



Report to the Ranking Member,  
Permanent Subcommittee on  
Investigations, Committee on Homeland  
Security and Governmental Affairs, U.S.  
Senate

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January 2016

# FEDERAL RESEARCH OPPORTUNITIES

## DOE, DOD, and HHS Need Better Guidance for Participant Activities

# GAO Highlights

Highlights of [GAO-16-128](#), a report to the Ranking Member, Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, U.S. Senate

## Why GAO Did This Study

The ORISE research participation program seeks to enhance the future scientific and engineering workforce by providing students, postgraduates, and faculty with hands-on research experiences in federal agencies. The program is administered by a DOE contractor, and other agencies sponsor research participants via interagency agreements with DOE. Research participants engage in a variety of projects at DOE and other sponsoring agencies, but they are not considered federal government employees and thus are prohibited from performing inherently governmental functions.

GAO was asked to review the ORISE research participation program. This report examines (1) program expenditures by all sponsoring agencies and (2) selected agencies' assessments of program effectiveness and their guidance on inherently governmental functions.

GAO reviewed program data for fiscal years 2010-2014, the five most recent years for which data were available; examined program policies and guidance at DOE, DOD, and HHS, the three agencies that sponsored the most participants in fiscal year 2014; and interviewed officials at those three agencies.

## What GAO Recommends

GAO recommends that DOE, DOD, and HHS develop detailed guidance to inform their employees and research participants about inherently governmental functions. DOE, DOD, and HHS concurred with the recommendation and said they will take additional measures to provide detailed guidance to relevant parties.

View [GAO-16-128](#). For more information, contact John Neumann at (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov).

January 2016

## FEDERAL RESEARCH OPPORTUNITIES

### DOE, DOD, and HHS Need Better Guidance for Participant Activities

## What GAO Found

For fiscal years 2010 through 2014, the 11 departments and other federal agencies that sponsor research participants collectively expended \$776.4 million for activities carried out through the Oak Ridge Institute for Science and Education (ORISE) research participation program (ORISE program). The three agencies with the highest expenditures for the program over the 5-year period were the Department of Energy (DOE), which oversees the contractor managing ORISE, and the Department of Defense (DOD) and Department of Health and Human Services (HHS), which both sponsor research participants via interagency agreements with DOE. Expenditures increased 73 percent over that period, and the number of appointments increased 42 percent. Stipends accounted for 82 percent of expenditures over that period, with the remainder going to other participant expenses, overhead and program support, and administrative and security charges. Agencies' expenditures per appointment varied for several reasons, such as differences in methods of setting stipends.

Components within DOE, DOD, and HHS that sponsor research participants have performed some assessments of the short-term effectiveness of the ORISE program, but provide varying levels of detail to agencies' employees and research participants about inherently governmental functions—those functions that are so intimately related to the public interest as to require performance by federal government employees.

- **Program effectiveness.** Sponsoring agency components establish their own objectives for research participants and can decide whether and how to assess the extent to which the ORISE program meets those objectives. DOE, DOD, and HHS components have used questionnaires and other methods to assess how well the ORISE program meets the short-term needs of research participants and of the agency staff who oversee their activities. Agencies also face challenges in assessing the program's long-term effectiveness; for example, they do not have methods to track research participants over their careers to determine the extent to which participants' success is a result of the program. DOE has worked with other agencies on developing ways to address such challenges.
- **Inherently governmental functions.** Federal guidance directs agencies to develop internal procedures to ensure that only federal employees perform inherently governmental functions. DOE, DOD, and HHS sponsoring components' guidance for research participants that GAO reviewed had varying levels of detail on inherently governmental functions. Officials at these agencies said that research participants' projects generally do not involve inherently governmental functions, but GAO found that some research participants' projects involve activities that are closely associated with inherently governmental functions, such as participating in certain policy and strategic planning meetings, which may increase the risk of the participants performing inherently governmental functions. Development of detailed guidance could help sponsoring components reduce this risk and help officials better ensure adherence to the federal guidance on inherently governmental functions.

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## Abbreviations

APSS	Applicant and Participant Status System
CDC	Centers for Disease Control and Prevention
DOD	Department of Defense
DOE	Department of Energy
FDA	Food and Drug Administration
HHS	Department of Health and Human Services
OMB	Office of Management and Budget
ORAU	Oak Ridge Associated Universities
ORISE	Oak Ridge Institute for Science and Education
ORISE program	ORISE research participation program
PIES	Program Information Entry System
STARS	Standard Accounting and Reporting System
STEM	science, technology, engineering, and mathematics

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January 20, 2016

The Honorable Claire McCaskill  
Ranking Member  
Permanent Subcommittee on Investigations  
Committee on Homeland Security and Governmental Affairs  
United States Senate

Dear Senator McCaskill:

Federal agencies manage an investment of about \$3 billion annually in science, technology, engineering, and mathematics (STEM) education programs to help prepare students and teachers for careers in STEM fields and to enhance the nation's global competitiveness. As part of this investment, the U.S. Department of Energy (DOE) has awarded a contract to the nonprofit Oak Ridge Associated Universities (ORAU) to manage and direct the programs of the Oak Ridge Institute for Science Education (ORISE) in Oak Ridge, Tennessee. Among other things, the contractor manages the ORISE research participation program (ORISE program) to develop the STEM workforce by providing hands-on research experiences at DOE for students, postgraduates, and faculty.<sup>1</sup> In addition, the contractor administers the ORISE program for other federal agencies that have entered into interagency agreements with DOE for the program. Students and postgraduates in the ORISE program at DOE and other federal agencies engage in activities that complement their academic programs, while faculty members learn state-of-the-art science that they can incorporate into their teaching. These participants obtain research experiences in various locations at federal agencies, such as

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<sup>1</sup>ORAU administers separate and customized research participation programs for a variety of federal sponsors. For ease of reference, this report refers to the portfolio of such programs administered by ORAU for research participants as the ORISE program and is not meant to imply that ORISE administers a single program in which all the agencies participate. The scope of this report is limited to the ORISE program's nonemployee research participants at federal agencies. References in this report to the ORISE program do not include research participants treated by the program as employees or research participants at nonfederal entities, such as the Nature Conservancy.

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departmental offices, research centers and institutes, or military units and commands.<sup>2</sup>

In fiscal year 2014, ORAU administered close to 5,900 ORISE research participant appointments on behalf of DOE and other federal agencies, including the Department of Defense (DOD) and the Department of Health and Human Services (HHS). Sponsoring agencies—DOE, DOD, HHS, and other agencies that sponsor ORISE research participants—use their respective budgetary resources to fund the research participants.

Components within sponsoring agencies assign research participants in the ORISE program (ORISE research participants) to various research projects. For example, DOE sponsors research participants in the Office of Science, as well as in other components within DOE. Other federal agencies with components interested in sponsoring research participants can enter into interagency agreements—known as Strategic Partnership Projects agreements—with DOE.<sup>3</sup> These agreements permit DOE, through ORAU, to administer the ORISE program for other federal agencies on a reimbursable basis. The agreements provide for the sponsoring agencies to pay DOE for the cost of the ORISE program at the sponsoring agencies and for specified administrative costs.

ORAU and sponsoring agencies each have specific responsibilities for the ORISE program. Pursuant to ORAU's contract with DOE and DOE's interagency agreements (including statements of work) with other sponsoring agencies, ORAU provides support services, such as handling administrative activities related to participant's stipends and travel reimbursements. Sponsoring agency components perform other tasks, such as selecting participants, providing project descriptions, and

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<sup>2</sup>In fiscal year 2014, sponsoring agencies included the Department of Agriculture; Federal Bureau of Investigation; DOD, and within the department, the Air Force, Army, and Navy; HHS, and within the department, Centers for Disease Control and Prevention, Food and Drug Administration, and National Institutes of Health; Department of Homeland Security; Department of Housing and Urban Development; Department of State; Department of the Interior; and Environmental Protection Agency.

<sup>3</sup>These interagency agreements were known as Work for Others agreements until March 9, 2015, when DOE renamed them Strategic Partnership Projects. *Department of Energy, Strategic Partnership Projects Order 481.1C, chg 2* (March 9, 2015). For more information on Strategic Partnership Agreements, see GAO, *National Laboratories: DOE Needs to Improve Oversight of Work Performed for Non-DOE Entities*, [GAO-14-78](#) (Washington, D.C.: Oct. 25, 2013).

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designating coordinators to manage research participants' overall participation in the program and mentors to direct research participants' day-to-day activities.

