{159}\} http://www.nij.gov/funding/fellowships/visiting-fellowships/Pages/welcome.aspx$

¹⁶⁰ https://www.aaas.org/page/stpf/become-st-policy-fellow

¹⁶¹ http://www.srcd.org/policy-media/policy-fellowships/about-fellowships

¹⁶² http://www.apa.org/about/awards/science-fellowship.aspx

¹⁶³ http://www.bjs.gov/index.cfm?ty=pba

¹⁶⁴ http://www.bjs.gov/index.cfm?ty=kfa

¹⁶⁵ http://www.bjs.gov/content/fellows.cfm

Department of State

Overview

The Department of State relies on scientific insights to help identify policies that could increase international economic and social opportunity, solve global societal challenges, and otherwise advance America's foreign policy goals. In addition, insights from science and technology enable the Department to respond to new discoveries and emerging technologies that might affect foreign relations, including mapping technologies, advances in weaponry, bioterrorism, and cybersecurity. Due to its collaborative nature and expansive scope of inquiry, science naturally crosses borders, and the State Department encourages "science diplomacy" by facilitating international scientific cooperation among individuals, institutions, and governments.

Learn more about science at the Department of State at: http://www.state.gov/e/oes/stc/stem/index.htm

Social Science at State

Opportunities for social and behavioral scientists in the State Department are mainly confined to fellowship and exchange programs. These programs provide opportunities for foreign language learning, area studies, and for academics to bring their expertise to the State Department. State does not offer traditional extramural research grants.

Most of State's relevant programs are housed under the **Bureau of Education and Cultural Affairs**¹⁶⁶, which supports academic and educational exchanges, in addition to programs in the arts, sports, professional world, and local governments. These programs provide opportunities both for Americans to work and live abroad and for citizens of other countries to travel to the United States. The Bureau's flagship program is the **Fulbright Program**¹⁶⁷, which makes about 8,000 grant each year, providing scholars with the opportunity to study, teach, or conduct research in a foreign country. The program is comprised of a number of specialized awards, including the core Fulbright U.S. Scholar Program, which provides American academics in a variety of fields with the opportunity to conduct research abroad, and the Fulbright-Hays Program, which is funded by the Department of Education (see the **ED section**).

Other fellowship opportunities at the State Department include the Jefferson Science Fellowship¹⁶⁸, which is administered by the National Academies of Sciences, Engineering, and Medicine and brings tenured professors of science (including the social sciences), engineering, and medicine to work in the State Department or USAID for one year, and the Bureau of Intelligence and Research's Title VIII grants¹⁶⁹, which provide support for research and language training in Eastern Europe and Eurasia (the former Soviet Union).

Quick Facts

- The Department of State supports "science diplomacy," using international collaboration among scientists to strengthen ties between countries.
- The State Department administers the Fulbright Program and other fellowship and exchange opportunities for researchers and students to travel abroad to study, learn a language, and conduct research.

¹⁶⁶ https://eca.state.gov

¹⁶⁷ https://eca.state.gov/fulbright

¹⁶⁸ http://sites.nationalacademies.org/PGA/Jefferson/index.htm

¹⁶⁹ http://www.state.gov/s/inr/grants/index.htm

Envionmental Protection Agency

Overview

The Environmental Protection Agency (EPA) is an independent mission agency, with goals to protect human health and the environment through directing national efforts to address environmental health. The EPA funds research through its Office of Research and Development (ORD), which includes three national laboratories, four national centers, and fourteen offices across the U.S. The EPA awards grants to non-profit organizations and state government agencies for compliance support programs, ¹⁷⁰ and supports researchers through its **STAR grant** program.

Social Science at EPA

While social and behavioral science research is not a main priority of the EPA, the agency is starting to more fully integrate social and behavioral science research into its activities and functions. Cost-benefit analysis has long been used in its regulatory programs. It has also integrated deterrence research in its environmental enforcement program and is looking for ways to go beyond traditional deterrence methods. Officials have expressed interest in addressing issues of compliance through better understanding of how external influences, technology, and reporting processes affect decision-making, which is being incorporated into their **Next Generation Compliance**¹⁷² program.

In addition to work in compliance, EPA is also interested in understanding community and psychological stressors as they relate to environmental health, applying statistical methods to children's health and school outcomes, and understanding the effect of nanomaterials on humans.

Learn more about EPA research at: https://www.epa.gov/research

Funding Opportunities: https://www.epa.gov/research-grants/research-funding-opportunities

Quick Facts

- EPA's science and technology budget in FY 2016 is \$494 million.
- EPA supports three national laboratories and four national research centers.
- Much of agency's research activities are conducted at EPA labs by EPA scientists.
- Some EPA programs support student competitions, external research grants, and fellowships.
- Scientific advisory body:
 - EPA Science Advisory Board

¹⁷⁰ https://www.epa.gov/grants

¹⁷¹ https://www.epa.gov/research-grants

¹⁷² https://www.epa.gov/compliance/next-generation-compliance

Federal Principal Statistical Agencies

Overview

Although many parts of the federal government collect data and produce statistical information, only 13 agencies receive the designation of "principal statistical agency." These are agencies whose primary mission is to produce official government statistics. The principal statistical agencies are bound by policy directives released by the White House Office of Management and Budget (OMB), which ensure that official statistics are objective, accurate, timely, and publicly accessible and that responses to federal surveys are kept confidential.

Federal statistics provide decision makers on the federal, state, and local level with much-needed empirical evidence for making policy and evaluating the performance of government programs; they are used in the private sector to determine where and how to make strategic investments; and the availability of objective, public data helps level the playing field in the economy and keep markets stable. The Department of Commerce estimates that government data enables the private sector to generate anywhere from \$24 billion to \$221 billion annually, far outpacing federal investment in statistical agencies. 173

Quick Facts

- There are 13 principal statistical agencies across the federal government.
- Principal statistical agencies are responsible for producing official government statistics.
- Among the many data resources produced by principal statistical agencies are the:
 - Decennial Census
 - American Community
 Survey
 - Gross Domestic Product
 - Monthly employment rate

The 13 principal statistical agencies are:

- Bureau of Economic Analysis (BEA)¹⁷⁴, Department of Commerce
- Bureau of Justice Statistics (BJS)¹⁷⁵, Department of Justice (see the DOJ section)
- Bureau of Labor Statistics (BLS)¹⁷⁶, Department of Labor
- Bureau of Transportation Statistics (BTS)¹⁷⁷, Department of Transportation
- Census Bureau¹⁷⁸, Department of Commerce
- Economic Research Service (ERS)¹⁷⁹, Department of Agriculture (see the USDA section)
- Energy Information Administration (EIA)¹⁸⁰, Department of Energy
- National Agricultural Statistics Service (NASS)¹⁸¹, Department of Agriculture (see the USDA section)
- National Center for Education Statistics (NCES)¹⁸², Department of Education (see the ED section)
- National Center for Health Statistics (NCHS)¹⁸³, Centers for Disease Control and Prevention (see the CDC section)
- National Center for Science and Engineering Statistics (NCSES)¹⁸⁴, National Science Foundation (see the NSF section)
- Office of Research, Evaluation and Statistics (ORES)¹⁸⁵, Social Security Administration
- Statistics of Income (SOI)¹⁸⁶, Internal Revenue Service

Because the ORES and SOI programs are quite small and primarily analyze existing administrative data, they are not covered in this report. Information on the remaining statistical agencies not discussed elsewhere in this document is below.

Learn more about federal statistical agencies at: https://www.whitehouse.gov/omb/inforeg_statpolicy

Social Science at Federal Statistical Agencies

The data produced by federal statistical agencies is an invaluable resource for researchers in many fields of social and behavioral science. Federal statistical data is rigorously collected and analyzed, generalizable, comparable across time periods, and touches on nearly every aspect of life in America: demographics, health, the economy, employment, transportation, agriculture, crime, education, energy, and science. In addition to the de-identified data that is made available to the public, researchers may also apply to access restricted-use microdata files at one of 23 **Federal Statistical Research Data Centers**¹⁸⁸ across the country, where linked survey data offers additional research opportunities. One analysis¹⁸⁹ found that of a sample of 1,685 articles published in leading social science journals, more than half relied on statistics from five federal agencies, four of which were principal statistical agencies: BEA, BLS, Census, and NCHS (the fifth was the National Oceanic and Atmospheric Administration).

In addition, the scope and scale of the federal statistical enterprise means that these agencies must be constantly innovating in terms of data collection, methodology, and delivery of analysis in order to effectively carry out their missions with limited resources. Thus, new techniques and findings generated by these agencies can benefit researchers outside the statistical system as well.

Bureau of Economic Analysis

Housed within the U.S. Department of Commerce, the Bureau of Economic Analysis (BEA) is responsible for collecting data and producing statistical information on matters relating to the U.S. economy. BEA is the agency that produces the **National Income and Product Accounts**¹⁹⁰, which include estimates for the Gross Domestic Product (GDP). Beyond GDP, BEA publishes detailed economic information on a regional, national, and international level, including data on personal income and employment, corporate profits, and international trade and services. The Bureau also produces statistics on various industries and economic sectors.

Learn more about BEA at: http://www.bea.gov/index.htm

Bureau of Labor Statistics

Perhaps best known as the agency that publishes the monthly unemployment rate, the Bureau of Labor Statistics (BLS) produces data on employment and the labor market, working conditions, and pricing of goods and services. It is housed within the U.S. Department of Labor.

In terms of annual budget, it is the second-largest statistical agency, after the Census Bureau. In addition to the unemployment rate, the BLS produces some of the statistical system's most recognizable products and surveys, including the Consumer Price Index¹⁹¹, Consumer Expenditure Survey¹⁹², and the American Time Use Survey¹⁹³. Other topics covered by BLS data and analysis include inflation, pay and benefits, workplace injuries, employment by occupation, productivity, and strikes and work stoppages.

Learn more about BLS at: http://www.bls.gov

Bureau of Transportation Statistics

The Bureau of Transportation Statistics (BTS) is a federal statistical agency housed within the U.S. Department of Transportation (DOT) that administers data collection, analysis, and disseminates a comprehensive set of

transportation statistics. BTS collects and disseminates data on airlines and airports, congestion, connectivity, economics and finance, energy and environment, freight, geospatial information, international transportation, livability, maritime transportation, passenger travel, and safety. BTS also houses the **National Transportation Library**¹⁹⁴, a repository of transportation information.

Learn more about BTS at: http://www.rita.dot.gov/bts

Census Bureau

The largest of the principal statistical agencies is the Census Bureau, which is housed within the U.S. Department Commerce. Census conducts more than 130 surveys about the U.S. population and economy each year. It carries out the constitutionally-mandated **Decennial Census**¹⁹⁵, a massive undertaking that counts each person living in the United States. Data from the 2020 Census will be used to redraw Congressional districts and determine how more than \$400 billion in federal funding is allocated, in addition to providing valuable demographic and housing data about the U.S. population for researchers. The Bureau is tasked with counting a growing and increasingly diverse population of approximately 330 million people in more than 140 million housing units, all at *less* cost than the 2010 Census. Thus, investment in research, planning, and testing in the years leading up to the decennial census are critical to its success.

In addition to the decennial census, one the of the Census Bureau's most import products is the **American Community Survey (ACS)**¹⁹⁶, which collects vital socio-economic and demographic data from all communities in the United States. Because the ACS replaced the long form of the decennial census, which was sent to a subset of the population through the 2000 Census, it is a mandatory survey. The rich dataset produced by the ACS—the survey generates 11 billion individual estimates each year—is relied on by a diverse group of users, including researchers, federal agencies, state and local governments, non-profits, businesses, educators, tribal planners and administrators, the media, and the general public.

Other notable Census Bureau surveys include the **Census of Governments**¹⁹⁷, which collects information on state and local governments in the U.S. and their organizational structures, finances, and employment, and the **Economic Census**¹⁹⁸, which produces information about American businesses' impact on the economy and labor market. Both are conducted every five years. The Bureau also publishes reports on 14 key economic indicators that chart changes in economic sectors such as the housing market, manufacturing, and trade.

Learn more about the Census Bureau at: http://www.census.gov

Energy Information Administration

The Energy Information Administration (EIA), within the U.S. Department of Energy, is the statistical agency responsible for collecting, analyzing, and disseminating information on energy production and use and its interaction with the economy and the environment. EIA's data, estimates, and analyses are used by state and local governments, researchers, business and industry, and the media. Its dozens of products cover energy topics including natural gas, drilling, coal, petroleum supply and marketing, electricity and electric power, carbon dioxide emissions, gasoline and diesel fuel, and annual and international energy outlooks.

