

Animal Protection Index / Protecting animals used in scientific research

USA

Federal legislation applies to the use of animals in scientific research: the two main legislations applicable to this category of animals are the Animal Welfare Act and the Health Research Extension Act of 1985.

The Animal Welfare Act covers warm-blooded vertebrate animals used for research, with the exception of rats of the genus *Rattus* and mice of the genus *Mus* who are bred for use in research. The Animal Welfare Act requires all research facilities to register with the United States Department of Agriculture for a license. The APHIS is responsible for ensuring facilities comply with the Act. Facilities are required to file an annual report listing the species and numbers of animals used in research, reporting the number of animals who experience pain and/or distress, and justifying the research methodology. The Act sets minimum standards for housing and transportation and requires each institution to have an attending veterinarian. Although the Act includes provisions for environmental enrichment for non-human primates and exercise requirements for dogs, facilities do not need to provide these if justification relating to the research being conducted is given at the beginning of the research process.

The Animal Welfare Regulations, associated with the Animal Welfare Act, require each institution to establish an Institutional Animal Care and Use Committee (IACUC) to review and approve all uses of animals in research. The Act also requires the IACUC to investigate complaints and reports any non-compliance with the Act. Each IACUC must include at a minimum three people: an experienced scientist, a veterinarian, and an individual who is not affiliated with the institution.

The Health Research Extension Act applies to all vertebrate animals used in research funded by the National Institutes of Health, which funds the majority of medical research in the country. Unlike the Animal Welfare Act, therefore, the protection of the Health Research Extension Act includes rats and mice. The Act calls for the proper care and treatment of animals and the organisation of animal care and use committees with minimum of five members including the attending veterinarian, a scientist, a non-scientist, and a member not affiliated with the institution. To receive National Institutes of Health funding, institutions must attest that they comply with the Public Health Service Policy on Humane Care and Use of Laboratory Animals.

The use of animals in research is also guided by policies of various federal agencies involved in research, for example, the Food and Drug Administration. Under the Public Health Service Policy, the National Academy of Sciences produces a Guide for the Care and Use of Laboratory Animals that includes advice and the latest scientific research on how to care for various species of animals and offers guidelines for animal care to comply with the Public Health Service Policy. The Three Rs principles are outlined in the Guide for the Care and Use of Laboratory Animals. Research facilities applying for National Institutes of Health funding must file an assurance with the Office of Laboratory Animal Welfare of the National Institutes of Health that they will comply with the Guide. Non-compliance may lead to disqualification of the facility from receiving federal research funds, and to withdrawal of funding.

In 2000, the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) was formally established by the ICCVAM Authorization Act (42 U.S.C. 285I-3). Its purpose is 'to establish, wherever feasible, guidelines, recommendations, and regulations that promote the

regulatory acceptance of new or revised scientifically valid toxicological tests that protect human and animal health and the environment while reducing, refining, or replacing animal tests and ensuring human safety and product effectiveness'. The Coordinating Committee comprises representatives from 16 US federal regulatory and research agencies involved with toxicological and safety testing, and collaborates internationally on the development of alternatives to animals as a member of International Cooperation on Alternative Test Methods.

Recently, the US Government introduced a sanctuary system to provide for the lifetime care of chimpanzees not needed for research who have been used, or were bred or purchased for use, in research conducted or supported by the National Institutes of Health, the Food and Drug Administration, or other agencies of the Federal Government. This followed a 2011 report by the National Academies Institute of Medicine that found that the use of chimpanzees in biomedical research is largely unnecessary.

Additionally, at the time of writing nine states have passed the 'Beagle Freedom Bill', which requires all adoptable animals used in experiments, such as dogs and cats, to be given the chance to be rehomed instead of euthanized after the experiment ends. Minnesota became the first state to pass such a legislation in 2014. Following this example, the states of California, Connecticut, Delaware, Illinois, Maryland, Nevada, New York and Rhode Island have passed similar legislations. In 2019, similar Bills have been proposed in the states of Massachusetts, Oregon, Texas, Virginia and Washington.

On 22 May 2019, Congress members Brendan Boyle and Jackie Walorski introduced the bi-partisan Animal Freedom from Testing, Experimentation and Research (AFTER) Act, which would require all federal agencies to establish a policy outlining how and where to retired animals used in testing for federal agencies. The Bill covers animals already protected by the Animal Welfare Act, such as monkeys, dogs, cats, rabbits and guinea pigs.

With regards to animal testing for cosmetics, the federal draft bill of the Humane Cosmetics Act (HR4148) was introduced in March 2014. This Bill intended to phase out cosmetic animal testing and the sale of cosmetics tested on animals. The Bill did not pass. At the state level, California passed the California Cruelty-Free Cosmetics Act (SB-1249) in 2018, which largely prohibits the sale of cosmetic products and ingredients that have been tested on animals. The Act will enter into force on 1 January 2020. Animal-tested products may still be sold in the state after the start of 2020, as long as the testing on them did not occur after that date.

Analysis

It is positive that the Animal Welfare Act requires all facilities using animals for scientific research to be licensed and registered. However, the Animal Welfare Act is limited since rats and mice are excluded from its scope of application, though these animals are largely used for research.

The requirement under the Animal Welfare Act and the Health Research Extension Act for the establishment of Institutional Animal Care and Use Committees (IACUC) has the potential to influence animal welfare and to encourage scientists to use reduce, replace and refine the number of animals used in research. However, these Three Rs principles – Replacement, Reduction, Refinement – do not appear in the legislation.

