



March 2023

ANIMAL USE IN RESEARCH

NIH Should Strengthen Oversight of Projects It Funds at Foreign Facilities

Accessible Version

GAO Highlights

Highlights of [GAO-23-105736](#), a report to congressional requesters

Why GAO Did This Study

The Department of Health and Human Services' NIH awards over 84 percent of its \$45 billion annual budget to support research projects conducted by external organizations. Such projects include laboratory research involving the use of live vertebrate animals in foreign facilities. NIH funds these projects through agreements with domestic and foreign award recipients.

GAO was asked to examine NIH's oversight of the foreign animal research projects it funds. This report (1) identifies the amount of funding NIH awarded to foreign institutions in fiscal years 2011 through 2021 for animal research projects overseas, (2) describes the requirements that foreign facilities must meet to be eligible to perform animal research for NIH-funded projects, and (3) examines NIH's procedures for overseeing the foreign animal research it funds.

GAO analyzed NIH documents and data, including policies and processes related to oversight of, and requirements for, foreign animal research. GAO also interviewed NIH officials and experts in animal research from several organizations.

What GAO Recommends

GAO recommends that NIH take steps—such as conducting site visits or requiring third-party verification—to provide reasonable assurance that award recipients' annual self-reported project information is reliable and adequate to ensure the humane care and use of laboratory animals. The Department of Health and Human Services concurred with this recommendation.

View [GAO-23-105736](#). For more information, contact Latesha Love-Grayer at (202) 512-4409 or lovegrayer@gao.gov, or Steve Morris at (202) 512-3841 or morriss@gao.gov.

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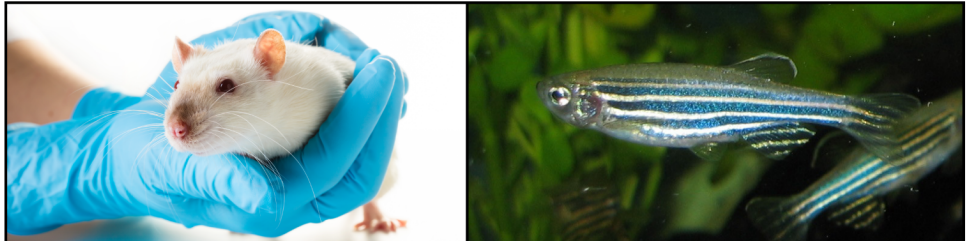
ANIMAL USE IN RESEARCH

NIH Should Strengthen Oversight of Projects It Funds at Foreign Facilities

What GAO Found

From fiscal year 2011 through fiscal year 2021, the National Institutes of Health (NIH) provided approximately \$2.2 billion in contracts or grants to foreign organizations for research projects involving animals. NIH contracts, totaling about \$1.9 billion, supported foreign animal research projects in 10 countries. About 90 percent of this contract funding supported research in the Netherlands, Denmark, and the United Kingdom. NIH grants, totaling about \$318 million, supported foreign animal research projects in 44 countries. About 66 percent of this grant funding supported research in Australia, Canada, and the United Kingdom.

Examples of Animals That May Be Used in NIH-Funded Foreign Animal Research



Sources: Left: Olexandr/stock.adobe.com. Right: Azul/goodfreephotos.com. | GAO-23-105736

Foreign facilities must meet several requirements to perform NIH-funded animal research. For example, the facilities are required to comply with U.S. policy governing animal care and use or provide evidence that acceptable standards for the humane care and use of animals will be met. Each facility must also commit to follow international principles for animal care and use and must certify compliance with relevant laws, regulations, and policies in the country where it operates. NIH has proposed two additional requirements for foreign facilities. These include a requirement that each facility submit an annual report affirming either that there was no reportable noncompliance with animal care and use standards during the year or that it notified NIH of any noncompliance.

NIH has established processes for oversight of foreign animal research, but it does not verify the reliability of annually reported information it uses to monitor compliance for ongoing projects. Before it awards funding, NIH takes some steps to identify, assess, and mitigate any animal welfare risks it identifies. After projects begin, NIH has processes to investigate and, if necessary, remediate any reported noncompliance with animal care and use standards. In addition, NIH uses annual reports submitted by award recipients to monitor foreign research facilities' ongoing compliance with these standards. However, because the award recipients self-generate the information in the annual reports, there are risks that any animal welfare issues may be misrepresented. Yet NIH does not take steps, such as conducting site visits or requiring third-party verification, to ascertain the reliability of this information. As a result, NIH may be missing opportunities to identify and respond to possible instances of noncompliance with animal care and use standards at foreign research facilities.

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Abbreviations

CCAC	Canadian Council on Animal Care
HHS	Department of Health and Human Services
IACUC	Institutional Animal Care and Use Committee
NIH	National Institutes of Health
OER	Office of Extramural Research
OLAW	Office of Laboratory Animal Welfare
PHS	Public Health Service

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March 30, 2023

Congressional Requesters

The National Institutes of Health (NIH), in the Department of Health and Human Services (HHS), is the primary agency for conducting and supporting federally funded biomedical research. NIH awards over 84 percent of its \$45 billion annual budget to support extramural research projects, including laboratory research involving the use of animals (which this report refers to as animal research).¹ Recipients of NIH's awards (e.g., grants and contracts) include both domestic and foreign institutions, either of which may arrange for a foreign facility to perform the research.² Examples of NIH-funded foreign animal research have included projects analyzing population genetics for the West Nile virus, tailoring new drugs for pancreatic cancer, and studying interactive effects of alcohol and stress.³

While animal research has led to numerous scientific advances, it has also raised concerns, particularly among animal rights advocates, about the welfare of the animals used. Such concerns encompass a range of

¹For the purposes of this report, animals include all live vertebrates, including mice, rats, and fish species commonly used in laboratory research, but do not include invertebrates, such as insects and cephalopods. *Extramural research* refers to research conducted by universities, industrial firms, and other nonfederal entities.

²In this report, unless otherwise specified, *institutions* refers to domestic or foreign recipients of NIH awards for animal research projects. *Facilities* refers to the domestic or foreign performance sites where NIH-funded animal research is performed. A foreign institution may perform NIH-funded animal research at its own facility or arrange for the research to be performed by a separate foreign facility. A domestic institution may perform NIH-funded animal research at its own or another domestic facility or arrange for a foreign facility to perform it.

³In this report, *animal research* refers to laboratory research involving live vertebrate animals. *Foreign animal research* refers to animal research that a foreign facility conducts for a domestic or foreign institution.

factors, such as minimization of pain and suitability of living conditions.⁴ In response, the U.S. government, including NIH, has implemented statutes, regulations, and policies that govern the care and use of animals for federally funded research. According to NIH, ensuring that animals used in medical research receive the best possible care and treatment is critical to achieving rigorous and scientifically valid results.

You asked us to review NIH's oversight of the foreign animal research projects it funds. This report (1) identifies the amounts of funding NIH awarded in fiscal years 2011 through 2021 to foreign institutions for animal research projects overseas, (2) describes requirements that foreign facilities must meet to be eligible to perform animal research for NIH-funded projects, and (3) examines NIH's procedures for overseeing the foreign animal research it funds.

To identify the amounts NIH awarded in fiscal years 2011 through 2021 for relevant research projects, we analyzed NIH data, reviewed related documentation, and discussed the data's accuracy and completeness with NIH officials.⁵ We found the data sufficiently reliable for the purpose of describing the funding NIH awarded to foreign institutions for foreign animal research projects.

To describe the requirements foreign facilities must meet to be eligible to perform NIH-funded animal research, and to examine NIH's oversight of such research, we analyzed federal laws and regulations, agency-specific policies and guidance, and NIH documents. We compared NIH's post-award monitoring to standards for internal control in the federal

⁴We have previously reported on the use of animals in federally funded research conducted in domestic facilities. See GAO, *DOD Animal Use: Objectives and Performance Measures Needed to Monitor Use of Alternatives for Trauma Training*, [GAO-22-103992](#) (Washington, D.C.: May 3, 2022); *Animal Use in Federal Research: Federal Agencies Should Assess and Report on Their Efforts to Develop and Promote Alternatives*, [GAO-19-629](#) (Washington, D.C.: Sept. 24, 2019); and *Animal Use in Federal Research: Agencies Share Information, but Reporting and Data Quality Could Be Strengthened*, [GAO-18-459](#) (Washington, D.C.: May 31, 2018).