Learn more about EIA at: http://www.eia.gov

 $^{^{173}\} http://esa.gov/sites/default/files/revised fostering in novation creating jobs driving better decisions-the value of government data.pdf$

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174 http://www.bea.gov
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- 176 http://www.bls.gov
- 177 http://www.rita.dot.gov/bts/home
- 178 http://www.census.gov
- 179 http://www.ers.usda.gov
- 180 http://www.eia.gov
- ¹⁸¹ https://www.nass.usda.gov
- 182 https://nces.ed.gov
- 183 https://www.cdc.gov/nchs
- ¹⁸⁴ http://www.nsf.gov/statistics
- ¹⁸⁵ https://www.ssa.gov/policy/about/ORES.html
- ¹⁸⁶ https://www.irs.gov/uac/soi-tax-stats-statistics-of-income
- ¹⁸⁷ http://esa.gov/sites/default/files/revisedfosteringinnovationcreatingjobsdrivingbetterdecisions-

thevalueofgovernmentdata.pdf

- 188 http://www.census.gov/fsrdc
- ¹⁸⁹ https://www.jstor.org/stable/20744003?seq=1#page_scan_tab_contents, pg. 8
- ¹⁹⁰ http://www.bea.gov/national/Index.htm
- ¹⁹¹ http://www.bls.gov/cpi
- 192 http://www.bls.gov/cex
- ¹⁹³ http://www.bls.gov/tus
- 194 http://ntl.bts.gov
- ¹⁹⁵ https://www.census.gov/2020census
- ¹⁹⁶ https://www.census.gov/programs-surveys/acs
- 197 https://www.census.gov/govs/cog
- 198 https://www.census.gov/econ/census

¹⁷⁵ http://www.bjs.gov

National Institute of Standards and Technology

Overview

The National Institute of Standards and Technology (NIST) is the oldest physical science laboratory in the United States, established in 1901 to advance U.S. industrial competitiveness. NIST supports physical science research through six internal research laboratories, multiple research centers, and manufacturing partnerships. NIST's research areas include measurement sciences, health, energy, chemistry, manufacturing, information technology, and forensics.

Learn more about NIST at: http://www.nist.gov

Funding Opportunities: http://www.nist.gov/director/grants/grants.cfm

Quick Facts

- NIST's FY 2016 budget of \$964 million includes nearly \$770 million, almost 80 percent, for research and development.
- NIST has many scientific advisory boards, including the Forensic Science Standards Board.

Social Science at NIST

While the vast majority of research supported by NIST—both intramural and extramural—is in the physical sciences, NIST relies on social science through its support of forensic science research and on its **Forensic Science Standards Board** includes a Human Factors Committee, which supports anthropological insights to crime scene investigation, speaker recognition, and disaster victim identification. Members of the board include professionals in criminology, law, psychology, decision sciences, and economics. Additionally, NIST partners with the Department of Justice through the **National Commission on Forensic Science**²⁰⁰, which includes professionals in criminal justice, law, and statistics.

¹⁹⁹ http://www.nist.gov/forensics/osac/fssb.cfm

²⁰⁰ http://www.nist.gov/forensics/ncfs.cfm

National Institutes of Health

Overview

The National Institutes of Health (NIH) is housed within the U.S. Department of Health and Human Services. Its mission is "science in pursuit of fundamental knowledge about the nature and behavior of living systems, and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability." The research supported by NIH ranges from basic to clinical, prevention, and population-based research.

This mission is pursued by 27 institutes and centers (ICs) and numerous offices within NIH, which support and conduct research through a far-reaching extramural research community and an intramural research program. Each IC has its own strategic plan to guide it and the extramural community.

The NIH Office of Extramural Research (OER)²⁰¹ is a comprehensive resource for information on the types of grants available, planning and applying for a grant, funding opportunity announcements (FOAs), requests for applications (RFAs), program announcements (PAs), requests for proposals (RFPs), and other resources such as:

- Information on how to plan to submit an application
- The process for submitting an application
- The NIH receipt and referral process
- How the peer review process works
- Information on award management
- Post-award management information

NIH maintains more than 150 chartered advisory committees, including the Advisory Committee to the Director, among other director-level advisory committees that provide advice and guidance to the NIH director regarding NIH policy related to the agency's mission. Additionally, each of the ICs have National Advisory Council and Boards (NACS), which provide advice and recommendations on policy and program development, program implementation, evaluation, and other matters of importance to the mission and goals of the respective ICs. NIH is further advised by a Scientific Management Review Board (SMRB) on the use of organizational authorities authorized in the *NIH Reform Act of 2006*.

Learn more about NIH at: http://www.nih.gov

Funding Opportunities: http://www.nih.gov/grants-funding

Social Science at NIH

NIH supports social and behavioral science primarily, but not solely, under the rubric of "health and behavior" research in all of its constituent institutes. Institutes most engaged in this research include:

Quick Facts

- NIH's an annual budget in FY 2016 is \$32.3 billion.
- The NIH extramural research community includes more than 300,000 scientists and research personnel affiliated with more than 3,100 institutions and organizations.
- Funds are primarily awarded through a two-tiered, independent peer review system designed to ensure that the best proposals are funded.
- Approximately 10 percent of NIH's budget supports intramural basic and clinical research activities.
- Funding mechanisms:
 - Grants
 - Fellowships
 - Cooperative Agreements
 - Contracts
- Research training and career development programs provide resources to prepare individuals for biomedical, behavioral, social, and clinical research careers.
- Scientific advisory bodies:
 - Advisory Committee to the NIH Director
 - Council of Councils
 - Scientific Management
 Review Board
 - Individual IC advisory councils

- National Institute of Mental Health
- National Institute on Drug Abuse
- Eunice Kennedy Shriver National Institute of Child Health and Human Development
- National Institute on Aging
- National Institute on Alcohol Abuse and Alcoholism
- National Institute of Nursing Research

In addition, the NIH Office of **Behavioral and Social Sciences Research (OBSSR)**²⁰³ within the Office of the NIH Director exists in recognition of the critical role behavioral and social factors play in health, including an appreciation that these factors represent important avenues for prevention. OBSSR coordinates and develops NIH policies, goals, and objectives as they relate to social and behavioral sciences research across the agency.

See **APPENDIX** for examples of social and behavioral science research programs and initiatives supported by NIH's institutes, centers and offices.

Office of the Director and Trans-NIH Activities

The Office of the NIH Director (OD) centrally coordinates NIH's extramural and intramural research activities; science policy, and related social, ethical, and legal issues; health information, dissemination and education functions; legislative activities; oversight of the agency's stewardship of public funds; and technology transfer and intellectual property protection policies.

OD administers and coordinates a number of trans-NIH activities, including:

- Precision Medicine Initiative²⁰⁴
- Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative²⁰⁵
- Environmental influences on Child Health Outcomes (ECHO) Program²⁰⁶ (also referred to as the National Children's Study Alternative²⁰⁷)
- NIH Blueprint for Neuroscience Research²⁰⁸
- Women's health research²⁰⁹
- Obesity research²¹⁰

Within OD is the **Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI)**²¹¹, which consolidates under one administrative home many aspects of trans-NIH program planning and implementation, as well as other cross-cutting NIH-wide functions. The Office's mandate includes identifying and reporting on research that "represents areas of emerging scientific opportunities, rising public health challenges, or knowledge gaps that would benefit from conducting or supporting additional research that involves collaboration between two or more institutes and centers or would benefit from strategic coordination and planning.²¹²"

The Division coordinates trans-NIH research opportunities through the **Common Fund²¹³** and includes the following major programmatic offices tasked with coordinating research in their respective domains:

- Office of Strategic Coordination²¹⁴
- Office of Behavioral and Social Sciences Research²¹⁵
- Office of AIDS Research²¹⁶
- Office of Research on Women's Health²¹⁷
- Office of Disease Prevention²¹⁸
- Office of Research Infrastructure Programs²¹⁹

- Sexual and Gender Minority Research Office²²⁰
- Tribal Health Research Office²²¹
- Office of Administrative Management and Communications²²²

With the exception of the Office of AIDS Research, these offices do not have grant-making authority but work in collaboration with the institutes and centers.

Learn more about the Office of the Director at: http://www.nih.gov/icd/od

Office of Behavioral and Social Sciences Research

The Office of Behavioral and Social Sciences Research (OBSSR)²²³ was created by Congress in 1993 and formally opened in 1995. It serves to stimulate behavioral and social sciences research throughout the NIH, integrating these areas of research into NIH health research to improve understanding, treatment, and prevention of disease. OBSSR serves as a liaison between the NIH intramural and extramural communities relating to behavioral and social sciences research.

OBSSR seeks to bring together the biomedical, behavioral, population, and social science communities to work collaboratively to solve pressing health challenges. The Office works to facilitate: (a) the next generation of basic behavioral and social sciences research; (b) trans-disciplinary "team science" that integrates biomedical, behavioral, and social-ecological perspectives; (c) research that looks at how individual, group, and societal factors interact; and (d) the translation, implementation, dissemination, and maintenance of best practices and proven strategies that reduce the burden of chronic disease and eliminate inequities in health and healthcare.

Along with voluntary contributions from NIH institutes and centers, OBSSR supports the **Basic Behavioral and Social Science Opportunity Network (OppNet)**²²⁴, a trans-NIH initiative to "expand the NIH portfolio in basic scientific inquiry that explains the mechanisms and processes that influence individual and group health-related behaviors." OppNet's mission is to pursue opportunities for strengthening basic behavioral and social science research at NIH while innovating beyond existing investments. OppNet integrates existing NIH efforts, targets research challenges best met collectively, and collaborates on new research initiatives in complementary scientific areas. OppNet is collectively managed by participating NIH ICs that fund extramural research. Currently, 12 ICs and two program coordination offices within the Office of the Director support what is referred to as OppNet 2.0.

The Office plays a leading role in **mobile and wireless health research**²²⁵ as well, including the development and validation of objective sensor technologies for assessing behavior and its influences, the support of research and development of technologies that expand the reach and scalability of behavioral interventions, and the evaluation of tech-based behavioral interventions.

OBSSR offers several **training and education programs**²²⁶, including annual summer training institutes on systems science methodology and health, randomized clinical trials involving behavioral interventions, and dissemination and implementation research in health, mobile health, and research methods in the social and behavioral sciences.

Learn more about OBSSR at: https://obssr.od.nih.gov

Funding Opportunities: https://obssr.od.nih.gov/funding opportunities/foas/index.aspx

Office of AIDS Research

The NIH portfolio on HIV and its associated co-infections, comorbidities, and other complications includes a broad portfolio of biomedical, behavioral, and social science research. A legislative mandate requires the Office of AIDS Research (OAR) to organize, plan, evaluate, and budget for the NIH AIDS research program.

The annual trans-NIH budget is based on the outcome of the **Annual Trans-NIH Plan for HIV-Related Research** designed to identify the highest scientific priorities and opportunities. In August 2015, NIH released a Notice, **NIH HIV/AIDS Research Priorities and Guidelines for Determining AIDS Funding**²²⁸, outlining its overarching HIV/AIDS research priorities along with the revised guidelines the agency will use to determine HIV/AIDS funding for the next 3-5 years. In FY 2016, NIH began using these guidelines to ensure that AIDS resources are supporting the highest HIV/AIDS research priorities, which are also informed by the OAR Advisory Council's recommendations and input from NIH leadership.

NIH supports **AIDS Behavioral and Social Science**²²⁹ research to better understand the risk behaviors and social contexts that lead to HIV infection and disease progression, how to change those behavioral and social contexts, and how to maintain protective behaviors once they are adopted. Over the past decade, NIH began to shift its research support within the behavioral and social sciences to keep pace with the increasing integration of behavioral and biomedical viewpoints, the success of antiretroviral medications in both prevention and treatment, and the important role of adherence to this success. Increased attention is being given to research "to improve the implementation of new prevention and therapeutic strategies in specific populations and social contexts.²³⁰" To this end, NIH began to support initiatives to better understand the multiple factors related to adherence, utilizing new ways to ensure that patients take their medications and use prevention strategies appropriately.

HIV/AIDS **Natural History and Epidemiologic²³¹** research is critical to the monitoring of epidemic trends, the evaluation of prevention modalities, the characterization of the clinical manifestations of HIV disease and related co-morbidities, and the measurement of the effects of treatment regimens at the population level. NIH also provides resources for studies of HIV implementation science, including those that advance new methodologies that speak to organizational and system-level barriers to scale-up prevention and treatment interventions. In addition, resources are provided to support studies that evaluate the economic impact and cost-effectiveness of various intervention strategies in different regions and circumstances.

OAR offers HIV/AIDS **Training Infrastructure and Capacity Building**²³² programs that support U.S. and international researchers in an effort to build the necessary capacity to conduct AIDS research. These programs also support this research in both U.S. racial and ethnic communities as well as in developing countries. In addition, NIH supports **Information Dissemination**²³³ initiatives to enhance dissemination of research findings; develop and distribute state-of-the-art treatment and prevention guidelines; and enhance recruitment and retention of participants in clinical studies.

Learn more about OAR at: http://www.oar.nih.gov

Funding Opportunities: http://www.oar.nih.gov/resources

Office of Disease Prevention

The Office of Disease Prevention (ODP) collaborates with other federal agencies, academic institutions, the private sector, nongovernmental organizations, and international organizations to formulate research initiatives and policies designed to promote public health. ODP takes the lead at NIH in developing *Healthy People 2020*²³⁴, which highlights the important role social determinants have on health, and is the lead NIH

office that works with the Office of the Secretary of Health and Human Services on the development of the **National Prevention Strategy²³⁵** as mandated by the *Affordable Care Act*. In that capacity, ODP advises the Office of the Secretary on the science base of clinical and community-based preventive interventions.