In addition, because the Animal Welfare Act excludes from its scope of application rats and mice specifically bred for use in research, there is no number available with regards to how many animals

of these species are used. In 2016, over 800,000 animals were used for research in the US, excluding rats and mice.

The commitment of the federal Government to advancing the use of alternatives to animals in research has been demonstrated internationally with representatives promoting alternatives to animal use at key fora. These activities may be attributed to the US National Academy of Sciences producing a landmark 2007 report *Toxicity Testing in the 21st Century: A Vision and a Strategy*. The report established the scientific case for a non-animal approach to safety testing based on a robust understanding of human 'biological pathways' which, when interrupted, lead to various types of toxicity and disease. The analysis and recommendations in the report were based not on ethical or policy drivers such as the Three Rs but rather on published literature documenting the limitations of animal-based safety tests. Following publication of its vision for 21st Century toxicity testing a government-sponsored collaboration group called Tox21 was established between the Environmental Protection Agency, the Food and Drug Administration and the National Institute for Environmental Sciences. Tox21 aims to act as a catalyst for global, coordinated implementation of pathway-based toxicology. The US Government is to be congratulated for providing a large amount of funding for developing alternatives to the use of animals in research. The Environmental Protection Agency also provided some \$15 million in 2009 for the Tox21 collaboration. There appears to be political willingness to reduce the use of animals for research through the creation of the Interagency Coordinating Committee on the Validation of Alternative Methods. The fact that the Committee comprises representatives from 16 federal regulatory and research agencies reflects that the US Government invest resources in developing non-animal testing methods.

The AFTER Act, introduced in May 2019 to Congress, is a positive development for animal welfare, encouraging the adoption of animals who are no longer used for research. However, the Act could be improved by covering animals who are not currently protected under the Animal Welfare Act, such as rats and mice.

However, it is negative for animals that the US Government has still not banned the testing of cosmetics on animals, despite an international trend towards the banning of this practice. In fact, animal testing for cosmetics is being phased out in over 30 countries including Norway, Switzerland, India and European Union countries. With regards to cosmetics testing, California represents a progressive example for other states to follow. However, even the California law presents several loopholes to ensuring consistent animal welfare. In fact, the California Cruelty-Free Cosmetics Act (SB-1249) does not prevent companies to fund animal testing for products and ingredients sold in countries where such testing measures are required by law. Furthermore, animal testing may still take place if two conditions apply: non-animal alternative methods of testing do not exist, and the need to conduct animal tests is 'justified and is supported by a detailed research protocol proposed as the basis for evaluation'. At the national level, the US Food and Drug Administration, which regulates cosmetics safety but does not have the mandate to approve new products, does not require animal testing but asks manufacturers to 'employ whatever testing is appropriate and effective' to ensure safety. Therefore, there might be circumstances under which animal testing still occurs in California.

Enforcement Mechanisms

There are enforcement mechanisms under the Animal Welfare Act. APHIS is in charge of implementing the Animal Welfare Act and conducts yearly inspections. The IACUC conducts inspections only for laboratory animals and must inspect facilities every six months.

The Public Health Service Policy on Humane Care and Use of Laboratory Animals incorporates the Three Rs principles, and the concept is outlined in the Guide for the Care and Use of Laboratory Animals. However, this Guide contains voluntary provisions and is therefore not legally binding.

The Office of Laboratory Animal Welfare in the National Institutes of Health has oversight of all National Institutes of Health funded research relating to the Health Research Extension Act. The Institutes may conduct unannounced visits to facilities to ensure compliance with its regulations, but the system is largely based on self-reporting via the animal care and use committees. However, the self-policing of compliance with the Public Health Service Policy is a potential barrier to the reduction, replacement and refinement of the use of animals in research.

At the state level, violations of the Cruelty-Free Cosmetics Act (SB-1249) will be punished with an initial fine of US\$5,000 and an additional US\$1,000 for each day the violation continues.

Key Recommendations

- The applicability of the Animal Welfare Act is limited, since the Act only applies to warm-blooded animals and excludes rats of the genus *Rattus* and mice of the genus *Mus* who are bred for use in research. Therefore, the US Government is strongly encouraged to amend the Animal Welfare Act to include all animals used for research in its scope of application.
- The US Government is urged to amend the Health Research Extension Act to enshrine the Three Rs principles – Replacement, Reduction, Refinement. In accordance with the principle of Refinement, the legislation should mandate that animals used in research should be protected from unnecessary pain and suffering. At present, these principles are laid out in the Guide for the Care and Use of Laboratory Animals, yet this Guide only provides non-binding recommendations.
- The creation of the Interagency Coordinating Committee on the Validation of Alternative Methods should be commended. ICCVAM is encouraged to engage with animal welfare organizations in order to promote alternatives to animal experiments. The US Government is also encouraged to continue allocating funding to the development of alternatives to animal use in research.
- It is positive for animal welfare that all institutions using animals for research must be licensed and regularly inspected by the APHIS. The US Government is strongly encouraged to publish and distribute the reports from such inspections. Moreover, the US Government is strongly encouraged to increase the human and financial resources available to make such inspections thorough.
- The US Government is strongly encouraged to pass the Animal Freedom from Testing, Experimentation and Research (AFTER) Act 2019, which would mandate all federal agencies to maintain a policy on the adoption of animals no longer needed for research. The scope of application of the AFTER Act should be expanded to include all animals used in research, including rats and mice.
- The US Government is urged to ban the testing of cosmetic products and their ingredients on animals. Building upon the California Cruelty-Free Cosmetics Act, the US Government is also encouraged to ban the import and sale of cosmetic products tested on animals. As such, the US Government is strongly encouraged to support the re-introduction and enactment of the Humane Cosmetics Act.