⁵NIH provided data on funding that it awarded through grants and contracts directly to foreign institutions for animal research projects—specifically, data showing the amounts NIH obligated for these projects in fiscal years 2011 through 2021 and the number of countries and facilities where the research was performed. The data do not include any grants or contracts awarded to domestic institutions. In addition, the data do not reflect any foreign institutions' arrangements with third-party foreign facilities to perform some portion of the research. See app. I for further details.

government that call for the use of quality information.⁶ In addition, we interviewed relevant NIH officials as well as officials of organizations with expertise in animal research, including AAALAC International, the American Association for Laboratory Animal Science, and the National Academies' Institute for Laboratory Animal Research.⁷ See appendix I for additional information about our objectives, scope, and methodology.

We conducted this performance audit from February 2022 to March 2023 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.

Background

Federal Law and NIH Policy Governing Animal Research

The Health Research Extension Act of 1985 required the Director of NIH to establish guidelines for the proper care and treatment of animals used in biomedical and behavioral research.⁸ In response, NIH established the Public Health Service Policy on Humane Care and Use of Laboratory Animals (PHS Policy).⁹ The policy requires, among other things, that institutions establish and maintain proper measures to ensure the appropriate care and use of all animals involved in research, research

⁶GAO, "Use Quality Information," Principle 13 in *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

⁷AAALAC International was formerly the Association for Assessment and Accreditation of Laboratory Animal Care International.

⁸See 42 U.S.C. § 289d.

⁹U.S. Department of Health and Human Services, National Institutes of Health, Office of Laboratory Animal Welfare, *Public Health Service Policy on Humane Care and Use of Laboratory Animals* (rev. 2015).

training, and biological testing activities conducted or supported by NIH and other components of HHS's Public Health Service (PHS).¹⁰

NIH-Funded Foreign Animal Research

NIH awards funding for foreign animal research to both foreign and domestic institutions. Specifically:

- NIH awards funding to foreign institutions that will perform some or all of the animal research at their own facility or arrange for one or more separate foreign facilities to perform it.¹¹
- NIH awards funding to domestic institutions that will arrange for one or more separate foreign facilities to perform some or all the animal research.

NIH Entities' Roles and Responsibilities Related to Animal Research

Several NIH entities have leading roles and responsibilities related to oversight of NIH-funded animal research.¹²

- NIH institutes and centers award funding for research projects, including those that involve animals, and are responsible for monitoring projects after funding the awards.¹³
- The Office of Extramural Research (OER) provides policy, guidance, and systems to award recipients and to NIH institutes and centers. OER's responsibilities also include ensuring compliance with

¹⁰PHS's other components include the Agency for Healthcare Research and Quality; Agency for Toxic Substances and Disease Registry; Centers for Disease Control and Prevention; Food and Drug Administration; Health Resources and Services Administration; Indian Health Service; Office of Global Affairs; Office of the Assistant Secretary for Preparedness and Response; and Substance Abuse and Mental Health Services Administration.

¹¹According to NIH officials, a single award may support research conducted at multiple facilities.

¹²In addition to the entities listed, the Fogarty International Center serves as the NIH focal point for coordinating all awards to foreign institutions, including coordinating with the Department of State with respect to U.S. foreign policy interests.

¹³NIH comprises 27 institutes and centers, each of which has its own research agenda.

applicable laws, regulations, and policies that govern NIH extramural research funding.

- The Office of Laboratory Animal Welfare (OLAW), a component of OER, provides guidance and interpretation of the PHS Policy and monitors compliance with the policy to ensure the humane care and use of animals in research supported by PHS agencies.¹⁴
- The Office of Management Assessment provides oversight and advice to the institutes and centers regarding management reviews and corrective actions.

NIH Provided Over \$2.2 Billion to Foreign Institutions for Animal Research Overseas in Fiscal Years 2011–2021

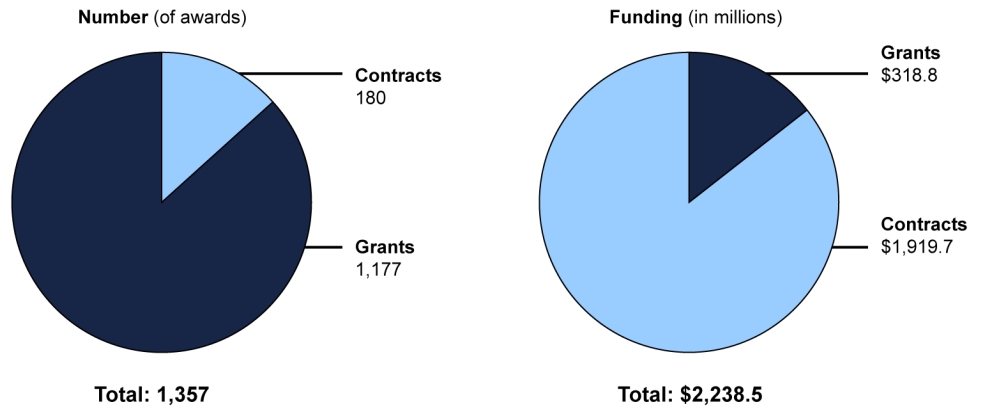
In fiscal years 2011 through 2021, NIH used grants or contracts¹⁵ to obligate roughly \$2.2 billion to about 200 foreign institutions for approximately 1,300 projects involving foreign animal research.¹⁶ During this period, grants constituted the largest number of NIH awards for foreign animal research projects and contracts provided the largest amount of funding (see fig. 1). During this period, NIH grants to foreign institutions funded animal research in 44 countries and NIH contracts with foreign institutions funded animal research in 10 countries. Institutions in Canada, Australia, and Europe received the majority of funding from both grants and contracts.

¹⁴In addition, OLAW oversees animal activities funded by the National Aeronautics and Space Administration, National Science Foundation, and Department of Veterans Affairs.

¹⁵A grant is an assistance mechanism that NIH uses to fund research and research-related activities intended to accomplish a public purpose of support; a contract is used to acquire goods or services for the direct use or benefit of NIH.

¹⁶NIH provided data for fiscal years 2011 through 2021 showing all funding awarded directly to foreign institutions for animal research projects. NIH does not track data on domestic or foreign institutions conducting some portion of NIH-funded research at separate foreign facilities. See app. I for further details.

Figure 1: Number of NIH Awards to Foreign Institutions for Animal Research Projects and Total Funding Awarded, by Award Type, Fiscal Years 2011–2021



Source: GAO analysis of National Institutes of Health (NIH) data. | GAO-23-105736

Data for Figure 1: Number of NIH Awards to Foreign Institutions for Animal Research Projects and Total Funding Awarded, by Award Type, Fiscal Years 2011–2021

	Number (of awards)
Grant	1,177
Contracts	180
Total	1,357

	Funding (in millions)
Grant	\$318,761,492
Contracts	\$1,919,725,639.65
Total	\$2,238,487,131.65

Source: GAO analysis of National Institutes of Health (NIH) data. | GAO-23-105736

Note: The data shown reflect funding that NIH awarded to foreign institutions through grants or contracts for animal research projects in fiscal years 2011 through 2021. The data do not include any grants or contracts awarded to domestic institutions. In addition, the data do not reflect any foreign institutions' arrangements with third-party foreign facilities to perform some portion of the research.

According to NIH officials and third-party experts, countries vary in the robustness of national animal welfare protections and the degree to which the implementation and enforcement of such protections ensure animal welfare. For example, academic studies of national regulations governing animal care and use indicate that Canada, Europe, and Australia have more robust regulatory regimes for monitoring animal welfare of

laboratory animals, while countries in Africa, and Latin America generally have fewer animal welfare protections.¹⁷

Grants. In fiscal years 2011 through 2021, NIH awarded 1,177 grants to foreign institutions for animal research projects—about 86 percent of its 1,357 awards to foreign institutions for such projects during this period. Twenty-one of NIH’s 27 institutes and centers provided these grants—worth, in total, more than \$318 million—to 168 foreign institutions. Funding for more than half of the grants (619 grants, or 52 percent) was provided by three NIH institutes:

- the National Institute of Allergies and Infectious Diseases (388 grants),
- the National Cancer Institute (154 grants), and
- the National Institute of Neurological Disorders and Strokes (77 grants).

During this period, NIH grants to foreign institutions funded research in 44 countries. Of the \$318 million NIH obligated for these grants, roughly \$211 million (66 percent) funded animal research in three countries—Canada, Australia, and the United Kingdom. Table 1 shows the total number and value of NIH grants awarded for animal research projects to foreign institutions in the top 10 countries (i.e., the 10 countries where NIH grants provided the largest amounts of funding for animal research) in fiscal years 2011 through 2021. (See app. II for a list of the 44 countries where NIH grants to foreign institutions funded foreign animal research and the total number and value of grants by country.)