As with all nonfederal employees, ORISE research participants are prohibited from performing inherently governmental functions—functions within the federal government that are so intimately related to the public interest as to require performance by government employees. This prohibition ensures that the act of governance is performed, and decisions of significant public interest are made, by officials who are accountable to the President and bound by laws controlling the conduct and performance of federal employees that are intended to protect or benefit the public and ensure the proper use of appropriated funds.<sup>4</sup> Inherently governmental functions include activities that require either the exercise of discretion in applying federal government authority or the making of value judgments in making decisions for the federal government.<sup>5</sup> Guidance issued by the Office of Management and Budget's (OMB) Office of Federal Procurement Policy regarding the performance of inherently governmental functions directs agencies to develop agency-level procedures, provide training, and designate senior officials to be responsible for implementing policies on inherently governmental functions.<sup>6</sup>

You asked us to review the ORISE program, including expenditures. This report examines (1) expenditures for the ORISE program by all sponsoring agencies and (2) selected agencies' assessments of the ORISE program's effectiveness, and their guidance on ensuring research participants do not perform inherently governmental functions.

To examine federal agency expenditures for the ORISE program, we reviewed data on ORISE program overhead, stipend, and other research participant expenditures and on the number of appointments for fiscal

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<sup>4</sup>76 Fed. Reg. 56227, 56236 (Sept. 12, 2011).

<sup>5</sup>Pub. L. No. 105-270, § 5(2)(B), 112 Stat. 2382, 2384-85 (1998).

<sup>6</sup>The Office of Management and Budget issued a policy letter providing guidance on managing the performance of inherently governmental and critical functions pursuant to a mandate in section 321 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Pub. L. No. 110-417, § 321, 122 Stat. 4356, 4411 (2008)), 76 Fed. Reg. 56227, 56228 (Sept. 12, 2011).



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years 2010 through 2014, the most recent years for which data were available. ORAU officials compiled this data from three databases: (1) ORAU's Program Information Entry System (PIES)/Applicant and Participant Status System (APSS), for information on appointments for fiscal years 2010 through 2014; (2) ORAU's Oracle financial system, for expenditure data for fiscal years 2010 through 2014, including federal administrative charge data for fiscal years 2013 and 2014; and (3) DOE's Standard Accounting and Reporting System (STARS), for federal administrative charge data for fiscal years 2010 through 2012.<sup>7</sup> We assessed the reliability of the data by interviewing ORAU officials regarding the systems from which they obtained the data and their data collection and verification practices, reviewing documentation of audits, reviewing other reports on the data, and manually testing the internal consistency of the data; we determined that the data were sufficiently reliable for the purpose of reporting on program expenditures and numbers of appointments. To identify how sponsoring agency components determined stipends and other expenses for research participants, we reviewed agency components' guidance; for further detail, we requested responses to a standard set of questions from officials at selected DOE, DOD, and HHS components that sponsor research participants. We analyzed the data to determine expenditures per appointment at DOE and other sponsoring agencies and to analyze program statistics and trends, and we interviewed ORAU officials and officials at sponsoring agency components to determine the factors that affect expenditures per appointment.

To examine agency assessments of the ORISE program's effectiveness and agency guidance on inherently governmental functions, we focused on DOE, DOD, and HHS because these three agencies were the largest sponsors of research participants in terms of numbers of appointments and amount of expenditures in 2014.<sup>8</sup> We examined relevant statutes, contracts, and agreements to obtain a general understanding of DOE, DOD, and HHS responsibilities for assessing the ORISE program and for

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<sup>7</sup>According to DOE officials, section 3137 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 requires DOE to impose a federal administrative charge on agencies with ORISE research participants.

<sup>8</sup>Sponsoring agencies expended around \$194 million for ORISE program activities in fiscal year 2014. DOE, DOD, and HHS, the sponsoring agencies in our review, accounted for over 88 percent of appointments and over 87 percent of program expenditures in fiscal year 2014.

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ensuring the prohibition on nonfederal employees performing inherently governmental functions is being followed. These documents included ORAU's contract with DOE and the Economy Act of 1932, as amended. In addition, we examined documents developed by ORAU and used by DOE, DOD, and HHS to set forth the terms governing research participant appointments. In particular, we examined examples of statements of work, research participant appointment letters, and terms of appointments to determine the extent to which they included information or guidance on inherently governmental functions. In addition, we reviewed websites for the ORISE program, as well as other documents, such as participant handbooks, that ORAU and sponsoring agency officials provided to us. We interviewed ORAU officials, as well as officials at a nongeneralizable sample of 27 DOE, DOD, and HHS components involved with the program (including program coordinators and mentors at sponsoring agency components) and requested responses to a standard set of questions from the 27 components to determine how they manage and assess the effectiveness of their program and how they ensure the prohibition on inherently governmental activities is being followed.<sup>9</sup> We selected the 27 sponsoring agency components by using data on the number of all research participant appointments at DOE, DOD, and HHS in fiscal year 2014. In particular, we selected components that had both relatively large and small numbers of research participants and that, in total, represented over half of all federal agency research participant appointments in fiscal year 2014. As part of interviews with these components, we also requested written guidance related to those aspects we examined, including inherently governmental functions. We also reviewed questionnaires that sponsoring agency components administered to research participants and interviewed ORAU and agency component officials involved with the program to determine how questionnaires were used to assess the effectiveness of the ORISE program.

For general context on the types of projects sponsoring agency components assigned research participants to, we interviewed two

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<sup>9</sup>The 27 agency components fell within 10 entities: DOE's Office of Science, Office of Energy Efficiency and Renewable Energy, and Oak Ridge National Laboratory; HHS's Centers for Disease Control and Prevention, Food and Drug Administration, and National Library of Medicine of the National Institutes of Health; and DOD's Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, and components within the Army, Air Force, and Navy.

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research participants and two mentors about their experiences with the program. In addition, we obtained examples of research participant project subject areas from ORAU officials.

We conducted this performance audit from November 2014 to January 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

The purpose of DOE's contract with ORAU is to provide management and direction of programs through ORISE that maintain and advance science and education capabilities supporting DOE's strategic goals in the areas of defense, energy, science, and the environment. To support these goals, ORAU carries out a range of activities for DOE, including administering workforce development programs to help ensure the future availability of scientists and engineers. These workforce development programs are intended to encourage individuals to enter STEM careers, complement students' academic programs, and provide faculty with state-of-the-art information to use in the classroom, as well as developing a pool of talent from which federal agencies can draw for future employment. ORAU groups its workforce development activities into the following three categories:

- **Research participation program:** This program provides research experiences to students, postgraduates, faculty, and other participants. These activities make up the ORISE program.<sup>10</sup>
- **Fellowships and scholarships:** Among other things, these programs provide financial assistance for students to obtain academic degrees in areas related to the sponsoring agency's mission.
- **Events, academies, and competitions:** These programs, such as the National Science Bowl, a nationwide middle- and high-school

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<sup>10</sup>As part of the ORISE program, ORAU administers some programs that sponsoring agencies call fellowships, such as the Albert Einstein Distinguished Educator Fellowship program within the DOE Office of Science.

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science and mathematics competition, are designed to encourage participation in scientific and technological fields.

In fiscal year 2014, most of the federal agency expenditures on workforce development activities administered by ORAU were for the ORISE program. In that year, federal agencies expended \$193.8 million on the ORISE program, followed by \$3.2 million for fellowships and scholarships, and \$1.7 million for events, academies, and competitions. These expenditures supported 5,854 research participation appointments, 72 scholarships and fellowships, and 1,191 special event participants.

ORISE research participants engage in a variety of subject areas, such as climate change, weather impacts on military projects, infectious and chronic diseases, computer simulations of potential terrorist attacks or natural disasters, and conservation measures for fish and wildlife. (See app.I for additional examples, by sponsoring agency, of project subject areas in fiscal year 2014.) Research participants may also be involved in developing briefing materials on their research for agency leadership, publishing the results of their research, participating in conferences, and obtaining other research-related experiences. Research participants are not considered federal employees or federal contractors and do not receive a salary. They instead receive stipends and certain other expenses to defray their costs of living during their appointments. Participant appointments can be full- or part-time and can last for weeks, such as in the case of a 10- to 12-week summer program, or years, such as in the case of a 1-year postgraduate program renewable for up to 4 additional years.