ODP also leads the NIH **Prevention Research Coordinating Committee (PRCC)**²³⁶, "which serves as a site for exchanging information related to scientific advances in disease prevention, examining the impact of new policies on research, planning new or discussing ongoing initiatives, and highlighting program accomplishments."

The Office also provides scientific leadership and oversight for the continued implementation of the NIH-FDA Tobacco Regulatory Science Program²³⁷.

Learn more about ODP at: https://prevention.nih.gov

Funding Opportunities: https://prevention.nih.gov/resources-for-researchers/applying-for-funding

Office of Research on Women's Health

Established in 1990 to promote women's health research in the scientific community within NIH and beyond, the Office of Research on Women's Health (ORWH)²³⁸ collaborates with the NIH ICs and the scientific and advocacy communities to implement a research agenda on women's health and provide funding and/or cofunding. ORWH supports the development of strategic global initiatives in women's health and gender research to address issues such as the effect of environmental factors on women's health in the context of the lifespan, reproduction, and aging in the global community.

In 2010, ORWH undertook a strategic planning process designed to determine future priorities for women's health and sex differences research and for career development initiatives for the coming decade. The resulting report, *Moving into the Future with New Dimensions and Strategies: a Vision for 2020 for Women's Health Research*²³⁹, provides recommendations for advancing women's health research, based on progress and newer methodological advances. The plan outlines six goals to maximize impact of ORWH effort and support: (1) increase sex differences research in basic science; (2) incorporate sex/gender differences in new technologies, devices, and therapeutics; (3) actualize personalized prevention, diagnostics, and therapeutics for girls and women; (4) create strategic partnerships domestically and globally; (5) fully utilize new communication and social networking technologies; and (6) increase diversity in the research workforce.

The Office supports research through the ORWH-sponsored **Specialized Centers of Research (SCOR) on Sex Differences²⁴⁰**. The Centers explore research from the basic level to translation into clinical practice and focus on developing more accessible, accurate, and personalized prevention, diagnostics, and therapeutics that are sex and gender appropriate. The Office expects the Centers to accelerate the application of research results to the clinical care of diverse populations.

Through the **Building Interdisciplinary Research Careers in Women's Health (BIRCWH)**²⁴¹ program, ORWH aims to implement interdisciplinary research career development opportunities to address the organizational, institutional, and systemic factors that encumber the careers of women and men scientists across career stages.

Learn more about ORWH at: http://orwh.od.nih.gov

Funding Opportunities: http://orwh.od.nih.gov/research/fundingopportunities.asp

Common Fund/Office of Strategic Coordination

The **Common Fund²⁴²** is coordinated by the Office of Strategic Coordination (OSC), which works with trans-NIH teams for each of the approximately 30 Common Fund programs that span a wide range of biomedical, behavioral, social science, and population research fields. These programs include both basic and translational research. As mature programs transition out of the Common Fund, the agency establishes new programs through strategic planning activities designed to identify "potentially transformative areas of research where limited-term Common Fund investment can have a catalytic impact."

Current Common Fund initiatives relevant to the social and behavioral sciences include:

- Big Data to Knowledge (BD2K)²⁴³
- Enhancing the Diversity of the NIH-Funded Workforce²⁴⁴
- Epigenomics²⁴⁵
- Global Health²⁴⁶
- Health Care Systems Research Collaboratory²⁴⁷
- Health Economics²⁴⁸
- **High-Risk Research²⁴⁹**, including:
 - NIH Director's Early Independence Award²⁵⁰
 - NIH Director's New Innovator Award²⁵¹
 - NIH Director's Pioneer Award²⁵²
 - NIH Director's Transformative Research Awards²⁵³
- Nanomedicine²⁵⁴
- Precision Medicine Initiative Cohort Program²⁵⁵
- Regulatory Science²⁵⁶
- Science of Behavior Change²⁵⁷
- Strengthening the Biomedical Research Workforce²⁵⁸
- Molecular Transducers of Physical Activity in Humans²⁵⁹

Learn more about the Common Fund at: https://commonfund.nih.gov

Funding Opportunities: https://commonfund.nih.gov/grants/fundedresearch

Science Education Partnership Award

Within the Office of Research Infrastructure Programs is the Science Education Partnership Award (SEPA)²⁶⁰ program, which funds innovative K-12 STEM and Informal Science Education (ISE) projects. SEPA's goal is to invest in educational activities that support the training of a workforce to meet the nation's research needs via interactive partnerships. SEPA also supports programs that provide scientific opportunities for students from underserved communities, professional development in science for teachers, and health literacy for the general public through museum exhibits and science centers.

Learn more about SEPA at: http://nihsepa.org

Funding Opportunities: http://nihsepa.org

²⁰¹ http://grants.nih.gov/grants/oer.htm

²⁰² http://smrb.od.nih.gov/documents/reformact_2006.pdf

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<sup>203</sup> https://obssr.od.nih.gov/index.aspx
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- ²⁰⁵ https://braininitiative.nih.gov/index.htm
- ²⁰⁶ https://www.nih.gov/echo
- ²⁰⁷ https://www.nih.gov/about-nih/who-we-are/nih-director/statements/statement-national-childrens-study
- ²⁰⁸ https://neuroscienceblueprint.nih.gov/blueprint basics/about bp.htm
- ²⁰⁹ http://orwh.od.nih.gov
- ²¹⁰ http://www.obesityresearch.nih.gov/about/strategic-plan.aspx
- ²¹¹ https://dpcpsi.nih.gov
- ²¹² http://www.nih.gov/icd/od/offices.htm
- ²¹³ https://commonfund.nih.gov
- 214 https://commonfund.nih.gov
- ²¹⁵ https://obssr.od.nih.gov
- ²¹⁶ http://www.oar.nih.gov
- ²¹⁷ http://orwh.od.nih.gov
- ²¹⁸ https://prevention.nih.gov
- ²¹⁹ https://dpcpsi.nih.gov/orip/index
- ²²⁰ https://dpcpsi.nih.gov/sgmro
- ²²¹ https://dpcpsi.nih.gov/thro
- ²²² https://dpcpsi.nih.gov/oamc/index
- ²²³ https://obssr.od.nih.gov
- ²²⁴ http://oppnet.nih.gov
- ²²⁵ https://obssr.od.nih.gov/training/training-institutes/mhealth-training-institutes
- ²²⁶ https://obssr.od.nih.gov/training
- ²²⁷ http://www.oar.nih.gov/strategic_plan/fy2017/OARStrategicPlan2017.pdf
- ²²⁸ http://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-137.html
- ²²⁹ http://www.oar.nih.gov/budget/pdf/2016 OARTransNIHAIDSResearchBudget.pdf
- ²³⁰ http://www.oar.nih.gov/budget
- ²³¹ http://www.oar.nih.gov/scientific areas/areas of emphasis/history epidemiology.asp
- ²³² http://www.oar.nih.gov/scientific_areas/areas_of_emphasis/training.asp
- ²³³ http://www.oar.nih.gov/scientific_areas/areas_of_emphasis/information_dissemination.asp
- ²³⁴ http://www.healthypeople.gov
- ²³⁵ https://prevention.nih.gov
- ²³⁶ https://prevention.nih.gov/prevention-research/prcc
- ²³⁷ https://prevention.nih.gov/tobacco-regulatory-science-program
- ²³⁸ http://orwh.od.nih.gov
- ²³⁹ http://orwh.od.nih.gov/research/strategicplan/ORWH StrategicPlan2020 Vol1.pdf
- ²⁴⁰ http://orwh.od.nih.gov/sexinscience/researchtrainingresources/scor.asp
- ²⁴¹ http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-15-001.html
- ²⁴² https://commonfund.nih.gov
- ²⁴³ https://commonfund.nih.gov/bd2k/index
- 244 https://commonfund.nih.gov/diversity/index
- ²⁴⁵ https://commonfund.nih.gov/epigenomics/index
- ²⁴⁶ https://commonfund.nih.gov/globalhealth/index
- ²⁴⁷ https://commonfund.nih.gov/hcscollaboratory/index
- ²⁴⁸ https://commonfund.nih.gov/Healtheconomics/index
- ²⁴⁹ https://commonfund.nih.gov/highrisk/index
- ²⁵⁰ https://commonfund.nih.gov/earlyindependence/index
- ²⁵¹ https://commonfund.nih.gov/newinnovator/index
- ²⁵² https://commonfund.nih.gov/pioneer/index
- ²⁵³ https://commonfund.nih.gov/TRA
- ²⁵⁴ https://commonfund.nih.gov/nanomedicine/index
- ²⁵⁵ https://www.nih.gov/precision-medicine-initiative-cohort-program

²⁰⁴ https://www.nih.gov/precision-medicine-initiative-cohort-program

²⁵⁶ https://commonfund.nih.gov/regulatoryscience/index ²⁵⁷ https://commonfund.nih.gov/behaviorchange/index

²⁵⁸ https://commonfund.nih.gov/workforce/index

²⁵⁹ https://commonfund.nih.gov/MolecularTransducers

²⁶⁰ http://nihsepa.org

National Oceanic and Atmospheric Administration

Overview

The primary mission of the National Oceanic and Atmospheric Administration (NOAA) is to understand Earth's climate, weather, oceans and coasts, and protect life and property. It is an operational or "mission" agency, not a basic science grantmaking agency like the National Science Foundation or National Institutes of Health. NOAA relies on science from its internal laboratories and external experts to inform its many activities and services.

NOAA is organized into the following line offices:

- Office of Oceanic and Atmospheric Research (OAR)²⁶¹
- National Environmental Satellite, Data, and Information Service (NESDIS)²⁶²
- National Marine Fisheries Service (NFMS)²⁶³
- National Ocean Service (NOS)²⁶⁴
- National Weather Service (NWS)²⁶⁵
- Office of Marine and Aviation Operations (OMAO)²⁶⁶

The Office of Oceanic and Atmospheric Research²⁶⁷, or "NOAA Research" as it is referred, is the main research arm of the agency, supporting and conducting research that spans the interests of the other line offices. NOAA research activities can be categorized into three main areas of focus: (1) weather and air quality, (2) climate, and (3) ocean and coastal resources.

Quick Facts

- NOAA is a mission agency that uses science from its internal laboratories and external partners to inform its many activities and services.
- Research funding from NOAA often requires collaboration with NOAA scientists and labs on specific topics relevant to the NOAA mission.
- NOAA has taken steps in recent years to better integrate social science into all of its research endeavors; these efforts are ongoing.
- Scientific advisory body:
 - NOAA Science Advisory Board

Like other operational agencies, NOAA employs its own scientists at its collection of laboratories around the country. When it comes to external research, it is often required that external researchers collaborate with NOAA scientists and labs. In fact, much of NOAA's extramural research funding is used for long-term (sometimes decades-long) partnership programs, such as:

- Cooperative Institutes²⁶⁸, which are housed at universities and other research organizations around country, often co-located with NOAA labs; and
- National Sea Grant College Program²⁶⁹, which issues competitive grant awards out of its 33 university-based programs.

Shorter, more "traditional" funding opportunities are available through NOAA's **Climate Program Office**²⁷⁰, although with limited relevance to social science.

The NOAA Science Advisory Board (SAB)²⁷¹ is a federal advisory committee providing short- and longer-range advice and strategy on the agency's scientific activities, including the application of science to its many operational duties (e.g. resource management and environmental stewardship). The SAB is largely credited with initiating NOAA's renewed emphasis on social science (see below). The membership of the SAB includes experts from throughout the ocean, weather, and atmospheric research community, including from academia.

Social Science at NOAA

NOAA has taken steps in recent years to better institutionalize social, behavioral and economic science into its activities, particularly as they relate to risk communication during extreme weather events and understanding the economic impacts of the various activities under its purview. NOAA released a five-year (2013-2017) research and development plan in 2013²⁷². In it, the agency makes several references to greater utilization of social science. Subsequently, NOAA published *Vision and Strategy: Supporting NOAA's Mission with Social Science*²⁷³ in 2015, which serves as a roadmap for better integrating social science across agency functions with research in the natural sciences. The vision document was created by the NOAA Social Science Committee (SSC), which expects to update it every three to five years.

To date, the new social science vision has not yielded any new social science-specific external research opportunities. However, a number of new resources have been produced that illustrate some of NOAA's current efforts in this space, such as *Risk Communication and Behavior: Best Practices and Research Findings*²⁷⁴.

