Submission No 243

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

Organisation: Association of Primate Veterinarians (APV)

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Dear New South Wales Parliament Legislative Council,

The Association of Primate Veterinarians (APV) Comments for the Portfolio Committee 2, on Health inquire into and report on the use of primates and other animals in medical research in New South Wales.

The APV organization is globally composed of ~500 Veterinarians that are focused on health, care and welfare of nonhuman primates. This group includes academic, pharmaceutical, contract research organizations (CRO), governmental, and National Primate Research Centers veterinarians and their affiliates. APV promotes the use of performance standards for the care and welfare of nonhuman primates at all times, and most specifically during PHS funded (NIH, FDA, CDC, EPA and other) research activities. APV is very appreciative of the opportunity to comment on 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 contribution of animal research to human and animal health:
Animals in biomedical research are used to assist in the development of safe and effective treatments and medicines and the advancement of knowledge and scientific understanding. Many examples exist where animal research has changed the course of life-threatening diseases and helped manage those that can't be totally eliminated (http://www.eara.eu/post/feature-animal-research-saves-lives-so-why-do-opponents-say-it-is-ineffective). One of the earliest examples of this was dog studies allowing the discovery of insulin. Work with larger animals (pigs and sheep) has greatly enhanced the treatment and understanding of circulatory diseases (heart failure and stroke). Specifically, Australian animal research has led to discoveries in artificial heart valve replacements, in-vitro fertilization and stem-cell research, allowing great global advances in these areas. Animal research has prevented tremendous human and animal suffering by eradicating diseases and continues to be at the forefront of research into emerging contagious diseases and management of them (malaria, tuberculosis, HIV, Zika, and Covid as current examples).

Research using animals also benefits the health of domestic and farm animals thanks to the development of new drugs and treatments. Some of the most effective research and then subsequent treatments come from animal research. The development of new drugs and surgical techniques is dependent on animal biomedical research. Impairment of this process could lead to some branches of medical research coming to a complete stop.

Primate Use in Biomedical Research:

Globally studies using nonhuman primates are at much smaller numbers than other animal models. This is related to their overall cost, availability, and regulatory aspects of use. They are one of the closest animal models to humans and are often the final animal model used prior to approval in humans. In North America this represents 0.2-0.5% of the overall animal number use. (https://www.aphis.usda.gov/animal_welfare/annual-reports/Annual-Report-Summaries-State-Pain-FY18.pdf (2020)). In 2019, in South Wales, NHP use represented 0.003% of the total animals used on research studies (53 animals, https://www.animalethics.org.au/__data/assets/pdf_file/0008/1285748/2019-Animal-use-in-research-statistics-report.pdf). Even though the numbers are extremely small, their contribution to biomedical research is invaluable. Without the use of primates, none of the Covid-19 vaccines would have been approved for general use. Primates are also essential in fields where no other animal model would be suitable, due to their similarity to humans. In areas such as cardiovascular disease, neurological conditions, or reproductive health, there is simply no alternative model that can provide answers to fundamental, biomedical questions.

APV previously commented in 2016 on the Environment Protection and Biodiversity Conservation Amendment (Prohibition of Live Imports of Primates for Research) proposal for legislation. The import of primates for use in research continues to be essential for the Australian biomedical sector. An artificial limit on the numbers of animals used, or a ban, would reduce the viability of primate colonies, and severely limit research progress, or make it impractical altogether.

Alternative methods cannot yet replace animal models:

While the biomedical research community actively works to reduce the numbers of animals needed in research, we are still a very long way from eliminating their use. Alternative methods, such as 3D cell cultures, tissues that can replicate organ structures, and organoids (or organs on a chip) are improving, and the technologies are certainly providing more opportunities to reduce the numbers of animals needed in research. If animal research were banned tomorrow – the ability to develop, produce, or safely test any new medicines or vaccines would stop. In the future, just as now, non-animal methods might still need to be validated in animal models, and there are areas of research which might never be completely replaced, such as behavioral research in neuroscience.

Supply Chain and Availability of Animals:
The closure of the Animal Resources Centre in Western Australia, the leading supplier of laboratory mice and rats for Australia, will place immense strain on research programs, or require the import of animals from foreign suppliers, requiring longer transport times which can impact animal welfare. The safe and efficient supply and transport of animals used for scientific purposes are key factors for the quality of research outcomes. A major responsibility of the biomedical research community is to assure healthy, well characterized and maintained animals in good supply close to the research institutions to allow minimal transport stress. By protecting and improving the supply chain within Australia, reliance on foreign suppliers is reduced in times of emergencies.

In 2020, China placed a ban on the export of non-human primates for any reason, including for biomedical research. Although this was initially in response to the Covid-19 pandemic, the ban has yet to be lifted and is having a negative impact on the biomedical research sector worldwide. It appears this ban will last for a considerable time, and supply chains have shifted to support internal Chinese needs for these valuable animals and their use in research. Companies producing life-saving vaccines, medicines and research are now seeing delays of up to two years to perform some work and paying more than three times the cost from just 3 years ago for nonhuman primates. The resulting shortage of nonhuman primates for research is a clear example of the need to have sustainable supplies and resources within the nation. Covid-19 has shown the world the importance of resilience and sufficient reserve supplies within healthcare systems. This allows quick and effective response to public health challenges and the ability to have appropriate animal models available for sound science to occur.

The North American Perspective:
The North American Biomedical Research Community has strongly embraced the 3Rs and a Culture of Care in their institutions. As such, reduction of animal use remains a primary principle and is supported. We have closely followed activities in Europe (Basal) where there have been votes to hasten dates to phase out animal research (similar to certain cities in the US, eg. Madison WI) and in these recent votes, both in Europe and the US, legislation for faster phase-out or elimination of animal research has been defeated.

It is important that we recognize the success of current legislation for the protection of research animals and also recognize the critical role animal studies continue to play in developing safe and effective drugs for the benefits of society. APV believes that enforcing artificial deadlines on animal use will jeopardize many ongoing studies and the future of medical research in Australia.
Sincerely