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## Agency Expenditures for the ORISE Program Increased from 2010 through 2014, with Stipends Making Up the Largest Portion of Expenses

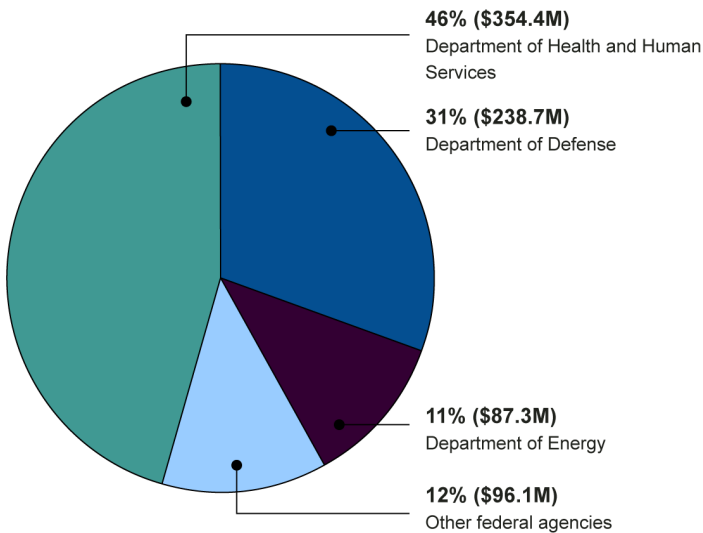
From fiscal year 2010 through fiscal year 2014, DOE and other sponsoring agencies expended a total of \$776.4 million for the ORISE program, with DOD, DOE, and HHS accounting for the majority of the expenditures. Over that period, annual program expenditures increased by 73 percent, and the number of annual appointments rose by 42 percent. Stipends accounted for the largest portion of agencies' expenditures. Sponsoring agency expenditures per appointment varied, affected by factors such as the length of research participants' appointments and the program support services sponsoring agencies had ORAU perform.

**DOD, DOE, and HHS Expended the Most for the ORISE Program from 2010 through 2014, as Overall Expenditures and Participation Increased**

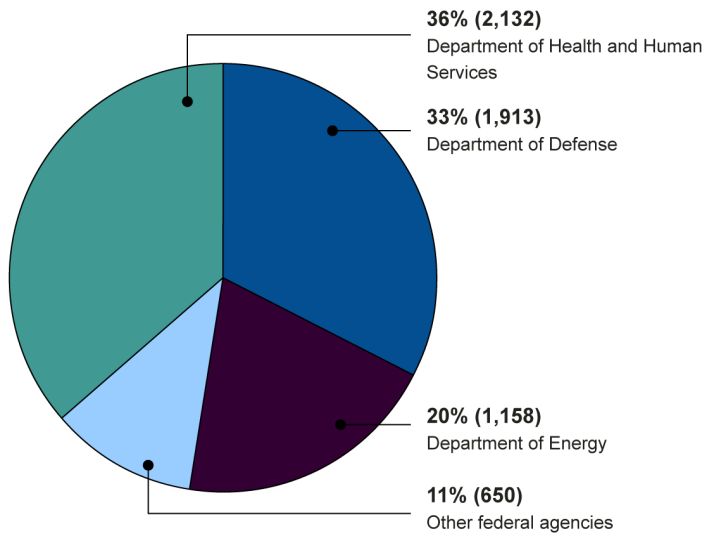
During fiscal years 2010 through 2014, sponsoring agencies, which included 11 departments and other federal agencies, expended a total of \$776.4 million for the ORISE program.<sup>11</sup> DOD, HHS, and DOE collectively had the highest expenditures for the program (over 87 percent) over that period and had the highest number of appointments in fiscal year 2014 (over 88 percent).<sup>12</sup> Within DOD, the Army was the primary component that sponsored ORISE research participants, accounting for 77 percent of DOD expenditures over the 5-year period and 70 percent of appointments in fiscal year 2014. Within HHS over the same time periods, the Food and Drug Administration (FDA) and Centers for Disease Control and Prevention (CDC) accounted for about 59 percent and 32 percent of expenditures, respectively, and about 53 percent and 36 percent of appointments. See figure 1 below and appendix II for further information on agencies' expenditures and numbers of appointments.

**Figure 1: Agency Expenditures (Fiscal Years 2010-2014) and Appointments (Fiscal Year 2014) for the Oak Ridge Institute for Science and Education Research Participation Program**

**Expenditures by Agency, Fiscal Years 2010-2014**



**Appointments by Agency, Fiscal Year 2014**



Source: GAO analysis of Oak Ridge Associated Universities data. | GAO-16-128

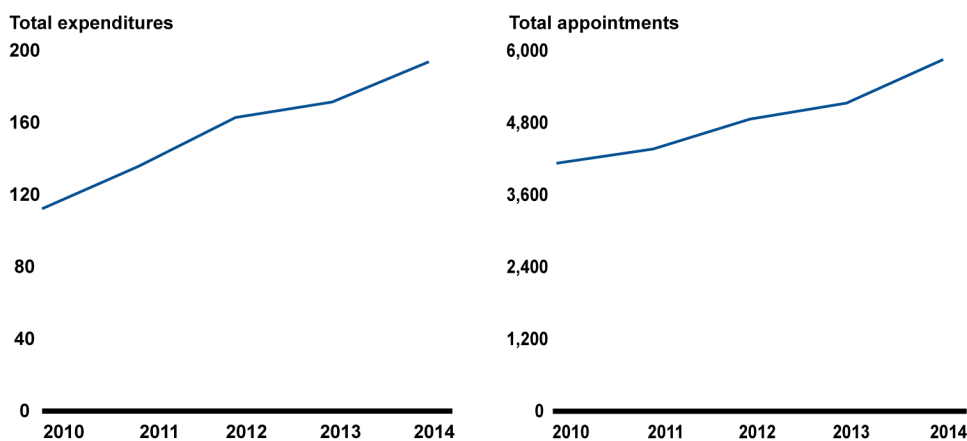
<sup>11</sup>The program expenditure amounts are in nominal dollars and have not been adjusted for inflation, except where noted.

<sup>12</sup>Since appointments that cross fiscal years are counted once in each fiscal year, appointment numbers from different fiscal years could not be combined.

Note: Expenditures do not add up to \$776.4 million due to rounding. Expenditures are in nominal dollars and have not been adjusted for inflation. We use the number of active appointments rather than the number of individual participants because participants can have multiple appointments. For example, in fiscal year 2014, 172 individuals had multiple appointments. In addition, since appointments that cross fiscal years are counted once in each fiscal year, appointment numbers from different fiscal years could not be combined. This figure does not include research participants categorized as ORAU employees or ORISE research participants in nonfederal entities. The number of appointments for fiscal year 2014 does not add up to 5,854 because it does not include one appointment that began in fiscal year 2014 and did not incur expenditures until fiscal year 2015.

Sponsoring agencies' total annual expenditures increased from \$112.3 million in fiscal year 2010 to \$193.8 million in fiscal year 2014, a 73 percent increase (61 percent when adjusted for inflation), and the number of appointments grew from 4,128 to 5,854, a 42 percent increase (see fig. 2 below and app. II for further information).<sup>13</sup>

**Figure 2: Total Expenditures and Appointments for the Oak Ridge Institute for Science and Education Research Participation Program, Fiscal Years 2010-2014**



Source: GAO analysis of Oak Ridge Associated Universities data. | GAO-16-128

Note: Total expenditures are in nominal dollars and have not been adjusted for inflation. We use the number of active appointments within each fiscal year rather than the number of individual participants because participants can have multiple appointments. For example, in fiscal year 2014, 172 individuals had multiple appointments. This figure does not include research participants categorized as ORAU employees or ORISE research participants in nonfederal entities.

<sup>13</sup>The inflation adjustment calculation was based on the fiscal year chain-weighted gross domestic product price index. We use the number of active appointments within each fiscal year rather than the number of individual participants because participants can have multiple appointments. For example, in fiscal year 2014, 172 individuals had multiple appointments. In addition, since appointments that cross fiscal years are counted once in each fiscal year, appointment numbers from different fiscal years could not be combined.

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An ORAU official who maintains data on appointments attributed the growth in the number of appointments to an increase in the program's popularity, which led to the addition of new sponsoring agencies and increases in the number of appointments per sponsoring agency. Agency component officials we interviewed cited a variety of reasons for wanting to sponsor ORISE research participants, including:

- access to the ORISE program's recruiters and network of connections at academic institutions,
- administrative support from the ORISE program that the sponsoring agencies could not easily supply themselves, and
- the speed, flexibility, and relatively low overhead cost of the ORISE program.