Learn more about NOAA's social science activities at: http://www.ppi.noaa.gov/economics

Funding Opportunities: http://www.ago.noaa.gov

²⁶¹ http://research.noaa.gov

²⁶² http://www.nesdis.noaa.gov

²⁶³ http://www.nmfs.noaa.gov

²⁶⁴ http://oceanservice.noaa.gov

²⁶⁵ http://www.weather.gov

²⁶⁶ http://www.omao.noaa.gov

²⁶⁷ http://research.noaa.gov

²⁶⁸ http://ci.noaa.gov/Locations.aspx

²⁶⁹ http://seagrant.noaa.gov

²⁷⁰ http://cpo.noaa.gov

²⁷¹ http://www.sab.noaa.gov

²⁷² http://nrc.noaa.gov/CouncilProducts/ResearchPlans/5YearRDPlan/NOAA5YRPHome.aspx

²⁷³ http://www.ppi.noaa.gov/wp-content/uploads/SSVS_Final_073115.pdf

 $^{^{274}\,}http://www.ppi.noaa.gov/wp-content/uploads/Risk-Communication-and-Behavior-Best-Practices-and-Research-Findings-July-2016.pdf$

National Science Foundation

Overview

The National Science Foundation (NSF) was established in 1950 as an independent federal agency to support fundamental scientific research and education across all scientific disciplines. Its mission is:

"To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense; and for other purposes."

NSF supports about a quarter of all federally-funded basic scientific research conducted at colleges and universities nationwide. Most notably, NSF serves as the largest single funder of university-based basic social and behavioral science research in the U.S.

NSF's research activities are organized into seven directorates:

- Biological Sciences (BIO)²⁷⁵
- Computer and Information Science and Engineering (CISE)²⁷⁶
- Education and Human Resources (EHR)²⁷⁷
- Engineering (ENG)²⁷⁸
- Geosciences (GEO)²⁷⁹
- Mathematical and Physical Sciences (MPS)²⁸⁰
- Social, Behavioral and Economic Sciences (SBE)²⁸¹

In addition, the **Office of Integrative Activities (OIA)**²⁸², housed in the Office of the NSF Director, administers NSF programs that span directorates and individual disciplines.

The Presidentially-appointed **National Science Board (NSB)**²⁸³ serves as the policy-making body of NSF as well as an independent advisor to the President of the United States and Congress on federal science policy topics. Members of the 25-person Board serve six-year terms and represent the diverse scientific constituencies of the agency. The social and behavioral science community is well-represented on the Board.

Social Science at NSF

NSF has a single directorate—the **Social, Behavioral, and Economic Sciences Directorate (SBE)**284—dedicated to supporting basic discovery in the social and behavioral sciences. While SBE accounts for only about four percent of the annual NSF budget, the agency funds approximately 65 percent of all university-based basic social and behavioral science research in the U.S., making it a primary source for social science support by basic science researchers in these domains.

Quick Facts

- NSF's annual budget in FY 2016 is \$7.46 billion; more than 90 percent is dedicated to funding external research and education activities.
- NSF receives more than42,000 proposals each year:
 - Funds about 12,000 new awards annually
 - Supports about 200,000 scientists, engineers, educators, and students
 - Partners with more than
 2,000 colleges,
 universities, laboratories
 and other research
 organizations
- Funding mechanisms:
 - Program descriptions
 - Program announcements
 - Program solicitations
 - Unsolicited proposals accepted at any time
- NSF supports science and engineering education from pre-K to doctoral programs.
- NSF employs a highlyregarded merit review process, accounting for each proposal's intellectual merit and broader impacts.
- NSF is home to one of 13 principal federal statistical agencies, the National Center for Science and Engineering Statistics (NCSES).
- Scientific advisory bodies:
 - National Science Board
 - Individual directorate advisory committees

The Education and Human Resources Directorate (EHR)²⁸⁵ also supports social and behavioral science research as it relates to educational research, learning, and STEM education.

In addition to directorate-specific activities, social and behavioral science research is also integrated into NSF-wide priority areas and programs, including:

- Understanding the Brain (UtB)²⁸⁶
- Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF-21)²⁸⁷
- Secure and Trustworthy Cyberspace (SaTC)²⁸⁸
- Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)²⁸⁹
- Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS)²⁹⁰
- Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP)²⁹¹

Learn more about NSF at: http://www.nsf.gov

Funding Opportunities: http://www.nsf.gov/funding

Directorate for Social, Behavioral and Economic Sciences

NSF's Directorate for Social, Behavioral and Economic Sciences (SBE) tackles fundamental questions about human behavior and social institutions, including the economic, political, cultural, and environmental forces impacting them. It is the only federal source of funding for fundamental research and theory across all domains of the social and behavioral sciences. The directorate provides about two-thirds of all basic social and behavioral science research funding awarded to U.S. colleges and universities, making it one of the most critical sources of federal support for basic social science research.

SBE supports social and behavioral science research through its two divisions: the **Division of Behavioral and Cognitive Sciences (BCS)**²⁹² and the **Division of Social and Economic Sciences (SES)**²⁹³. In addition, the **SBE Office of Multidisciplinary Activities (SMA)**²⁹⁴ supports projects and activities across the social and behavioral sciences that may cut across the directorate or the foundation. Lastly, the **National Center for Science and Engineering Statistics (NCSES)**²⁹⁵, one of 13 **principal federal statistical agencies**, is housed within SBE and is responsible for providing statistical data on the components of the U.S. science and engineering enterprise, including the workforce, STEM education, technology, and international comparisons.

The Advisory Committee for Social, Behavioral and Economic Sciences²⁹⁶ is an external advisory body that provides oversight and advice to the directorate pertaining to its programs and strategic investments. Members of the Committee are representative of the broader SBE research community.

Learn more about SBE at: http://www.nsf.gov/dir/index.jsp?org=SBE

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=SBE

Division of Behavioral and Cognitive Sciences

The Division of Behavioral and Cognitive Sciences (BCS) funds projects that "advance scientific knowledge on human cognition, language, social behavior, and culture," and that also explore the nexus of humans and our many environments. BCS support is provided through its ten standing programs and contributions to cross-SBE and cross-NSF initiatives. As stated in BCS' 2011 strategic plan²⁹⁷, "In many cases, the BCS division is the

primary mechanism of support within the federal government for the basic behavioral and cognitive science research that is capable of informing policy- and decision-making" on pressing issues of national importance, such as disaster responses, poverty, or personal well-being.

Standing programs within the Division of Behavioral and Cognitive Sciences include:

- Archaeology and Archaeometry²⁹⁸
- Biological Anthropology²⁹⁹
- Cultural Anthropology³⁰⁰
- Geography and Spatial Sciences Program (GSS)³⁰¹
- Documenting Endangered Languages (DEL)³⁰²
- Linguistics³⁰³
- Cognitive Neuroscience (CogNeuro)³⁰⁴
- Developmental and Learning Sciences (DLS)³⁰⁵
- Perception, Action & Cognition (PAC)³⁰⁶
- Social Psychology³⁰⁷

Learn more about BCS at: http://www.nsf.gov/div/index.jsp?div=BCS

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=BCS

Division of Social and Economic Sciences

The Division of Social and Economic Sciences (SES) looks at questions that help us to better understand human, social, and organizational behavior, including the ways in which humans interact within political and economic systems. For many disciplines, SES funding is the primary—and in some cases the only—source of federal funding for basic research.

Standing programs within the Division of Social and Economic Sciences include:

- Decision, Risk and Management Sciences (DRMS)³⁰⁸
- Economics³⁰⁹
- Law and Social Sciences (LSS)³¹⁰
- Methodology, Measurement, and Statistics (MMS)³¹¹
- Political Science³¹²
- Science of Organizations (SoO)³¹³
- Science, Technology, and Society (STS)³¹⁴
- Sociology³¹⁵

SES is also the home to major, long-standing scientific surveys³¹⁶, including the:

- American National Election Studies (ANES)
- Panel Study on Income Dynamics (PSID)
- General Social Survey (GSS)

Learn more about SES at: http://www.nsf.gov/div/index.jsp?org=SES

Funding Opportunities: http://www.nsf.gov/funding/pgm list.jsp?org=SES

SBE Office of Multidisciplinary Activities

The SBE Office of Multidisciplinary Activities (SMA) serves as a home within the directorate for activities that cut across social and behavioral science disciplines and across SBE's two main divisions, BCS and SES. The office often provides co-funding with other SBE divisions and other NSF directorates, and represents SBE in several NSF-wide and White House priority activities. In addition, SMA administers SBE's graduate and undergraduate research training programs.

Multidisciplinary programs funded and/or administered by SMA include:

- SBE Postdoctoral Research Fellowships (SPRF)³¹⁷
- SBE Research Experiences for Undergraduates Sites (SBE REU Sites)³¹⁸
- Science of Learning: Collaborative Networks (SL-CN)³¹⁹ (formerly the Science of Learning Centers)
- Science of Science and Innovation Policy (SciSIP)³²⁰

Learn more about SMA at: http://www.nsf.gov/div/index.jsp?div=SMA

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=SMA

National Center for Science and Engineering Statistics

The National Center for Science and Engineering Statistics (NCSES) is one of 13 **principal federal statistical agencies**. It collects, analyzes, and provides statistical data to better understand the current state of the U.S. science and engineering enterprise. The center was created in 2010 and has responsibility for statistical data on U.S. research and development; the science and engineering workforce; U.S. science, engineering, and technology competitiveness; and STEM education in the U.S.

NCSES publishes several reports each year, including the Congressionally-mandated **Science and Engineering Indicators**³²¹ report, which is produced under the direction of the National Science Board, and the **Women, Minorities, and Persons with Disabilities in Science and Engineering**³²² report. In addition, NCSES maintains countless data sources³²³ for public and researcher use.

NCSES is seeking to "enhance its efforts to support analytic and methodological research in support of its surveys, and to engage in the education and training of researchers in the use of large-scale nationally representative datasets." It has issued a solicitation for **Research on the Science and Technology Enterprise:** Statistics and Surveys³²⁴.

Learn more about NCSES at: http://www.nsf.gov/statistics

Funding Opportunities: http://www.nsf.gov/statistics/grants-fellowships.cfm

Directorate for Education and Human Resources

The Directorate for Education and Human Resources (EHR) funds research on education, learning, and teaching across the continuum of education, from early childhood learning to post-graduate training. EHR also serves as NSF's primary arm for research and evaluation into STEM education. Through its programs, it works to create a well-prepared and diverse STEM workforce, across all STEM fields, and also tackles more general STEM learning challenges. By supporting research and evaluation across formal and informal educational

settings, EHR works to broaden participation in all STEM fields and also increase the scientific literacy of the general public.

EHR's investments can be categorized into three types of activities:

- Developing the careers of future scientists and engineers, through scholarship, fellowship, and traineeship programs aimed at attracting and retaining students into STEM fields
- Transforming institutions, which are activities seeking to catalyze institutional change, often in the area of broadening participation in STEM through support for community colleges, Historically Black Colleges and Universities (HBCUs), Minority-Serving Institutions (MSIs), and other institutions
- Education research and development, which focuses on STEM learning and teaching

The directorate established the **EHR Core Research**³²⁵ program in 2014 as a cross-directorate activity to advance research in four areas of STEM education: STEM learning, STEM learning environments, STEM workforce development, and broadening participation in STEM.

The Advisory Committee for Education and Human Resources³²⁶ is an external advisory body that provides oversight and advice to the directorate pertaining to its programs and strategic research directions. Members of the Committee represent the breadth of the education research and STEM community.

Learn more about EHR at: http://www.nsf.gov/dir/index.jsp?org=EHR

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=EHR

Division of Research on Learning in Formal and Informal Settings

The Division of Research on Learning in Formal and Informal Settings (DRL) focuses on fundamental research on STEM learning and teaching, including "development and testing of innovative resources, models, and tools for STEM learning both inside and outside of school, for the public, for pre-K-12 students, for teachers, and for youth; research on national STEM education priorities; and evaluation studies and activities³²⁷." In short, it seeks to improve STEM learning for people at any age. DRL is the administrative home for the EHR Core Research program mentioned above.

The following STEM research programs are administered by the Division of Research on Learning in Formal and Informal Settings:

- Discovery Research K-12 (DRK-12)³²⁸
- Advancing Informal STEM Learning (AISL)³²⁹
- Innovative Technology Experiences for Students and Teachers (ITEST)³³⁰
- STEM + Computing Partnerships (STEM+C)³³¹
- Advanced Technological Education (ATE)³³² (in collaboration with DUE)
- Building Community and Capacity in Data Intensive Research in Education (BCC-EHR)³³³ (in collaboration with DGE)

Learn more about DRL at: http://www.nsf.gov/div/index.jsp?org=DRL

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=DRL

Division of Graduate Education

Central to the Division of Graduate Education's (DGE) activities is administering NSF's graduate fellowship and traineeship programs. The prestigious **Graduate Research Fellowship Program (GRFP)** ³³⁴ supports early-career graduate students in STEM fields, with the intention of kick-starting productive future scientific careers and broadening participation in STEM.

DGE also administers the **NSF Research Traineeship Program (NRT)**³³⁵, which is focused on ensuring that "graduate students in research-based master's and doctoral programs develop the skills, knowledge, and competencies needed to pursue a range of STEM careers."

