European legislation
Impact on the scientific use of animals

Improving methodological quality of animals experiments

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Public, legal & ethical acceptability of animal research not only warrants respect for animal welfare & the 3Rs, but also that the perceived benefits can outweigh the pain, discomfort or distress endured by animals. However, there is growing evidence that promising results in animal tests often fail to translate in clinical trials. This has led animal rights activists to increasingly challenge animal experiments on scientific grounds, questioning their validity to inform on human disease.

It has been shown, that preclinical findings suggesting an effect for candidate drugs are often false-positives in the first place, as a consequence of unaccounted biases from underpowered, non-randomized, non-blinded experiments. These have led to unreliable – and thus irreproducible – results in preclinical research, a problem further exacerbated by publication bias towards "positive findings", which skews the available evidence on drug efficacy.

The 'noise' in experimental outcomes from poor methodological standards prevents an adequate assessment of the true informative value of current animal models. It also leads to millions being wasted to test drugs in humans, without convincing evidence of their effectiveness in animals. More importantly, by being based on unreliable data from sub-standard animal studies, these trials fail to provide real hope to the patients enrolled.

This presentation will cover common sources of bias in animal studies, and discuss whether the scientific community has succeeded in improving the planning, execution and reporting of animal studies. The importance of making preclinical results more reliable & reproducible as a condition before moving to clinical trials will be also addressed.