Table 1: Total Number and Value of NIH Grants to Foreign Institutions for Animal Research in Top 10 Countries, by Total Grants Value, Fiscal Years 2011–2021

Country	Number of grants	Value of grants
Canada	475	\$138,645,873
Australia	109	40,075,395
United Kingdom	107	32,338,634
Israel	59	13,211,054
Sweden	56	11,783,540
Netherlands	25	9,915,960

¹⁷See Javier Guillén, ed., *Laboratory Animals: Regulations and Recommendations for the Care and Use of Animals in Research*, 2nd ed. (London: Elsevier, 2018).

Country	Number of grants	Value of grants
Switzerland	37	8,517,473
Peru	24	5,789,152
South Africa	24	5,638,477
France	16	5,402,439

Source: GAO analysis of National Institutes of Health (NIH) data. | GAO-23-105736

Note: The data shown reflect funding that NIH awarded in fiscal years 2011 through 2021 to foreign institutions through grants for animal research projects. The data do not include any grants awarded to domestic institutions. In addition, the data do not reflect any foreign institutions' arrangements with third-party foreign facilities to perform some portion of the research.

All values shown are rounded to the nearest whole number.

Contracts. In fiscal years 2011 through 2021, NIH awarded 180 contracts worth roughly \$1.9 billion to 10 foreign institutions for foreign animal research projects—about 85 percent of the total funding obligated by NIH to foreign institutions for this purpose. The National Institute of Allergies and Infectious Disease funded 171 of the contracts (95 percent). The remaining nine contracts were funded by the National Institute of Child Health and Human Development, the National Institute on Drug Abuse, and NIH's Office of the Director.

During this period, NIH contracts with foreign institutions funded animal research in 10 countries. Of the \$1.9 billion provided through contracts, roughly \$1.7 billion (90 percent) funded research in three countries: the Netherlands, Denmark, and the United Kingdom. Table 2 shows the total number and value of NIH contracts awarded to foreign institutions for animal research in each of the 10 countries in fiscal years 2011 through 2021.

Table 2: Total Number and Value of NIH Contracts with Foreign Institutions for Animal Research in All Countries, by Total Contracts Value, Fiscal Years 2011–2021

Country	Number of contracts	Value of contracts
Denmark	15	\$701,332,349
Netherlands	13	580,363,455
United Kingdom	44	444,224,181
Australia	76	75,452,008
Japan	7	70,483,546
Canada	16	31,502,162
Germany	4	9,250,963
Switzerland	1	4,656,386
Taiwan	3	2,449,584
China	1	11,008

Source: GAO analysis of National Institutes of Health (NIH) data. | GAO-23-105736

Notes: The data shown reflect funding that NIH awarded in fiscal years 2011 through 202 to foreign institutions through contracts for animal research projects. The data do not include any contracts awarded to domestic institutions. In addition, the data do not reflect any foreign institutions' arrangements with third-party foreign facilities to perform some portion of the research.

All values shown are rounded to the nearest whole number.

Foreign Facilities Must Meet Several Requirements Related to Animal Welfare, and NIH Has Proposed Additional Requirements

Foreign facilities must meet several requirements to be eligible to perform NIH-funded animal research. NIH has also proposed two additional requirements.

Current Requirements

Standards for humane care and use of animals. To become eligible and maintain eligibility to perform NIH-funded animal research, foreign facilities are required to meet certain standards related to the care and use of animals. Specifically:

1. NIH requires foreign facilities performing animal research for domestic award recipients to comply with the PHS Policy unless otherwise specified.¹⁸ NIH requires foreign facilities performing animal research for foreign award recipients to either comply with the PHS Policy or provide evidence that acceptable standards for the humane care and use of animals will be met.¹⁹
2. NIH requires foreign research facilities to follow the International Guiding Principles for Biomedical Research Involving Animals.²⁰

¹⁸For example, the PHS Policy incorporates the U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training and *Guide for the Care and Use of Laboratory Animals*, while the NIH Grants Management Policy directs all foreign recipients to commit to follow the International Guiding Principles for Biomedical Research Involving Animals.

¹⁹Domestic research facilities are also required to comply with the PHS Policy. See app. III for a comparison of selected NIH requirements for domestic and foreign facilities.

²⁰Council for International Organization of Medical Sciences and the International Council for Laboratory Animal Science, *International Guiding Principles for Biomedical Research Involving Animals* (2012).

3. NIH requires foreign research facilities to certify compliance with all applicable provisions of the laws, regulations, and policies governing animal care and use in their country of jurisdiction.²¹

Institutional Animal Care and Use Committee (IACUC) oversight. NIH requires that IACUCs, established by the institutions that receive its awards, oversee foreign facilities performing animal research for domestic award recipients. NIH does not require IACUC oversight of foreign facilities performing research for foreign award recipients.²²

- **Foreign facilities performing animal research for domestic award recipients.** As mandated by the Health Research Extension Act of 1985,²³ NIH requires that IACUCs oversee animal research that foreign facilities perform for domestic award recipients.²⁴ The domestic award recipient remains responsible for the foreign facility's animal research activities and must provide verification of IACUC approval. The domestic award recipient's IACUC may accept the approval of a foreign facility's animal care committee as its own; however, the recipient's IACUC remains responsible for the review and approval of the animal activity to be performed at the foreign facility. Under the PHS Policy, each IACUC is required, at least semiannually, to review the institution's program for the humane care and use of animals; inspect the animal facilities; prepare reports of the

²¹The NIH Grants Policy Statement requires foreign award recipients to provide OLAW with an Animal Welfare Assurance for Foreign Institutions. According to the statement, an Assurance constitutes a commitment to follow the International Guiding Principles for Biomedical Research as well as an institutional assurance and certification of compliance with the applicable laws, regulations, and policies of the jurisdiction in which the research will be conducted. U.S. Department of Health and Human Services, National Institutes of Health, *NIH Grants Policy Statement* ch. 4.1.1.4 (December 2021).

²²NIH requires IACUC oversight of all animal research conducted by domestic award recipients. Ongoing litigation against NIH asserts that NIH acted beyond its authority, or failed to adhere to administrative law requirements, when it exempted foreign award recipients from maintaining an animal care committee while requiring each domestic award recipient to have such a committee. *White Coat Waste Project v. U.S. Dept. of Health and Human Services*, Case No. 1:22-cv-0006 (U.S. District Ct. for the District of Columbia filed Jan. 12, 2022). This report does not address the claims contained in the lawsuit. In presenting the information in this report, we take no position on the disputed facts or disputed legal issues that are before the courts or may be raised in those or future related cases.

²³See 42 U.S.C. § 289d(b).

²⁴NIH requires IACUC oversight for domestic research facilities. See app. III for more information.

IACUC evaluations, which are to be maintained by the institution and made available to NIH on request; and review any animal welfare concerns.²⁵ The domestic award recipient is not required to report to NIH any IACUC reviews or inspections of foreign performance sites, according to NIH officials.

- **Foreign facilities performing animal research for foreign award recipients.** NIH does not require IACUC oversight for foreign research facilities performing animal research for foreign award recipients. Although NIH has the ability to monitor and enforce compliance with animal care and use requirements in foreign animal research,²⁶ NIH officials stated that they were not aware of any authority that allows NIH to apply U.S. law requiring IACUCs to foreign award recipients.²⁷ NIH officials also noted that many countries have animal welfare oversight mechanisms different from or equivalent to IACUCs, such as ethics committees or animal welfare oversight bodies.²⁸

Animal Welfare Assurance. Foreign research facilities are required to obtain an Animal Welfare Assurance for Foreign Institutions, known as a Foreign Assurance. The Foreign Assurance documents, among other things, the facility's commitment to follow the designated standards for the humane care and use of animals. Foreign Assurances are typically valid for 5 years.

²⁵According to NIH's Grants Policy Statement, NIH will delay an award for research involving live vertebrate animals until the recipient organization and all performance sites are operating in accordance with approved Animal Welfare Assurance and the recipient has provided verification of IACUC approval of those sections of the Assurance application that involve the use of vertebrate animals.

²⁶NIH officials noted that if NIH determines a foreign award recipient to be noncompliant with NIH's policies, it may take enforcement actions such as terminating the award.

²⁷NIH officials stated in December 2022 that they had not obtained an opinion from the Department of Justice regarding whether the mandate contained in 42 U.S.C. § 289d to establish IACUCs applies to foreign recipients of NIH funding involving the use of animals in research.

²⁸According to NIH officials, the PHS Policy supports foreign institutions' use of mechanisms other than IACUCs to achieve animal welfare oversight. NIH officials also noted that the International Guiding Principles for Biomedical Research Involving Animals state, among other things, that "a system of animal use oversight that verifies commitment to the principles should be implemented in each country.... The oversight framework should encompass both ethical review of animal use as well as considerations related to animal welfare and care."