For example, an official who managed the research participation program at the U.S. Army Medical Research Institute of Infectious Diseases told us that the cost of hiring and managing staff to administer their own program would cost more than the overhead that they pay for the ORISE program.

The average total expenditure per appointment in the ORISE program also increased from fiscal year 2010 through fiscal year 2014, from about \$27,200 per appointment in fiscal year 2010 to about \$33,100 per appointment in fiscal year 2014.<sup>14</sup> Expenditures per appointment may have risen for a variety of reasons, such as changes in the average education level of research participants and the average length of their appointments. For example, the proportions of appointments at different education levels in fiscal year 2014 shifted compared to the proportions in fiscal year 2010, with recent graduate and postdoctoral appointments increasing 65 percent and 68 percent, respectively, while undergraduate appointments increased 12 percent. An ORAU official said that postgraduate appointments generally command higher stipends than undergraduate appointments. For example, according to information provided by FDA's Center for Drug Evaluation and Research, monthly stipends at their center could be as high as \$2,897 for currently enrolled

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<sup>14</sup>ORAU does not track certain data about ORISE research participants, such as their full-time or part-time status, and appointments that cross fiscal years are counted once in each fiscal year. As a result, direct comparisons between agencies as to their relative expenses per appointment length could not be made.

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undergraduate students and as high as \$7,569 for postgraduates with PhD degrees. The official said that postgraduate appointments at their center also last longer than undergraduate appointments, resulting in higher expenditures per appointment.

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### Most Expenses Were for Stipends, and Several Factors Contributed to Variations in Agencies' Expenditures per Appointment

From fiscal year 2010 through fiscal year 2014, stipends—funds paid to research participants to defray their costs of living during their appointments—comprised the majority of agencies' expenditures for the ORISE program. Sponsoring agencies' other expenditures for the program included the following categories of expenses:

- **Travel and other research participant expenses:** Funds paid to research participants to cover particular expenses not covered by their stipends, such as expenses for travel to conferences or other appointment-related destinations.
- **Program support and overhead:** Funds paid to DOE to cover ORAU's expenses for administering the appointment of research participants at agencies. These expenses included (1) program support expenses—direct expenses for services ORAU provides to agencies, such as managing recruitment activities, and (2) general and administrative expenses—indirect expenses such as building expenses, paid by agencies as a fixed percentage (negotiated by DOE and ORAU) of total expenditures on the ORISE program.
- **Federal administrative and security charges:** Fees paid to DOE by other sponsoring agencies, including (1) a federal administrative charge of 3 percent of an agency's total expenditures on the ORISE program to offset DOE's administrative expenses for work conducted on behalf of other agencies and (2) a charge applied to Strategic Partnership Projects to supplement DOE support for safeguards and security expenses.<sup>15</sup>

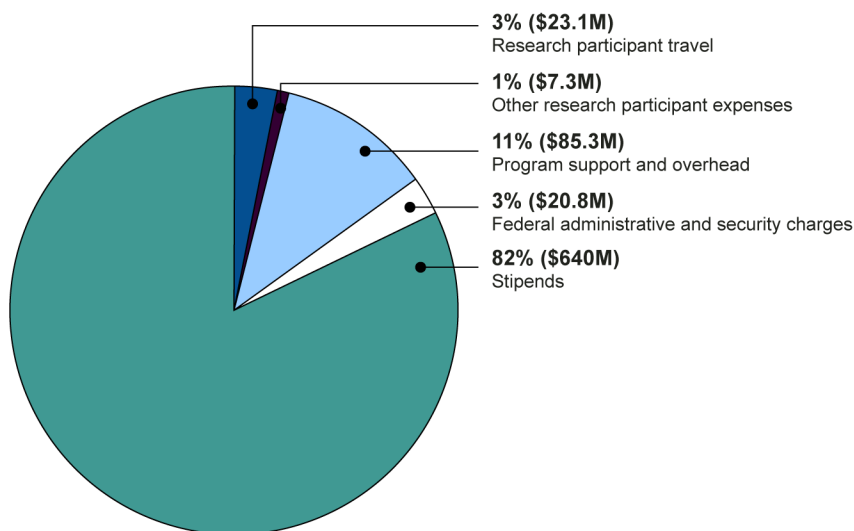
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<sup>15</sup>Section 3137 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 requires the Secretary of Energy to impose a federal administrative charge—not to exceed 3 percent of the full cost incurred in carrying out the research and activities—on agencies for which research and other activities are conducted at DOE facilities. 42 U.S.C. § 7259a(b)(2)(A). According to DOE officials, section 3137 requires DOE to impose a federal administrative charge on agencies with ORISE research participants. The safeguards and security fee is limited to an amount proportional to DOE direct funding for safeguards and security activities.



Figure 3 shows the percentage of expenditures for each category of expense.

**Figure 3: Agency Expenditures for the Oak Ridge Institute for Science and Education (ORISE) Research Participation Program by Type of Expense, Fiscal Years 2010-2014**



Source: GAO analysis of Oak Ridge Associated Universities data. | GAO-16-128

Note: Expenditures do not add up to \$776.4 million due to rounding. Expenditures are in nominal dollars and have not been adjusted for inflation. This figure does not include research participants treated by the ORISE program as employees or ORISE research participants in nonfederal entities.

Sponsoring agencies' expenditures per appointment in the ORISE program varied among agencies. In each year from fiscal year 2010 through fiscal year 2014, the lowest average expenditure per appointment for a sponsoring agency was \$14,396 or less, and the highest average expenditure per appointment was \$42,996 or more. For example, in fiscal year 2014, the Department of the Interior expended an average of \$12,246 per appointment, while the Environmental Protection Agency expended an average of \$44,099 per appointment. The proportions expended for different categories of expenses also varied. For example, data provided by ORAU showed that the proportion agencies expended on stipends ranged from 69 percent to 88 percent in fiscal year 2014.

We identified the following factors that contributed to per-appointment expenditures varying among agencies:

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- **Research participants' appointment terms.** Differences in the terms that sponsoring agency components set for research participants' appointments contributed to variation in expenditures per appointment. Some appointments lasted for days, weeks, or months, while others lasted for a full year or more. For example, FDA's National Center for Toxicological Research's Summer Student Research Program placed research participants in a 10-week summer program. In contrast, the National Library of Medicine's Associate Fellowship Program placed research participants in 1- or 2-year residency programs. In addition, some appointments were full-time, while others were part-time.
  - **Methods of setting stipends.** Officials at sponsoring agency components reported that they used differing methods to set research participants' stipends. ORAU officials said that they sometimes provided advice to the agencies, but that the agencies ultimately set their own stipends. Almost all of the officials we interviewed at sponsoring agency components said that they considered applicants' education levels when setting stipends, but they varied in the other factors they considered. For example, some used the Office of Personnel Management's General Schedule pay scale, but others did not. The officials also differed in the extent to which they considered other factors, including prior work experience, salaries in the private and government sectors, stipends received by research participants in other programs, and geographic location. Some of the officials said that they set fixed stipends for all research participants, but others said that they determined stipends individually or made exceptions to fixed stipends when attempting to fill particular appointments.
  - **Other expenses covered.** Sponsoring agency components chose to reimburse their research participants for different types and amounts of expenses not covered by their stipends. For example, in fiscal year 2014, the Air Force expended an average of \$492 per appointment to pay for participants' travel expenses, while the Environmental Protection Agency expended an average of \$1,387 per appointment for that purpose.<sup>16</sup> Other expenses that can vary among sponsoring agency components include payment of research participants' tuition and fees at their academic institutions; reimbursement for the costs of

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<sup>16</sup>From fiscal year 2010 through fiscal year 2014, travel expenditures represented \$23.1 million, or 76 percent, of the \$30.4 million agencies paid for participant expenses other than stipends.

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moving to a research site; allowances for housing at research sites; payment of visa processing fees for foreign research participants; and purchase of safety equipment, books, and research supplies.<sup>17</sup>

- **Services performed by ORAU.** Sponsoring agency components selected from and paid for many different services performed by ORAU. These services included managing recruitment activities, processing applications, making and monitoring appointments, designing and implementing program enhancements, paying stipends, administering other research participant expenses and insurance, managing domestic and foreign travel, analyzing and providing financial reports, developing and administering program goals and objectives, handling immigration status issues, and other tasks. Agencies' selections of these services determined the amount that they paid in program support expenses for each of their appointments.

