Submission No 262

INQUIRY INTO USE OF PRIMATES AND OTHER ANIMALS IN MEDICAL RESEARCH IN NEW SOUTH WALES

Organisation: Sentient - The Veterinary Institute for Animal Ethics

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Inquiry into the use of primates and other animals in medical research in NSW: Submission from Sentient

Introduction

Sentient, The Veterinary Institute for Animal Ethics, welcomes the opportunity to submit to the Inquiry into the use of primates and other animals in medical research in NSW. This inquiry is urgently needed to address ongoing issues surrounding the use of animals in research, including lack of transparency, failure to prioritise the development and implementation of alternatives to animal models, and the need for rigorous evaluation of the effectiveness of all studies that involve animals.

Terms of reference

(a) the nature, purpose and effectiveness of medical research being conducted on animals in New South Wales, and the potential public health risks and benefits posed by this research;

The nature of medical research on animals in NSW

According to the 2020 Animal Use in Research Statistics report by the DPI, whilst there is no breakdown of the nature of medical research conducted on animals in NSW, procedures used in research on animals for the purpose of human or animal health or welfare include the following categories:

"*P2 Animal Unconscious Without Recovery*
Animal is rendered unconscious under controlled circumstances with little or no pain or distress. Capture methods are not required. Any pain is minor and brief and does not require analgesia. Procedures are carried out on the unconscious animal which is then killed without regaining consciousness.
Examples • Laboratory animals killed painlessly for dissection, biochemical analysis, etc • Teaching surgical techniques on live, anaesthetised patients which are not allowed to recover following the procedure

P5 Major Surgery With Recovery
Animal is rendered unconscious with as little pain or distress as possible. A major procedure such as abdominal or orthopaedic surgery is carried out and the animal allowed to recover. Post operative pain is usually considerable and at a level requiring analgesia.
Examples • Orthopaedic surgery • Abdominal or thoracic surgery • Transplant surgery

P6 Minor Physiological Challenge
Animal remains conscious for some or all of the procedure. There is interference with the animal's physiological or psychological processes. The challenge may cause only a small degree of pain/distress or any pain/distress is quickly and effectively alleviated.
Examples • Minor infection • Minor or moderate phenotypic modification • Early oncogenesis • Arthritis studies with pain alleviation • Induction of metabolic disease • Prolonged deficient diets • Polyclonal antibody production • Antiserum production

P7 Major Physiological Challenge
Animal remains conscious for some or all of the procedure. There is interference with the animal's physiological or psychological processes. The challenge causes a moderate or large degree of pain/distress which is not quickly or effectively alleviated.
Examples • Major infection • Major phenotypic modification • Oncogenesis without pain alleviation• Arthritis studies with no pain alleviation • Uncontrolled metabolic disease • Isolation or environmental deprivation for extended periods • Monoclonal antibody raising in mice

P9 Production of genetically modified animals
This category is intended to allow for the variety of procedures which occur during the production of genetically modified animals. As animals in this category may be subjected to both minor and major physiological challenges and surgical procedures, this category reflects the varied nature of the procedures carried out. It effectively includes ALL animals used in GM production other than the final progeny which are used in a different category of procedure.
Examples • Initial breeding animals for GM production • Animals culled as part of the GM production process"

In 2020, of the 84,271 animals used in research into human or animal health or welfare, 36,441 (43%) were exposed to procedures that either resulted in their death or subjected them to unnecessary surgery or pain and distress due to physiological challenge:

- 4,540 (5.3%) unconscious without recovery
- 5,347 (6.4%) major surgery with recovery
- 10,750 (12.7%) minor physiological challenge
- 10,063 (11.9%) major physiological challenge
- 5,741 (6.8%) production of genetically modified animals

The lack of publicly accessible information on the nature of medical research on animals in NSW is concerning. We were unable to find details of this on the DPI website but it is clear that almost half of those uses are subjected to pain, suffering or death.

The purpose of medical research on animals in NSW

We were unable to find any information about the purpose of medical research on animals in NSW on the DPI website.