Other programs administered by DGE include:

- Building Community and Capacity in Data Intensive Research in Education (BCC-EHR)³³⁶ (in collaboration with DRL)
- CyberCorps(R) Scholarships for Service (SFS)³³⁷
- Promoting Research and Innovation in Methodologies for Evaluation (PRIME)³³⁸

Finally, DGE serves as co-lead of the Interagency Working Group on Graduate Education for the Federal Committee on STEM Education (CoSTEM)³³⁹.

Learn more about DGE at: http://www.nsf.gov/div/index.jsp?div=DGE

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=DGE

Division of Undergraduate Education

As its name suggests, the Division of Undergraduate Education (DUE) focuses on advancing STEM learning within two- and four-year undergraduate education programs, including through research and assessment aimed at improving curricula, instruction, diversity, and learning environments, among others. It is the primary federal entity investing in research aimed at transforming STEM education at the undergraduate level.

DUE plays a lead role in the following programs:

- Improving Undergraduate STEM Education (IUSE)³⁴⁰
- Advanced Technological Education (ATE)³⁴¹ (in collaboration with DRL)
- Robert T. Novce Teacher Scholarship Program³⁴²
- NSF Scholarships in STEM (S-STEM)³⁴³

Learn more about DUE at: http://www.nsf.gov/div/index.jsp?org=DUE

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=DUE

Division of Human Resource Development

The Division of Human Resource Development (HRD) focuses on growing and enhancing the STEM workforce, particularly by broadening participation of and building capacity among groups within the U.S. population currently underrepresented in STEM research and education, including minorities, women and girls, and persons with disabilities. HRD plays a central role in the cross-NSF **INCLUDES**³⁴⁴ initiative.

In addition, HRD administers the following programs on behalf of EHR:

- Alliances for Graduate Education and the Professoriate (AGEP)³⁴⁵
- Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (RISE)³⁴⁶
- HBCU Undergraduate Program (HBCU-UP)³⁴⁷
- Louis Stokes Alliances for Minority Participation (LSAMP)³⁴⁸
- Tribal Colleges and Universities Program (TCUP)³⁴⁹

Finally, HRD is a contributor to the NSF-wide **ADVANCE program**³⁵⁰ (Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers).

Learn more about HRD at: http://www.nsf.gov/div/index.jsp?org=HRD

Funding Opportunities: http://www.nsf.gov/funding/pgm_list.jsp?org=HRD

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<sup>275</sup> http://www.nsf.gov/dir/index.jsp?org=BIO
<sup>276</sup> http://www.nsf.gov/dir/index.jsp?org=CISE
<sup>277</sup> http://www.nsf.gov/dir/index.jsp?org=EHR
<sup>278</sup> http://www.nsf.gov/dir/index.jsp?org=ENG
<sup>279</sup> http://www.nsf.gov/dir/index.jsp?org=GEO
<sup>280</sup> http://www.nsf.gov/dir/index.jsp?org=MPS
<sup>281</sup> http://www.nsf.gov/dir/index.jsp?org=SBE
<sup>282</sup> http://www.nsf.gov/dir/index.jsp?org=OIA
<sup>283</sup> http://www.nsf.gov/nsb/index.jsp
<sup>284</sup> http://www.nsf.gov/dir/index.jsp?org=SBE
<sup>285</sup> http://www.nsf.gov/dir/index.jsp?org=EHR
<sup>286</sup> http://www.nsf.gov/news/special_reports/brain
<sup>287</sup> http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504730
<sup>288</sup> https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504709
<sup>289</sup> https://www.nsf.gov/news/special_reports/nsfincludes/index.isp
<sup>290</sup> http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505241
<sup>291</sup> http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505180
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<sup>296</sup> http://www.nsf.gov/sbe/advisory.jsp
<sup>297</sup> http://www.nsf.gov/sbe/advcomm11 2011/BCS Strategic Plan.pdf
<sup>298</sup> http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11690&org=BCS&from=home
<sup>299</sup> http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5407&org=BCS&from=home
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<sup>309</sup> http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5437&org=SES&sel_org=SES&from=fund
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Appendix: National Institutes of Health (continued)

National Cancer Institute

The National Cancer Institute (NCI) leads and coordinates the nation's response to the burden of cancer by focusing on research on all aspects of the disease, including prevention, detection, diagnosis, treatment, survivorship, and causes. NCI is a participant in the NIH-wide effort to launch a national research cohort of one million or more Americans as part of the **Precision Medicine Initiative**³⁵¹.

Division of Cancer Control and Population Sciences

NCI's **Division of Cancer Control and Population Sciences (DCCPS)**³⁵² supports an integrated program of genetic, epidemiologic, behavioral, social, applied, surveillance, implementation science, health care delivery, and survivorship cancer research. DCCP provides expertise and evidence for such issues as: the economic burden of cancer, geographic information systems, statistical methods, the quality of cancer care, the science of implementation, communication science, and tobacco control.

DCCPS provides grants for research, particularly in the behavioral sciences, to identify improved methods for changing personal lifestyles and to promote informed decisions about health-related behaviors. DCCPS supports a wide array of disciplines, particularly disciplines that have been historically underrepresented at NCI, including communication, anthropology, outcomes research, psychometrics, medical genetics, health psychology, economics, social work, policy analysis, geography, and family medicine.

The Surveillance, Epidemiology and End Results (SEER) database³⁵³ provides data on cancer trends. The SEER-Medicare database combines two large population-based sources of data that provide detailed information about Medicare beneficiaries with cancer. The database is a unique population-based source for an array of epidemiological and health services research, including patterns of care, utilization of cancer tests, and efficacy of cancer treatment. NCI's multidisciplinary program, the National Outreach Network (NON)³⁵⁴ "bridges NCI-supported outreach and community education efforts with cancer health disparities research and training programs."

Division of Cancer Prevention

The **Division of Cancer Prevention (DCP)**³⁵⁵ focuses on understanding and modifying behaviors that affect risk, mitigating the influence of genetic and environmental risks, and interrupting cancer development through early intervention. Cancer control research seeks to better understand the factors that influence cancer outcomes, quality of care, quality of life, and cancer-related disparities.

NCI supports **Cancer Centers**³⁵⁶ established to actualize the benefit of research conducted by interdisciplinary partnerships, information sharing, and close links to health care delivery systems. There are 67 NCI-designated Cancer Centers that conduct basic, translational, and population research.

The Institute's **Center for Global Health (CGH)**³⁵⁷ coordinates and prioritizes the Institute's research and training efforts that have the potential to directly influence global cancer health, primarily in poorer countries.

National Collaborative on Childhood Obesity Research

Through the National Collaborative on Childhood Obesity Research (NCCOR)³⁵⁸, NCI is partnering with four NIH institutes, the Centers for Disease Control and Prevention, the Robert Wood Johnson Foundation, and the U.S. Department of Agriculture to improve the efficiency, effectiveness, and application of childhood obesity research. This includes increasing surveillance of childhood obesity; identifying, designing, and evaluating practical and sustainable interventions; and supporting coordination and collaboration to halt and reverse childhood obesity.

Research Training

NCI's research training³⁵⁹ support includes research career development awards, fellowships, and training/education research. Its **Center to Reduce Cancer Health Disparities (CRCHD) Diversity Training Branch (DTB)**³⁶⁰ leads institute efforts to provide funding for training for students and investigators from diverse populations.

Through its **Research Workforce Development**³⁶¹ program, NCI invests in both established and early-stage investigators. The **Partnerships to Advance Cancer Health Equity**³⁶² (formerly known as the Minority Institution Cancer Center Partnership) is a program designed to provide training to scientist from diverse backgrounds in cancer research by connecting "institutions serving racial/ethnic and/or underserved communities with cancer health disparities and NCI-Designated Cancer Centers."

Learn more about NCI at: http://www.cancer.gov

Funding Opportunities: http://www.cancer.gov/grants-training

National Institute on Aging

The National Institute on Aging (NIA) "supports and conducts genetic, biological, clinical, behavioral, social, and economic research related to the aging process, diseases and conditions associated with aging, and other special problems and needs of older Americans." NIA-supported behavioral and social scientists provide descriptive research on the economic and societal consequences of a rapidly aging population and use insights from the emerging field of behavioral economics to develop and test interventions that promote healthy behaviors among older people.

The Institute-supported **Health and Retirement Study (HRS)**³⁶³ remains the world's premier multidisciplinary source of data on the health and well-being of older Americans. In addition, NIA plays an important leadership role in the trans-NIH **Science of Behavior Change**³⁶⁴ initiative as well as the **Basic Behavioral and Social Science Opportunity Network (OppNet)**³⁶⁵.

The NIA-supported **Lifestyle Interventions and Independence for Elders (LIFE) Study**³⁶⁶, a major comparative effectiveness research study, "compares the effects of a moderate-intensity physical activity program to a health education program on prevention of mobility loss in older Americans." The study found that a carefully structured, moderated physical activity program can reduce the risk of losing the ability to walk without assistance. The Institute is also partnering with the **Patient-Centered Outcomes Research Institute (PCORI)**³⁶⁷ on an intervention study to prevent injurious falls, a key cause of disability in older individuals.

Behavioral and Social Research Program

NIA's **Behavioral and Social Research Program (BSR)**³⁶⁸ supports research designed to increase the understanding of the processes of aging at the individual, institutional, and societal levels. Research areas supported by BSR include: behavioral, psychological, and social changes individual's experience over the adult lifespan; participation of older people in the economy, families, and communities; development of interventions to improve the health, cognition, and well-being of older adults; and societal impact of population aging and associated changes in labor force participation and effects of economic circumstances on health.

The BSR program also supports longitudinal studies; interventions designed to ameliorate the impact of disadvantage and reduce health disparities at older ages; interventions to maximize active life and health expectancy; studies that integrate biology, including genetics, with social and behavioral science to elucidate the pathways by which social, psychological, economic, and behavioral factors affect health in middle age and late life; and development of publicly available, cross-national comparable datasets to facilitate research on the sources of international variations in health outcomes.

In addition to coordinating the Health and Retirement Study, BSR also manages and supports additional longitudinal research via the Centers on Demography and Economics of Aging³⁶⁹, the Roybal Centers for Translational Research on Aging³⁷⁰, and the Resource Centers for Minority Aging Research³⁷¹.

Neuroscience Program

NIA's **Neuroscience Program³⁷²** supports research aimed at better understanding age-related and "pathological changes in the structure and function of the aging nervous system" and how these changes affect behavior. The program also supports research relevant to problems arising from psychiatric and neurological disorders associated with aging.

The lead federal agency for research on **Alzheimer's disease (AD)**³⁷³, NIA supports a national network of Alzheimer's disease centers to "translate research advances into improved diagnosis and care of AD patients." The Institute also pursues research intended to improve the understanding of AD.

Geriatrics and Clinical Gerontology Program

The Institute's **Geriatrics and Clinical Gerontology Program**³⁷⁴ supports research on health, disease, and disability in the aged. Focus areas include age-related physical changes and their relationship to health outcomes, specific age-related risk factors for disease, and the maintenance of health and the development of disease. The program works with other NIH ICs to support research on common aging-related diseases and conditions. In addition, the Gerontology program plans and administers clinical trials for a number of age-related conditions, including collaboration with the Patient-Centered Outcomes Research Institute (PCORI) on a clinical trial to test individually-tailored interventions to prevent fall-related injuries.

Learn more about NIA at: https://www.nia.nih.gov

Funding Opportunities: https://www.nia.nih.gov/research/funding

Eunice Kennedy Shriver National Institute of Child Health and Human Development

The Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) remains a major source of funding for social and behavioral science research, including research on the dynamics of human behavior at both the individual and population level. The Institute's broad mission includes investigations of infant mortality, prevention of birth defects, intellectual disability, pediatric/adolescent development, demographic and behavioral factors, and rehabilitation research. Research supported by NICHD increasingly crosses disciplinary boundaries to link psychological and behavioral processes in cognitive, social, and personality development with underlying biological processes, and to understand how social and economic factors affect developmental outcomes.

Pediatric Trauma and Critical Illness Branch

The **Pediatric Trauma and Critical Illness Branch (PTCIB)**³⁷⁵ supports research and research training in pediatric trauma, injury, and critical illness across the continuum of care in the areas of:

- "Research on the prevention, treatment, management, and outcomes of physical and psychological trauma and the surgical, medical, psychosocial, and systems interventions needed to improve outcomes for critically ill and injured children and youth;
- Studies of the continuum of psychosocial, behavioral, biological, and physiological influences that affect child health outcomes in trauma, injury, and acute care;
- Basic, clinical, and translational studies that explore short- and long-term consequences of such traumatic experiences as natural and man-made disasters, acute forms of child maltreatment, violence, and exposure to violence; and
- Research linking the science of pediatric emergency and critical care medicine to the epidemiology, prevention, and treatment of trauma and injury in infants, children and adolescents."

Research programs supported by PTCIB include:

- Pediatric Trauma Research and Training Program³⁷⁶
- Pediatric Critical Care Research and Training Program³⁷⁷

In addition to participating in NICHD-wide training programs, PTCIB supports two training programs specific to its portfolio: the **KO1 Mentored Research Scientist Development Award in Child Abuse and Neglect³⁷⁸** and the **Pediatric Clinical Care and Trauma Scientist Development Award (PCCTSDP)**³⁷⁹.

