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Using animals in toxicity experiments to predict drug safety is found to be no better than tossing a coin!

An Analysis of the Use of Animal Models in Predicting Human Toxicology and Drug Safety, published in scientific journal ATLA (Alternatives to Laboratory Animals), has analysed the largest database of animal toxicity studies yet compiled and used the most appropriate statistical methods to determine the evidential weight provided by animal data to the probability that a new drug might be toxic in humans. (1)

The paper, authored by FRAME Life President Professor Michael Balls and the BUAV's Dr Jarrod Bailey and Michelle Thew, concludes "*the preclinical testing of pharmaceuticals in animals cannot currently be justified on scientific or ethical grounds*".

The results of this paper throw into question the excessive use of animals in research.

With over 7 million animals used in research and teaching every year, Australia is the fourth largest user – behind only China, Japan and the United States. Clearly, our resources are not being used wisely and in the process we are causing a great deal of needless suffering to animals.

Helen Marston, CEO Humane Research Australia*: "Biological differences – anatomical, genetic and metabolic - between humans and other animals are reasons that data cannot be extrapolated from animal tests to humans with sufficient accuracy. Not only are animal tests a cruel method of research, they are essentially a waste of precious resources. The research community urgently needs to adopt more reliable testing methods that will not only eliminate the suffering of animals, but will be more predictive of human outcomes."*

One of the authors of the paper, **Dr Jarrod Bailey of the British Union for the Abolition of Vivisection** (BUAV) said: "*Our study, which we believe is the largest ever done, shows that animal tests of new drugs are not fit for purpose and therefore can't be justified on scientific, as well as ethical, grounds. If a new drug appears safe in tests on dogs, rabbits, rats or mice, this provides, at best, negligible additional evidence of safety in humans. To protect and serve the public, drug developers must move away from animal tests towards alternatives that are scientifically superior, as well as more humane, as a matter of urgency.*"

NOTES:

1. Bailey J, Thew M, Balls M. (2014). An analysis of the use of animal models in predicting human toxicology and drug safety. *Alternatives to Laboratory Animals* **42**, 181-199.