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## Assessment of the ORISE Program and Guidance on Inherently Governmental Functions Varies Among Sponsoring Agency Components

According to DOE officials, the ORISE program consists of a set of distinct activities, or separate programs, that ORAU carries out on behalf of DOE and other sponsoring agency components. As a result, DOE considers responsibility for assessing the effectiveness of ORISE program activities to be dispersed among the sponsoring agencies, each of which may have separate objectives for sponsoring research participants. Sponsoring agency components we reviewed use questionnaires and other methods to assess how well the program is working. Responsibility for ensuring research participants do not perform inherently governmental functions is also dispersed among sponsoring agencies. However, documents provided by DOE, DOD, and HHS components to research participants, coordinators, and mentors contain varying levels of detail on the prohibition on nonfederal employees performing inherently governmental functions. Without detailed guidance, sponsoring agencies have limited assurance that the prohibition is being followed.

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<sup>17</sup>In addition, all research participants must either enroll in ORAU's health insurance plan or provide proof of insurance through another carrier. ORAU officials responsible for expenditure data said that some sponsoring agency components reimbursed participants for the cost of health insurance by including this expense in the stipends they paid participants.

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## Sponsoring Agency Components Chose Whether and How to Assess the ORISE Program

In May 2013, the National Science and Technology Council, which coordinates executive branch science and technology policy, released its 5-year strategic plan for STEM education, which stated that federal agencies would focus on building and using evidence-based approaches to evaluate the federal investment in STEM education. DOE officials told us that, because the ORISE program consists of separate activities that ORAU carries out on behalf of DOE and other sponsoring agencies, these agencies choose whether to assess the effectiveness of ORISE program activities as part of their other investments in STEM education. As a result, other than periodically evaluating ORAU's performance (with input from sponsoring agencies) under its contract to determine ORAU's award fee, DOE does not assess the overall effectiveness of the activities that ORAU carries out under the ORISE program, according to a DOE official. For example, the official said DOE does not assess how ORISE program activities at other sponsoring agencies contribute to the ORISE program's objective to enhance the quantity, quality, and diversity of the future scientific and engineering workforce and to increase the scientific and technical literacy of the U.S. citizenry.<sup>18</sup>

Sponsoring agency components establish their own objectives for sponsoring research participants and decide whether and how to assess the extent to which the ORISE program meets those objectives, according to DOE officials. Some but not all DOE, DOD, and HHS components have used questionnaires, and some components have used other methods to assess how well the ORISE program is working in the short term, such as over the course of a research participant's appointment. In particular, some components use questionnaires developed with assistance from ORAU and administered to research participants, and sometimes to mentors. ORISE program coordinators and other officials at sponsoring agency components described other methods they use to assess the program, such as asking research participants about their experiences and monitoring the progress of research participants' research projects, research participants' publications and presentations related to their research, and the number of current agency employees who were past ORISE research participants. In addition, one of the program support functions that ORAU can offer to sponsoring agencies at the cost of the service is performing

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<sup>18</sup>The objective of the ORISE program is described in the statements of work that sponsoring agencies and DOE develop.

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an assessment of ORISE program effectiveness. In response to a request from the sponsoring agency component, ORAU performed such an assessment for the Joint Prisoner of War/Missing in Action Accounting Command and issued a report in August 2014.<sup>19</sup>

The methods being used by the sponsoring components we reviewed assess how well the program is meeting the short-term needs of research participants and mentors. For example, some research participant questionnaires included questions about research participants' satisfaction with their assignment, training, mentoring, stipends, and program administration. DOD mentor questionnaires include questions on reasons for renewing a research participant's appointment and research participants' skills and knowledge.

A DOE Office of Science official told us that DOE is working with other agencies to develop methods for assessing the long-term outcomes of STEM education efforts, such as the ORISE program increasing the diversity of the STEM workforce. The official noted that, without such methods, they face challenges in assessing the long-term effectiveness of the ORISE program. For example, according to the official, such challenges include developing methods to track research participants over the course of their careers and determining the extent to which a participant's degree of success in a STEM field is a result of the ORISE program as opposed to other educational experiences.

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<sup>19</sup>Due to a merger of offices, the military's Joint Prisoner of War/Missing in Action Accounting Command is now the Defense Prisoner of War/Missing in Action Accounting Agency.

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## Documents Used by DOE, DOD, and HHS for Research Participants and Mentors Provide Varying Levels of Detail on Inherently Governmental Functions

In 2011, OMB's Office of Federal Procurement Policy issued guidance to assist agency officers and employees in ensuring that only federal employees perform work that is inherently governmental or otherwise needs to be reserved to the public sector.<sup>20</sup> This guidance directs agencies to develop and maintain internal procedures; take appropriate steps to help employees understand and meet their responsibilities; and periodically evaluate the effectiveness of their internal management controls for reserving work for federal employees.<sup>21</sup> In accordance with OMB's guidance, agencies that sponsor ORISE research participants are responsible for ensuring that research participants at their agencies do not perform inherently governmental functions.

Documents we reviewed that are issued by DOE, DOD, and HHS, regarding research participants at their agencies, and that are used by sponsoring agency components' coordinators, mentors, and research participants varied in level of detail on activities considered inherently governmental functions. For example, within HHS, ORISE program handbooks from FDA's Center for Veterinary Medicine and Center of Drug Evaluation and Research included examples of activities research participants should not perform, such as serving as a drug, device, safety, or facilities reviewer.<sup>22</sup> Similarly, within DOD, the research participant appointment letters used by the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics included detailed guidance, such as a statement that research participants should not accept policy, budget, or program management authority. In contrast, sample appointment letters that we reviewed used by HHS's CDC and DOD's

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<sup>20</sup>76 Fed. Reg. 56227, 56236 (Sept. 12, 2011). OMB's guidance includes examples of inherently governmental functions such as direction and control of federal employees, determination of agency policy, drafting congressional testimony, and determining budget policy, guidance, and strategy. The guidance also includes examples of functions that are generally not considered to be inherently governmental but are closely associated with the performance of inherently governmental functions, such as providing support for developing policies by drafting documents and conducting analysis, feasibility studies, and strategy options.

<sup>21</sup>76 Fed. Reg. 56227, 56240 (Sept. 12, 2011).

<sup>22</sup>As part of a standard set of questions, we asked DOE, DOD, and HHS officials we interviewed for written guidance, such as policy manuals, that describe procedures for ensuring that research participants' projects do not include activities that are reserved for federal government employees. HHS officials provided handbooks from FDA's Center for Veterinary Medicine and Center for Drug Evaluation and Research as examples of guidance.

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U.S. Army Environmental Command stated only that the research participant will not enter into an employee/employer relationship with ORISE, DOE, or any other office or agency, and did not specifically cite the inherently governmental activities prohibition. The terms of appointment developed by ORAU and used by DOE, DOD, and HHS to make research participant appointments states only that the appointment is an educational experience and not a contract of employment.<sup>23</sup>

Statements of work agreed upon as part of interagency agreements between DOE and sponsoring agencies also varied in their level of detail about activities considered to be inherently governmental functions. For example, a statement of work for the CDC stated that ORISE research participation projects should not include activities reserved for federal employees, such as those involving budget or program management authority. In contrast, a statement of work for the National Institutes of Health did not include this level of detail, stating only that individuals selected for appointments do not become employees.

DOE and other sponsoring agency officials noted that ORISE research participants are assigned to research projects that generally do not involve inherently governmental functions. A DOE Office of Science official said that the research focus of most ORISE appointments reduced the risk of those research participants performing inherently governmental functions. However, GAO found that some research participants' projects involve activities that are closely associated with inherently governmental functions, such as participating in policy and strategic planning meetings, which may increase the risk of the participants performing inherently governmental functions.<sup>24</sup> The DOE Office of Science official described how, in such cases, DOE provided more detailed briefings on inherently governmental functions for certain research participants, as well as

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<sup>23</sup>The terms of appointment is a document to be signed by ORISE research participants, by which they agree to be bound by the terms described in the document, such as requirements related to travel; limitations on access to classified and proprietary information; and safeguarding of property or equipment issued to research participants.

<sup>24</sup>By participating in certain policy and strategic planning meetings, ORISE research participants may have an opportunity to provide support for developing policies, which is a function generally not considered to be inherently governmental but rather one that is closely associated with the performance of inherently governmental functions. Under OMB's guidance, when such closely associated functions are performed by non-federal employees, agencies should provide greater attention and an enhanced degree of management oversight of their activities.

