1 regulations based on moral standards which

Environment, Ecology

1   The pursuit of scientific advancement has subjected a variety of animals to unfair, unnecessary cruel treatment. Will society continue to justify ineffective animal testing to some form of illegitimate, imprecise data or are there alternative solutions available? Researchers have long involved animals to create some form of legitimate scientific evidence because our bodies share outstanding physiological similarities. Scientist has continually used ineffective methods to categorize their research, current laws are ineffective to implement any form of real change, considering alternative research methods can be a crucial form of advancement in scientific testing. Will alternative research methods solve for moral, scientific and regulatory problems?   When considering animal testing it is important to take into account current animal regulations which affect the experiments that involve animals, for example, the US Animal Welfare Act. Currently, regulations based on moral standards which try to reduce pain and distress which are ineffective due to each individuals definition of these qualities.

In " The Three Rs of Animal Research: What they mean for the Institutional Animal Care and Use Committee and Why describes the Institutional Animal Care and Use Committee" directly solves for animal testing standards/laws ineffectiveness. " Replacement..

. Reduction…Refinement"(Cruzer et al.

552) which directly affects current animal testing models because it challenges moral standards by shifting the current animal testing models, which can lead to the same solutions as non-animal based experiments. Replacement directly challenges the use of current life forms for another

form of sustainable testing material to reduce animals. Reduction aims to reduce current amounts of animal, which correlates to refinement to produce less costly and less animal-based 2experiments. By directly challenging animal testing standards on the morality of scientist helps shift animal testing standards for more innovation and potential progress.

The shareable framework presented in " The Sharing Experimental Animal Resources, Coordinating Holdings (SEARCH) Framework: Encouraging Reduction, Replacement, and Refinement in Animal Research" by Morrissey et al. offers a more sustainable scientific ecology solution based around the Three 3rs. Morrissey et al. establish a general consensus that scientific data revolves on the fact that "…animal models are required to generate high impact publications.

"(Morrissey et al. 6). This mindset is justified by the author's background who hold multiple credentials and Ph. D's. The SEARCH proponent revolves within 4 squares which include; share surplus Tissue, Source Tissue, Reduce Use, and Accelerate research." As they acknowledge the proposition would require the scientific community to accept and willingly publish data received first on such framework system. This revolution allows for such progression to occur but fails to solve for the irregularities in data which occur with animal testing. If the framework were to be implemented with the three R's aspect it can allow scientific perception of animal testing to decrease and eventually even shift as more and more scientist to share and help advance the efficiency of animal testing.

Scientific animal testing contains big flaws which lead to inaccurate testing result caused by multiple factors from birth to conception. Animal subjects get developed under irregular, maximum conditions to force upon desired illnesses or negative effects as a form to solve or cure such issues as stated in " More than a cosmetic change" by Nature| Vol 438. It is estimated that 5, 000-12, 000 animals are experimented on by data released by " More than A Cosmetic change", 3which cost around 6 Billion US dollars each year. Considering lethal doses of chemicals in a study provided by ECVAM " Acute toxicity test involves feeding animals with a chemical to determine the lethal dose" which doesn't translate to human health standards. Humans do have similar physical characteristics to other animals or living species but our regulatory systems in our body produce and handle chemicals differently, so to assume animal testing can pinpoint correct data should be ill-assumed. In another unspecified scientific study which involved 400 rats to determine if a chemical can cause cancer the results proved over speculation. It's estimated that 50% turned positive, but out of those total, 90% of positive results were false.

This example shows a huge divide in the possibility of continual animal testing, such to a point that, yes animal testing has been used in that past to develop a treatment for certain cases but the longevity of animal testing has it's time counted until that research form gets replaced. Current morality based laws are created to avoid any pain and distress, but recent studies provide evidence to show higher species share more naturally, instinctual capacities as humans. Current laws such as US Animal Welfare Act only target how the animals are contained and captured. In the United States, the

US Animal Welfare Act excludes " purpose-bred birds, rates, or mice which comprises more than 90% of animals used in research."(Hope R.

Ferdowsian, Nancy Beck 1) regulations implemented only affect the target 10% of animals which ignores the majority of all animals being tested which allows for purpose bred animals to get along with far worse treatment and fewer regulations to protect them. Animals subjected to testing have long shown signs of distress but studies prove a stronger correlation to the human psyche which makes reformers want to act by stopping animal cruelty. Transferring over to alternative research 4methods such as the SEARCH framework will help reduce such disparities in the scientific animal testing communities by shifting the focus on how we treat and use animals.

Traditional testing relies on hundreds of animals but alternative solutions can prove to become a viable alternative route to advance medical and scientific research. When considering today's policy one must assume no change might occur (worst case scenario) laws that prevent the extreme of animal testing are based on the issue that animals must not receive pain or distress. Scientific data provided shows animals extreme sense of reasoning which then leads us to a halt based on moral arguments against animals should still get tested on, but alternative test on phyto test has proven a possible solution. This new emerging testing has positive implications as showed one: " Toxicity Testing of Chemicals with the Use of Chemicals" by S. Ostroumov which outline 4 major benefits. "(1) cost-effectiveness: (2) relatively quickly achievable results; (3) formation of arrays of quantitative data (numbers,

digits), convenient for statistical processing and (4) compliance with bioethics requirements.

". With positive chemico-biotic reactions shows a clear future for expansion of this testing. Both type of organism exhibit a similar form of reactions to testing the chemical, which helps lead to the avoidance of animal. Continuation of similar testing will help solve all current issue associated with animal testing, but framework wise for tradition testing will be solved with SEARCH and other forms of the framework which hopefully translates in the switch to alternative testing. Animal testing has long been attributed to medical research as the complex human body remain an overall mystery to understand, while mammals related in some physical form to humans allow similar advancements. Ineffective animal testing includes many factors that can't be 5controlled and the overarching issue of similarities/differences between animals and the human body.

Toxicology test has proven to have high ineffective testing methods. No current framework implemented allows a form of shareable data other than a scientific publication to allow ineffective testing methods. Researchers continue to research methods that have maybe been identified or tested. Animal testing cannot continue to be consider effective even though it has proven some form of valid scientific solutions.

Basing regulations on pain and distress proves to be too broad, many other alternative research methods have proven effective but the biggest challenge will be shifting framework and scientific perspective that can be solved through these movements on testing with a change of mindset.