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FASEB Webinar:

“The Case for Canines in Biomedical Research”

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The Case for Canines in Biomedical Research

U.S. Department of Veterans Affairs
Speakers

Michael Fallon, DVM, PhD, DACLAM
Chief Veterinary Medical Officer
U.S. Department of Veterans Affairs

Alice Huang, PhD
Staff Scientist and Deputy, IACUC Guidance
U.S. Department of Veterans Affairs
To Ask A Question

Type your question in the white box and click “Send” (gray button)
The Role of Canines in Biomedical Research

Alice Huang, PhD
Michael Fallon, DVM, PhD, DACLAM
Office of the Chief Veterinary Medical Officer
Veterans Health Administration
Department of Veterans Affairs
Why this Webinar?

To examine the issues involved in conducting research with dogs
What issues?

◆ Why conduct research with dogs?
◆ The context in which we do research with dogs
◆ The responsibilities related to doing research with dogs
Why Do Societal Expectations Matter?

- Funding
- Attitudes
Which Research?

- Have to be specific when considering the needs of the research
- Choose a model that is known to be similar to what is being modeled, with regard to the specific focus of the research
  - Size
  - Anatomy and physiology
  - Naturally occurring conditions
- Other considerations
What Has VA Research with Dogs Done?

- [https://www.research.va.gov/programs/animal_research/canine_research/accomplishments.cfm](https://www.research.va.gov/programs/animal_research/canine_research/accomplishments.cfm)

- A table of 30 examples from the last half century
  - Summary of each problem
  - Description of what VA research accomplished
  - References
Societal Context of Research with Dogs

Many in our society view dogs as different from other animals
Many in our society are not familiar with what it means to do research with dogs
- Why it is valuable
- What benefits have come from it
- What it actually involves
- How the dogs are treated and cared for
Societal Responsibilities

◆ Societal support depends on trust
◆ Research involves risk
◆ When things go wrong, responses depend on who is trusted
◆ Each person involved in research with dogs is responsible for giving society reason to trust researchers
Question from the Audience:

Q: I'm curious about your expense figures, i.e. 100 dogs per year with $100,000 in expense = $1,000/dog/year. Seems low to me based on my experience. How did you determine the $100,000 per year figure?

A: VA research is supported by funds from many sources, including not only VA funds, but also funds from NIH, DoD, research organizations (like the American Heart Association), industry sponsors, and institutional funds from affiliated universities. The 100 dogs are considered to be engaged in “VA animal research”, regardless of the source of funding used. The $100,000 figure is the amount of VA funds used for purchase and care of dogs – this is the relevant amount that is criticized as a “waste of VA funds” by animal rights activists who claim to specifically oppose the use of Federal dollars for animal research.
Assault on VA Canine Research

◆ There is a large body of purposely misleading information and false allegations about VA’s dog studies regularly being delivered to the public and Congress.
◆ The spotlight on VA started in 2017 when self-reports of problems in VA dog surgeries were obtained by animal rights groups. Since 2016- no further problems.
◆ All institutions are at risk of these attacks, not just VA.
Overall Agenda

◆ Attempt to ban Federal research on companion animals, then incrementally expand to other animals, and then to non-Federal research.
◆ Strategy- claim that animal research does not help people, is expensive, and alternatives to animal research can be used. This strategy has gained traction in both political parties.
What Does the Public Believe?

- If the scientific community does not effectively make the case for animal research, over time the privilege of utilizing animals will disappear and more people will suffer and die.
- The inflammatory language and false allegations used to shape public opinion must be countered or the false images of horrific treatment of research animals will be the images in the public consciousness.
Allegation 1 and Response

Allegation 1: dog research does not help people.

Response: show very clearly that it does by showing how the lives of real people are saved.
VA’s Response to Allegation 1

Dog studies conducted collaboratively at the Cleveland VAMC now allow Veterans with high spinal cord injuries (SCI) to cough effectively.

Pneumonia and other respiratory infections and complications are the primary cause of early death in SCI patients.
COUGH STIMULATOR

EXTERNAL COMPONENTS
Portable Control Box
Antenna

INTERNAL COMPONENTS
Electrodes
T9
T11
Ground
Radiofrequency Receiver

T9 level
T11 level
Parallel Wire Leads
Cough Stimulation in SCI Patients

NON-Stimulated Cough VS. STIMULATED Cough
Questions/Comments from the Audience:

Q: Thank you! The patient testimonials never fail to leave a lasting impression. It is great to listen to the voices of people who have been directly impacted by canine/animal research.

A: The film clips in the presentation are now available online here in the Videos section: https://www.research.va.gov/programs/animal_research/canine_research/default.cfm. Also, a short color pamphlet on the importance of VA canine research is available on the same page.

We encourage you to track down these kinds of powerful stories related to work done at your institution. It may not be obvious to the public how saving the life of a person with a medical problem or easing their suffering depends on the work with animals, so it’s important to be clear and direct in telling the truth about the research, pointing out explicitly how the medical advances are related to it.

*The title of slide 22 contained an error when it was presented in the webinar. It is corrected in the
current slide.
Letters from Loved Ones

Dr. Kondo:

I am sorry to inform you today.
I just want to say “Thank you” again.
This device has been a lifesaver for David.
This is the best thing that we have done since
David's injury.
This Research SAVES LIVES

Incidence of Respiratory Tract Infection in SCI Patients Before and After Implant

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<tr>
<th>Mean per Year</th>
<th>Pre-Implant</th>
<th>1 Yr After</th>
<th>~4.5 Yrs After</th>
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<td>1.4 ± 0.3</td>
<td>0.3 ± 0.2</td>
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Allegation 2 and Response

Allegation 2: dog research is “expensive.”