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briefings for their mentors. However, officials at other sponsoring agency components we interviewed did not describe providing such briefings as a standard practice for coordinators, mentors, or research participants. For example, the position description for a research participant in the DOD Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics included participating in policy and strategic planning meetings, but officials at this DOD component did not describe providing briefings on inherently governmental functions, increasing the importance of written guidance.

Not having detailed guidance increases the risk that coordinators responsible for managing overall participation in the program and mentors responsible for directing research participants' day-to-day activities may overlook the possibility of research participants engaging in inherently governmental functions, especially in cases where participants' activities are closely associated with inherently governmental functions. Development of detailed guidance could help sponsoring agencies fulfill their responsibilities as identified in OMB's Office of Federal Procurement Policy guidance on inherently governmental functions.

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## Conclusions

By providing hands-on research experiences in government agencies for students, postgraduates, and faculty, the ORISE research participation program makes an important contribution to federal efforts to help prepare students and teachers for careers in STEM fields. Responsibility for administering the program is dispersed among agencies that sponsor research participants. In particular, agencies are responsible for ensuring that research participants do not perform inherently governmental functions—for example, by developing guidance and other documents for research participants, coordinators, and mentors. Having this responsibility allows agencies to tailor guidance on inherently governmental functions to the features of the ORISE program at their agencies, such as the types of projects to which research participants are assigned. However, the level of detail in documents currently used by DOE, DOD, and HHS varies, with some documents describing specific types of activities that are inherently governmental functions and others only providing general statements that research participants are not federal government employees. More detailed guidance can help ORISE coordinators, mentors, and research participants ensure that they are adhering to the prohibition on research participants as nonfederal government employees performing inherently governmental functions.



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## Recommendation for Executive Action

We recommend that the Secretaries of Energy, Defense, and Health and Human Services develop detailed guidance to ensure that ORISE program coordinators, mentors, and research participants are fully informed of the prohibition on nonfederal employees performing inherently governmental functions.

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## Agency Comments and Our Evaluation

We provided a draft of this report to DOE, DOD, and HHS for their review and comment. In their written comments, reproduced in appendices III through V, DOE, DOD and HHS concurred with our recommendation. DOE and HHS also provided technical comments, which we incorporated as appropriate.

In their written comments, DOE, DOD, and HHS described the measures they will take to implement our recommendation on inherently governmental functions. In particular, DOE stated that it plans to provide detailed guidance to all relevant parties involved in DOE-sponsored research participation activities administered through ORISE within 180 days, following consultation with relevant DOE offices. DOD stated detailed guidance will be developed to further ensure those connected with the ORISE program are fully informed of the prohibition on non-federal employees performing inherently governmental functions. HHS stated that they are developing an agency-wide policy, including a section on inherently governmental functions that will provide guidance to agency program coordinators, mentors, and research participants.

In its letter and technical comments, DOE stated that the draft report did not reflect detailed discussions we had with DOE officials regarding inherently governmental functions. In addition, DOE stated that the draft report significantly understated the extent to which DOE communicates the prohibition of inherently governmental functions to sponsored participants and agency mentors. We do not believe our report understates DOE's efforts. For example, our report includes a discussion of the detailed briefings that DOE Office of Science officials provide on inherently governmental functions to research participants selected for a program designed to expose the participants to federal policymaking. Other DOE, DOD, and HHS sponsoring agency components we interviewed did not describe a similar practice for their coordinators, mentors, or research participants. Our report's discussion of these briefings, as well as of documents issued by DOE for the ORISE program, reflect the extent of communications on inherently governmental functions that DOE provided to us.

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We are sending copies of this report to the appropriate congressional committees; the Secretaries of Energy, Defense, and Health and Human Services; and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix VI.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John Neumann", with a long horizontal flourish extending to the right.

John Neumann  
Director, Natural Resources and Environment

# Appendix I: Examples of Subject Areas for ORISE Research Participant Projects in Fiscal Year 2014

Sponsoring agency	Examples of subject areas
Department of Agriculture	Improving prevention and treatments of emerging foreign animal diseases, climate change impacts on forests, porcine epidemic diarrhea virus, and sensor networks on variable rate irrigation systems.
Department of Defense	
Air Force	Laser systems, nanomaterials, acoustics, neurobiology, additive manufacturing, civil engineering, cognitive modeling, intelligent sensors, exercise science, and visual analytics.
Army	Weather impacts on military projects, cognitive function and psychological performance of soldiers, health promotion and wellness, environmental medicine, improving military field equipment, and science and technology policy.
Navy	Infectious disease or deployment health surveillance, clinical and health care epidemiology, optical coherence tomography, and aeromedical studies.
Other <sup>a</sup>	Forensic sciences, human immunodeficiency virus/acquired immune deficiency syndrome prevention, public health and preventive medicine studies, and science and technology policy.
Department of Energy	Neutron scattering, fusion energy, efficiency of renewable energy sources, computational sciences, materials sciences, process controls of advanced power systems, gas sensors and high temperatures, improving extraction of earth elements, quantum computing, biofilms and biotechnology, advanced manufacturing (carbon fiber), climate change, and science and technology policy.
Department of Health and Human Services	
Centers for Disease Control and Prevention	Infectious diseases (e.g., influenza, sexually transmitted, food borne, vector borne, respiratory), chronic diseases (e.g., heart, obesity, cancer), environmental health, toxic substances, health statistics, and public health preparedness.
Food and Drug Administration	Toxicology, food safety, drug evaluation and testing, biological therapeutics, tobacco products, blood products, medical devices, biotechnology products, translational sciences, women's health, vaccines, cell and gene therapies, and regulatory science.
National Institutes of Health	Localization of proteins using molecular markers, gene regulatory effects in cancer, medical informatics, and central nervous system injuries.
Other <sup>b</sup>	Public health economics, population based model testing, clinical care models, minority health, women's health, tobacco prevention initiatives, national human immunodeficiency virus/acquired immune deficiency syndrome strategies, and geospatial analysis of underserved populations.
Department of Homeland Security	Encryption for criminal databases, improving materials for coastal bridges, computer simulations of potential terrorist attacks or natural disasters, brain-like modeling systems, searchable databases of potential threats, human trafficking, and detecting and identifying explosive-related threats.
Department of Housing and Urban Development	Data analysis of housing and urban development impacts and value on communities.
Department of the Interior	Data collection and surveys related to conservation measures for fish and wildlife.
Department of State	Clean energy and climate change policy and analyses in the international economy, and building efficiencies.
Environmental Protection Agency	Climate change, software codes for aerial sampling systems, urban ecosystems, nanoparticles and surface coating, waste disposal, safety of water supply, and biomarkers for environmental contaminants.
Federal Bureau of Investigation	Juvenile prostitution and child abduction, causes of postmortem hair root banding, forensic applications of isotopes, crimes against adults, and identification of facial phenotypic markers.

Source: Oak Ridge Associated Universities. | GAO-16-128.

<sup>a</sup>Includes Office of the Secretary, Office of Diversity Management and Equal Opportunity, National Geospatial-Intelligence Agency, Defense Threat Reduction Agency, Defense Prisoner of War/Missing in Action Accounting Command, and U.S. Southern Command.

<sup>b</sup>Includes Office of the Secretary and Health Resources and Services Administration, and Center for Medicare and Medicaid Innovation.

# Appendix II: Federal Expenditures for and Appointments in the ORISE Research Participation Program

The following tables detail federal agencies' expenditures for and research participant appointments they sponsored as part of the Oak Ridge Institute for Science and Education (ORISE) research participation program for fiscal years 2010 through 2014. Table 1 identifies agencies' total annual expenditures for their involvement in the ORISE program. Table 2 identifies the numbers of appointments at each agency for each year. Table 3 details each agency's total expenditures for the ORISE program for fiscal years 2010 through 2014 by type of expense, including stipends, travel, other research participant expenses, program support and overhead, and federal administrative and security charges. In each table, the three agencies that account for the largest share of expenditures and appointments—the Department of Health and Human Services (HHS), the Department of Defense (DOD), and the Department of Energy (DOE)—are broken out into component agencies that sponsored research participants.

