

Animal Research Ethics: Challenges and Proposed Answers

Some Results of an International Retreat Week

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Areas of Ethical Challenge in Animal Research

Approaching the Moral Conflict (Freedom of Research vs. Non-Harming of Animals)

Best Practice Standards?

- ➔ Different public stances on animal research in different countries
- ➔ Different scientific cultures and stances within the sciences

Standardized Explicit Method?

- ➔ Not available, esp. not across countries

Ethics Committees (Project Reviews)?

- ➔ Different composition and modi operandi depending on the country [1]
- ➔ Appropriate expertise not guaranteed
- ➔ Lacking evidence of HBA and 3R enforcement [2]
- ➔ Social and professional roles influence deliberation strongly [3]
- ➔ Conflicts of interests when deciding upon project applications of colleagues [4]
- ➔ Focus on technical questions [5, 6]

Tools of Deliberation: Shortcomings in HBA and 3R

Harm-Benefit Analysis (HBA): An "Impossible" Tool?

Evaluation of HBA in Reviews of Project Applications?

- ➔ Lacking standard for carrying out HBA [7, 8]
- ➔ Rejections are hardly justifiable, thus most applications are approved

Overemphasis on HBA?

- ➔ Treated as the cornerstone of ethical review process by law and regulating authorities
- ➔ Moral residual remains even if HBA would give a clear result [12]

Overlooked Uncertainties?

- ➔ Lacking acknowledgment of uncertainties and risks in HBA [2]
- ➔ Researchers have almost no control over ultimate benefits, which creates incentive to fabricate stories [9, 10]
- ➔ Retrospective assessments of harm rarely done although assessing harms and benefits accurately beforehand is challenging [11]
- ➔ Questionable whether objective comparison of different benefits and harms for different animals is possible [13, 14]

Limits of the 3R Principle (Replace, Reduce, Refine)

... In Theory

- ➔ 3R is silent regarding: the question of general justification, how to balance animal harms with/against human ends
- ➔ Strictly connected to pathocentric ethics and anthropocentrism

... In Practice

- ➔ Insufficient knowledge: 3R sometimes confused with each other [2], might be prioritized in the wrong order [15]
- ➔ Carries the risk of welfare washing [16]

Quality of Science

Choice Between Animal or Animal-Free Method?

- ➔ Best practice standards not always the deciding factor
- ➔ Social factors like tradition, accessibility of alternative methods as another possible influence [20]

Translation and Reproducibility?

- ➔ Doubtable benefit and justification for research on non-human animals when translational significances are low or unclear [17, 18]
- ➔ Reproducibility Crisis and Publication Bias lead to higher usage of animals than needed [19]
- ➔ Overestimation of benefits when a study is poorly designed or reported [9]

Answers (What is Needed?)

Harmonization and Internationalization

- ✓ Global public database for animal research
- ✓ Training in 3R, animal ethics and animal-free methods for researchers and ethics committees (AECs)
- ✓ Leave room for variation (e.g. legal requirements) for each country, but define best practice standards and agree on limits to discourage ethics dumping
- ✓ Interdisciplinary research and communication between scientific disciplines, scientific communities
- ✓ Professionalization of ethics committees (vs. unpaid honorary posts)

Harmonized explicit methodology for the process of ethical justification / ethical review

Harmonized best practice standards

HBA: Improved explicit methodology

Designing the Toolset of an International Animal Research Ethics

- ✓ Development and communication of:
- ✓ Role of HBA and 3R should not be overstretched beyond their capabilities
- ✓ Revision of the ethical review process
- ✓ Assessments of ethical and epistemic uncertainties in HBA or its alternatives
- ✓ An ethics of uncertainty in research with animals
- ✓ Acknowledgment that the ethical weighing of harms and benefits is problematic
- ✓ Acknowledgment of moral conflicts between conflicting „oughts“

Development of tools that help to replace animals

Encouragements, Obligations and Incentives

- ✓ Replace: focus on
- ✓ Refine, Reduce: Improve animal welfare laws to decrease suffering and access to technologies that assess suffering
- ✓ Obligation to pre-register and report all animal research and educational use in a public database, enforced by funding and research organizations
- ✓ Training is key:

Dissemination of knowledge

Training in alternative methods

Scientific and ethical standards

Designing good experiments

Alternative methods, minimizing harm

Proper Dissemination of Knowledge

- ✓ Painting a more complete picture: negative results need to also be published; journals, research institutions and funders should mandate ARRIVE guidelines [21]
- ✓ Improve Transparency: global public database of animal research projects and their results
- ✓ Combating the Reproducibility Crisis is a strategy to reduce animal experimentation
- ➔ Epistemic values also benefit animal research ethics

Conclusions

Animal ethics, law and the sciences jointly shape the practices of animal research. In order to understand these systemic interdependencies and to improve the status quo, interdisciplinary approaches are required. Concepts, ideas or data that have been known and discussed for decades can be utilized, for instance by translating them into the language of another relevant discipline (e.g. *Five Freedoms* into legal rights), by applying them where needed (e.g. data on how harm and positive life experiences can be measured in different animals), or by simply disseminating them (better) between scientific fields and communities. During our exchange, it became clear that interdisciplinary efforts furthermore show promise since challenges in the sciences intersect with issues in animal ethics.

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For references and affiliations, see:



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