Response: Show that it provides a very high Return on Investment (ROI).
120,000 Veterans were admitted to VA hospitals with a diagnosis of heart failure in 2010, with an average cost of $30,000 per patient.

Annual cost to VA was about $3.6 billion (120,000 x $30,000) in 2010 alone.*

Cardiovascular disease remains the leading cause of hospitalizations in the VA healthcare system.

Annually, for all canine studies combined, VA spends less than $100,000 per year.

*Yoon J. JACC Heart Failure 2016;4(7):551
The Richmond work on PVC-induced heart disease was referenced twice in the American Heart Association’s 2016 Scientific Statement on the link between premature ventricular contractions and heart disease.*

The group was awarded an NIH-R34 (Clinical Pilot Study), a multicenter randomized study (11 centers in US & Canada) made possible through advances in understanding the problem provided by both canine research and human clinical observations

*Bozkurt B, et.al, Circulation 2016;134:e479-e646
ROI on Cleveland Cough Stimulation

Incidence of Severe Respiratory Tract Infection in SCI Patients Before and After Implant

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ASCEND
ROI on Cleveland SCI Dog Studies

- Per patient, at least 1 less hospitalization for pneumonia is expected per year, at an average cost of about $30,000 per hospitalization. At 20 patients, that is a savings of $600,000 per year.
- VA spends in total <$100,000 per year on dog research.
The VA Research budget for FY2018 was ~$720,000,000.
In FY2018, a total of about $100,000 was spent on purchasing, maintaining, and caring for VA research dogs, which is 0.014% of the Annual VA research budget.
Allegation 3 and Response

Allegation 3: dog research is unnecessary because non-animal alternatives can substitute.

Response: Show clearly that alternatives cannot substitute for dog research (VA and other institutions would not allow the use of dogs if alternatives could meet medical and research goals!)
Alternatives Can Substitute?

As promising as “organ on a chip” technology is, it cannot currently substitute for the vast majority of biomedical studies involving animals.
Tactic: Creative Writing

“ Forced to run on a treadmill until they collapse. ”

- WRIC ABC News
The Truth- Actual Canine Test
Final Points

- For a small but important number of research studies, only dogs can be used to save the lives of people and ease their suffering.
- As a community, we must stop playing defense and aggressively provide the truth about animal research to the public.
- The voices and emotion of those who are saved and helped by animal research are powerful messages not easily countered by animal rights activists.

Question from the Audience:

Q: Given how compelling your presentation was about dog research, why did the VA capitulate so easily on the cat research involving toxoplasmosis?
A: The research on toxoplasmosis was being conducted by the USDA, not VA.

Q: Great presentation. It is a common statement during webinars such as this about "making sure we get the correct information out" to the public. What is the best way to accomplish this at the institutional level (for those in academia), local/city level or state level?
A: The key is to make public as much information from your institution as possible, in context, and before you are asked for it. An effective approach is to put relevant information and testimonies on your website now, so it is there when questions arise. Waiting until you are asked can be interpreted as an attempt to maintain secrecy, and those who want to misrepresent the information will not likely provide the appropriate context. Beyond the institution, there are numerous organizations dedicated to promoting transparency about research with animals, with examples, and advice on their websites. You can get started with https://speakingofresearch.com/ , and
Q: How is this information that Dr. Fallon discussed, shared with the public in this same level of detail? Who receives this information? How can we get this type of information distributed to the general public in a way that they will relate to?

A: The primary recipients of the information in Dr. Fallon’s portion of the presentation have been members of Congress, members of the media, and Veterans Service Organizations. But we are posting increasing amounts of information on our website about animal research (https://www.research.va.gov/programs/animal_research/default.cfm) for easy public access, particularly about canine research (https://www.research.va.gov/programs/animal_research/canine_research/default.cfm). On the canine overview web page is a slide set with a more detailed presentation than what Dr. Fallon provided during this webinar, and links to the video clips shown (“Videos” section).

We have been learning a lot about getting information posted online and making it accessible and effective. Social media sites will also important for distributing this information, but we are not yet active there. One lesson worth keeping in mind is “Don’t wait” until you can put together a complete package – just get started, then add to it and revise it as you go.
Dogs are Given Love and Respect
Questions/Comments from the Audience:

Q: Just a comment that it is also important to emphasize when responding to concerns is that these are purpose bred animals not pets.
A: Agreed. The dogs in VA research are all purpose-bred by vendors specifically for research (Class A USDA breeders), as required by PHS and VA policy. None come from private homes and none have been pets. It is also important to our agency that we have a policy that healthy dogs suitable for adoption after research all go to private homes. VA partners with Homes for Animal Heroes (http://animalheroes.naiaonline.org) to ensure that they are placed with loving families that can care for them properly.

Q: Does the VA do any public outreach or education currently?
A: VA has an annual Research Day event (in May) (https://www.research.va.gov/researchweek/field_events.cfm), for which the local VA stations are encouraged to provide the information to the public and raise awareness about the value of VA research, including VA research with animals. We hope to develop more materials going forward that we can provide to the local stations to enhance their presentations. Right now our focus is on getting key
documents onto our website (https://www.research.va.gov/programs/animal_research/default.cfm), where they are of course available for anyone to use. The response to item 5 describes our outreach to key external stakeholders in VA research.
To Ask A Question

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Other Questions?

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