FY 2016
Survey of State Government R&D

Reference Copy Only

OMB: 0607-0933
Exp: 04/30/2019

Submit your survey responses at:
https://econhelp.census.gov/sgrd

Survey Questions pages 2-15

The purpose of this survey is to measure your state's contributions toward scientific and technological advances. The results of this survey will be used to estimate national totals for R&D in conjunction with other data collected by the National Science Foundation from private industry, academic institutions, and the Federal government.

The U.S. Census Bureau conducts the survey on behalf of the National Science Foundation, and requests your voluntary assistance under the authority of Title 13 United States Code, Section 8(b) and Title 42 United States Code, Sections 1861-76 (National Science Foundation Act of 1950, as amended).

If you have any questions, please contact:
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Burden Statement

This collection has been approved by the Office of Management and Budget (OMB). The eight-digit OMB approval number is 0607-0933. Without this approval, we could not conduct this survey. The OMB Control number for this survey is also displayed at the top right of the survey "Home" page.

Public reporting burden for this collection of information is estimated to average 2 hours per response. Send comments about this burden estimate or any other aspect of this collection of information, including suggestions for reducing burden to:

ECON Survey Comments 0607-0933
U.S. Census Bureau
4600 Silver Hill Road, Room EMD-6K064
Washington, DC 20233-1500

You may e-mail comments to ECON.Survey.Comments@census.gov; use "ECON Survey Comments 0607-0933" as the subject.

Contact Information

Please complete the contact information below and update if needed. (*required fields)

Primary Respondent

Your Name:*

Title:*

Agency:

Address:

City:*

State:*

Zip: -

Telephone:* ( ) - Extension:

Email:*

Additional Contact Information (if applicable)

Your Name:

Title:

Agency:

Address:

City:

State:

Zip: -

Telephone: ( ) - Extension:

Email:

Reporting Period

2. When did your state agency's Fiscal Year 2015-16 end?

		2016
MM	DD	YYYY

Note: For the rest of this survey, we will refer to this Fiscal Year as FY 2016.

R&D Activities

Please read through the following definitions of R&D and answer the Screener Question below.

What is Research and Development (R&D)?

What is Research and Development (R&D)?

Research and experimental development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge.

What is R&D?

- R&D is aimed at new findings (novel)
  - It has not been done before
  - It may produce findings that could be published in academic journals
  - It includes ideas that could be patented
- R&D focuses on original concepts or ideas (creative)
  - Increases our knowledge of the subject
  - Helps create new products or applications
- R&D outcomes are uncertain (because it's never been done before)
  - Solutions are not always obvious or expected
- R&D is systematic
  - Projects processes and outcomes are documented
  - Projects are planned and managed
- R&D results in solutions that others may find useful
  - Findings can be generalized to other situations and locations

What is NOT R&D?

- Construction and acquisition of land and facilities used primarily for R&D (this is reported separately in Question 11)
- Fixed equipment used primarily for R&D (this is reported separately in Question 11)
- Program planning and evaluation
- Business development services for new companies
- Commercialization (includes promoting/producing the products/services from R&D projects)
- Economic/policy/feasibility studies
- General patient services
- Information systems
- Management studies
- Marketing of products/services
- Market research or analysis
- Routine data collection/dissemination
- Routine monitoring/testing
- Strategic planning
- Technology transfer

Examples of R&D

What makes it R&D	When it is R&D	When it is NOT R&D
R&D is novel. • Aimed at new findings • It increases our knowledge of the subject. • It has not been done before.	You are testing blood samples as part of a research project to find out the side effects of a new cancer treatment.	You are collecting information from samples of patients to estimate the incidence of chicken pox in the state's population. (You are using a standard approach to estimate the spread of chicken pox.)
R&D is creative. • Improves on existing knowledge.	You are developing a new methodology to assess reading comprehension for students enrolled in special education curriculum.	You are collecting reading comprehension scores for trend analysis.
The outcome of R&D is uncertain. • The solution is not obvious to an expert in that field.	Your research involves monitoring streams to determine whether a new program is increasing the population of a particular type of fish.	You are monitoring streams as part of plan to implement long-term monitoring for a particular type of fish. (The monitoring plan has already been tested and you are certain of the quality of the plan.)
R&D is systematic. • Projects are planned. • Records are kept regarding process and outcomes.	Research project has a plan, funding source, staff and other resources available.	Agency staff are interested in solving a particular problem and pursues answers as time permits.
R&D solutions and results could be useful to others. • Others might benefit from the findings. • The findings can be generalized to other situations and locations.	You are testing a pavement on your highways that is currently used only at airports. Other states will want the results.	You are testing pavement on your state's highways to estimate how much you need to budget for pavement replacement over the next five years. (Other states will not benefit from your specific state information.)

Reporting unit
The reporting unit is your department, agency, commission, public authority (herein referred to as agency) including all divisions and offices regardless of location that either perform or fund R&D.

Estimates are acceptable
Please report all items to the best of your ability.

