Submission No 4

INQUIRY INTO ANIMAL WELFARE POLICY IN NEW SOUTH WALES

Organisation: Humane Research Australia

Date Received: 14 January 2022

January 14, 2022

Dear NSW Legislative Council's Standing Committee on State Development

Re: Inquiry into animal welfare policy in New South Wales

I am writing on behalf of Humane Research Australia (HRA), a not-for profit organisation advocating scientifically valid and humane non-animal methods of research.

HRA's feedback is focussed on Term of Reference 2, **'***That upon its publication in December 2021, the Committee review the proposed Exposure Draft Animal Welfare Bill 2021, developed following the NSW Animal Welfare Reform – Discussion Paper'*. Due to the mission of our organisation, our submission relates to the use of animals in research and education specifically.

I note that much of the detail relating to animal experimentation will be set out in later regulations and hope there will be an opportunity to engage at this stage. Notwithstanding, HRA encourage the below points to be considered by the Standing Committee in relation to the Draft Animal Welfare Bill 2021.

1. **Clarity of legislation**

   Recognised research purpose means—
   (a) the purpose of acquiring, demonstrating or developing knowledge in the field of agriculture, biology, medicine or veterinary behaviour, or
   (b) the purpose of acquiring, demonstrating, developing or exercising techniques used in the field of agriculture, biology, medicine or veterinary behaviour, or
   (c) the purpose of developing or testing substances intended for therapeutic use, or
   (d) another purpose prescribed by the regulations for this definition

   Without limiting subsection (1), animal research includes—
   (a) an experiment, inquiry, investigation, procedure, study or test in the course of which an animal is subjected to—
   (i) biological, chemical, medical, physical, psychological or surgical treatment, or
   (ii) abnormal conditions of cold, confinement, dark, heat, isolation, light, noise or overcrowding, or
   (iii) abnormal dietary conditions, or
   (iv) electric shock or radiation treatment, and
   (b) an experiment, inquiry, investigation, procedure, study or test in the course of which a material or substance is derived or extracted from the body of an animal, and
   (c) the use of an animal for a recognised research purpose

   It is unclear what would constitute recognised research purpose and whether this will include observational research which is non-invasive in nature. Would animals bred and killed without being used be considered recognised research? Would animals used in school

dissection be considered recognised research? (There are many school exemptions in the current Animal Research Act).

2. Authorised Officer

59 Purposes for which functions under Part may be exercised
2.Only an authorised officer who is a veterinary practitioner may exercise functions referred to in subsection (1) in relation to an offence under Part 5 involving animal research.

HRA is supportive of the former requirement for the authorised officer to be both a public servant as well as a qualified veterinarian being removed. However, there are few authorised officers in the police or registered charities that are also vets. According to the ARRP Annual Report, there were no inspections of research facilities in 2018-19 due to issues in recruiting and retaining vets. Therefore, HRA propose that this clause is removed, and that all authorised officers are able to exercise functions relating to animal research. Additional training may need to be provided to enable this (in both animal welfare and assessing the merit of research undertaken).

3. Restricted Procedures

Appreciating that this may be specified in regulations due to their narrow use in animal research (and not covered by Standards which relate to agricultural use) HRA proposes the below be subsequently restricted:

a. Forced swim test

In the FST, animals, typically mice or rats, are made to swim in a cylinder of water. They swim frantically, trying to find an escape, until they stop struggling and subsequently float. The claim is that when animals spend more time floating, they are deemed to be more "depressed." This claim is made in spite of evidence that floating is actually a learned and adaptive behaviour, one that saves energy and is beneficial for survival (1). An analysis of publicly available data from four major pharmaceutical companies revealed that the test was less predictive than chance at determining if a compound would have antidepressant efficacy in humans (2).

Many of the world's top pharmaceutical companies (Roche, Bayer, Johnson & Johnson, AbbVie, GlaxoSmithKline, Pfizer, AstraZeneca, Bristol-Myers Squibb, and more) have formally ended their use, funding, and/or commissioning of forced swim tests (3). King's College London and the University of Adelaide recently put a permanent end to forced swim tests conducted in their laboratories as well.

The forced swim test does not teach us anything reliable about human depression—nullifying any scientific justification for carrying out the test; and it causes acute suffering and distress to the animals who are used—presenting a compelling ethical argument against using the test.

Relevant alternatives include testing on human platforms. For example, novel compounds might be identified using mathematical or computer modelling of human systems, or by a drug-repurposing program. These compounds might be tested on human tissues or cells using advanced in vitro methods, such as in organoids or microfluidic systems. Epidemiology

is another tool for understanding how to prevent and treat human depression. Further, funds can also be allocated to support and improve access to existing mental health treatment.

b. Antibody production

The development and production of monoclonal and polyclonal antibodies as well as other affinity reagents is still involving animals despite the availability of technologies that do not entail the use of animals. There is a very strong scientific and animal welfare argument to replace the use of animals, especially the ascites method, which is classed as a severe procedure.