Population Dynamics Branch

NICHD's **Population Dynamics Branch (PDB)**³⁸⁰, formerly the Demographic and Behavioral Sciences Branch, supports demography, reproductive health, and population health research and training. PDB's programs and program areas include "adoption and kinship, biopsychosocial, data sharing, demography of health, family demography and intergenerational research, fertility and infertility, life course health, population composition, population economics program, population mobility and spatial demography, sexually transmitted diseases and HIV/AIDS, and social and behavioral research on reproductive health."

The Branch also supports large-scale, long-term studies and multi-site research networks on topics within NICHD's portfolio, including:

- Data Sharing for Demographic Research (DSDR)³⁸¹
- Global Partnerships for Social Science and Behavioral Research on HIV/AIDS³⁸²
- Population Dynamics Research Infrastructure Program³⁸³
- Work, Family, Health, and Well-Being Initiative³⁸⁴

PDB supports two portfolio-specific training opportunities for researchers: Population Dynamics Scientist Development Award Program³⁸⁵ and Population Research Programs for New Investigators³⁸⁶.

PDB also administers NICHD's **Population Research Infrastructure³⁸⁷** program. Its objectives are to:

- Increase "the scientific impact, innovation, productivity of population dynamics research.
- Increase competitiveness for peer-reviewed external funding in population dynamics research.
- Support career development experiences for junior population dynamics scientists that will contribute to their research independence.
- Maximize the efficiency of funding for population dynamics research by minimizing the financial and time burdens of providing administrative and other research support services associated with research projects."

Intellectual and Developmental Disabilities Branch

NICHD's Intellectual and Developmental Disabilities Branch (IDDB)³⁸⁸ supports basic, clinical, and translational research on common and rare disorders such as autism spectrum disorder, Down syndrome, Fragile X syndrome, and Rett syndrome. The program also supports research designed to understand the complex processes through which these disorders influence cognitive, emotional, social, and physical development throughout the lifespan. Among IDDB's research programs is its Family and Community Relationships in IDDB³⁸⁹, which in the past has addressed "the processes of mutual influence between persons with IDD and other members of their families or communities and optimal strategies to promote learning and functional and adaptive skills in the school, community and home environments."

Learn more about NICHD at: http://www.nichd.nih.gov

Funding Opportunities: https://www.nichd.nih.gov/grants-funding/Pages/default.aspx

National Institute of Nursing Research

The National Institute of Nursing Research (NINR) supports basic and clinical research designed to create a scientific foundation for the care of individuals across the life span. NINR also supports research that seeks to reduce the risks of disease and disability, in addition to research promoting healthy lifestyles. A dominant theme of NINR's research portfolio is the linkage between biological and behavioral research. The science supported by NINR seeks to advance a person-centered patient management model as opposed to a disease-oriented focus. NINR is also the lead NIH Institute for end-of-life research and supports research that explores significant "end-of-life areas such as clinician-family member communication, decision-making, and issues of pediatric end-of-life and palliative care."

The **Symptom Science** and **Self-Management to Promote Quality of Life³⁹⁰** program supports basic, clinical, and translational research "to enhance the individual's role in managing disease; reduce the burden of debilitating symptoms; and improve health outcomes for individuals and their caregivers." NINR supports research

initiatives designed to advance quality of life and symptom management across the lifespan and to involve individuals more fully as active participants in their own health.

NINR supports **End-of-Life and Palliative Care Research**³⁹¹ with the objective to develop a greater evidence base for palliative care interventions. The goal is to facilitate innovative, clinically-relevant palliative care research to inform practice along with health policy. The Institute's **Office of End-of-Life and Palliative Care Research** (**OEPCR**)³⁹² coordinates and supports both the Institute's and NIH-wide research efforts in end-of-life and palliative care science.

Learn more about NINR at: https://www.ninr.nih.gov

Funding Opportunities: http://www.ninr.nih.gov/researchandfunding/dea/desp/oep/fundingopportunities

National Institute on Alcohol Abuse and Alcoholism

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) supports basic and applied research related to the etiology, prevalence, prediction, diagnosis, prognosis, treatment, management, and prevention of alcoholism and other related problems.

Social and behavioral research is supported by NIAAA's extramural research divisions³⁹³:

- Division of Epidemiology and Prevention Research³⁹⁴
- Division of Neuroscience and Behavior³⁹⁵
- Division of Treatment and Recovery Research³⁹⁶

To address the pervasive use of alcohol among youth and adolescents, NIAAA supports multisite longitudinal studies of youth ages 12-21 through its NIAAA's **Underage Drinking Research Initiative (UDRI)**³⁹⁷. In addition, NIAAA supports research on the drinking behaviors of young adults, including risk assessment, universal and selective prevention, early intervention, and timely treatment. The Institute launched **College-Aim**³⁹⁸ in 2015, "a research-based, interactive, user-friendly decision tool and guide to help colleges and universities select appropriate strategies to meet their alcohol intervention goals."

NIAAA also provides **Institutional Research Training Grants**³⁹⁹ through the National Research Service Award program.

Learn more about NIAAA at: http://www.niaaa.nih.gov

Funding Opportunities: http://www.niaaa.nih.gov/grant-funding/funding-opportunities

National Institute on Drug Abuse

The National Institute on Drug Abuse (NIDA) is the lead federal agency and predominant source of funding for research on drug use, abuse, and addiction. NIDA seeks to explore the scientific basis for the development of effective biomedical, behavioral, and psychosocial approaches to the prevention and treatment of drug abuse. The Institute is also charged with supporting research on the relationship between drug use and AIDS, tuberculosis, and other medical problems.

NIDA's **Clinical Trials Network**⁴⁰⁰ consists of research nodes, community treatment programs, and medical settings in 38 states, the District of Columbia and Puerto Rico. The Network's purpose includes developing and

testing the feasibility and effectiveness of medications and behavioral treatment approaches for substance use disorders and related conditions, including co-morbid "mental health disorders and HIV, with diverse patient populations and community treatment providers."

The Institute is supporting research to better understand the impact of policy changes related to substance use, including research on **marijuana and cannabinoids**⁴⁰¹. This research includes examining implementation of health reform and changes in state policies related to marijuana, including (1) the impact of health reform on access to quality treatment for individuals with substance use disorder, and (2) accompanying outcomes resulting from changes in state marijuana policies.

The **Division of Epidemiology, Services and Prevention Research (DESPR)**⁴⁰² supports integrated approaches to understanding and addressing the "interactions between individuals and environments that contribute to drug abuse-related problems." NIDA supports epidemiological studies intended "to understand the scope and underlying reasons for prescription drug abuse." It also supports research on the treatment of substance use disorders in the criminal justice system.

Research Training

NIDA supports the **training**⁴⁰³ of the next generation of researchers, both pre-doctoral and post-doctoral level scientists. Increasing the number of underrepresented scholars and researchers that actively participate in drug abuse research is a focus of NIDA's outreach efforts.

Learn more about NIDA at: http://www.drugabuse.gov

Funding Opportunities: http://www.drugabuse.gov/funding

National Institute of Mental Health

The mission of the National Institute of Mental Health (NIMH) is to reduce the public health burden of mental and behavioral disorders through research on mind, brain, and behavior. NIMH supports research on "mental disorders and the underlying basic science of brain and behavior, and collects, analyzes, and disseminates information on the causes, occurrence, and treatment of mental illnesses." The Institute also supports research that increases basic brain and behavioral research across development; "translate[s] basic findings into innovative treatments; and capitalize[s] on the opportunities in new technology, big data, and data sharing."

Division of Neuroscience and Basic Behavioral Science

The **Division of Neuroscience and Basic Behavioral Science (DNBBS)**⁴⁰⁴ supports "research in the areas of basic neuroscience, genetics, basic behavioral science, research training, resource development, technology development, drug discovery, and research dissemination."

DNBBS' **Behavioral and Integrative Neuroscience Research Branch**⁴⁰⁵ supports innovative research on "cognitive, social, arousal, regulatory, and positive and negative valence systems, and their development across the lifespan in humans and in non-human model systems." The Branch encourages interdisciplinary research that "integrates a variety of approaches employed by neuroscience, the behavioral science, genetics and computational modeling communities to investigate the linkages across levels of analysis." It is also interested in basic studies that "address the developmental time course and/or sex differences for specific

topic areas." Additionally, the NIMH's Research Domain Criteria (RDoC) project is informed by the research supported by the branch.

DNBBS' Office of Research Training and Career Development⁴⁰⁶ supports training (e.g., pre-doctoral, post-doctoral, and early-stage investigator levels) in scientific areas consistent with the research priorities of the branch. The Office places a priority on research that "mechanistically addresses basic neurobiological questions that are relevant to domains (cognition, emotion, and social processing), processes, or risks for mental illnesses."

DNBBS also supports social and behavioral research in the following branches:

- Genomics Research Branch⁴⁰⁷
- Molecular, Cellular, and Genomic Neuroscience Research Branch⁴⁰⁸
- Small Business Innovation Research and Small Business Technology Transfer Programs⁴⁰⁹

Division of Translational Research

In 2015, NIMH merged two of its divisions, the Division of Developmental Translational Research and the Division of Adult Translational Research and Treatment Development, into the **Division of Translational Research (DTR)**⁴¹⁰, which emphasizes the Institute's new direction for clinical trials research through its focus on an experimental therapeutics approach. The new division supports research on the phenotypic characterization and risk factors for psychiatric disorders; neurobehavioral mechanisms of psychopathology; trajectories of risk and resilience based on the interactive influences of genetics, brain development, environment, and experience; and design and testing of innovative treatments and interventions.

Division of Services and Intervention Research

The **Division of Services and Intervention Research (DSIR)**⁴¹¹ supports research to evaluate the effectiveness of psychosocial, rehabilitative, pharmacological, and combination interventions on mental and behavioral disorders. It also supports services research, dissemination and implementation research of "evidence-based interventions into service settings." DSIR supports the **Recovery After an Initial Schizophrenia Episode (RAISE)** initiative⁴¹², which has as a goal the prevention of long-term disability in serious mental illness through early intervention.

Division of AIDS Research

NIMH's **Division of AIDS Research (DAR)**⁴¹³ "supports research and research training to develop and disseminate behavioral interventions that prevent HIV/AIDS transmission, clarify the biological, psychological, and functional mental health effects of HIV/AIDS infection, and alleviate those effects among affected individuals." DAR supports basic behavioral and social science research to better understand both the facilitators and the barriers to successful implementation of interventions to prevent further spread of HIV and to optimize outcomes in HIV-infected individuals. The Division also supports research with the goal of improving rates of testing, linkage, and adherence to care along the HIV treatment cascade and improving methods to monitor and improve adherence along the continuum of care.

Learn more about NIMH at: https://www.nimh.nih.gov/index.shtml

Funding Opportunities: http://www.nimh.nih.gov/funding/index.shtml

National Institute on Deafness and Other Communication Disorders

The National Institute of Deafness and Other Communication Disorders (NIDCD) supports research and research training in the normal processes and the disorders of human communication, including hearing, balance, smell, taste, voice, speech, and language.

Research Training

The Institute emphasizes the training and career development of scientists. Stressing the lack of appropriate research mentors available nationwide for developing clinicians, notably otolaryngologists, speech-language pathologists, and audiologists into clinician-scientists, NIDCD established a **National Mentoring Networks Pilot Program**⁴¹⁴ aimed at nurturing clinically-trained individuals at the junior career stage by utilizing the talents of senior mentors.

Learn more about NIDCD at: http://www.nidcd.nih.gov

Funding Opportunities: http://www.nidcd.nih.gov/funding/Pages/Default.aspx

John E. Fogarty International Center for Advanced Study in Health Sciences

The Fogarty International Center (FIC) uses science to reduce the deepening global disparities in health. Research supported by FIC ranges from the genetic basis of disease to strategies to prevent transmission of HIV. The efforts are often multidisciplinary, embracing behavioral, clinical, epidemiological, and biomedical research. FIC-supported research and research training programs encompass a wide range of diseases and needs, including TB, HIV/AIDS, malaria, and other infectious diseases; non-communicable diseases; and critical areas that nurture a research environment. It also includes ethics and informatics for health research. Additionally, Fogarty supports the training of U.S. investigators to conduct global health research and actively engages in international scientific collaborations.

Sixty percent of all deaths are the result of non-communicable diseases, including heart disease, stroke, cancer, and diabetes—the leading causes of worldwide mortality and a serious threat to economic development. FIC's **Chronic, Non-Communicable Diseases and Disorders across the Lifespan⁴¹⁵** program supports training of in-country scientists to conduct research on these diseases. The program focuses on environmental factors such as indoor air pollution, as well as obesity and lifestyle factors related to these conditions.

FIC's **Mobile Health: Technology and Outcomes in Low and Middle Income Countries**⁴¹⁶ program supports "research on the development or adaptation of mobile health (mHealth) technology." FIC is particularly attentive to "multidisciplinary projects that focus on tools or interventions for chronic diseases or technology for disease agnostic and/or crosscutting applications."