Go to Question 3

Examples of classifying R&D from four activities

Activity	It IS R&D	It is NOT R&D
Technical assistance	You hire a technical consultant to test the disease resistance for the new fish species you are developing. (The assistance addresses the uncertainty of the science/technology aspects of the product or service.)	You hire a technical consultant to help you design the graphic design for the package to ship your new fish species when you begin offering it for sale to other states. (The assistance addresses the uncertainty of the marketing/production aspects of the product or service.)
Help for new businesses	You provide funding to new businesses to help them with the costs of building prototypes of products they are developing.	You provide funding for new technology companies to help them acquire basic skills to market their new products.
Consulting	You use a consultant to plan testing of a highway pavement material that your transportation research center is trying to develop.	You use a consultant to help you secure health and safety approval for your new pavement material.
Developing a product from your research	You hire a university research center to test a new type of grass you developed to test whether it will survive actual conditions along the coastline.	You hire a law firm to help you with the process for patenting the new grass that you developed.

R&D Activities

3. Did your agency do any of the following during FY 2016

3a. Had a division, branch, or office devoted to research and development

Yes ☐
No ☐

3b. Performed research and development activities using agency staff

Yes ☐
No ☐

3c. Funded research and development at another state or local government

Yes ☐
No ☐

3d Funded universities or other nonprofit organizations to perform research and development activities

Yes ☐
No ☐

3e Funded companies or individuals to perform research and development activities

Yes ☐
No ☐

3f. Performed or funded other research and development activities not specified above

Yes ☐

Please specify:

No ☐

Expenditures for R&D Performed Internally (Internal R&D)

4. During FY 2016, what were the total expenditures for internal R&D performance from federal funds, state funds, or other funds?

Include	Exclude
Types of Activities • R&D performed by your agency's employees • Services performed by others in support of an agency R&D project (e.g., lab testing) • Administration and management of internal R&D performed by your agency **Types of Costs** • Salaries • Benefits • Supplies and movable equipment for R&D • Travel • Indirect costs • Purchased services	• R&D performed by higher education institutions (report in Question 5) • R&D performed by businesses and individuals (report in Question 5) • R&D performed by non-profit and organizations (report in Question 5) • R&D performed by other governments (report in Question 5) • Construction and acquisitions of land or facilities used primarily for R&D (report in Question 11) • Fixed equipment used primarily for R&D (report in Question 11) • Administration and management of external R&D-related grants

FY 2016

a. Federal Funds used for internal R&D..... $ [ ]

For example:

- Grants
- Contracts
- Awards
- Appropriations from the United States Government

b. State Funds used for internal R&D..... $ [ ]

For example:

- Appropriations from the state legislature
- Agricultural commodity assessments/"check-offs"
- Bond funds
- General funds
- Restricted funds
- Revenue funds
- State grants
- Tobacco settlement funds
- Lottery proceeds
- Funds from other agencies within your state
- Revenue from charges, fees, or fines

c. Other Sources used for internal R&D..... $ [ ]

For example:

- Funding from other state governments
- Funding from state/regional partnership agreements
- Funding from local or triable governments
- Funding from nonprofit organizations
- Funding from business

Please specify:

[ ]

d. These are your total expenditures for internal R&D:(sum of 4a through 4c) ..... $ [ ]

Expenditures for R&D Performed Externally (External R&D)

5. During FY 2016, what were the total expenditures for external R&D performance from federal funds, state funds, and other funds?

Include

R&D funded by your agency and performed by,

- Higher-education institutions
- Agricultural experiment stations
- Businesses and individuals
- Non-profit organizations
- Other state or local governments
- Matching grants to others for R&D-related programs and projects

Exclude

- Pass-through funding for which you have no administrative oversight or control
- Administrative and management costs for all R&D-related activities

FY 2016

a. Federal Funds used for external R&D..... $ [ ]

For example:

- Grants
- Contracts
- Awards
- Appropriations from the United States Government

b. State Funds used for external R&D..... $ [ ]

For example:

- Appropriations from the state legislature
- Agricultural commodity assessments/"check-offs"
- Bond funds
- General funds
- Restricted funds
- Revenue funds
- State grants
- Tobacco settlement funds
- Lottery proceeds
- Funds from other agencies within your state
- Revenue from charges, fees, or fines

c. Other Sources used for external R&D..... $ [ ]

For example:

- Funding from other state governments
- Funding from state/regional partnership agreements
- Funding from local or triable governments
- Funding from nonprofit organizations
- Funding from business

Please specify:

[ ]

d. These are your total expenditures for external R&D: (sum of 5a through 5c) ..... $ [ ]

Total R&D Expenditures

6. The following matrix shows the answers reported in Question 4 and Question 5. These are your total R&D-related expenditures. To revise them, please return to the appropriate question and enter new data. The remaining questions will ask for information about these amounts.

