

Straight talk with... Frankie Trull

Attacks against researchers by animal rights extremists have steadily increased in recent years. More than 70 such attacks occurred in 2006 alone, according to data collected by the Foundation for Biomedical Research, a Washington, DC–based nonprofit that aims to serve as the voice of scientific reason in the ongoing debate that surrounds animal research. Frankie Trull currently heads the foundation, which she established in 1981. She explains to *Nature Medicine* why she has devoted her career to improving the public understanding of the essential role of lab animals in medical research and discovery.

Nearly three decades ago, you established the Foundation for Biomedical Research and its sister organization, the National Association for Biomedical Research, which lobbies on behalf of scientists. What motivated you to do so?

Total naiveté. I had no idea what I was getting into. If I had known then what I know now, I wouldn't have done it—especially with all of the death threats I've received over the years. But I am a huge animal lover and helped in the development of a veterinary school in the '70s. I was asked [by the school] to help address the critics of laboratory animal medicine[...], and that is how I got started.

What's behind the recent increase in extremist activity in the US? And what about animal welfare in other countries?

The UK was very tolerant of bad behavior by extremists for a long period of time, and the animal rights movement really picked up momentum there before the country passed tougher laws in the past decade. The extremist movement in the UK inspired a lot of activity in the US. But it's really an evolving international issue. Right now in Israel there is a debate about animal rights. In India and China, higher ethical standards for the use of animals in research are being driven by the internationally based research that goes on there.

Are there any ways to safely increase the transparency of animal experimentation?

I think that most researchers would be happy to open the doors. [And] lots of institutions have open-door policies. The catch is that some people want in so that they can get a lay of the land and then come back and do damage. So researchers have to weigh the benefits of sharing information with the public about the humane care of animals against the potential threats to animal safety from vandals.

What changes need to be made in biomedical research to better protect animals, and who needs to implement them?

Laboratory animal welfare is constantly being modified as veterinarians learn more about animal behavior. There is controversy and debate that comes from those advances, such as how pain is defined, group housing, environmental enrichment and techniques for anesthesia and euthanasia. But these are evolving research issues, not negligence.

What do institutions need to do to better protect scientists?

Universities don't have the same kinds of security measures in place as private companies, and they can't, because, by definition, they are open institutions. When someone comes under attack, institutions grapple with having to provide 24-hour security, legal and PR [public relations] assistance. It becomes a major financial commitment to protect scientists. Security systems are usually not put in place until after an attack, and then people are scrambling on the defensive.

Where is the balance between animal rights and human safety?

I consider myself a welfarist and think that animals need to be

used only when absolutely necessary and under the most humane conditions. [Still,] it's important not to forget the historical context of animal experimentation. Civilized societies should not introduce new compounds or procedures into human beings without first trying them in a different living system.

What are the most promising technologies that can substitute for laboratory animals?

In toxicity testing, most animals have been replaced with *in vitro* technologies, which are faster and cheaper. These days, researchers rarely conduct LD₅₀ testing, which determines the lethal dose at which half of the animals given a certain drug will die. However, any new method to replace an animal test has to be duplicated and proven before FDA is going to concur it is safe. That takes time.



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How will the use of laboratory animals change in the future?

We still don't understand enough about the complexities of whole living biological systems to replace animals entirely. The kinds of animals, however, will change. We are seeing fewer dogs, cats and primates and more mice and invertebrates—such as fruit flies and horseshoe crabs. And many extremists haven't yet reached a conclusion about the use of invertebrates.

Which diseases stand to benefit the most from continued animal research?

There is a lot of exciting research going on, but probably the single most exciting area is neuroscience. In neurological diseases, such as Alzheimer's, we are going to see some remarkable improvements in treatment. Animal extremists are not going to be able to hold important science down no matter what they try to do. Our challenge is to keep the scientists and the animals safe.

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