Research Training

FIC **research training programs**⁴¹⁷ provide funding to train researchers in a variety of global health areas. FIC's **Global Health Research and Research Training eCapacity Initiative**⁴¹⁸ is designed to promote research of education programs at institutions in Low and Middle Income Countries (LMIC) that provide the "knowledge

and skills necessary to incorporate Information and Communication Technology (ICT) into global health research and research training." In addition, FIC provides overseas research experiences to young U.S. scientists in order to encourage them to adopt careers in global health. It also supports research training partnerships between U.S. and foreign institutions and strives to enhance research opportunities for foreign scientists when they return home.

FIC's International Research Ethics Education and Curriculum Development Award (Bioethics)⁴¹⁹ program develops master's level curricula and provides "educational opportunities in ethics related to performing research involving human subjects in international resource poor settings."

Lastly, several FIC AIDS programs have been merged into one program, the HIV AIDS Research Training Program⁴²⁰.

Learn more about FIC at: http://www.fic.nih.gov

Funding Opportunities: http://www.fic.nih.gov/Funding/Pages/default.aspx

National Center for Advancing Translational Sciences

The National Center for Advancing Translational Sciences (NCATS) works to catalyze the generation of innovative methods and technologies "that enhance the development, testing, and implementation of diagnostics and therapeutics across a wide range" of human disease and conditions. Its programs span the entire translational research spectrum. NCATS-supported research projects focus on addressing scientific and technical challenges to reduce, remove, or bypass significant bottlenecks across the continuum of translation. NCATS encourages results, both positive and negative, to be shared in an open, collaborative environment.

NCATS' largest program is its **Clinical and Translational Science Awards (CTSA)**⁴²¹. NCATS supports institutions across the country in their efforts to improve the quality, validity, generalizability, and efficiency of clinical and translational research.

Learn more about NCATS at: https://ncats.nih.gov

Funding Opportunities: http://www.ncats.nih.gov/funding

National Center for Complementary and Integrative Health

The National Center for Complementary and Integrative Health (NCCIH), formerly the National Center for Complementary and Alternative Medicine, examines alternative and complementary healing practices; trains complementary and alternative integrative health researchers; and disseminates authoritative information. To fulfill its mission, NCCIH collaborates with multiple ICs as well as other federal agencies, including the Centers for Disease Control and Prevention (CDC) and the Agency for Healthcare Research and Quality (AHRQ).

The NCCIH Extramural Research program⁴²² funds clinical investigations on complementary and integrative health practices and interventions, ranging from small pilot studies to large-scale clinical trials and epidemiological studies.

Research Training

NCCIH supports a variety of training and career development activities for pre- and post-doctoral students, researchers, and clinicians through its **Extramural Research Training and Capacity Building⁴²³** program.

Learn more about NCCIH at: https://nccih.nih.gov

Funding Opportunities: https://nccih.nih.gov/grants

National Eye Institute

The National Eye Institute works to "support research, training, health information dissemination, and other programs with respect to blinding eye diseases, visual disorders, mechanisms of visual function, preservation of sight, and the special health problems and requirements of the blind." The institute supports a wide array of basic and clinical research, clinical trials, and research training activities.

NEI's **Sensorimotor Disorders, Visual Processing, and Rehabilitation Research**⁴²⁴ program funds basic and applied brain research, and research on rehabilitation for individuals with low vision defined as "chronic visual conditions that are not correctable by eye glasses or contact lenses." The Institute supports rehabilitation research to improve the quality of life "for people with visual impairments by helping them maximize the use of remaining vision and by devising improved aids and strategies to assist those without useful vision."

Research Training

NEI offers a summer internship program, **Diversity in Vision Research and Ophthalmology (DIVRO)** ⁴²⁵, which supports students that have completed coursework relevant to biomedical, behavioral, or statistical research. Interns from high schools, colleges and universities are provided the opportunity to work closely with leading research scientists in NEI's Division of Intramural Research.

NEI supports **additional training programs**⁴²⁶ for undergraduates, post baccalaureates, and medical, dental, and graduate students, including:

- Summer Internship Program in Biomedical Research⁴²⁷
- Undergraduate Scholarship Program⁴²⁸
- Postbaccalaureate Intramural Research Training Award⁴²⁹
- NIH Academy⁴³⁰
- Technical Intramural Research Training Award⁴³¹
- Summer Internship Program in Biomedical Research⁴³²
- Clinical Electives Program for Medical and Dental Students⁴³³
- Medical Research Scholars Program⁴³⁴
- Summer Internship Program in Biomedical Research⁴³⁵
- Graduate Partnership Program⁴³⁶

Learn more about NEI at: https://nei.nih.gov

Funding Opportunities: https://nei.nih.gov/funding

National Heart, Lung and Blood Institute

The National Health, Lung and Blood Institute (NHLBI) provides leadership for research in diseases of the heart, blood vessels, lung, and blood, as well as sleep disorders. Home of the **Framingham Heart Study**⁴³⁷ since 1948, NHLBI has also supported other large cohort studies designed to understand cardiovascular disease risk factors and suggest approaches for prevention. These newer studies focus on minority populations: the **Jackson Heart Study**⁴³⁸ (JHS) and the **Coronary Artery Risk Development in Young Adults Study**⁴³⁹ (African Americans); the **Hispanic Community Health Study/Study of Latinos**⁴⁴⁰ (Hispanic Americans); and the **Multi-Ethnic Study of Atherosclerosis**⁴⁴¹ (Asian Americans).

NHLBI through its **National Center on Sleep Disorders Research (NCSDR)**⁴⁴² coordinates sleep research and training throughout NIH as outlined in the **NIH National Sleep Disorders Research Plan**⁴⁴³. The Institute collaborates with other NIH institutes and centers to implement the plan through targeted solicitations and support for an array of ancillary studies and pilot clinical trials.

Division of Prevention and Population Sciences

The **Division of Prevention and Population Sciences (DPPS)**⁴⁴⁴ supports and provides leadership for population-and clinic-based research on the causes, prevention, and clinical care of cardiovascular, lung, and blood diseases. Research supported by the DPPS includes a broad array of epidemiological studies, including "studies to describe disease and risk factor patterns in populations and to identify risk factors for disease; clinical trials of interventions to prevent disease; studies of genetic, behavioral, sociocultural, and environmental influences on disease risk and outcomes; and studies of the application of prevention and treatment strategies to determine how to improve clinical care and public health." The Division also supports training and career development for these areas.

DPPS supports substantial research on the effects of psychosocial factors on cardiovascular disease (CVD) incidence and outcomes. This includes support for research examining the influence of social support provided within interpersonal relationships, families, neighborhoods, and broader social networks on CVD risk factors such as adverse diets, sedentary behavior, and obesity and on recovery and quality of life in patients who have heart attacks or heart failure.

Division of Cardiovascular Sciences

The Clinical Applications and Prevention Branch (CAPB)⁴⁴⁵ within the Division of Cardiovascular Sciences (DCVS) "supports, designs, and conducts research and supports training on behavioral, environmental, clinical, and healthcare approaches to reduce occurrence and consequences of cardiovascular diseases." Research (clinical and community trials, along with selected observational studies) that examines a number of factors including lifestyle and "exercise, psychological and sociocultural factors, and environmental and genetic influences relevant to prevention" are also supported by CAPB.

Research Training

NHLBI supports a variety of **research training and career development programs**⁴⁴⁶ that extend from the high-school level to that of the established investigator. The Institute's initiative, **Programs to Increase Diversity among Individuals Engaged in Health-Related Research (PRIDE)**⁴⁴⁷, promotes scientific career development of young faculty from diverse backgrounds via opportunities for focused mentorship and extensive networking.

Other training programs supported by the Institute include:

- NHLBI Summer Internship Program in Biomedical Research⁴⁴⁸
- Research Supplements to Promote Diversity in Health-Related Research for High School Students⁴⁴⁹
- Research Supplements to Promote Diversity in Health-Related Research for Undergraduate Students⁴⁵⁰
- Short-Term Research Education Program to Increase Diversity in Health-Related Research (R25)⁴⁵¹
- Short-Term Institutional Research Training Grant (T35)⁴⁵²
- NHLBI Research Training Programs for Non-Independent and Newly Independent Investigators⁴⁵³
- NHLBI Research Training for Established Researchers⁴⁵⁴
- Biomedical Research Training Program for Individuals from Underrepresented Groups (BRTPUG)⁴⁵⁵
- NIH Research Supplements to Promote Diversity in Health-Related Research for Post Baccalaureate (PBS) and Post Master's (PMS) Degree Holders⁴⁵⁶
- Pre-doctoral Students⁴⁵⁷
- Post-doctoral Individuals⁴⁵⁸

Learn more about NHLBI at: http://www.nhlbi.nih.gov

Funding Opportunities: http://www.nhlbi.nih.gov/research/funding

National Human Genome Research Institute

The National Human Genome Research Institute (NHGRI) was established in 1989 to head the NIH's efforts in the Human Genome Project (HGP). NHGRI supports research that addresses the ethical, legal, and social implications (ELSI) associated with this research. Congress mandated the Institute to commit up to five percent of its annual extramural research budget for ELSI activities.

Social and Behavioral Research Branch

The **Social and Behavioral Research Branch (SBRB)**⁴⁵⁹ is an intramural research unit that conducts leading-edge research at the intersection of genomics and society. SBRB is focused on four conceptual domains: "(1) testing the effectiveness of strategies for communicating information about genetic risks; (2) developing and evaluating behavioral interventions relevant to genomics; (3) using genomic discoveries in clinical practice; and (4) understanding the social, ethical, and policy" implication of genomics.

Division of Genomics and Society

The **Division of Genomics and Society**⁴⁶⁰ supports **Centers of Excellence in ELSI Research (CEERS)**⁴⁶¹, which are teams of researchers with expertise "to respond rapidly to the large number of emerging and evolving ELSI issues."

Learn more about NHGRI at: http://www.genome.gov

Funding Opportunities: http://www.genome.gov/ResearchFunding/

National Institute of Allergy and Infectious Diseases

The National Institute of Allergy and Infectious Diseases (NIAID) supports basic and applied research on infectious, immunologic, and allergic diseases. NIAID is the leading agency supporting research on the AIDS pandemic, particularly the development of an effective vaccine. A priority of NIAID is the further development and evaluation of behavioral interventions and communication strategies to reduce high-risk behavior

associated with HIV transmission. NIAID's **HIV/AIDS research⁴⁶²** addresses biological, social, and epidemiological aspects of HIV as well as efforts to develop prevention and treatment measures targeted to diverse populations, settings, and cultures. Because treatment adherence is critical to the effectiveness of prevention methods, NIAID is increasing its efforts to make interventions more acceptable to target populations.

NIAID also supports research on asthma, including intervention research to address asthma in children living in inner-city areas through its **Inner-city Asthma Consortium (ICAC)**⁴⁶³. ICAC is a nationwide network of clinical researchers and basic scientists.

Research Training

NIAID's **training support**⁴⁶⁴ includes a variety of fellowships, career awards, and training, as well as the NIH Loan Repayment Program.

Learn more about NIAID at: http://www.niaid.nih.gov

Funding Opportunities: http://www.niaid.nih.gov/researchfunding/pages/default.aspx?wt.ac=tnFunding

National Institute of Arthritis and Musculoskeletal and Skin Diseases

The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) is the lead federal agency for research into the causes, treatment, and prevention of these diseases. The Institute is focused on research, prevention and treatment of disorders "characterized by a continuing disease process with progressive deterioration."

The Institute supports research that identifies the "barriers that keep people who are economically disadvantaged as well as people from diverse ethnic backgrounds" from adhering to prescribed medical regimens. The Institute's support extends to research examining the "fear of side effects, belief that the medicines are not working, problems with the health system environment, and medication costs."

NIAMS's **Arthritis and Rheumatic Diseases**⁴⁶⁵ program is designed to "advance high-quality basic, translational, and clinical biomedical and biopsychosocial research to treat and prevent arthritis" and other rheumatic diseases. The Institute is committed to pursuing new opportunities designed to "identify risk factors for these disorders, to enhance disease prediction, and advance prevention strategies." The program also managed the **Patient-Reported Outcomes Measurement Information System (PROMIS) initiative**⁴⁶⁶ for the NIH Common Fund and continues to support the development and use of PROMIS technologies.

Learn more about NIAMS at: http://www.niams.nih.gov

Funding Opportunities: http://www.niams.nih.gov/Funding/default.asp

National Institute of Biomedical Imaging and Bioengineering

The National Institute of Biomedical Imaging and Bioengineering (NIBIB) merges "the physical and biological sciences to develop new technologies that improve health." The Institute's mission is not limited to a single

disease or group of illnesses; it seeks to "accelerate the pace of discovery and speed the development of biomedical technologies that prevent illnesses or treat them when they do strike."