FY 2016

	Internal	External	Total by Source
Federal	$	$	$
State	$	$	$
Other	$	$	$
TOTAL	$	$	$

Total R&D Expenditures by Function

7. Of the amount reported for FY 2016 reported expenditures, how much was for:

		FY 2016
a.	**Agriculture**.....	$

For example:
- Animal husbandry
- Aquaculture
- Crop management
- Food and commodities

b.	**Energy**.....	$

For example:
- Alternative fuels (e.g., ethanol, biofuels)
- Energy conservation/efficiency
- Oil and gas
- Other fossil fuels (e.g., coal, clean-coal, lignite)
- Renewable energy (e.g., wind, solar)

c.	**Environment and Natural Resources**.....	$

For example:
- Air and water quality
- Fish, game, and wildlife
- Forestry
- Geological studies
- Marine and aquatic environments
- Parks and preserves
- Soil and water conservation

d.	**Health**.....	$

For example:
- Biomedical research
- Mental health and addiction
- Pharmaceuticals
- Public health

e.	**Transportation**.....	$

For example:
- Aviation
- Highways, roads, and bridges
- Ports and waterways
- Public transportation
- Rail and freight

f.	**Other functions**	$

For example:
- Corrections and criminal justice
- Education
- Labor
- Public safety
- Social services

Please specify:

g.	**Total** (sum of 7a through 7f)	$

Funds Received from Federal Agencies for R&D

8. Of the amount reported for FY 2016 reported expenditures from federal funds, what amount came from the following agencies? Please add any agencies not already listed. If none, please report $0.

Federal Agency		FY 2016
Department of Agriculture	$	
Department of Commerce	$	
Department of Defense	$	
Department of Education	$	
Department of Energy	$	
Department of Health and Human Services	$	
Department of Homeland Security	$	
Department of Housing and Urban Development	$	
Department of the Interior	$	
Department of Justice	$	
Department of Labor	$	
Department of State	$	
Department of Transportation	$	
Department of the Treasury	$	
Department of Veterans Affairs	$	
Environmental Protection Agency	$	
National Aeronautics and Space Administration	$	
National Science Foundation	$	
Other, please specify:		
	$	
	$	
Total (sum of all above)	$	

FY 2016 Expenditures for R&D Performed Internally by Type of R&D

9. What amount of your reported FY 2016 federal internal R&D expenditures and reported FY 2016 non-federal internal R&D expenditures in Question 4 were for basic research, applied research, and experimental development from federal and non-federal funds?
(Please use your best estimate.)

	FY 2016 Federal	FY 2016 Non-Federal
a. Basic Research.....$	$	
Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view. (see Examples of Basic Research below)		
b. Applied Research.....$	$	
Original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific, practical aim or objective. (see Examples of Applied Research below)		
c. Experimental Development.....$	$	
Systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes. (see Examples of Experimental Development below)		
d. Total (sum of 9a through 9c).....$	$	

Examples

Basic Research	Applied Research	Experimental Development
You are studying the properties of blood to determine what affects coagulation.	You are conducting research on how a new chicken pox vaccine affects blood coagulation.	You are testing a newly developed chicken pox vaccine with various ages of school children before implementing it statewide.
You are studying the properties of molecules under various heat and cold conditions.	You are conducting research on the properties of particular substances under various heat and cold conditions with the objective of finding longer lasting components for pavement.	You are testing a newly developed pavement under various types of heat and cold conditions prior to using it on your state's highways.
You are studying the heart chambers of various fish species.	You are examining various levels of a toxic substance to determine the maximum safe level for fish in a stream.	You are designing a new system for monitoring a stream that will try out the results of your recent research in a real world situation.
You are studying the effects of various strategies for teaching math in order to understand which is the most effective.	You are studying the implementation of a specific math curriculum to determine what factors lead to successful implementation by teachers.	You are using research in the field to develop education software and support tools for math curriculum.

Expenditures for R&D Performed Externally by Type of Entity

10. Of the reported external R&D performance for FY 2016 reported expenditures in Question 5, how much was to:

FY 2016

a. Higher education institutions?..... $ [ ]

b. Businesses or individuals? ..... $ [ ]

c. Other entities? .....$ [ ]

For example:

- Other state governments
- Local governments
- Non-profit organizations

Exclude: Transfers from other agencies within your state government.

Please specify:

[ ]

d. Total (sum of 10a through 10c) .....$ [ ]

R&D Expenditures for Land and Facilities

11. During FY 2016, what were your agency's R&D expenditures for construction and acquisition of land and facilities (including fixed equipment) used primarily for R&D?

This question asks about R&D land and facilities (including fixed equipment, such as shake tables or wind tunnels) used primarily for R&D. It includes the acquisition of, construction of, and major repairs or alterations to structures, works, equipment, facilities, or land for use in R&D activities. Construction and acquisition of land and facilities used primarily for R&D includes major costs for construction and purchase of buildings to be primarily used as R&D facilities.

Include:

- Only expenditures related to the R&D activities of your agency.

Exclude:

- Expendable or movable equipment (e.g., spectrometers, microscopes).
- Office furniture and equipment.
- Costs of pre-design studies (e.g., those undertaken before commitment to a specific facility).

NOTE: The expenditures reported on this question are separate from the R&D expenditures asked throughout the rest of the survey, and should not be included in the expenditures on any other question in the survey.

FY 2016

$ [ ]

REMARKS

12. Comments: Use this space for any clarifying remarks or comments regarding the data reported on this form.