Reporting. Institutions applying for NIH awards for foreign animal research projects or implementing such projects must meet the following requirements for reporting information about the research that they propose or that they arrange for a foreign facility to perform:

- If the work proposed for a research project involves live vertebrate animals, federal policy requires project applicants to provide certain types of information, such as a description of the proposed procedures involving animals and a justification showing that the species are appropriate for the proposed research.
- NIH requires recipients of awards for animal research projects to notify OLAW of all instances of serious noncompliance with animal care and use standards without delay.
- NIH requires that all award recipients submit financial and progress reports, including annual Research Performance Progress Reports documenting the recipient's accomplishments and compliance with the award's terms, to NIH.

Proposed Requirements

NIH has proposed two additional requirements for foreign research facilities. NIH officials noted that the guidelines for foreign animal research were last updated in 2012.

- **Oversight description requirement.** NIH is proposing to require that each Foreign Assurance include a description of the foreign facility's animal welfare committee or oversight body and of that entity's responsibilities for reviewing research that uses live, vertebrate animals.
- **Annual reporting requirement.** NIH is proposing to require that each foreign facility submit an annual report that includes any updates to the oversight description provided in the facility's approved Foreign Assurance document. In this annual report, the facility would also be required to affirm that either (1) there was no reportable noncompliance with animal care and use standards during the reporting period or (2) it had reported any noncompliance to OLAW.

On December 15, 2022, the Office of the Federal Register published the notice announcing the 60-day public comment period for updates to the Foreign Assurance template as well as the proposed annual reporting requirement for research facilities. NIH officials informed us that the Office of Management and Budget will review the proposed changes after the

public comment period has ended. The officials said that they expect the clearance process for the proposed changes to be completed by April 2023.

NIH Has Various Oversight Procedures for Foreign Animal Research but Does Not Verify Reliability of Award Recipients' Annual Reporting

NIH has a number of procedures designed to ensure—both before and after it awards funding for foreign animal research projects—that the award recipients comply with animal care and use requirements. Before awarding funding, NIH takes steps to identify, assess, and mitigate any animal welfare risks. After awarding funding, NIH evaluates any reported noncompliance with animal care and use standards. NIH also reviews annual progress reports submitted by award recipients; however, it does not verify the reliability of the information they report. Without taking steps to verify this information, NIH cannot ensure that award recipients are accurately representing their care and use of laboratory animals.

NIH Takes Steps to Manage Animal Welfare Risks before Awarding Funding

Scientific Peer Reviews

In accordance with federal law, NIH conducts scientific peer reviews of all award applications, renewals, and revisions for grants and contracts, including all projects involving animal research to be performed by foreign facilities.²⁹ According to NIH policy, peer reviews are conducted by scientific experts and involve a two-stage review process that includes assessing the proposed research to determine its scientific and technical merit. In addition, for any research involving live vertebrate animals, the reviewers determine whether the applicant has identified protections for

²⁹See 42 U.S.C. § 289a.

the animals in the application's Vertebrate Animals Section and assess these protections as part of their review.³⁰

OLAW Review of Assurance Applications and Information about Proposed Animal Protections

According to documents describing the Foreign Assurance process, OLAW reviews each Foreign Assurance application to ensure that the applicant has identified all applicable laws, regulations, and policies governing the care and use of laboratory animals in the country where research will be performed. OLAW documents show that, in addition to determining whether the protections listed for the country are comprehensive, OLAW verifies that the applicant agrees to comply with all of them.

NIH officials noted that OLAW also uses external documents, including publications, government information, AAALAC International and other organizations' websites, and animal welfare regulatory databases, to assess the standards that foreign institutions commit to follow. According to NIH officials, if OLAW deems that the identified local protections are inadequate, it may negotiate an additional set of protections—based on *Guide for the Care and Use of Laboratory Animals* or other standards—with the institution before approving a Foreign Assurance.³¹

In addition to reviewing foreign assurance applications, OLAW reviews the Vertebrate Animals Section of the associated grant application or contract proposal involving live vertebrate animals. In reviewing this section, OLAW verifies that the information presented shows the proposed animal activities have been planned with appropriate consideration for the humane care and use of the animals.

³⁰In the Vertebrate Animals Section, the applicant (1) describes the animals and their proposed use; (2) identifies any procedures to be used on the animals; (3) provides a justification for using the animals and research model (i.e., showing that the species are appropriate for the research and why an alternative model cannot be used); (4) describes steps taken to minimize pain and distress; and (5) addresses euthanasia (if necessary).

³¹National Research Council, *Guide for the Care and Use of Laboratory Animals*, 8th ed. (Washington, D.C.: National Academies Press, 2011).

Risk Assessments

To implement federal regulations and HHS's grants policy, NIH's institutes and centers conduct pre-award risk assessments to identify and manage risks to their goals and objectives.³² According to NIH officials, the institutes and centers conduct these risk assessments—which include verifying compliance with animal welfare requirements—when grant and contract applications are initially received and each time they are renewed. Specifically, officials of NIH institutes and centers confirm that the applicants have met all foreign assurance requirements and have mitigated any risks identified during the peer review process.

NIH institutes and centers' risk assessments include checklist questions tailored to the specifics of each award. The questions address, among other things, general risks for all research activities and any risks associated with the specific aims of the award, including animal welfare requirements. Further, officials ensure that any animal welfare concerns raised during peer review are resolved in consultation with OLAW, when necessary, before funding is awarded.

If officials of NIH institutes and centers identify additional risks during the risk assessment process, they may add specific award conditions before funding or renewing the award. Such conditions might require, for example, correction of deficiencies as a means of protecting NIH's interests and effecting positive change in a recipient's performance or compliance. According to NIH institute officials we interviewed, they tailor award conditions to address the specific risks identified. The officials stated that they remove the conditions through a revised notice of award after the recipient has satisfactorily addressed the risks and completed any required corrective actions.

OLAW Investigates Reports of Noncompliance with Animal Care and Use Standards and Can Take Various Actions in Response

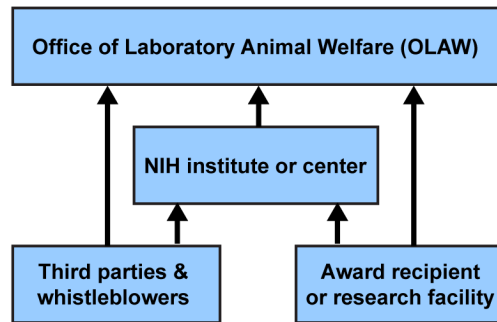
NIH has a process in place to receive, investigate, and remediate reports of research facilities' noncompliance with standards for animal care and use. NIH guidance requires award recipients to notify OLAW of all instances of serious noncompliance with animal care and use standards

³²45 CFR § 75.205.

without delay.³³ According to an OLAW document describing compliance oversight procedures, OLAW evaluates all allegations or indications, derived from any source, of noncompliance with the PHS Policy. Agency officials stated that OLAW receives information about potential noncompliance from a variety of sources, including award recipients and research facilities as well as whistleblowers and third parties. According to the officials, these sources may report allegations either directly to OLAW or to an NIH institute or center, which then notifies OLAW.

Figure 2 shows the communication channels that NIH policy establishes for reporting noncompliance with standards for animal care and use.

Figure 2: Communication Channels for Reporting Noncompliance with Animal Care and Use Standards to OLAW



Source: GAO analysis of National Institutes of Health (NIH) information. | GAO-23-105736

Text for Figure 2: Communication Channels for Reporting Noncompliance with Animal Care and Use Standards to OLAW

- Third parties & whistleblowers report noncompliance to NIH institute or center and to the Office of Laboratory Animal Welfare (OLAW).
- Award recipient or research facility reports noncompliance to NIH institute or center and to the Office of Laboratory Animal Welfare (OLAW).
- NIH institute or center reports noncompliance to the Office of Laboratory Animal Welfare (OLAW).

Source: GAO analysis of National Institutes of Health (NIH) information. | GAO-23-105736

³³The Office of Management Assessment's Division of Program Integrity reviews allegations involving the misuse of NIH grant or contractor funds, grantee or contractor conflicts of interest, and other misconduct or misuses of NIH resources by NIH employees or others doing business with NIH. According to NIH officials, the Office of Management Assessment refers any allegations of animal welfare noncompliance to OLAW.