NIBIB's **Health Informatics Technology (HIT)**⁴⁶⁷ program supports activities to further research in health information technology, bioinformatics, mobile health, clinical depression support, image processing, and data integration and health. HIT supported by NIBIB examines ways to harness "big data" by using an informatics approach. This includes supporting studies that utilize big datasets of longitudinal information that link medical imaging data, genomic data, and environmental and phenotypic data.

Learn more about NIBIB at: http://www.nibib.nih.gov

Funding Opportunities: http://www.nibib.nih.gov/research-funding

National Institute of Dental and Craniofacial Research

The National Institute of Dental and Craniofacial Research (NIDCR) supports ongoing efforts to improve oral, dental, and craniofacial health. The Institute is beginning to fund research that will add to the understanding of the complex interplay of factors that contribute to dental caries. The research supported by NIDCR explores a wide range of factors extending from genetics, family contextual factors, psychosocial determinants, diet, and neighborhood settings and environmental factors.

NIDCR's Health Disparities Research Program⁴⁶⁸ supports the full spectrum of research to identify practical, sustainable approaches to oral health. In addition to intervention studies, NIDCR supports "key foundational research⁴⁶⁹ required before intervention development begins, including studying the psychosocial needs of infants and families with oral disease or associated conditions such as early childhood caries, craniofacial anomalies, very low birth weight and early respiratory problems, and family dietary patterns and early obesity." NIDCR also supports research on the social determinants of oral health and disease among infants and their mothers, including studies of childhood oral health in households in which interpersonal violence exists, where parents have varying degrees of oral health knowledge, or in communities in which there is limited access to quality oral health care.

Behavioral and Social Sciences Research Branch

The **Behavioral and Social Sciences Research Branch (BSS)**⁴⁷⁰ supports efforts to understand how behavioral and social factors influence oral health and to develop strategies for effective interventions to prevent and treat oral diseases. The program's portfolio includes research that focuses on improving public oral health, such as through preventing and treating childhood dental disease and improving the oral health of vulnerable individuals. It also comprises the research areas of tobacco cessation, orofacial pain management, oral and pharyngeal cancer treatment recovery, and the establishment of life-long habits to improve oral health.

Research Training

NIDCR has implemented a number of initiatives to support **research and training**⁴⁷¹ designed to better understand the mechanisms of behavior change. The Institute supports research training for investigators at all career stages, including undergraduate, pre-doctoral, post-doctoral, early independent career, mid-career, and senior scientist. NIDCR emphasizes that "BSS research related to oral health may benefit from a multidisciplinary or interdisciplinary perspective." Accordingly, the Institute encourages "training experiences that provide participants with exposure to multiple fields."

Funding Opportunities: http://www.nidcr.nih.gov/grantsandfunding

National Institute of Diabetes and Digestive and Kidney Diseases

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) supports research to combat diseases that are mostly common, chronic, and have severe health consequences, such as diabetes and other endocrine and metabolic diseases, liver and other digestive diseases, nutritional disorders, obesity, kidney and urologic diseases, and hematologic diseases. Research into diseases that are less prevalent, such as cystic fibrosis and other genetic diseases, is also supported by NIDDK.

Diabetes, Endocrinology, and Metabolic Diseases Division

The Diabetes, Endocrinology, and Metabolic Diseases Division (DEM)⁴⁷² is designed to increase the understanding of diabetes and other diseases and disorders of the endocrine system and metabolism, and to develop and test potential prevention and treatment strategies. NIDDK's landmark Diabetes Prevention Program (DPP)⁴⁷³ revealed the significant impact of lifestyle changes in achieving modest weight loss, resulting in lowering the incidence of type 2 diabetes by more than fifty percent over three years. NIDDK continues to support researchers examining the "roles of lifestyle and metformin and other diabetes medications in preventing type 2 diabetes." The Diabetes Prevention Program Outcomes Study (DPPOS)⁴⁷⁴, a follow-on to the DPP, supports researchers who continue to monitor DPP participants in order to learn more about the study's long-term effects.

Digestive Diseases and Nutrition Division

The Digestive Diseases and Nutrition Division (DDN) is designed to increase understanding of digestive diseases, nutrition, and obesity, and to develop and test strategies for disease prevention and treatment. DDN also supports basic, translational, and clinical research, research training, and career development programs.

DDN's **Clinical, Behavioral, and Epidemiological Obesity Research⁴⁷⁵** program supports research "focused on improved understanding of the development and modulation of obesity." Associated research supported within the program includes "clinical and behavioral studies in humans examining topics such as, but not limited to: identifying and understanding risk factors for the development and/or maintenance of excess weight gain, including basic behavioral, psychological, and social mechanisms and variation in dietary intake, dietary composition, meal frequency, eating patterns, sedentary behavior, and physical activity." In addition, the program supports research on obesity comorbidities and research across the life span and on high-risk populations.

The **Obesity Treatment and Prevention**⁴⁷⁶ program supports research "on the prevention and treatment of overweight and obesity across the lifespan," including research on treatment approaches to preventing weight gain/obesity or additional weight gain of those already overweight or obese. This includes behavioral, lifestyle, or environmental approaches and research designed to understand related psychosocial risk factors. ⁴⁷⁷

The Institute's Clinical, Behavioral, and Epidemiological Obesity Research⁴⁷⁸ program supports behavioral, clinical and epidemiological research on obesity. The program examines such topics as: "identifying and understanding risk factors for the development and/or maintenance of excess weight gain, including basic behavioral, psychological, and social mechanisms and variation in dietary intake," sedentary behavior, eating

patterns, and meal frequency. The program also supports the "collection, analysis, and dissemination of data on obesity, weight status, weight control throughout the lifespan, and obesity-related disorders of public health significance, with particular emphasis on surveillance and follow-up studies." Secondary data analyses using data from a variety of sources is also supported by the program.

Learn more about NIDDK at: http://www.niddk.nih.gov

Funding Opportunities: http://www.niddk.nih.gov/research-funding/Pages/default.aspx

National Institute of Environmental Health Sciences

The National Institute of Environmental Health Sciences (NIEHS) supports research at the intersection of human health and the environment. The Institute defines "environment" broadly to include diet and nutrition, behavior, and other social and cultural factors.

Research Training

NIEHS's **Training and Education**⁴⁷⁹ program is designed to attract students and scientists into the environmental health science field in an effort to ensure a cadre of professionals to conduct the interdisciplinary research necessary to solve critical environmental health problems. The program includes opportunities for laboratory-based training at the high school and undergraduate levels, institutional training grants and individual fellowships at the graduate level, and grants for young investigators at the faculty level. The Institute's **Outstanding New Environmental Scientist (ONES)**⁴⁸⁰ program is tailored to early investigators to support career advancement of the next generation of scientists across multiple, diverse fields within environmental research.

Learn more about NIEHS at: http://www.niehs.nih.gov

Funding Opportunities: http://www.niehs.nih.gov/funding/index.cfm

National Institute of General Medical Sciences

The National Institute of General Medical Sciences (NIGMS) covers a wide spectrum of research, ranging from experiments with organisms, cells, genes, and molecules to studies of systems biology that examine the behavior of interconnected networks. The Institute also leads the NIH's effort in "training the next generation of scientists, in enhancing the diversity of the scientific workforce, and in developing research capacities throughout the country."

NIGMS is currently piloting a new award, the Maximizing Investigators' Research Award (MIRA)⁴⁸¹, designed to provide support for all the NIGMS-relevant research in an investigator's laboratory for five years. MIRA will provide "an average level of funding larger and longer than that provided by traditional, individual project-focused investigator-initiated awards." NIGMS expects the award to increase flexibility for "innovators to follow important new research directions as scientific work proceeds and opportunities arise." The Institute also expects MIRA will improve overall scientific productivity and achievement of outcomes by allowing scientists to spend more time doing science.

The Institute's **Research on Interventions**⁴⁸² program "supports research that tests assumptions and hypotheses regarding social and behavioral factors that might inform and guide potential interventions intended to increase interest, motivation and preparedness for careers in biomedical research, with a

particular interest in those interventions specifically designed to increase the number of students from underrepresented groups entering careers in these fields."

NIGMS also supports the **Systems Science and Health in the Behavioral and Social Sciences⁴⁸³** program, which is intended to "increase the breadth and scope of topics that can be addressed with systems science methodologies."

Division of Training, Workforce Development, and Diversity

A cornerstone of the NIGMS' mission is its training support for the next generation of researchers. NIGMS' **Division of Training, Workforce Development, and Diversity (TWD)**⁴⁸⁴ manages and directs the Institute's policies and activities related to research training. It is the NIH's focal point in efforts to develop "a diverse and inclusive biomedical research workforce."

TWD also leads NIH's **Institutional Development Award (IDeA)**⁴⁸⁵ program designed to broaden the geographic distribution of NIH funding for biomedical and behavioral research. Faculty development and research infrastructure enhancements are supported by the IDeA program at institutions that fall within the program's purview. Currently, two IDeA initiatives are underway. The first extends clinical and translational research infrastructure through national networks. The second will foster, in IDeA states, the development of products to advance public health through small business research funding.

Learn more about NIGMS at: http://www.nigms.nih.gov

Funding Opportunities: http://www.nigms.nih.gov/Research/Pages/default.aspx

National Institute on Minority Health and Health Disparities

The National Institute on Minority Health and Health Disparities (NIMHD) supports scientific research to improve minority health and to eliminate health disparities. NIMHD recently adopted a new strategic approach to health disparity research, making a distinction between health disparities and minority health. NIMHD's efforts in this regard include supporting research that furthers the understanding of the interactions and contributions of the various health determinants and tailored interventions that are tested and implemented widely.

NIMHD supports social, behavioral, health services, and policy research aimed at improving minority health and eliminating health disparities by investigating topics like "social, behavioral, cultural, or environmental risk and protective factors related to the development of health conditions; individual- and family-level strategies to cope with disability; the impact of racism, discrimination, and segregation on health and health behavior and strategies to ameliorate these effects;" and "identification of geographic, political, and sociocultural factors that predict or affect the impact of policy initiatives designed to reduce health disparities in different settings."

NIMHD's **Transdisciplinary and Translational Research**⁴⁸⁶ program supports interdisciplinary, translational, and collaborative approaches to health disparities research needed to advance the understanding of multi-factorial integrated causes of health disparities. The Institute's Centers of Excellence (COEs) are partnerships between academic institutions and community organizations to conduct health disparities research.

Research Training

NIMHD's supports **training**⁴⁸⁷ to enhance the diversity of the biomedical workforce and train researchers of any background to conduct health disparities research. The program's goals include increasing the number of competitive researchers from diverse backgrounds that are underrepresented in the biomedical, behavioral, clinical, and social sciences. The goals extend to developing curricula focused on health disparities in undergraduate, graduate, and medical schools.

Learn more about NIMHD at: http://www.nimhd.nih.gov

Funding Opportunities: http://www.nimhd.nih.gov/funding/nimhd.html

National Institute of Neurological Disorders and Stroke

The National Institute of Neurological Disorders and Stroke (NINDS) supports research on the causes, prevention, diagnosis, and treatment of neurological disorders and stroke. It also funds basic research in related scientific areas to reduce the burden of neurological disease.

NINDS supports a **broad portfolio of basic behavioral research**⁴⁸⁸, which includes studies on a variety of cognitive and behavioral processes. Examples include exploring the neural bases of language and cognitive development, understanding the neural substrates of decision making, and examining the cellular and molecular mechanisms of learning and memory. The Institute also sponsors a wide range of training grants, fellowships, and career development awards in all areas of the neurological sciences, including basic behavioral and social science research.

NINDS supports a number of activities to eliminate the long-term effects of stroke on the quality of life of survivors and their families. To this end, the Institute funds research addressing the psychosocial impact of stroke on family caregivers. The aims of the project are to understand how stroke affects depression, physical health, health care access and use, and quality of life in primary caregivers identified from the **Reasons for Geographic and Racial Differences in Stroke (REGARDS) study**⁴⁸⁹.

Learn more about NINDS at: http://www.ninds.nih.gov

Funding Opportunities: http://www.ninds.nih.gov/funding/index.htm

National Library of Medicine

The National Library of Medicine (NLM) is the world's largest library of the health sciences and maintains extensive web-based information resources for the scientific community, health professionals, and the general public. The material collected by NLM includes that from "all areas of biomedicine and health care, including works on the biomedical aspects of the humanities and the social sciences." NLM's **Extramural Program Division**⁴⁹⁰ supports research in medical informatics, health information science, biotechnology information, and research training in these areas.

NLM supports fundamental and applied research in biomedical informatics and bioinformatics, including:

- Enhancement of human intellectual capacities through virtual reality, dynamic modeling, artificial intelligence, and machine learning
- Medical decision-making
- Linguistic analyses for natural language processing and understanding

• Informatics topics relevant to public health and informatics for disaster management

NLM has three unique resource grant programs:

- NLM Information Resources to Reduce Health Disparities⁴⁹¹
- Grants for Scholarly Works of Biomedicine and Health⁴⁹²
- NLM Administrative Supplements for Informationist Services⁴⁹³

Learn more about NLM at: https://www.nlm.nih.gov

Funding Opportunities: https://www.nlm.nih.gov/grants.html

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