

**Oral Testimony of Dr. Aysha Akhtar
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Submitted to the Maryland State Senate Education, Energy, and the Environment Committee hearing in support of SB0761, Testing Facilities That Use Animals – Licensing Regulation

Friday, March 8, 2024

9:00 AM EST

Good afternoon members of the Education, Energy, and Environment Committee. My name is Dr. Aysha Akhtar and I am the CEO and Co-founder of the Center for Contemporary Sciences, a Maryland based non-profit dedicated to unlocking the power of science to find solutions that improve the health and wellbeing of humans, animals, and the planet. I am a double-board certified neurologist and preventative health specialist, with a background in public health, and a U.S. veteran.

I am submitting testimony today in strong support of SB0761, Testing Facilities That Use Animals – Licensing Regulation, introduced by Senators Kramer, Lam, Lewis Young, and Waldstreicher. This legislation would do a number of things to protect animals used in research and support human-relevant testing methodologies including:

- Mandating the use of non-animal methods when they are available and provide equivalent or superior scientific information to assess the safety of products such as household cleaners, drugs, pesticides, medical devices, vaccines, and chemical substances,
- Establishing requirements and prohibitions for the use and treatment of dogs and cats by testing facilities,
- Requiring all private facilities using animals in research and testing to get a license and annually report the number of animals used, the number of dogs and cats adopted into homes after their time in research has ended, and for product testing facilities to provide data on their use of animal methods and non-animal alternatives,
- Creating a State Inspector position and inspection requirement and,
- Setting up an Animals in Research Fund with money collected from licensing fees to pay for the provisions of the bill.

The existing paradigm places animal experimentation at the center of research and testing despite a well noted lack of translatability between animal testing and human outcomes. More than 80 percent of all drugs and vaccines found safe and effective in animal tests fail during human clinical trials.¹

A Personal Story

¹Tagle DA. The NIH microphysiological systems program: developing in vitro tools for safety and efficacy in drug development. *Curr Opin Pharmacol.* 2019; 48:146-154. doi: 10.1016/j.coph.2019.09.007.

One of the hardest things I have had to do as a neurologist is to watch my own aunt, a strong, vibrant woman, deteriorate from Parkinson's disease until she died. I watched helplessly as she slowly lost control of her own body, a truly terrifying experience. Her arms pained continuously from the constant, uncontrollable tremors. Meanwhile, her legs often refused to move. By the end, she was unable to walk, stand, and perform the most basic of movements we expect from our bodies. Perhaps even more devastating, she lost her sense of self and her unique personality, humor and intelligence disappeared, to be replaced with a swirling chaos of dementia.

I tell you my aunt's story because there is not a single effective treatment for Parkinson's disease. Nor is there an effective treatment for Multiple Sclerosis, dementias, spinal cord injury, most cases of stroke, and just about every neurological disease. As best, we have treatments that help with some of the symptoms, but which do not truly impact the illness themselves.

Professional Story

In fact, there is no approved treatment for most diseases, neurological or otherwise. During my decade as a Medical Officer at the Food and Drug Administration (FDA) and in their Office of Counterterrorism and Emerging Threats, I studied the safety and effectiveness of new drugs and saw how promising drug after drug came through the pipeline only to fail in human clinical trials.

At some point, it became clear to me why there are so few effective treatments for human illnesses. Subtle differences between humans and other animals now significantly mislead the results of studies. I authored a study that showed that one of the most reasons why there are so few treatments for most illnesses is because animal tests do not predict human results.

Throughout my career, it has not just been the lack of treatments and cures that come out of using animal testing that has pushed me to support human-relevant testing methods, but the treatment of the animals being used in research. I have witness an experiment in which a cat's spinal cord was crushed and its movement on a treadmill being recorded. The cat had implanted electrodes forcibly implanted into her brain and she was struggling to keep upright, dragging her paralyzed legs on the treadmill. She repeatedly fell off the machine.

It's difficult for us to imagine what the lives are like for these animals. We want to believe that these animals are being treated humanely, but I can tell you from personal experience that this is not the case. As soon as you walk into a laboratory, you can't help but notice the rows and rows of barren cages holding sad animals living under the glare of fluorescent bulbs. Their bodies are burned, mutilated and scarred. You can smell the stench of blood, feces, and fear.

A Way Forward

Human-relevant testing methods are the future in medicine. Methods like bioprinted mini organs and human-body-on-a-chip are based on human data and human biology. Thus, unlike tests using different species these new methods are human-relevant. They are already outperforming animal testing in modeling human diseases and predicting human results. Last year Maryland passed HB626, which created a Human-Relevant Research Funding to provide grants to public and private institutions in Maryland to advance the discovery, creation, and use of human-relevant research techniques in the medical sciences.

Additionally, Maryland has already shown itself to be support humane legislation by passing a law to end the testing of new cosmetics on animals in 2021. SB0761 will not only help Maryland continue to pave the way for a new frontier in medicine, more effective research tools, and real hope for people suffering devastating illnesses by supporting human-relevant methods, but it will provide additional, much needed protections for those animals still used in testing.

Maryland established itself as a leader in the future of biotechnology and medicine by passing HB626. I and the Center for Contemporary Sciences favorably support SB0761 to help Maryland to remain a trailblazer in this space.

Sincerely,

A handwritten signature in black ink, consisting of a stylized 'A' followed by a horizontal line and a small flourish.

Aysha Akhtar, MD, MPH
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