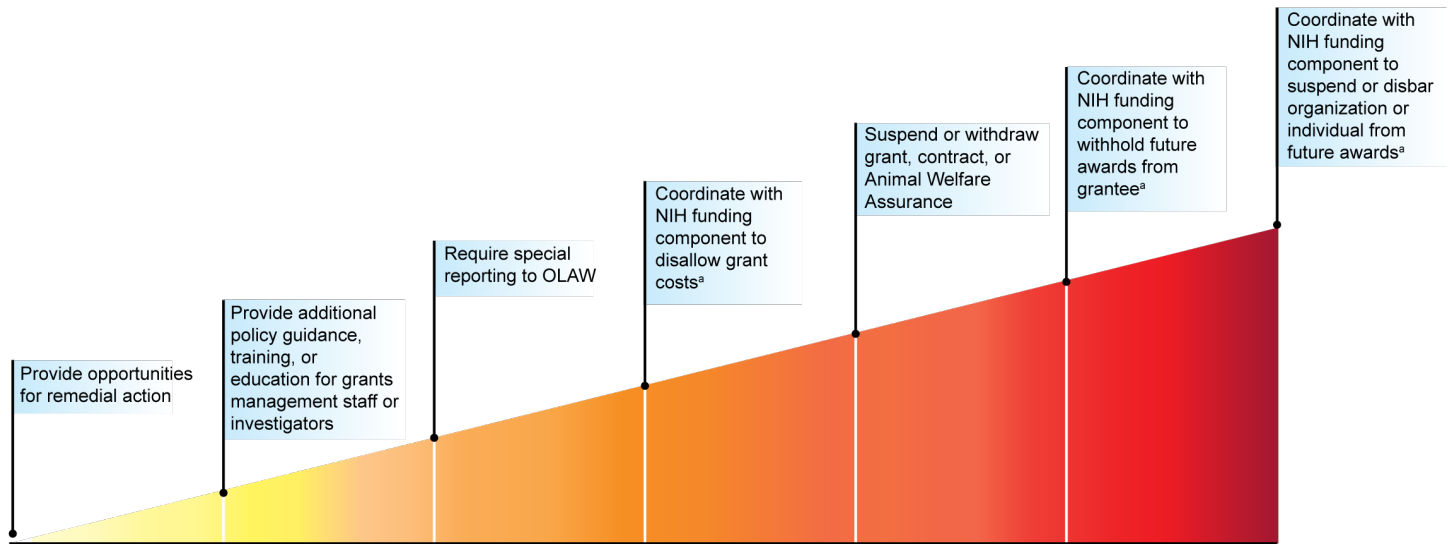
The typical sequence of events in an OLAW compliance oversight evaluation includes the following, according to an OLAW document:

- OLAW receives or discovers an allegation or indication of possible noncompliance.
- OLAW notifies the award recipient about the possible noncompliance or acknowledges the award recipient's report of noncompliance and, as necessary, asks it to investigate the matter and report to OLAW.
- OLAW evaluates the award recipient's investigative report and other relevant information.
- If OLAW determines that noncompliance has occurred, OLAW corresponds with the award recipient to resolve the noncompliance.

The OLAW document additionally notes that OLAW generally works with award recipients to resolve any issues of noncompliance, allowing the institutions to take corrective actions.³⁴ OLAW may also take other actions, some of them in coordination with the NIH institute or center that funded the award. These actions can range from providing opportunities for remedial action to disbarring an organization from future awards (see fig. 3).

³⁴According to the 2007 OLAW memorandum, OLAW typically takes no action against any institution without first giving it an opportunity to take remedial action or to provide information that might refute or mitigate a determination of noncompliance.

Figure 3: Actions That NIH Office of Laboratory Animal Welfare (OLAW) Can Take in Response to Noncompliance with Animal Care and Use Standards



Source: GAO analysis of National Institutes of Health (NIH) information. | GAO-23-105736

Text for Figure 3: Actions That NIH Office of Laboratory Animal Welfare (OLAW) Can Take in Response to Noncompliance with Animal Care and Use Standards

1. Provide opportunities for remedial action
2. Provide additional policy guidance, training, or education for grants management staff or investigators
3. Require special reporting to OLAW
4. Coordinate with NIH funding component to disallow grant costs^a
5. Suspend or withdraw grant, contract, or Animal Welfare Assurance
6. Coordinate with NIH funding component to withhold future awards from grantee^a
7. Coordinate with NIH funding component to suspend or disbar organization or individual from future awards^a

Source: GAO analysis of National Institutes of Health (NIH) information. | GAO-23-105736

^aThe NIH funding component is the NIH institute or center that funded the grant or contract (i.e., the award).

We asked OLAW officials for information about reported instances of animal welfare–related noncompliance at foreign research facilities. Officials provided documentation of four allegations of noncompliance reported from 2019 through 2021 for projects supported by agencies

other than NIH.³⁵ See appendix IV for more information about these allegations.

NIH Does Not Verify Reliability of Information about Foreign Animal Research That Award Recipients Self-Report Annually

NIH uses information in award recipients' annual Research Performance Progress Reports to monitor compliance with animal care and use standards throughout the course of each project, but it does not verify the reliability of this self-reported information. According to NIH policy, for each project, the award recipient is responsible for monitoring day-to-day operations and the NIH institute or center that funded the award is responsible for reviewing the annual reports. NIH officials told us that if a report indicates potential noncompliance with animal care and use standards, the institute or center that funded the award will notify OLAW.³⁶

NIH Award Recipients' Annual Reporting on Animal Welfare

Recipients of awards for projects involving animal research may provide information related to laboratory animal welfare in two parts of their annual Research Performance Progress Report: (1) a section asking about changes in the use of animals and (2) a section asking about actual or anticipated challenges. For example, one report we reviewed described a challenge related to shipping restrictions that affected the award recipient's planned use of mice for research at two facilities.

³⁵OLAW officials stated that the information about these four cases represented available records of noncompliance. According to the officials, because of NIH's records retention policy, OLAW does not retain compliance case records after 4 years from the date of case closure.

³⁶NIH policy states that award recipients are responsible for managing the day-to-day operations of grant-supported activities, using their established controls and policies, as long as they are consistent with NIH requirements. However, according to the policy, to fulfill their role with regard to stewardship of federal funds, NIH awarding institutes and centers monitor their grants to identify potential problems and areas where technical assistance might be necessary. The policy further states that the institutes and centers conduct this active monitoring by reviewing recipient reports and correspondence, audit reports, and other available information and through site visits.

Source: GAO analysis of National Institutes of Health (NIH) information. | GAO-23-105736

However, because the information in the annual reports is self-generated by the award recipients, there are risks that animal welfare issues may be underreported or misreported. For instance, award recipients may misrepresent or omit information about problems encountered in the care and use of laboratory animals during the course of research. According to one animal research expert we interviewed, award recipients may be reluctant to self-report information that might make them vulnerable to public criticism if the information became subject to disclosure under the Freedom of Information Act or similar legislation.³⁷ Several animal research experts noted that risks associated with self-reported information may be higher in countries lacking highly developed laws, enforcement policies, and procedures that promote animal welfare.³⁸

Despite these risks, NIH does not take steps—such as conducting site visits or requiring third-party verification—to ensure that award recipients are accurately representing the care and use of laboratory animals in foreign facilities performing the NIH-funded research.

NIH site visits. Federal regulations³⁹ and NIH policy state that OLAW may conduct site visits to selected institutions. Site visits can yield valuable information about research facilities' compliance with animal care and use requirements. For example, during visits to four domestic laboratories performing canine research in 2018, OLAW assessed each facility's compliance with the PHS Policy and *Guide for the Care and Use of Laboratory Animals* and found, among other things, that the animals were maintained under an effective program of veterinary care.⁴⁰

However, according to a senior OLAW official, OLAW has not conducted a site visit to a foreign facility performing NIH-funded animal research since the inception of NIH's animal welfare program in 1985. Further, officials at the National Institute of Allergy and Infectious Diseases—the

³⁷The Freedom of Information Act is a U.S. law that gives the public the right to request access to certain federal agency records. See 5 U.S.C. § 552. According to the expert we interviewed, similar legislation may govern access to documents from public institutions in other countries.

³⁸One of these experts also noted that self-reporting can help develop stronger institutional commitment to animal welfare, particularly in countries where regulations and control by regulatory agencies is poor or nonexistent.

³⁹2 C.F.R. § 200.329(f).

⁴⁰National Institutes of Health, "Report on the Office of Laboratory Animal Welfare Site Visits to the Veterans Affairs Medical Centers with Focus on Canine Care and Use in Research," Jan. 3, 2019.

NIH institute that funded the largest number of foreign animal research projects in fiscal years 2011 through 2021—told us that they did not conduct foreign site visits for animal welfare purposes during that period.

