

## Scientific and Humane Issues in the Use of Random Source Dogs and Cats

Random source dogs and cats—those that come from the general population, rather than being bred specifically for biomedical research—can be valuable models for studying certain types of diseases. Dealers who buy and sell random source animals, rather than breed them (known as Class B dealers), are licensed by the US Department of Agriculture to ensure animal welfare and appropriate acquisition of the animals, but without adequate enforcement, some fear that lost or stolen pets could end up in laboratories, or that the dealers may not uphold proper standards of care. In response to a request by Congress through the National Institutes of Health (NIH) for a critical evaluation of the need to use random source dogs and cats from Class B dealers in NIH-funded research, this report finds that random source dogs and cats may be desirable and necessary for certain types of biomedical research, but that it is not necessary to acquire them through Class B dealers, as there are adequate numbers of such animals from shelters and other sources.

Scientists use laboratory animals to study and develop treatments for human and animal diseases. The majority of animals used in research today are rodents, but other types of animals may be used depending on the research needs. Dogs, for example, provide good models for understanding heart disease.



Although dogs and cats make up a relatively small number of laboratory animals, the fear that lost or stolen pets may end up in research laboratories has been a major impetus for laws regulating sources of laboratory animals. The Animal Welfare Act, part of the large body of federal laws, principles, and policies guiding the care and use of animals in biomedical research, regulates dealers who provide animals to research facilities.

Most dogs and cats used in research are either bred in research colonies or are bred specifically for research by licensed commercial breeders known as Class A dealers. Others, known as “random source” animals, come from the general animal population. Dealers known as Class B dealers are licensed to buy such animals from individual owners, small breeders, and pounds

and shelters, and sell them for research. Responsibility for licensing dealers and enforcing the Animal Welfare Act is in the purview of the US Department of Agriculture’s (USDA) Animal Plant and Health Inspection Service.

Although the law specifies practices to ensure the welfare and humane treatment of random source dogs and cats, for various reasons it has been difficult to effectively enforce them. Recently, animal abuses by Class B dealers of random source animals were publicly exposed, raising public concern. In response to a request from Congress, the NIH asked the National Academies to convene a committee to examine the need for random source dogs and cats in research and, specifically, the need to use Class B dealers for providing these animals for NIH-funded research. The committee’s report finds that, in certain situations, random source dogs and cats are desirable for NIH-funded research. However, it concludes that Class B dealers are not necessary for supplying these animals and describes alternative methods through which random source dogs and cats may be acquired for appropriate research purposes.

## Use of Random Source Animals

The report examines the research value of random source dogs and cats and trends in their use over time and concludes that, although they make up only a small percentage (<1%) of all laboratory animals, these animals provide valuable models for some biomedical research.

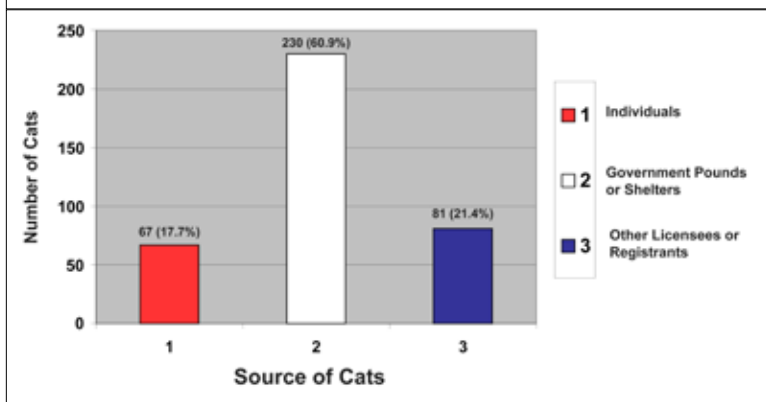
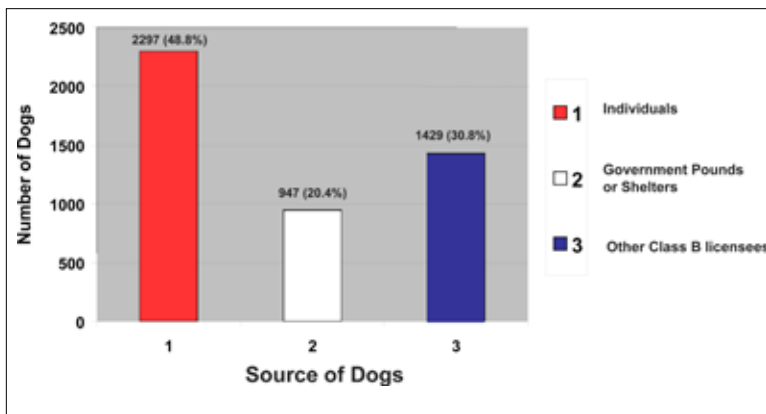
### Advantages