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The effectiveness of medical research on animals in NSW

We could find no publicly accessible information about the effectiveness of medical research on animals in NSW, but this could be extrapolated from broader findings. According to a submission by Cruelty Free International on Environment Protection and Biodiversity Conservation Amendment (Prohibition of Live Imports of Primates for Research) Bill 2015: "Recent data obtained from 13 large pharmaceutical companies for drug approvals made between 2007 and 2011 found that 95 percent of drugs fail in human trials, because they are not safe or do not work, even though they will have 'passed' tests involving non-human primates." In a more recent update, based on a report by Biotechnology Innovation Organisation (BIO), the world's largest trade association representing biotechnology companies, universities and related organisations in the United States and 30 other nations, the failure rate of drugs after pre-clinical tests, including animal tests, was 92% between 2011 and 2020.

At an international level, this data suggests the scientific community is blindly continuing to subject countless animals to pain, suffering and premature death despite the evidence that non-human animals are not suitable models for human disease. Drug testing relies heavily on animal testing in its initial stages, and the high rates of failure in human trials strongly suggest that animal testing cannot predict the safety or efficacy of drugs when used on humans. This clearly poses risks to both animal welfare and public health.

An example is the 'forced swim test', whereby mice or rats are forced to swim in a cylinder of water until they stop struggling and finally 'float', which is assumed to indicate a sign of 'depression', despite it being an adaptive behaviour to save energy and survive[1]. A recent submission by Humane Research Australia to the Inquiry into animal welfare policy in NSW reported that "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. 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."

Recommendations:

- Annual reports that detail the use of animals in research should also include a measure of the effectiveness of such research, and this information should be made publicly available
- Procedures for which there are valid concerns about a lack of relevance to human physiology, such as the 'forced swim test', should NOT be approved by Animal Ethics Committees and should be banned in NSW legislation

[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

(b) the costs associated with animal research, and the extent to which the New South Wales and Federal Government is commissioning and funding the importing, breeding and use of animals in medical research in New South Wales;

In 2019 a total of 318 primates were proposed for research projects **funded by taxpayers** via the National Health and Medical Research Council (NHMRC), including neurological research and viral research. How much did this cost and what did it achieve?

Recommendations:

We wish to see:

- Annual allocations should be publicly reported to allow simple comparisons across years.
- significant funding allocations towards the development of alternatives to animal models.
- Government funding spent on retirement and rehoming options for animals used in research (which is currently left to NGOs such as The Liberty Foundation, a not-for-profit organisation that aims to facilitate the release, rehabilitation and rehoming of animals from research)

c) the availability, effectiveness and funding for alternative approaches to animal research methods and technologies, and the ability of researchers to meet the 3 R's of Replacement, Reduction and Refinement;

More funding must be made available for the development of alternatives to the use of animals in research. We agree with Humane Research Australia's suggestion of establishing an independent Australian Centre for the Development and Validation of Alternatives. We also agree with Human Research Australia's proposal to expand the "3Rs" to a "5Rs" model:

- Recognise failing preclinical models and discontinue funding
- Redirect funding to human-predictive research methods
- (Re)train scientists in non-animal research methods
- Redesign university curricula to focus on non-animal approaches
- Resolve to phasing out animal use in science, with defined timetable and metrics

d) the ethical and animal welfare issues surrounding the importing, breeding and use of animals in medical research;

We have ethical concerns with using animals in research where they - at either an individual or species level - will derive no benefit. Sentient also questions the assumption that we have the right to inflict pain and suffering on other sentient beings for our own benefit. This is even more ethically concerning when we repeatedly subject animals to research that harms their welfare when this research is unnecessarily replicated or when the majority of research findings cannot be translated to the human experience. Furthermore, most non-human primate species are

threatened with extinction, so it is deeply offensive to use these animals for medical research when we should be conducting observational studies of their behaviour for their own benefit and preservation.

We also hold concerns over the welfare issues innate to animal research, including:

- Lack of appropriate environmental and behavioral stimulation
- Regular handling by humans (highly stressful for prey species, which make up the majority of animals used in research)
- The experience and witnessing of peers being subjected to invasive and/or stressful procedures, such as blood draws and weighing
- Pain from surgery
- Premature death
- Painful and/or debilitating genetic conditions; and
- Lack of opportunity for most to enjoy retirement following their use in research.