According to OLAW officials, they do not conduct foreign site visits for two reasons:

- OLAW officials emphasized that NIH’s policy is to rely on award recipients’ self-attestation, self-monitoring, and self-reporting to achieve compliance with animal care and use requirements. The officials stated that NIH views its role as overseeing and facilitating conformity with the requirements while working collaboratively to investigate and address any identified discrepancies. According to the officials, congressional direction indicates that committees in the recipient institutions should have primary responsibility for assuring compliance with NIH guidelines on animal care and use.⁴¹
- OLAW officials stated that OLAW has focused its resources on research performed at domestic facilities—where, the officials said, NIH funds the largest number of projects—because of the limited number of awards for projects involving animal research at foreign facilities, the expense of foreign travel, and the existence of other policies and procedures to ensure animal welfare at foreign facilities.⁴²

NIH officials told us in December 2022 that in the future, OLAW may determine the need for virtual site visits to foreign facilities on the basis of information it obtains during teleconferences that it began conducting in November 2022 with facilities applying for a Foreign Assurance. However, the officials did not specify what these virtual site visits would entail and did not indicate whether NIH would verify any information reported by the foreign facilities during the visits.

⁴¹OLAW officials pointed to the conference report accompanying the Health Research Extension Act of 1985 (Pub. L. No. 99-158), which states, “It is far preferable to place primary responsibility for assuring compliance with NIH guidelines on committees within institutions rather than relying on intrusive Federal inspections.” H. Rept. No. 99-309 at 85. This statement provides background for the act’s requirement that institutions receiving NIH funding for biomedical or behavioral research establish an animal care committee. NIH requires domestic facilities to have IACUCs but does not require foreign facilities to establish these committees. This NIH policy is the subject of ongoing litigation.

⁴²OLAW officials informed us that OLAW selects research facilities for site visits by considering factors such as the amount of funding received and any history of noncompliance.

Third-party verification. NIH does not require third-party verification of foreign research facilities' compliance with animal care and use requirements. However, during the Animal Welfare Assurance process, NIH considers whether a research facility seeking a Foreign Assurance has been voluntarily accredited by AAALAC International or certified, in Canada, by the Canadian Council on Animal Care (CCAC).⁴³ Both organizations evaluate institutional animal care and use programs and review their conformance with applicable standards, policies, and other reference resources.

AAALAC International's evaluations include site visits that it conducts during institutional programs' initial accreditation and every 3 years thereafter to ensure they are meeting accreditation standards.⁴⁴ CCAC conducts site visits if conditions warrant them or if the facility or a member of the public requests them.⁴⁵ According to NIH officials, 20 of the 112 foreign institutions that received NIH funding in 2021 reported to OLAW that they were accredited through AAALAC International and 22 reported that they were certified through CCAC.⁴⁶

AAALAC International officials told us that site visits provide valuable information that cannot be acquired through review of paperwork or photographs. According to AAALAC International's website, examples of problems detected through site visits include inadequate heating, ventilation, and air conditioning systems. Moreover, AAALAC International's website states that the organization will not accredit programs that cannot be thoroughly evaluated through site visits. The

⁴³Applicants for both Domestic and Foreign Assurances must indicate whether they received voluntary accreditations recognized by NIH. According to OLAW officials, NIH recognizes accreditations from AAALAC International and, for facilities in Canada, from CCAC. AAALAC International is a voluntary accrediting organization that promotes humane and responsible research animal care and use through advice and independent assessments to participating institutions. CCAC is the national peer-review organization responsible for setting, maintaining, and overseeing the implementation of high standards for animal ethics and care in science throughout Canada.

⁴⁴AAALAC International, "What is AAALAC Accreditation?" accessed Nov. 23, 2022, <https://www.aaalac.org/accreditation-program/what-is-aaalac-accreditation/>. According to AAALAC International officials, the organization has been conducting site visits since 1965.

⁴⁵Canadian Council on Animal Care, "Certification Process," accessed Dec. 30, 2022, <https://ccac.ca/en/certification/certification-process/>.

⁴⁶Two of the institutions were accredited by AAALAC and certified by CCAC. All 22 facilities in Canada were CCAC certified.

website also states that access to facilities and information is essential to assess all aspects of an animal care and use program, such as sanitation, veterinary medical care, and animal well-being.

Standards for internal control in the federal government require agencies to use quality information to achieve organizational objectives.⁴⁷ To this end, agencies must take steps to verify that the information they receive is reliable and reasonably free of error. Without taking steps to verify the information that award recipients report annually about animal research performed by foreign facilities, NIH lacks reasonable assurance that this information presents an accurate and complete record of the facilities' care and use of laboratory animals.

Conclusions

Medical research involving animals has led to important advances in scientific understanding. Yet, as NIH has acknowledged, ensuring that the animals used in such research receive the best possible care and treatment is critical to achieving rigorous and scientifically valid results. As the primary agency for conducting and supporting federally funded biomedical research, NIH is responsible for ensuring that the research it supports—including research performed by foreign facilities—fulfills federal statutes, regulations, and policies governing the care and use of these animals.

In fiscal years 2011 through 2021, NIH obligated about \$2.2 billion to foreign institutions for projects involving animal research performed by foreign facilities. Before awarding funding for foreign animal research projects, NIH verifies that applicants have met requirements intended to ensure the humane treatment of the animals and takes steps to identify and assess animal welfare risks. After awarding funding, NIH uses information that award recipients self-report annually to identify animal welfare issues.

However, NIH's oversight does not include steps to ascertain the reliability of the information reported by award recipients. Although NIH has proposed requiring foreign research facilities to annually report any noncompliance with animal care and use standards directly to OLAW, this change, if implemented, will not alter NIH's reliance on self-reported

⁴⁷Principle 13, [GAO-14-704G](#).

information. Steps such as conducting site visits, as NIH does for selected domestic research facilities, or requiring third-party verification can yield valuable information about research facilities' compliance with animal care requirements. However, NIH does not take such steps with respect to animal research performed by foreign facilities. As a result, NIH may miss opportunities to identify and respond to possible instances of noncompliance with animal care and use standards at foreign facilities performing the research it funds.

Recommendation for Executive Action

The Director of NIH should take steps—such as conducting site visits to foreign facilities that perform NIH-funded animal research or requiring third-party verification—to provide reasonable assurance that award recipients' annual self-reported project information is reliable and adequate to ensure the humane care and use of laboratory animals. (Recommendation 1)

Agency Comments

We provided a draft of this report to HHS for review and comment. HHS provided general comments, in which it concurred with our recommendation (see app. V). HHS also stated that it will provide an action plan to Congress to address the recommendation. In addition, HHS provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Health and Human Services, and the Director of NIH. 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 Latesha Love-Grayer at (202) 512-4409 or lovegrayerl@gao.gov or Steve Morris at (202) 512-3841 or morriss@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.

Letter



Latesha Love-Grayer
Director, International Affairs and Trade



Steve Morris
Director, Natural Resources and Environment

List of Requesters

The Honorable Brian Mast
Chair
Subcommittee on Oversight and Accountability
Committee on Foreign Affairs
House of Representatives

The Honorable Gus Bilirakis
House of Representatives

The Honorable Earl Blumenauer
House of Representatives

The Honorable Vern Buchanan
House of Representatives

The Honorable Madeleine Dean
House of Representatives

The Honorable Brian Fitzpatrick
House of Representatives

The Honorable Mike Garcia
House of Representatives

The Honorable Diana Harshbarger
House of Representatives

The Honorable Nancy Mace
House of Representatives

The Honorable Nicole Malliotakis
House of Representatives

The Honorable Barry Moore
House of Representatives

The Honorable Ralph Norman
House of Representatives

The Honorable Eleanor Norton
House of Representatives

The Honorable Bill Posey
House of Representatives

The Honorable Guy Reschenthaler
House of Representatives

The Honorable Maria Elvira Salazar
House of Representatives

The Honorable Debbie Wasserman Schultz
House of Representatives

The Honorable Christopher Smith
House of Representatives

The Honorable Darren Soto
House of Representatives

The Honorable Michelle Steel
House of Representatives

The Honorable Claudia Tenney
House of Representatives

The Honorable Dina Titus
House of Representatives

The Honorable Jeff van Drew
House of Representatives

Appendix I: Objectives, Scope, and Methodology

This report examines the National Institutes of Health’s (NIH) oversight of animal research that it funds at foreign facilities. This report (1) identifies the amount of funding NIH awarded in fiscal years 2011 through 2021 to foreign institutions for animal research projects overseas, (2) describes the requirements that foreign facilities must meet to be eligible to perform animal research for NIH-funded projects, and (3) examines NIH’s procedures for overseeing the foreign animal research projects it funds.

