4ᵗʰ RSPCA international meeting
Stockholm 2022

Summary report

In August 2022, the RSPCA and the Karolinska Institutet jointly held an in-person event attended by 100 participants to share knowledge and promote new approaches aimed at reducing suffering for animals in research and testing. This was one of a series of international meetings in the RSPCA's 'Focus on Severe Suffering' initiative.

The main topic of each presentation is in **bold** below and PDFs of the presentations can be downloaded at focusonseveresuffering.co.uk/events

The meeting opened with an **update on the Focus on Severe Suffering initiative** from the RSPCA, including the Roadmap approach, ongoing reductions in severe suffering and how these were achieved; e.g. by implementing earlier scientific and humane endpoints, better husbandry and support for animals and more involvement from animal technologists. This was followed by a presentation from Adrian Smith of Norecopa (the Norwegian 3Rs platform) on using the **PREPARE guidelines and Refinement Wiki** when planning experiments using severe models and procedures. Next, Elisabet Andersson and Dagmar Galter presented on the **Animal Welfare Body (AWB) at the Karolinska Institutet**, explaining how this helps to avoid and minimise suffering in animal models while promoting a good Culture of Care.

The first session was devoted to **case studies in basic and applied research**. Thomas Bertelsen, of Novo Nordisk, Denmark, provided three examples from a pharma company of **applying the Roadmap in practice** to potentially severe procedures - a disease model, a surgical model, and a regulatory test. The Roadmap approach was described as a valuable and positive way of promoting effective dialogue and cooperation between people with different roles, so that current ways of working could be systematically reviewed and refinements could be implemented. The next three speakers were all from the Karolinska Institutet. Camilla Svensson presented on how improved monitoring and welfare assessment (including alterations in burrowing behaviour) were used to refine **fibromyalgia models**. This was followed by Carina Plewnia, who described how enhanced care had reduced mortality by over 60% in models of **Parkinson's disease**. The third speaker from the Institutet, Hong Jin, explained how refining surgical technique reduced the severity of **abdominal aortic aneurysm** studies. Dietmar Zechner, of the Universität Rostock, completed the session with

a presentation on how **multivariate analysis** can be used to compare the severity of animal models, using **bile duct ligation** as an example.

To conclude the first day, Jessica Cait, of the University of Guelph, Canada, gave a keynote presentation entitled **How does rodent housing affect severity and mortality?** This set out how a meta-analysis of 214 rodent studies found that 'conventional' caging causes sufficient stress to compromise rodent health. It increases not only severity in animal models of cancer, cardiovascular disease, stroke and anxiety and depression, but also mortality due to all causes. This has clear implications for translatability as well as animal welfare.

Day two began with a session on Retrospective Assessment/Post-Approval Monitoring. Jan Lund Ottesen, of the Danish 3R-Center and Danish National Committee, presented some conclusions from a **strategic review of the animals** exposed to the highest level of severity in Denmark. Nelleke Verhave, of the University of Leiden, the Netherlands, followed with a talk on how the **Animal Welfare Body** contributes to retrospective assessment, including processes around humane endpoints and animal monitoring. Finally, Ann-Christine Eklöf provided insights into reporting and learnings for refinement from the **Swedish Central Laboratory Animal Ethics Committee** (CDFN). Participants then separated into breakout groups to discuss the topic of following the development and outcome of projects, including how bodies such as the AWB, Animal Ethics Committee (AEC) and Institutional Animal Care and Use Committee (IACUC) address the task, how National Committees can contribute, and how this can help to avoid severe suffering in future projects. Some key points identified by the groups are listed after the meeting summary.

The next session addressed case studies in regulatory testing. Elliot Lilley, of the UK National Centre for the 3Rs, began with an update on a review of animal testing requirements in **WHO (World Health Organisation) Guidelines for vaccines and biological therapeutics**, with a proposal to implement 3Rs principles. Ioanna Katsiadaki, of the UK Centre for Environment, Fisheries and Aquaculture Science (CEFAS), presented on work towards **refining the OECD (Organisation for Economic Cooperation and Development) TG203 fish acute toxicity test** after 40 years of applying a lethal endpoint, then Morgane Florens, of Sciensano (Belgium) provided an overview of initiatives to reduce animal suffering in **human vaccine batch release tests**. These included use of in vitro alternatives, a reduction scheme and refined humane endpoints. To conclude the session, John Kendrick of Labcorp (UK) presented a new group housing approach for **non-human primates in metabolism studies**, improving animal welfare and data quality.

The final session was a look to the future, to explore how bodies can work collectively and strategically to end severe suffering. Jan Lund Ottesen, representing the European Federation of Pharmaceutical Industries and Associations (EFPIA), discussed how an **industry body** can help its members to reduce 'severe' suffering. Examples included partnership working, producing guidelines for members and setting up working groups. Next, Thomas Bertelsen spoke about the **International Culture of Care Network** and how this enables its

members to share good practice and support one another. Insights into how the **attending veterinarian** can help to reduce severe suffering were provided by Rafael Frias. Finally, Javier Guillen, of the Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC), provided some **AAALAC perspectives** for harmonising performance standards that could help to end severe suffering.

Key points from the breakout discussion on retrospective review:

- Retrospectively reviewing a project only after it has ended is too late. This can miss important opportunities to consider progress, identify any changes to considerations of likely harms and potential benefits, and ensure the 3Rs are fully implemented. There should be timely reviews as the project progresses (e.g. following 'pilot' studies and at 'mid-term') and also in response to any unexpected events.
- A team approach - based on competence, experience and sound understanding - should be taken to severity assessment within retrospective review. This will help to prevent bias and ensure good quality information. For example, there may be good reasons why animals' experiences are returned as a lower category of severity to that applied prospectively, if refinements worked well. This could be a positive outcome if refinements were effective and reduced harms to animals.
- It is good practice to undertake a retrospective review for all projects, as there are likely to be valuable learnings from any type of study. Collecting annual statistical data on animal use is also helpful.
- AWBs (or equivalents) should work with scientists to help them understand the importance and the value of the information they provide. If they can see the information is being used in a positive way, and is not just a checkbox exercise, they are more likely to engage with the process. Institutions should also review their questions for researchers within retrospective review forms, avoiding 'yes' or 'no' answers and asking researchers to 'demonstrate', 'explain' or 'provide examples'.

Further information

Visit the RSPCA/LASA/LAVA/IAT 'Focus on severe suffering' **website** for the latest information and resources on this topic - including the Roadmap and summaries of the **first**, **second** and **third meetings**

The RSPCA would like to thank all of the speakers and participants at the meeting, and the Karolinska Institutet for co-organising this event and providing the venue.

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

December 2022