Dogs and cats acquired from the general animal population have some unique attributes that make them a rich resource for advancing medical knowledge. Using random source animals generally gives scientists a more genetically diverse study group than using only animals that are bred for research, and some of their characteristics—including certain anatomic features, spontaneous disease (cancer, for example) and naturally acquired infectious disease—can enhance their value as models in human and veterinary research. Random source dogs are often larger than dogs bred for research, for example, making them especially useful for the study of heart disease. These animals may also be older, making them valuable models for research on aging. They

are also potentially important models for research on infectious diseases.

### Disadvantages

Using random source dogs and cats in research also has disadvantages. The quality of care provided in shelters and pounds varies widely, and the history and health status of animals from shelters is often unknown. These animals often may have parasites or diseases, and though Class B dealers as well as research institutions “condition” animals for research through a period of quarantine, treatment for parasites, and other procedures, random source animals may still have health problems. For some research purposes, animals with naturally acquired diseases may be desirable, but in other cases, infections (such as those that are undetected) can compromise or confound studies. In addition, given that some of these animals are likely to be former pets or strays, random source dogs and cats probably experience more stress and distress in research situations compared to purpose-bred animals that are more accustomed to cage confinement. This has implications for the research utility of these animals as well as for their welfare.



Source of dogs (top) and cats (bottom) acquired by Class B dealers, November 2007-November 2008. Data from USDA.

### Trends

The number of random source dogs and cats used in research is small and declining. Over the past 30 years, the demand for and use of these animals in research has declined significantly, as has use of dogs and cats bred specifically for research. In part, this decline is the result of changes in research trends, greater use of alternate animal models, changing institutional policies, animal welfare considerations, shifts in public opinion, animal rights activism, and the regulatory and financial burden of using these animals.

As the use of random source dogs and cats has declined, so has the number of Class B dealers. Although there are more than 1,000 Class B dealers operating in different capacities (including pet distribution) in the United States, only a few of them—11 at last count—acquire and sell live dogs and cats for research and teaching. The conclusions and recommendations in this report regarding Class B dealers apply only to the subset of these 11 dealers that may supply animals for NIH-funded research.

## Evaluation of the Class B Dealer System

The report evaluates the Class B dealer system and assesses the need to acquire random source dogs and cats from these dealers for NIH-funded research. As long as viable alternatives exist to assure that research laboratories can continue to acquire random source animals, the report concludes that it is not necessary to use Class B dealers.

### Gaps in Standards and Enforcement

The USDA Animal Plant and Health Inspection Service is responsible for enforcing the Animal Welfare Regulations under the Animal Welfare Act and for licensing and overseeing compliance of Class B dealers. Although the Class B dealer system, as originally intended by federal law, would be a desirable way for research laboratories to acquire random source dogs and cats, this system may not always operate as it was intended to.

Standards of care for animals at Class B dealers appear to vary greatly. Recently, some dealers were exposed for egregious animal abuses. An increased focus of USDA's enforcement of the Animal Welfare Regulations has been on conducting tracebacks (verifying the origins of animals).