**Table 1: Federal Agency Expenditures for the Oak Ridge Institute for Science and Education (ORISE) Research Participation Program, Fiscal Years 2010-2014**

**Expenditures are in thousands of dollars and have not been adjusted for inflation.**

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	Total
Department of Health and Human Services (HHS)						
Food and Drug Administration	\$31,185	\$42,388	\$46,779	\$44,502	\$45,290	<b>\$210,144</b>
Centers for Disease Control and Prevention	17,636	17,844	22,034	26,246	28,479	<b>112,239</b>
National Institutes of Health	4,612	4,272	4,089	3,535	3,618	<b>20,126</b>
Center for Medicare and Medicaid Innovation	-	-	1,588	3	735	<b>2,326</b>
Other HHS	712	1,108	1,216	2,897	3,591	<b>9,524</b>
<b>HHS total</b>	<b>54,145</b>	<b>65,612</b>	<b>75,706</b>	<b>77,183</b>	<b>81,713</b>	<b>354,359</b>
Department of Defense (DOD)						
Army	25,743	32,259	36,229	39,464	51,070	<b>184,765</b>
Air Force	1,654	2,251	5,656	6,180	6,989	<b>22,730</b>
Navy	1,383	1,954	2,080	1,513	1,237	<b>8,167</b>
Other DOD	2,018	3,098	5,340	5,837	6,728	<b>23,021</b>
<b>DOD total</b>	<b>30,798</b>	<b>39,562</b>	<b>49,305</b>	<b>52,994</b>	<b>66,024</b>	<b>238,683</b>
Department of Energy (DOE)						
DOE Headquarters	4,088	4,352	8,525	10,496	11,055	<b>38,516</b>
Oak Ridge National Laboratory	6,118	5,774	4,880	5,193	5,624	<b>27,589</b>
Other DOE laboratories/field	4,631	4,491	3,708	3,754	4,621	<b>21,205</b>
<b>DOE total</b>	<b>14,837</b>	<b>14,617</b>	<b>17,113</b>	<b>19,443</b>	<b>21,300</b>	<b>87,310</b>

**Appendix II: Federal Expenditures for and  
Appointments in the ORISE Research  
Participation Program**

**Expenditures are in thousands of dollars and have not been adjusted for inflation.**

Other agencies						
Environmental Protection Agency	7,590	11,284	14,593	16,603	19,095	<b>69,165</b>
Department of Homeland Security	1,886	1,862	2,131	2,483	2,084	<b>10,446</b>
Federal Bureau of Investigation	1,350	1,351	1,723	1,297	1,267	<b>6,988</b>
Department of Agriculture	1,032	959	1,217	1,271	2,014	<b>6,493</b>
Nuclear Regulatory Commission	698	344	662	59	-	<b>1,763</b>
Department of the Interior <sup>a</sup>	-	275	494	125	122	<b>1,016</b>
Department of State	-	-	-	-	221	<b>221</b>
<b>Other agency total</b>	<b>12,556</b>	<b>16,075</b>	<b>20,820</b>	<b>21,838</b>	<b>24,803</b>	<b>96,092</b>
<b>Total for all agencies</b>	<b>\$112,336</b>	<b>\$135,866</b>	<b>\$162,944</b>	<b>\$171,458</b>	<b>\$193,840</b>	<b>\$776,444</b>

Legend: FY = Fiscal Year.

Source: GAO analysis of Oak Ridge Associated Universities data. | GAO-16-128.

Note: Expenditures have been rounded to the nearest thousand dollars. Totals and subtotals represent the sums of these rounded numbers.

<sup>a</sup>Includes the U.S. Geological Survey, which had ORISE research participants for fiscal years 2011 through 2013.

**Table 2: Federal Appointments in the Oak Ridge Institute for Science and Education (ORISE) Research Participation Program by Agency, Fiscal Years 2010-2014**

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Department of Health and Human Services (HHS)					
Food and Drug Administration	840	1,009	1,113	1,123	1,131
Centers for Disease Control and Prevention	555	518	572	669	762
National Institutes of Health	161	162	146	142	135
Center for Medicare and Medicaid Innovation	-	-	73	71	22
Other HHS	33	37	29	53	82
<b>HHS total</b>	<b>1,589</b>	<b>1,726</b>	<b>1,933</b>	<b>2,058</b>	<b>2,132</b>
Department of Defense (DOD)					
Army	740	901	979	1,070	1,336
Air Force	77	117	212	258	378
Navy	46	53	56	43	34
Other DOD	54	88	167	122	165
<b>DOD total</b>	<b>917</b>	<b>1,159</b>	<b>1,414</b>	<b>1,493</b>	<b>1,913</b>
Department of Energy (DOE)					
DOE Headquarters	285	242	281	333	411
Oak Ridge National Laboratory	695	588	531	557	591
Other DOE laboratories/field	200	175	152	137	156
<b>DOE total</b>	<b>1,180</b>	<b>1,005</b>	<b>964</b>	<b>1,027</b>	<b>1,158</b>

**Appendix II: Federal Expenditures for and Appointments in the ORISE Research Participation Program**

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Other agencies					
Environmental Protection Agency	243	288	325	369	433
Department of Homeland Security	100	83	109	123	125
Department of Agriculture	24	25	28	29	52
Federal Bureau of Investigation	37	40	39	29	30
Department of the Interior <sup>a</sup>	-	4	4	1	10
Department of Housing and Urban Development	-	-	-	-	1 <sup>b</sup>
Department of State	-	-	-	-	- <sup>c</sup>
Nuclear Regulatory Commission	38	35	46	-	-
<b>Other agency total</b>	<b>442</b>	<b>475</b>	<b>551</b>	<b>551</b>	<b>651</b>
<b>Total for all agencies</b>	<b>4,128</b>	<b>4,365</b>	<b>4,862</b>	<b>5,129</b>	<b>5,854</b>

Legend: FY = Fiscal Year.

Source: GAO analysis of Oak Ridge Associated Universities data. | GAO-16-128.

Note: We use the number of active appointments within each fiscal year rather than the number of individual participants because participants can have multiple appointments. For example, in fiscal year 2014, 172 individuals had multiple appointments. In addition, since appointments that cross fiscal years are counted once in each fiscal year, appointment numbers from different fiscal years could not be combined.

<sup>a</sup>Includes the U.S. Geological Survey, which had ORISE research participants from 2011 through 2013.

<sup>b</sup>The Department of Housing and Urban Development had one research participant whose appointment began in September 2014, but ORISE did not report expenditures for that research participant until fiscal year 2015.

<sup>c</sup>In fiscal year 2014, the Department of State partially funded a research participant in a DOE program.

**Table 3: Federal Agency Total Expenditures for the Oak Ridge Institute for Science and Education (ORISE) Research Participation Program by Type of Expense, Fiscal Years 2010-2014**

**Expenditures are in thousands of dollars and have not been adjusted for inflation.**

	Stipends	Research participant travel	Other research participant expenses <sup>a</sup>	Overhead and program support <sup>b</sup>	Federal administrative charge and security <sup>c</sup>	Total
Department of Health and Human Services (HHS)						
Food and Drug Administration	\$181,410	\$3,226	\$1,140	\$17,854	\$6,514	<b>\$210,144</b>
Centers for Disease Control and Prevention	94,145	3,989	658	9,977	3,471	<b>112,240</b>
National Institutes of Health	15,683	1,022	365	2,427	628	<b>20,125</b>
Center for Medicare and Medicaid Innovation	1,939	32	-	283	72	<b>2,326</b>

**Appendix II: Federal Expenditures for and  
Appointments in the ORISE Research  
Participation Program**

<b>Expenditures are in thousands of dollars and have not been adjusted for inflation.</b>						
Other HHS	8,259	126	25	819	295	<b>9,524</b>
<b>HHS total</b>	<b>301,436</b>	<b>8,395</b>	<b>2,188</b>	<b>31,360</b>	<b>10,980</b>	<b>354,359</b>
Department of Defense (DOD)						
Army	151,246	5,338	1,983	20,562	5,637	<b>184,766</b>
Air Force	18,093	652	879	2,417	690	<b>22,731</b>
Navy	6,576	357	51	928	255	<b>8,167</b>
Other DOD	17,161	1,402	332	3,475	650	<b>23,020</b>
<b>DOD total</b>	<b>193,076</b>	<b>7,749</b>	<b>3,245</b>	<b>27,382</b>	<b>7,232</b>	<b>238,684</b>
Department of Energy (DOE)						
DOE Headquarters	27,596	2,083	686	8,151	-	<b>38,516</b>
Oak Ridge National Laboratory	21,745	934	166	4,744	-	<b>27,589</b>
Other DOE laboratories/field	16,917	610	664	3,012	-	<b>21,203</b>
<b>DOE total</b>	<b>66,258</b>	<b>3,627</b>	<b>1,516</b>	<b>15,907</b>	<b>-</b>	<b>87,308</b>
Other agencies						
Environmental Protection Agency	58,539	2,158	134	6,190	2,145	<b>69,166</b>
Department of Homeland Security	7,747	637	47	1,988	27	<b>10,446</b>
Federal Bureau of Investigation	5,842	256	39	634	216	<b>6,987</b>
Department of Agriculture	5,339	154	50	893	58	<b>6,494</b>
Nuclear Regulatory Commission	827	88	112	680	57	<b>1,764</b>
Department of the Interior <sup>d</sup>	708	47	3	227	32	<b>1,017</b>
Department of State	192	-	2	20	7	<b>221</b>
<b>Other agency total</b>	<b>79,194</b>	<b>3,340</b>	<b>387</b>	<b>10,632</b>	<b>2,542</b>	<b>96,095</b>
<b>Total for all agencies</b>	<b>\$639,964</b>	<b>\$23,111</b>	<b>\$7,336</b>	<b>\$85,281</b>	<b>\$20,754</b>	<b>\$776,446</b>

Source: GAO analysis of Oak Ridge Associated Universities data. | GAO-16-128.