To identify the amount of funding NIH awarded in fiscal years 2011 through 2021 to foreign institutions for foreign animal research projects, we requested and analyzed NIH data, reviewed related documentation, and discussed the data’s accuracy and completeness with NIH officials. We used NIH-provided data to report on the number of NIH-funded grants and contracts awarded directly to foreign institutions for animal research projects in fiscal years 2011 through 2012, the amount that NIH obligated for these projects, the number of facilities performing the research for these projects, and the number of countries in which the research was performed. We did not independently verify that the information NIH provided in the dataset—including funding, facility, and country information—matched original grant or contract documentation that foreign research institutions had submitted to NIH. We found the data sufficiently reliable for the purpose of describing the amount of funding NIH awarded to foreign institutions for foreign animal research projects.

This analysis does not include any data on grants or contracts awarded to domestic research institutions. In addition, the data do not reflect any foreign institutions’ arrangements with third-party foreign facilities to perform some portion of the research. In some cases, domestic or foreign institutions arrange for a separate foreign facility to perform a portion of their research or they subcontract a portion of the research to a separate foreign institution. According to NIH officials, NIH does not have complete data on these types of third-party arrangements because NIH’s central data system lists awards for primary recipients only. However, according to current federal regulations and NIH’s Grants Policy Statement, all requirements that apply to the awardees are passed to subawardees and the awardee is responsible for the oversight of its subawardees.

To describe the requirements that foreign facilities must meet to be eligible to perform NIH-funded animal research, we reviewed federal laws and agency-specific policies and guidance and interviewed NIH officials. Specifically, we reviewed the Health Research Extension Act of 1985,¹ the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals, the NIH Grants Policy Statement, and International Guiding Principles for Biomedical Research Involving Animals.² We also compared NIH's requirements for foreign facilities with those for domestic facilities, to identify key differences (see app. III). Further, we analyzed NIH documents describing its plans for updating foreign animal research requirements and its process for implementing updated requirements.

To examine NIH's oversight of the foreign animal research projects it funds, we reviewed its processes for pre-award and post-award oversight. To examine NIH's pre-award oversight processes, we reviewed NIH documentation, policies, and procedures and interviewed NIH officials to determine what steps NIH takes to mitigate risks to laboratory animals during the pre-award period. Specifically, we reviewed documentation related to, and interviewed officials with knowledge of, NIH's peer review process, the Office of Laboratory Animal Welfare's (OLAW) foreign assurance process, and NIH institutions and centers' risk assessment process. Any information on foreign law in this report is derived from interviews and secondary sources and was not produced by our original analysis.

To examine NIH's post-award oversight processes, we reviewed relevant policies and procedures and interviewed NIH officials. The policies and procedures we reviewed include the PHS Policy on Humane Care and Use of Laboratory Animals, the NIH Grants Policy Statement, and chapter 54104 of the NIH Policy Manual. We interviewed relevant NIH officials regarding these policies, NIH's processes for responding to reports of noncompliance with animal care and use standards, and NIH's monitoring of projects. Additionally, we requested and reviewed pertinent documents from NIH. In particular, we requested information about noncompliance at foreign research facilities from OLAW, which provided information about four allegations of noncompliance reported from 2018 through 2021 (see app. IV). We also requested and reviewed examples of annual Research

¹Pub. L. No. 99-158, *99 Stat. 875* (Nov. 20, 1985).

²Council for International Organization of Medical Sciences and the International Council for Laboratory Animal Science, *International Guiding Principles for Biomedical Research Involving Animals* (2012).

Performance Progress Reports that NIH institutes and centers used to monitor foreign animal research.

We determined that one component of *Standards for Internal Control in the Federal Government*—Principle 13—was significant to our examination of NIH’s oversight of compliance with standards for animal care and use at foreign research facilities.³ We evaluated information from NIH documents and interviews with NIH officials to assess the extent to which NIH’s oversight addresses this internal control standard.

Moreover, we interviewed officials of three organizations with expertise in animal research— AAALAC International, the American Association for Laboratory Animal Science, and the National Academies’ Institute for Laboratory Animal Research—to learn about standards for the care and use of laboratory animals in the United States and abroad.⁴ We used information from AAALAC International and the Canadian Council on Animal Care to describe third-party verification of animal care and use standards through site visits.

We conducted this performance audit from February 2022 to March 2023 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.

³GAO, “Use Quality Information,” Principle 13 in *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014). Principle 13 calls for agency management to use quality information (e.g., information that is reliable and reasonably free of error) to achieve the entity’s objectives.

⁴AAALAC International was formerly the Association for Assessment and Accreditation of Laboratory Animal Care International.

Appendix II: NIH Grants and Contracts to Foreign Institutions for Animal Research, Fiscal Years 2011–2021

Table 3 shows the number and value of National Institutes of Health (NIH) grants and contracts awarded to foreign institutions for projects that included animal research performed at a foreign facility.

Table 3: Number of and Value of NIH Grants and Contracts to Foreign Institutions for Animal Research, by Country, Fiscal Years 2011–2021

Country	Total number of grants	Total grants value	Total number of contracts	Total contracts value
Argentina	40	\$4,100,743	—	—
Australia	109	40,075,395	76	\$75,452,008
Belgium	4	852,208	—	—
Brazil	1	142,186	—	—
Canada	475	138,645,873	16	31,502,162
Chile	6	1,101,156	—	—
China	33	3,800,558	1	11,008
Colombia	10	3,095,834	—	—
Croatia	2	154,036	—	—
Denmark	6	3,084,039	15	701, 332, 349
Ethiopia	4	989,648	—	—
Finland	1	422,943	—	—
France	16	5,402,439	—	—
Germany	27	5,045,707	4	9,250,963
India	9	3,426,095	—	—
Ireland	5	1,179,810	—	—
Israel	59	13,211,054	—	—
Italy	7	1,537,886	—	—
Japan	4	801,631	7	70,483,546
Kenya	7	904,118	—	—
South Korea	4	682,097	—	—
Lithuania	1	170,977	—	—

**Appendix II: NIH Grants and Contracts to
Foreign Institutions for Animal Research,
Fiscal Years 2011–2021**

Country	Total number of grants	Total grants value	Total number of contracts	Total contracts value
Madagascar	5	674,496	—	—
Mali	1	487,672	—	—
Netherlands	25	9,915,960	13	580,363,455
New Zealand	3	657,564	—	—
Nigeria	4	386,760	—	—
Peru	24	5,789,152	—	—
Philippines	5	1,858,779	—	—
Portugal	5	157,396	—	—
Russia	3	291,089	—	—
Singapore	2	274,185	—	—
South Africa	24	5,638,477	—	—
Spain	7	1,235,205	—	—
Sri Lanka	10	2,665,764	—	—
St. Kitts/Nevis	6	704,674	—	—
Suriname	6	1,932,299	—	—
Sweden	56	11,783,540	—	—
Switzerland	37	8,517,473	1	4,656,386
Taiwan ^a	—	—	3	2,449,584
Thailand	5	1,575,373	—	—
Tunisia	3	692,068	—	—
Uganda	3	1,860,944	—	—
United Kingdom	107	32,338,634	44	444,224,181
Uruguay	6	497,555	—	—

Legend: — = not applicable.

Source: GAO analysis of National Institutes of Health (NIH) data derived from NIH project management systems. | GAO-23-105736

Note: The values shown have been rounded to the nearest whole number.

^aAlthough the United States does not have diplomatic relations with Taiwan, we have listed it as a separate country because whenever the laws of the United States refer or relate to foreign countries, nations, states, governments, or similar entities, such terms shall include and shall apply to Taiwan. Taiwan Relations Act, Pub. L. No. 96-8, § 4(b)(1), 93 Stat. 14 (1979). Furthermore, the data we used list Taiwan as a country.

Appendix III: Selected NIH Requirements for Domestic and Foreign Facilities Performing Animal Research Projects

Table 4 compares selected National Institutes of Health requirements for domestic and foreign facilities performing animal research for projects it funds.

Table 4: Selected NIH Requirements for Domestic and Foreign Facilities Conducting Animal Research for NIH-Funded Projects

	Type of requirement	Domestic facilities	Foreign facilities
Standards for humane care and use of animals	Compliance with national and international laws	Domestic facilities must comply with applicable provisions of the U.S. Animal Welfare Act and other U.S. federal statutes and regulations.	Foreign facilities must certify compliance with all applicable laws, regulations, and policies governing animal care and use for the country of jurisdiction.
	Compliance with standards for care and use of animals	Domestic facilities must comply with the Public Health Service Policy on Humane Care and Use of Laboratory Animals (PHS Policy).	Foreign facilities performing research for domestic award recipients must comply with the PHS Policy unless otherwise specified. ^a Foreign facilities performing research for foreign award recipients must either comply with the PHS Policy or provide evidence that acceptable standards for the humane care and use of animals will be met.
	Adherence to principles for animal research	Domestic facilities must commit to follow U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training and <i>Guide for the Care and Use of Laboratory Animals</i> .	Foreign facilities must commit to follow International Guiding Principles for Biomedical Research Involving Animals.
Institutional Animal Care and Use Committee (IACUC)	Oversight by an Institutional Animal Care and Use Committee (IACUC) ^b	Domestic facilities are subject to IACUC oversight.	Foreign facilities performing research for domestic award recipients are subject to IACUC oversight. ^c Foreign facilities performing research for foreign award recipients are not subject to IACUC oversight. ^d

Appendix III: Selected NIH Requirements for Domestic and Foreign Facilities Performing Animal Research Projects

	Type of requirement	Domestic facilities	Foreign facilities
Animal Welfare Assurance	Possession of an approved Animal Welfare Assurance ^e	Domestic facilities must obtain a Domestic Assurance, typically valid for up to 4 years.	Foreign facilities must obtain a Foreign Assurance, typically valid for up to 5 years.

