“ANIMAL ISSUES IN THE EUROPEAN UNION - AREAS OF CONCERN”

Animals in Science - content August 2020

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1. The use of animals in science in Europe is still not decreasing

2020 reports of the European Commission revealed that more than 23 million animals were impacted by scientific practices in the EU in 2017 – including dogs, rabbits and even our closest genetic relatives, primates. They are used in research into human diseases and conditions, to test different substances for safety, for educational purposes, and in fundamental research.

EU Directive 2010/63/EU on the protection of animals used for scientific purposes requires Member States to collect statistics on the numbers of animals used for scientific purposes. Germany, the United Kingdom[1], and France were the countries with the highest number of procedures on animals with 6, 5.6 and 4 million animals used respectively in 2017. More than half (12.6 million) of the animals affected by scientific practices are animals bred for use in scientific research, but killed without actually being used (although their organs and tissues may have been). For those animals that are used in procedures, around half are used for fundamental research, such as to explore biological processes, without having a clearly defined potential applied benefit for humans’ or other animals’ health, or for the environment.

The great majority of experiments inflict suffering on the animals. For some species, confinement alone causes suffering. A study in 2006 identified many potential stressors that may adversely affect animals living in captivity, including artificial lighting, exposure to loud sounds or odours, uncomfortable temperatures, restricted movement, reduced retreat space, forced proximity to humans, reduced feeding opportunities, and being forced to live in abnormal social groups, among others.

In non-human primates, invasive or intrusive techniques can lead to mutilations, psychosomatic injuries and even physiology traits that have been compared to those of people with Post-Traumatic Stress Disorder. Because non-human primates are our closest relatives, they are assumed to be good ‘models’ for human diseases - but in fact, numerous studies agree that animal experimentation seldomly delivers on its main promise, which is better healthcare for humans, including studies with non-human primates.

If our closest relatives don’t make essential or significant contributions to the development of medical treatments for humans, what about species that have even less in common with us? Scientists have been able to cure many kinds of cancer in mice, but are far from doing so in humans. Similarly, a review on Alzheimer’s disease research showed that over 99% of treatments that worked on animals failed in human trials. There is a growing understanding that even if the design of the experiments were significantly improved, scientists should still expect poor replication to humans.

Faced with the ethical and scientific challenges of animal experimentation, part of the scientific community has been developing promising human-relevant methods. In the beginning, animal-free

[1] The United Kingdom will not be part of the next statistics reports, after leaving the EU.

research was funded by animal protection organisations. Today, while these organisations still play a role in innovation without the use of animals, public and other private organisations are chipping in. In fact, the majority of funds now come from governments.

Approaches that don't use animals include *in vitro* methods that use tissues or cells in a petri dish or organs-on -a-chip; *in silico* or computer-based methods that use mechanistic models of the body or artificial intelligence; studies with human volunteers; and simulators. Scientists leading the innovation in animal-free methods have been putting forward new visions where strategic combinations of these methods can provide explanatory models of diseases in humans. The University of Wageningen has been able to substitute animal-free methods for 80% of all animal tests in their food research, and is aiming to increase this percentage.

In general, though, our long-term reliance on animal-based research has led to practices that are strongly rooted in regulation and in our social and scientific norms, making change difficult.

What does the public think?

In 2010, public opinion was mixed on the use of animals in research. When asked as part of a Science and Technology Eurobarometer survey whether they supported experimentation on animals like monkeys and dogs with the objective of finding solutions to human health problems, 44% of respondents in 2010 were in favour, while 37% disagreed. The key concern of the general public seemed to be to ensure research into health solutions continues, and a large portion of the citizenry seemed willing to accept some use of animals if it is 'essential'.

However, the European Citizens' Initiative (ECI) 'Stop Vivisection' was submitted to the Commission in 2015. The ECI called on the EU to propose a European legislative framework aimed at phasing out animal experiments and had valid signatures from 1,173,130 European citizens.

In 2020, another EU survey found that: (1) Nearly three quarters (72%) of adults in EU member states agree that the EU should set binding targets and deadlines to phase out testing on animals; (2) Seven in ten (70%) adults in EU member states agree that enabling the full replacement of all forms of animal testing with non-animal testing methods should be a priority for the EU; (3) Two thirds (66%) of adults in EU member states agree that the EU should immediately end all animal testing.

Policy - current state of play

In 2016, the European Commission organised a conference on "Non-animal approaches: The way forward". The conference "recognised the opportunity, and need, for a paradigm shift in the way science is performed, moving away from entrenched dogma and ways of thinking", the European Commission acknowledged the need "to implement science-based policy, including animal-free science that is responsive to Citizens' demands", and that there is "potential in considering deadlines to phase out animal testing in specific areas, where possible".

Since then, the European Commission, through its European Union Reference Laboratory for alternatives to animal testing (EURL ECVAM), has commissioned a training course on The Three Rs and Animal Use in Science, available to educators at the European Schoolnet Academy. EURL ECVAM has also produced in 2019 a database of the available 3Rs courses in the Member States, and in 2020 the Commission's ECVAM is expected to release its first reviews of non-animal methods used in

research of specific disease areas.

Previous work and databases on alternative approaches did not have much impact. Poor dissemination and lack of user friendly interfaces are two factors that may have played a role on the low impact of some initiatives to promote non-animal approaches and the 3Rs. To avoid this, it is important that this recent work continues to be promoted by the Commission, Member States, and every stakeholder, guaranteeing continuous engagement from all parties. More importantly, it is imperative that this knowledge translates into strategic scientific policies to move towards non-animal science.

Eurogroup for Animals

Eurogroup for Animals' goal is to end the use of animals for science, testing and educational purposes, by replacing them with humane alternatives. Human-relevant non-animal methods are key to protecting both humans and other animals. Therefore, systematic funding and other opportunities for investigating and disseminating such methods should be increased and be part of a strategy to effectively bring down the number of animals used in science.

We are engaging Members of the European Parliament, Member States and the European Commission to develop a strategy with concrete milestones to phase out the use of animals in science.