Dogs and cats acquired by Class B dealers are destined for research, but the standards of care at some dealers is discordant with key guidelines for the care of laboratory animals, including U.S. Government Principles, PHS Policy, and the Guide. Instead of adhering to standards of care specific to laboratory animals, Class B dealers and their facilities are governed only by the Animal Welfare Act.

Although in principle these various standards are similar, in practice they are not. This dichotomy of standards colors public perceptions of NIH and USDA, and brings into question the welfare of animals under the care of Class B dealers.

### Class B Dealers Not Needed

Most random source animals used in research currently come from Class B dealers. However, institutions can also obtain these animals directly from many of the same sources. While Class B dealers may provide a benefit in acquiring animals from diverse sources of dogs and cats and conditioning these animals prior to resale for research, these dealers cannot be

said to be absolutely necessary as providers of random source animals.

## Alternative Options

Alternative options are currently available to fill the majority of NIH needs for various types of research dogs and cats without using Class B dealers. These include:

- *Partnering with Pet Owners.* In some cases, dogs with cancer may reflect human conditions more accurately than rodents, making them good models for cancer research. Research facilities have successfully partnered with pet owners to test pre-clinical cancer treatments on pets with naturally occurring cancers. One such effort, NIH's Canine Comparative Oncology Program, capitalizes on the rich genetic diversity in the dog population and the variety of cancers that arise in dogs to help advance both human and veterinary medical research. This type of effort could be developed for virtually any comparative disease research of interest to NIH.
- *Partnering with Vets, Breeders, and Others.* Some dogs and cats have naturally occurring genetic diseases that make them good models for studying human genetic disorders. Programs have established relationships with veterinarians, breeders, working dog organizations, and others to identify these animals in the general population and facilitate their use in research. One example is the Referral Center for Animal Models of Human Genetic Diseases at the University of Pennsylvania School of Veteri-



NIH's Canine Comparative Oncology Program is a nationwide network of veterinary teaching hospitals that partners with pet owners to conduct pre-clinical trials of new cancer drugs in dogs with naturally-occurring cancers, with the goal of assisting in the design of human studies.

nary Medicine. This center acquires dog and cat models of human genetic diseases, genetically analyzes the submitted cases, and makes the models available to the research community by maintaining small breeding populations and sharing genetic data with other institutions.

- *Donation Programs.* Research institutions may obtain animals directly from small breeders and hobby clubs, currently the source of a significant percentage of animals acquired by Class B dealers. Some research institutions are already using this approach.
- *Class A Dealers.* Class A dealers of purpose-bred dogs and cats can respond to many of the needs of research, including larger animals, genetically diverse animals, older animals, and so forth.
- *Direct Acquisition from Pounds and Shelters.* Animals can be obtained directly from pounds and shelters in some states and municipalities, although the number of states that allow this is declining.

- *Request for Proposal.* Various NIH Institutes commonly utilize the Request for Proposal (RFP) mechanism to acquire items that the government needs or to perform research and development on a contractual basis—including contracts to provide animal models. The RFP mechanism is already in place and is suitable for fulfilling the need for laboratory animals; a variety of laboratory animals are currently the subject of RFPs.
- *Coordination and Support of Private Research Animal Colonies.* Several academic and commercial entities maintain colonies of research dogs and cats that may originally been from random sources, or have physical or other characteristics that random source animals have. Some of these colonies are supported by NIH, and others by private funding. These colonies already provide some animals to other research institutions, but this can be assured and coordinated with RFP-type cooperative agreements that provide NIH support to such entities.

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The National Academies appointed the above committee of experts to address the specific task requested by the National Institutes of Health. The members volunteered their time for this activity; their report is peer-reviewed and the final product signed off by both the committee members and the National Academies. This report brief was prepared by the National Research Council based on the committee's report.



For more information, contact visit the Institute for Laboratory Animal Research at <http://nationalacademies.org/ilar>. Copies of *Scientific and Humane Issues in the Use of Random Source Dogs and Cats* are available from the National Academies Press, 500 Fifth Street, NW, Washington, D.C. 20001; (800) 624-6242; [www.nap.edu](http://www.nap.edu).

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