Recommendations:
We would like to specifically see:

- NSW legislative bans on any research (including medical research) that involves:
    - Forced inhalation
    - Forced swim tests
    - Unconsciousness without recovery
    - Major surgery with recovery
    - Major or minor physiological challenge
    - Production of genetically modified animals, and
    - Death as an endpoint
    - Lethal testing
- A commitment to phasing out the use of primates in research. The use of great apes for biomedical research is not permitted in Australia, and this should be extended to all primates given their sophisticated cognitive abilities, long lifespan, and well-developed social structures which cannot be replicated in research settings
- A commitment to phasing out the use of dogs and cats in research, as well as a mandatory retirement age and the mandatory rehoming of both species while research continues to be performed on them
- Mandatory rehoming (rather than voluntary guidelines) of all animals used in research to allow them to live out their natural lifespan and enjoy quality of life

e) the adequacy of the current regulatory regime regarding the use of animals in medical research, particularly in relation to transparency and accountability

Current regulatory regime:
Self-regulation by way of institutional animal care and ethics committees is an inadequate means of both ensuring animals are consistently treated humanely, and a move away from a reliance on the use of animals in research. While Category C members are in place to help ensure animal welfare is considered, the inherent biases involved in this format, including peer pressure from others within the group, the unbalanced dynamics of the group (for example, research veterinarians have a vested interest in ensuring animal research continues), mean that concerns may be inadequately addressed. We are aware of instances where Category C members have been advised from the outset that their role is to facilitate research, not block its progress. We also hold concerns about the mandatory confidentiality clauses that members Animal Ethics Committees are asked to sign. This contributes to the lack of transparency about approved research on animals and what this actually entails. In this context, there is also insufficient incentive to find alternatives to animal research within the current regulatory structure.

Transparency and accountability:
In 2020 the Australian Senate passed a Motion which called on the Federal Government to:

(i) ensure national transparency and accountability in the use of animals in research, and
(ii) invest in the methods and technology needed to end the use of animals for research purposes.

There have been no concrete actions resulting and primate research, in particular, continues under a shroud of secrecy.

Most information about how animals are used in research is received by the public via exposes. For example, baboons are being purpose bred at a facility in Wallacia for 'important biomedical research' at the National Health and Medical Research Council (NHMRC) in Sydney, where they have been used for at least 30 years. There is no transparency about what is done to these animals to "tackle priority medical issues identified by the Federal Government including diabetes, kidney disease and complications arising from pregnancy." The public were only made aware of the use of these primates for research after 3 baboons accidentally escaped in 2020.

We could find no details on the DPI website about how animals are used in research or about recent ethics committee approvals of research projects. In contrast, the Humane Research Australia website lists recent publications that exemplify the types of experimentation to which animals are subjected in Australian laboratories and case studies on various species. Examples include the deaths of a mother and baby baboon in pre-eclampsia research at the Heart Research Institute NSW, where this serious condition was induced in pregnant and non-pregnant baboons, who were also exposed to a number of invasive procedures. Another example is forcing mice to inhale e-cigarette vapour during pregnancy by researchers at the School of Life Sciences, UTS in Sydney.

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Recommendations:

Regarding the NSW Research Review Panel, we support Humane Research Australia's proposal for the following improvements to be made:

- That at least two members on the panel have a demonstrated knowledge of and commitment to alternatives to animals in medical research;
- That an update be provided to complainants for complaints lodged via the Animal Research Review Panel at the end of the investigation;
- Increased powers of investigation and more decisive action to penalise breaches.

We also advocate:

- All applications made to Animal Care and Ethics Committees should be made publicly available, as well as committee decision making - including determined relevance within the wider research landscape, cost/benefit analyses, pain mitigation strategies, and reasons why alternatives to animal models were not pursued
- Confidentiality clauses for members of AECs be abolished
- Mandatory public reporting of the number, species and types of interventions carried out on these animals
- Mandatory (not voluntary) public reporting of the fate of ALL animal species used in research (not just for domestic dogs and cats), including the number rehomed
- Pre-registration of all animal experiments to avoid duplication, as well as publicly available publication of all negative results and the fates of all animals involved in research (including those bred but not used)
- Statistics be made publicly available on all animal-related adverse events that occur within institutions, both related to research and in the course of running business
- The names of all licence holders be made publicly available
- CCTV cameras be installed in all institutions both wherever animals are housed or experimented on, and
- That a certain percentage of inspections of institutions also be made unannounced.

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