

# Opinion: *Laboratory Animals, Animal Models, or Just Animals?*

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I would like to offer the following 2 items for consideration:

First, I propose that, rather than calling our research subjects *laboratory animals*, a better adjective would be *research animals*, or, in many cases, just *animals*. These animals are used for research, not for laboratories. The adjective *research* seems, to me at least, to connote an accurate, meaningful, and positive use of the animals, whereas the *laboratory* adjective can have negative connotations for some individuals. Although some people might interpret the adjective *research* to exclude animals used for testing and teaching, the adjective *laboratory* also fails to explicitly include them. In terms of definitions, a legal source<sup>3</sup> defines *laboratory animals* as "animals of mammalian, avian or reptilian species (including those in transport to animal facilities or laboratories), cared or maintained in animal facilities, or laboratories for use in animal experiments and other related activities."<sup>3</sup> *The Guide* specifically includes animals used in teaching and testing as *laboratory animals*, defining *laboratory animals* as "any vertebrate animal (e.g. traditional laboratory animals, agricultural animals, wildlife, and aquatic species) produced for use in research, testing, or teaching."<sup>2</sup> Even if the phrase *research animals* does not explicitly include the latter 2 categories of animal use, however, it may nonetheless be more appropriate than *laboratory animals* in many circumstances.

Clearly, the phrase *laboratory animal* is embedded in our field (for example, in the names of the organizations AALAS, ACLAM, ASLAP, AAALAC, and the title of *The Guide*). The use of this term in the names of professional organizations is perhaps the major impediment to a general substitution of *research* for *laboratory*. I am not proposing that the names of these long-established organizations be changed. Coincidentally, though, the National Academies' Governing Board has officially approved replacing the name ILAR with the Board of Animal Health Science, Conservation and Research (BAHSCR). The actual conversion is planned for sometime in 2023, as the name change requires substantial changes to the current ILAR website. However, I suggest that the adjective *research* could be used as an alternative for *laboratory* (assuming such an adjective is necessary, which is often not the case) in publications and oral presentations without the need for professional organizations (including AALAS and the journal JAALAS) to alter their names.

My second proposal regards use of the phrase *animal models*. Orally and in writing, our animal subjects are often referred to in this way. This phrase may be appropriate in manuscripts that compare different models in the context of a specific disease

(for example, animal models of diabetes) or in the context of speaking about animal modeling in general, as in references 1 and 5. However, in other contexts, the phrase *animal model(s)* should always be followed by 'of' and the condition being evaluated. If a study involves only one model, then the subjects can generally be referred to as *animals* (or more specifically, by the species name), not as *models*. Thus, in my opinion, the phrase *animal model* should refer to a model of something (a model of or surrogate for human or animal physiology, pathology, or disease). In general, however, the term animal or the species name can be used to refer to studies of the animal or species itself or to a study of a single model of a human disease.

These points may seem trivial, but words have power that has long been recognized, including in our field. For example, in attempts to mask the use and number of dogs in research, and thereby avoid triggering repercussions with the public, some journals in the 1920s to 1940s instructed authors and editors to avoid use of the word *dogs* and substitute the word *animals*.<sup>4</sup> The care of research animals has improved dramatically since that time, particularly since the Animal Welfare Act of 1986, and members of our field are continually seeking evidence-based approaches to further promote the wellbeing of animals used in research, teaching, and testing. To me, the alternatives and use I suggest forward this trend by conveying more dignity and respect for our animal subjects, as well as being more accurate.

## References

1. Ericsson AC, Crim MJ, Franklin CL. 2013. A brief history of animal modeling. *Mo Med* 110:201–205.
2. Institute for Laboratory Animal Research. 2011. Guide for the care and use of laboratory animals, 8<sup>th</sup> edition. Washington (DC): National Academies Press.
3. Law Insider. [Internet]. 2013. Definition of laboratory animal. [Cited 18 February, 2023]. Available at: <https://www.lawinsider.com/dictionary/laboratory-animals>
4. Lederer SE. 1992. Political animals: The shaping of biomedical research literature in twentieth-century America. *Isis* 83:61–79. <https://doi.org/10.1086/356025>.
5. Prabhakar S. 2012. Translational research challenges: Finding the right animal models. *J Investig Med* 60:1141–1146. <https://doi.org/10.2310/jim.0b013e318271fb3b>.