Source: GAO analysis of National Institutes of Health (NIH) guidance and information. | GAO-23-105736

^aFor example, the PHS Policy incorporates U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training and *Guide for the Care and Use of Laboratory Animals*, but the NIH Grants Management Policy directs all foreign recipients to commit to follow International Guiding Principles for Biomedical Research Involving Animals.

^bAn IACUC has responsibilities set by the Health Research Extension Act of 1985, such as reviewing protocols and periodically evaluating the institution's program of animal care and use.

^cIf the award recipient is a domestic institution using a foreign research facility as the performance site, the award recipient remains responsible for animal activities performed by the foreign facility and must provide verification of IACUC approval (i.e., certification that the activities as performed by the foreign facility are acceptable to the recipient).

^dOngoing litigation against NIH asserts that NIH acted beyond its authority, or failed to adhere to administrative law requirements, when it exempted foreign award recipients from maintaining an Institutional Animal Care and Use Committee while requiring each domestic award recipient to have such a committee. *White Coat Waste Project v. U.S. Dept. of Health and Human Services*, Case No. 1:22-cv-0006 (U.S. District Ct. for the District of Columbia filed Jan. 12, 2022). This report does not address the claims contained in the lawsuit. In presenting the information in this report, we take no position on the disputed facts or disputed legal issues that are before the courts or may be raised in those or future related cases.

^eA Domestic or Foreign Animal Welfare Assurance commits the domestic or foreign facility to comply with the respective standards and requirements.

Appendix IV: Allegations of Noncompliance with Animal Welfare–Related Requirements in Projects Funded by Other Agencies

Table 5 shows information about allegations of noncompliance with animal welfare–related requirements in foreign animal research projects funded by agencies other than the National Institutes of Health (NIH).¹ According to documentation provided by NIH, from 2019 through 2021 NIH’s Office of Laboratory Animal Welfare evaluated two allegations reported by the research facilities and two allegations reported by third parties. The documentation states that the award recipients took corrective actions to resolve three of the four reported allegations, while the fourth was reported too late to warrant corrective action.

Table 5: Alleged Noncompliance at Foreign Research Facilities Reported to NIH Office of Laboratory Animal Welfare (OLAW) 2019-2021

Location of alleged noncompliance	Year reported to OLAW	Source of report	Noncompliance category	Reported allegation	Actions and resolution
Canada	2021	Third party	Failure to follow institutional policies	Improper administration of potassium cyanide to monkeys	Alleged mishandling of animals occurred at a research facility that was subsequently sold to another company. The alleged incident occurred more than 3 years before the report was submitted. As a result, OLAW did not investigate the allegation. ^a

¹According to NIH officials, one of the cases was funded by an entity other than NIH in the Department of Health and Human Services’ PHS. In the other three cases, a funding source was either not identified or was not a PHS component.

**Appendix IV: Allegations of Noncompliance
with Animal Welfare–Related Requirements in
Projects Funded by Other Agencies**

Location of alleged noncompliance	Year reported to OLAW	Source of report	Noncompliance category	Reported allegation	Actions and resolution
Singapore	2021	Whistleblower (former researcher)	No violation identified	Unjustified euthanasia of mice	Award recipient provided scientific justification for the research and provided confirmation that the research facility followed American Veterinary Medical Association Guidelines for Euthanasia. OLAW stated that it found no cause to take further action. [¶]
Thailand	2021	Research facility	Failure to follow institutional policies	Accidental administration of quinine to four primates, resulting in deaths of three	Award recipient's corrective actions included counseling and retraining staff, requiring double-checking of drug labels, and storing quinine separately. OLAW accepted these corrective actions.
Saint Kitts and Nevis	2019	Research facility	Animal study issues and failure to follow institutional policies	Collection of biological samples without authorization by Institutional Animal Care and Use Committee (IACUC)	Award recipient reported counseling investigators and taking steps to involve its IACUC. OLAW accepted these corrective actions.

Source: GAO analysis of National Institutes of Health (NIH) documents. | GAO-23-105736

Note: According to NIH officials, none of the four cases involved research funded by NIH. In one case, the research was funded by an entity other than NIH in the Department of Health and Human Services (HHS). In the other three cases, the funding source was either not identified or was not an HHS component.

[¶]According to an OLAW document, OLAW does not investigate allegations involving incidents that are more than 3 years old.

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

March 10, 2023

Latesha Love-Grayer
Director, International Affairs and Trade
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Dear Ms. Love-Grayer:

Attached are comments on the U.S. Government Accountability Office's (GAO) report entitled, ***"ANIMAL USE IN RESEARCH: NIH Should Strengthen Oversight of Projects It Funds at Foreign Facilities"*** (GAO-23-105736).

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

Sincerely,

Melanie Anne Egorin

Melanie Anne Egorin, PhD
Assistant Secretary for Legislation

Attachment

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

GENERAL COMMENTS FROM THE DEPARTMENT OF HEALTH & HUMAN SERVICES ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT - ANIMAL USE IN RESEARCH: NIH SHOULD STRENGTHEN OVERSIGHT OF PROJECTS IT FUNDS AT FOREIGN FACILITIES (GAO-23-105736)

The U.S. Department of Health & Human Services (HHS) appreciates the opportunity from the Government Accountability Office (GAO) to review and comment on this draft report.

General Comments

The National Institutes of Health (NIH) appreciates the review conducted by the Government Accountability Office (GAO) and the opportunity to provide clarifications on this draft report. NIH respectfully submits the following general comments.

NIH shares this context about requirements regarding animal welfare at foreign facilities.

As a condition of award, NIH requires NIH-funded institutions in foreign countries to provide evidence that acceptable standards for the humane care and use of the animals in Public Health Service-conducted or supported activities will be met.

NIH also requires an Animal Welfare Assurance for Foreign Institutions. This constitutes institutional assurance and certification of compliance with the applicable laws, regulations, and policies of the jurisdiction in which the research will be conducted, and a commitment to follow the *International Guiding Principles for Biomedical Research Involving Animals*. The Foreign Assurance also applies to institutions outside the U.S. that receive PHS funds indirectly (i.e. named as a performance site by a primary awardee institution).

In cases of non-compliance with the NIH Grants Policy Statement, at both foreign and domestic institutions, NIH's approach is generally to provide a grantee the opportunity to come into compliance in an effort to preserve the research, when possible. This approach is consistent with HHS grant regulations, which provide that in cases of non-compliance, a funding agency can impose specific award conditions; and if the agency determines that the non-compliance cannot be remedied by specific award conditions, then the agency may take more severe actions, such as terminating an award.

GAO Recommendation:

The Director of NIH should take steps—such as conducting site visits to foreign facilities performing NIH-funded animal research or requiring third-party verification—to provide reasonable assurance that award recipients' annual self-reported project information is reliable and adequate to ensure the humane care and use of laboratory animals.

HHS Response:

HHS Concurs with GAO's recommendation.

The NIH will provide an action plan to address the recommendation in our 180-day letter response to Congress.

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

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Assistant Secretary for Legislation

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HHS Response:

HHS Concurs with GAO's recommendation.

The NIH will provide an action plan to address the recommendation in our 180-day letter response to Congress.

Appendix VI: GAO Contact and Staff Acknowledgments

GAO Contacts

Latesha Love-Grayer at (202) 512-4409 or lovegrayerl@gao.gov and
Steve Morris at (202) 512-3841 or morriss@gao.gov.

Staff Acknowledgments

In addition to the contacts named above, Kim Frankena and Nico Sloss (Assistant Directors), Victoria Lin (Analyst in Charge), Owen Starlin, Reid Lowe, Sara Younes, and Mark Dowling made key contributions to this report. In addition, Justin Fisher, Christopher Keblitis, Joseph Cook, and Hayden Huang provided technical assistance.

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