The EU Reference Laboratory for alternatives to animal testing (EURL ECVAM) mandated its Scientific Advisory Committee (ESAC) to review the available evidence and deliver an opinion on the scientific validity of antibodies and non-antibody affinity reagents produced using animal-free technologies. The review focused on non-animal-derived antibodies generated by phage-display technology since this is the most mature technology and already widely used. Taking into consideration the available evidence, the ESAC endorsed an opinion on the suitability of existing animal-free technologies to produce affinity reagents with equal or better quality (purity, activity, specificity, affinity, stability, reproducibility) than that offered by antibodies produced using the conventional animal-based methods. The EURL ECVAM recommends that animals should no longer be used for the development and production of antibodies for research, regulatory, diagnostic and therapeutic applications (4).

Current exemptions to permit the LD50 and Draize test with Ministerial approval- there are validated non-animal alternatives for these tests so would like to see exemptions for allowing these tests removed, as indicated as a target for 2022 in the 2018-19 Review Panel Annual Report.

c. Forced Inhalation research

Inhalation research is currently being conducted at institutions across Australia, with mice exposed via nose-only or whole-body exposure to cigarettes or other hazardous inhalants. In a whole-body exposure chamber, the animals are immersed in the test atmosphere, whereas in nose-only or head-only exposure systems, exposures are localised primarily to the head and/or nasal regions. 'Animal models' of diseases for which cigarette smoking has a correlation, such as chronic obstructive pulmonary disease, are created to study disease pathogenesis. This requires subjecting mice to smoke inhalation experiments for up to 18 weeks in duration. This is in addition to other invasive procedures that may be carried out during the experiment, such as injections; impacts such as weight loss and hypothermia; the ongoing suffering likely to be incurred from the disease induced; and ultimately death at the end of the experiment

There are severe limitations to the translation of findings due to biological differences between humans and mice and differing responses to interventions between species. It is impossible for a mouse to accurately mimic human inhalation, and time that new approach

methods, such as the lung-on-a-chip or advanced computer modelling and simulation be utilised (5), especially in the field of basic research by academia, where most forced inhalation studies are conducted, and could be replaced without regulatory obstacles.

4. Conflict of Interest

HRA contests that an independent office of animal welfare would bring far-reaching benefits and are fully supportive of the Select Committee recommendation.
The consultation outcomes report expressed the view that animal welfare laws being administered by NSW DPI reflects a conflict of interest. The response is:
NSW DPI has significant expertise in animal welfare and in animal use industries, which combine to support effective administration of animal welfare laws. This is approach is consistent with that taken in other jurisdictions across Australia. NSW DPI's roles in administering animal welfare legislation and supporting stronger primary industries are complementary. Improving animal welfare is a key component of developing stronger primary industries in NSW.

Firstly, primary industries is not the only remit of DPI thus the response is not applicable to all animal industries, and secondly, the approach being consistent with other jurisdictions does not make it the correct approach; it represents a conflict of interest nationally.

A recent example to highlight this conflict of interest is the DPI 'investigating itself'. Veterinarians slaughtered 12 sheep by cutting their throats without stunning them first as part of a training program two top NSW universities ran for years without animal ethics approval as a DPI facility (6). This is simply unacceptable and there needs to be independent oversight.

Thank you for your attention to this submission.

Yours sincerely,

Rachel Smith
Chief Executive Officer
Humane Research Australia

References

(1) Molendijk ML, de Kloet ER. Immobility in the forced swim test is adaptive and does not reflect depression. Psychoneuroendocrinology. 2015;62:389-391. doi:10.1016/j.psyneuen.2015.08.028

(2) Trunnell ER. Are we throwing good antidepressants out with the swim test water? Poster - LabRoots Laboratory Animal Sciences, February 2019.

https://www.peta.org/wp-content/uploads/2019/03/LAS-2019-Poster-Dr.Emily-Trunnell.pdf

(3) People for the Ethical Treatment of Animals. Victories! PETA is ending near-drowning experiments on animals. PETA.org. https://www.peta.org/features/peta-ends-near-drowning-tests-small-animals

(4) EURL ECVAM Recommendation on Non-Animal-Derived Antibodies (2020) https://publications.jrc.ec.europa.eu/repository/bitstream/JRC120199/jrc120199pdf.pdf

(5) JRC Technical Report: Advanced Non-animal Models in Biomedical Research - Respiratory Tract Diseases (2020) Available at: https://ec.europa.eu/jrc/en/science-update/tackling-respiratory-diseases-advanced-non-animal-models

(6) Findings from probe into 'shocking' NSW university training program laid bare (2021) https://www.news.com.au/national/nsw-act/news/findings-from-probe-into-shocking-nsw-university-training-program-laid-bare/news-story/2700e043360fba6361defb61954d29b3