Note: Expenditures have been rounded to the nearest thousand dollars. Totals and subtotals represent the sums of these rounded numbers.

<sup>a</sup>Include specific research participant expenses such as tuition and fee payments, relocation expenses, housing allowances, visa processing fees, and other expenses.

<sup>b</sup>Includes both general and administrative overhead, which consists of indirect expenses ORISE incurs during its operations, such as building expenses, and program support, which consists of ORISE's charges to agencies for the services it provides, such as managing recruitment activities.

<sup>c</sup>Includes fees agencies paid to DOE, including (1) a federal administrative charge of 3 percent of agencies' total expenditures on the ORISE research participation program to offset DOE's

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**Appendix II: Federal Expenditures for and  
Appointments in the ORISE Research  
Participation Program**

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administrative expenses for work conducted on behalf of other agencies and (2) a safeguards and security charge to supplement DOE direct support for safeguards and security expenses.

<sup>4</sup>Includes the U.S. Geological Survey, which had ORISE research participants from 2011 through 2013.



# Appendix III: Comments from the Department of Energy



Department of Energy  
Office of Science  
Washington, DC 20585

December 21, 2015

Mr. John Neumann  
Director, Natural Resources  
and Environment  
Government Accountability Office  
441 G Street  
Washington, DC 20548

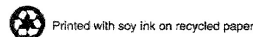
Dear Mr. Neumann,

Thank you for the opportunity to comment on the draft Government Accountability Office (GAO) report entitled, "Federal Research Opportunities: DOE, DOD, and HHS Need Better Guidance for Participant Activities," (GAO-16-128). I am pleased to provide a response on behalf of Department of Energy (DOE).

We believe the GAO did a commendable job of reviewing the science, technology, engineering, and mathematics (STEM) research participation activities carried out at the Oak Ridge Institute for Science and Education (ORISE), which is managed by the Oak Ridge Associated Universities under contract with DOE. The draft report provides an accurate and balanced view of the expenditures for the ORISE research participation activities by all sponsoring agencies and the information provided by DOE to the GAO on DOE's assessment of the effectiveness of the ORISE activities.

**Regarding the GAO Recommendation for Executive Action: "We recommend that the Secretaries of Energy, Defense, and Health and Human Services, develop detailed guidance to ensure that ORISE program coordinators, mentors, and research participants are fully informed of the prohibition on the non-federal employees performing inherently governmental functions."**

We agree. While the draft report does not reflect the detailed discussions between the GAO and DOE officials regarding inherently governmental functions and substantial documentation and guidance already provided by DOE (including the attached Acquisition Letter, AL-2015-07, issued in July 2015), the Department will take additional measures to provide detailed guidance to all relevant parties involved in DOE-sponsored research participation activities administered through ORISE. We anticipate that such measures will be determined within 180 days, following consultation with relevant DOE offices.



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**Appendix III: Comments from the Department  
of Energy**

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Thank you for the opportunity to provide comments on this draft report. Specific technical comments from the Department are provided in the attachment. If you have any questions or concerns, please call me at (202) 586-5430.

Sincerely,



Patricia M. Dehmer  
Deputy Director for Science Programs  
Office of Science

Attachments

# Appendix IV: Comments from the Department of Defense



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
3150 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3150

DEC 18 2015

Mr. John Neumann  
Director, Natural Resources and Environment  
U.S. Government Accountability Office  
441 G Street, NW  
Washington DC 20548

Dear Mr. Neumann:

Enclosed is the Department of Defense (DoD)'s proposed response to the GAO Draft Report, GAO-16-128, "FEDERAL RESEARCH OPPORTUNITIES: DOE, DOD, and HHS Need Better Guidance for Participant Activities," dated November 20, 2015 (GAO Code 361602). My point of contact for this matter is Harlan Knipes, who can be reached at [harlan.r.knipes.civ@mail.mil](mailto:harlan.r.knipes.civ@mail.mil).

Sincerely,

  
Judy Dahlgren  
Director for Administration

Enclosure:  
As stated

**GAO DRAFT REPORT DATED NOVEMBER 20, 2015  
GAO-16-128 (GAO CODE 361602)**

**“FEDERAL RESEARCH OPPORTUNITIES: DOE, DOD, AND HHS NEED BETTER  
GUIDANCE FOR PARTICIPANT ACTIVITIES”**

**DEPARTMENT OF DEFENSE RESPONSE  
TO THE GAO RECOMMENDATION**

**RECOMMENDATION 1:** The GAO recommends that the Secretary of Defense develop detailed guidance to ensure that ORISE program coordinators, mentors, and research participants are fully informed of the prohibition on non-federal employees performing inherently governmental functions.

**DoD RESPONSE:** Concur with the GAO recommendation. Detailed guidance will be developed to further ensure those connected with the Oak Ridge Institute for Science and Education program are fully informed of the prohibition on non-federal employees performing inherently governmental functions.

# Appendix V: Comments from the Department of Health and Human Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

OFFICE OF THE SECRETARY

Assistant Secretary for Legislation  
Washington, DC 20201

**DEC 17 2015**

James C. Cosgrove  
Director, Health Care  
U.S. Government Accountability Office  
441 G Street NW  
Washington, DC 20548

Dear Mr. Cosgrove:

Attached are comments on the U.S. Government Accountability Office's (GAO) report entitled, "Oversight and costs of the Oak Ridge Institute for Science and Education fellowship program" (GAO-16-128).

The Department appreciates the opportunity to review this report prior to publication.

Sincerely,

A handwritten signature in cursive script that reads "Jim R. Esquea".

Jim R. Esquea  
Assistant Secretary for Legislation

Attachment

**GENERAL COMMENTS OF THE FOOD AND DRUG ADMINISTRATION ON THE  
GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT ENTITLED:  
FEDERAL RESEARCH OPPORTUNITIES - DOE, DOD, AND HHS NEED BETTER  
GUIDANCE FOR PARTICIPANT ACTIVITIES (GAO-16-128)**

The HHS appreciates the opportunity to review and comment on this draft report.

**GAO Recommendation**

The Government Accountability Office (GAO) recommends that the Secretaries of Energy, Defense, and Health and Human Services develop detailed guidance to ensure that ORISE program coordinators, mentors, and research participants are fully informed of the prohibition on non-federal employees performing inherently governmental functions.

**FDA Response**

HHS concurs with GAO's recommendation, and is currently developing an agency-wide policy, including a section on inherently governmental functions, that will provide such guidance to agency program coordinators, mentors, and research participants.

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# Appendix VI: GAO Contact and Staff Acknowledgments

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## GAO Contact

John Neumann, (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov)

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## Staff Acknowledgments

In addition to the individual named above, Joseph Cook (Assistant Director), Sherri Doughty, Ellen Fried, Tobias Gillett, Kirsten Lauber, Gerald Leverich, Cynthia C. Norris, Stephanie Shipman, Kathryn Smith, Jeanette Soares, Sara Sullivan, and Thema Willette made key contributions to this report.

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Katherine Siggerud, Managing Director, [siggerudk@gao.gov](mailto:siggerudk@gao.gov), (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

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## Public Affairs

Chuck Young, Managing Director, [youngc1@gao.gov](mailto:youngc1@gao.gov), (202) 512-4800, U.S. Government Accountability Office, 441 G Street NW, Room 7149, Washington, DC 20548



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