2nd RSPCA international meeting
Berlin 2017

FOCUS ON SEVERE SUFFERING

Summary report

We estimate that more than 900,000 animals every year experience 'severe' suffering when used in research and testing across the European Union. This is a matter of significant concern to the public, animal welfare organisations and the scientific community.

In October 2017, the RSPCA brought together people from a range of roles to share knowledge and promote new approaches to avoiding severe suffering. This meeting, which followed on from a very successful first event in Brussels in 2016, was held in Berlin in association with the Max Delbrück Centre for Molecular Medicine in the Helmholtz Association and involved around 120 delegates from 16 countries. Both meetings formed part of the Society's pioneering initiative to help those involved in the regulation, care and use of laboratory animals to recognise and reduce the impact of procedures that currently fall into the highest severity category.

The 2017 event, held over two days, began with a welcome from the RSPCA and an opening address by ethicist Professor Jens Reich. The main focus on the first day was a series of case studies in which severe suffering had been successfully reduced, in areas including haemophilia research, multiple sclerosis studies and bone healing studies. Day One concluded with an engaging and thought-provoking keynote presentation from philosopher Professor Herwig Grimm on the harm-benefit assessment.

The second day provided an opportunity for speakers to present and discuss study areas where challenges and obstacles to reducing or avoiding severe suffering still remain. Topics covered included cryoinjury in zebrafish, regenerative medicine therapies for kidney injuries in mice, and trauma models in rats. The event finished at the end of Day Two with presentations considering prospective severity of procedures, communicating with the public about harms and severe suffering, and reviewing the role of Animal Welfare Bodies, National Committees and others in sharing good practice, plus a general discussion session.

Requests for the **presentations** from the event can be made via email to:
animalsinscience@rspca.org.uk

On this occasion, we focused mainly on case studies because this was what delegates from the first meeting requested for the second meeting, and it was very successful and inspiring for everyone - with people able to take away new information and approaches to try.

However, three **key themes or issues** emerged that we believe would benefit from future consideration, all of which are linked.

1. Discussions regularly take place in scientific forums regarding the poor reproducibility and translatability of many animal 'models' currently widely used, including those causing 'severe' suffering. However, it can be difficult to convince scientific colleagues, regulators, funding bodies, journal editors and peer reviewers to accept different *in vivo* models, including those that are less severe - considerable persuasion and persistence can be required. This is not because of resistance to reducing severity, but there are concerns that data will not be compatible with previous research, and financial disincentives associated with obtaining new equipment and training staff. What kinds of evidence and approaches can be used to persuade stakeholders to accept less severe, more translatable models?

2. Following on from this, it is increasingly clear that the current culture of scientific research does not allow time for reflection or consideration of the long-term health/clinical/societal benefits of much animal research, or for significant moves away from the status quo. For example, outputs and outcomes for academics are largely geared towards achieving publications in high impact journals and obtaining further funding etc., rather than evaluating whether their use of animals has actually led to any concrete benefits. This was explored by the Nuffield Council on Bioethics in its review of the culture of scientific research: nuffieldbioethics.org/project/research-culture. How can researchers, as individuals, resist the current 'cultural' pressures and challenge the status quo?

3. Many interpretations of the harm-benefit analysis justify greater animal suffering for higher (usually human medical) benefits, but there is much scope to improve the way that the Harm-Benefit Assessment, and project evaluation more widely, are carried out throughout the European Union. For instance, how good are we at identifying harms? How easy is it to assess the potential benefits of fundamental research? Is the current focus too much only on short term estimates or measures of harms and benefits? How can, and should, the views and priorities of the public be incorporated into the decision-making process?

These are all large and complex issues, and there are no easy, immediate solutions - but this is the context in which progress needs to be achieved. All thoughts and comments are welcome, and we would be interested in hearing whether and how people would like to see these specific topics addressed in future meetings.

Additional **comments** arising from the meeting are listed below, along with a number of suggested **action points** for delegates and the wider stakeholder community to consider:

Culture and attitude

- People should set the goal of overcoming severe suffering and challenge attitudes that it is, and will remain, unavoidable.
- Animal Welfare Bodies (AWBs) and their equivalents can play an important role in developing a strategy for reducing or avoiding severe suffering, for reviewing animal models of particular concern, and contributing towards a culture of constructive challenge.
- Scientists and institutions should be open minded to the potential of alternative approaches or methods and develop a culture where their use is both expected and encouraged.
- Input from empowered animal technologists, and a team approach involving the people who spend the most time with the animals, can make a real difference to the ability to refine humane endpoints and reduce suffering.
- Consider whether and how small improvements can be made to different aspects across an animal's whole lifetime experience. Each can add up to make a big difference and reductions in suffering.
- Participants noted that they still encounter perceptions that animals such as fish or rodents are less capable of suffering than others, and so may be used in higher numbers or using less refined or more severe methods. These attitudes should be robustly challenged.

Reviewing practices and implementing change

- Where severe models are currently being used, the rationale for doing so should be critically reviewed - are they delivering the promised benefits, such as advances in knowledge, or new potential treatments or therapies for trial in the clinic?
- The Working Document on a Severity Assessment Framework, produced by the European Commission, along with the illustrated examples, should be consulted to assist in the identification, review and refinement of severe suffering.
- Every study should have clearly identified humane endpoints. These should be regularly reviewed to ensure that they are the most appropriate and the earliest inventions possible in order to reduce suffering.
- Experimental design must be robust and appropriate and this should also be applied to the way in which clinical signs are scored and used.
- Establishments could run pilot or small scale studies to assess potential refinements, in consultation with the regulator, if there is a lack of information in the published literature.

- Records and data should be rigorously reviewed to establish whether clinical indicators can be better tailored to the specific sex, strain or age of animal used.
- Advances in technology (e.g. cameras, behavioural monitoring software) can be exploited to gain a better understanding of animals' behaviour, of the impact of procedures and the effectiveness of management interventions to refine these.
- Refining procedures can improve translatability.

Communication

- Building networks within and between research establishments is important for the sharing of information and good practice.
- Opportunities should be sought and taken for discussing research practices with scientists in different fields. This can be partly facilitated within establishments by the local AWB or equivalent (e.g. Animal Welfare and Ethical Review Body (AWERB), Institutional Animal Care and Use Committee (IACUC), Animal Ethics Committee (AEC)).
- Where severe suffering has been successfully reduced or avoided, this should be communicated widely to the rest of the research community.
- It is important that the results of all studies undertaken are published and shared regardless of their findings, in order to avoid publication bias and the unnecessary duplication of experiments and animal use.
- Scientists and establishments should consider how they would explain and justify research causing severe suffering to a member of the public.

Further information

Visit the RSPCA/LASA/LAVA/IAT 'Focus on severe suffering' **website** for the latest information and resources on this topic - including the summary and action points from the **first meeting**: www.rspca.org.uk/severesuffering

The RSPCA would like to thank all of the speakers at the meeting, and in particular the Max Delbrück Centre for Molecular Medicine in the Helmholtz Association whose support enabled this event to take place.

This summary report has been produced by the RSPCA Animals in Science Department.

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