



## **Background Paper**

**Committee:** WHO

**Topic:** Should medications be tested on animals?

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Animal testing refers to procedures carried out on living animals for basic biology and disease research, evaluating the efficacy of new medicinal products, and testing the human health and/or environmental safety of consumer and industrial products such as cosmetics, household cleaners, food additives, pharmaceuticals, and industrial/agro-chemicals. Even minor procedures can cause physical and psychological harm to the animals. Procedures can frequently result in tremendous pain. The majority of animals are killed after an experiment, although some may be employed in future studies.

Mice, fish, rats, rabbits, guinea pigs, hamsters, farm animals, birds, cats, dogs, mini-pigs, and non-human primates are among the most popular species exploited around the world (monkeys, and in some countries, chimpanzees). Every year, more than 115 million animals are projected to be exploited in laboratory research around the world. However, the exact number is unknown because only a tiny percentage of countries collect and publish statistics on animal testing and research. In the United States, for example, up to 90% of laboratory animals (purpose-bred rats, mice, birds, fish, amphibians, reptiles, and invertebrates) are removed from official statistics, meaning that estimates released by the government are misleading.

More than 12 million animals are used each year in the European Union, with France, Germany, and the United Kingdom being the top three animal-using countries. More than 3 million animals are used in experiments in the United Kingdom each year, however, this figure excludes animals produced for study but killed as "unused" without being used in specific operations. Even though these animals are nevertheless exposed to the difficulties and sufferings of living in a controlled laboratory, their lives are not documented in official statistics.

Attempting to replicate and test diseases or cures in mice, dogs, or monkeys has significant scientific difficulties that cannot be solved. Symptoms and responses to proposed treatments in other animals are frequently different from those reported in human patients. As a result, nine out of ten experimental treatments that appear to be safe and effective in animal research fail to work in humans. Medication failures and research that never give results caused by inadequate animal models not only

impede medical progress, but also waste resources and threaten the health and safety of clinical trial volunteers.

Although data shows that it is past time for a change, bringing about that transition within a scientific community that has relied on animal models as the "default method" for testing and study for decades takes effort and perseverance. Old habits die hard, and there is still a scarcity of knowledge and experience in non-animal procedures. Animal tests are time and resource-demanding, limited in the number of substances that can be tested, provide little understanding of how chemicals behave in the body, and in many cases do not accurately predict real-world human reactions, in addition to the ethical issues they pose.

Animal studies fail to predict true human results in 50 to 99.7% of cases. Due to the fact that diseases equivalent to those observed in humans are unusual in other species. Animal experiments rely on the artificial induction of often-uniquely human situations in non-human species. While they may have identical symptoms on the surface, underlying differences in genetics, physiology, and biochemistry can lead to drastically divergent reactions to the illness and potential therapies. Overdependence on animal models in some areas of disease studies may have slowed rather than accelerated medical development. Many non-animal approaches, such as cell-based investigations, silicon chip biosensors, and computational systems biology models, on the other hand, can deliver speedier and more human-relevant results. Delegates, we trust you, it is time to find a solution for this problem that has been striking the world for decades, you can do it, good luck.

*“[Researchers] are so ingrained in trying to cure mice that they forget we are trying to cure humans.”*

**—Dr. Ronald W. Davis, professor at Stanford University**

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