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Opinion: A Seven-step Approach to Communication about Animal Research

Eric P Sandgren, VMD, PhD[1]*

Organizations that receive public money to conduct research using animals should be able to explain the importance of and need for that work. More generally, anyone who believes that properly conducted and regulated animal research either does or does not make the world a better place wants the public to understand why they hold their belief. In a world with divided support for animal research, honest communication about these issues is essential to develop sound public policy. Specifically, communication about animal research (or any type of research) needs to address the scientific, ethical, and regulatory considerations that underlie public policy decisions. This opinion article describes a 7-step communication strategy designed to address these issues. The 7 elements of this approach are 1) motivation, 2) the right mix of information, 3) a team approach, 4) respect for your audience, 5) determination and courage, 6) humility and honesty, and 7) persistence.

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Public support for animal research can be divided into at least 2 broad perspectives—support or oppose. According to the Pew Research Center in 2018, 52% of the American public answered "oppose" to the question "Do you support or oppose the use of animals in scientific research?"; 47% answered "support."[12] The subject is controversial, as many ethical and scientific arguments have been presented either for or against research that uses animals.[2] In a democracy, making decisions about actions should focus on answering the question "How should we live together?"—that is, how do we acknowledge facts and take into consideration ethical and political positions so that we find a middle ground that constitutes a compromise?[9] Thus, decisions about how animal research will be regulated should be made after full and frank public discussion of pros and cons. Regulations ideally should be aimed at maximizing the pros and minimizing the cons, thereby improving the quality and resulting benefits of animal research and reducing animal suffering and death, the essence of a utilitarian or harm/benefit ethical approach. Identifying the optimal balance of public desires, in turn, requires people with different perspectives on the issue to present and discuss their views honestly.

Public-facing outreach about animal research is not for everyone, and it should not be. In the past, spokespersons have been threatened.[3,11] But if outreach is not for *anyone*, we have a problem. I perform and support animal-based research. This essay is directed to others who use animals in research and who also support animal-based research.

When I was appointed the animal program director and public spokesperson about animal research at the University of Wisconsin–Madison, I discovered that several aspects of my training and approach helped me to provide strong and accurate explanations of university research and teaching that involved animals. In this essay, I have collected those elements into a communication approach that has 7 distinct elements. These elements are 1) motivation, 2) the right mix of information, 3) a team approach, 4) respect for your audience, 5) determination and courage, 6) humility and honesty, and (7) persistence. Below, I describe what each means to me.

Motivation

When criticisms of animal research are raised, the research community may avoid speaking out for fear of escalating the controversy or endangering their safety or that of their colleagues, students, and families. However, sometimes a criticism crosses a line. Opponents of animal research often make statements that omit important details, are misleading, or are simply false; some make threats.[3,11] At the same time, animal research organizations may keep a low profile in hopes that the controversy will go away, or present an incomplete view of the research in question. But the truth matters. Standing up to threats and to administrative silence is important: it seems to me that any organization using public money to conduct animal research should feel obligated to defend its decision to do so. Speak out. This may be particularly important to investigators and their staff, who care about animals and think that they are trying to make the world a better place through their research. Verbal and written support should address clearly the arguments and counterarguments concerning why we believe animal-based research is important and justifiable. Perhaps if the general public who have not yet "chosen sides" on this issue could be helped to understand the details of animal research—what happens to the animals, what we learn as a result of the study, and how what we learn helps to improve the human condition—then more of them might support our efforts. To find out requires providing the information and having the conversations.

The Right Mix of Information

Effective communication about animal research requires addressing the fundamental questions and concerns of the audience (see Table 1). Federal law and guidelines have been established to require that many of these questions be addressed in an "animal care and use protocol," which needs approval by an IACUC before the animal activity can begin and in general before animals even can be procured.[13] Each IACUC must include as members at least a scientist with expertise in animal

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[1]School of Veterinary Medicine, University of Wisconsin-Madison, Madison, Wisconsin
**Corresponding author. Email: eric.sandgren@wisc.edu*

Table 1. Public concerns about animal research

1.	Why does the study matter—What are its hoped-for benefits, and can those benefits be reasonably expected?
2.	Why are animals required to answer the questions being asked?
3.	What happens to the animals before, during, and after the study?
4.	What ethical considerations have been used to justify the study?
5.	Who makes the decision to approve a study?
6.	What is the oversight? (The Federal Animal Welfare Act; Public Health Service policy for Public Health Service–funded activities; accreditation by the AAALAC; local IACUC, veterinary, and animal care staff)[13]
7.	What are the consequences if oversight fails?

research design, a veterinarian with experience in the animal species involved, and a public member with no connection to animal research or to the organization. Their decisions cannot be overruled by anyone in the organization. At the University of Wisconsin–Madison, committees were typically comprised of 9 or more members. Other issues are addressed within the "animal care and use program," an organization-wide governance system required by law to provide guidance and oversight to all aspects of animal use.[13]

Addressing these public concerns requires familiarity with science, research design, features of species-appropriate animal welfare and overall husbandry, ethical considerations, and regulatory oversight. Because various members of an institutional research program are likely familiar with some but not all of these issues, this information may best be presented to the public by using a team approach.

A Team Approach

Because I am a biomedical scientist, veterinarian, IACUC chair, and animal program director, I am in the rather uncommon position of having a background (after some ethical and research study-specific education) to respond to all of the key questions listed in the section above. This overall familiarity is critical when addressing a general audience. Scientists talking about research may be asked about animal welfare and veterinary care, which may not be their area of expertise. Research animal veterinarians might be asked about the experimental design, rationale, and likely outcome, which is not their area of expertise. Each of these individuals should understand both the regulatory system that protects scientific integrity and animal welfare and the ethical justification for a study. A generalist "university spokesperson" may lack expertise in all of these areas. An inability to address any one of these issues leaves the audience with unanswered questions or unclear answers, which will make the communication effort a partial success at best and a failure at worse.

In my experience, an inadequate response team is one of the biggest deficiencies in many efforts to defend animal research. Currently, a typical public presentation about specific experiments usually focuses in detail on either the science or the animal care, but seldom both. For this reason, the communication team may require a scientist familiar with the specific research and a veterinary expert who is aware of the animal experience and all steps that will be taken to maximize animal wellbeing. The latter generally also will understand applicable regulations. Scientists and veterinarians both should be conversant with key ethical principles. A team with this mix of expertise should be able to address essentially all audience questions. The communication goal should not be to convince the audience that the speakers are "right," but rather to answer any reasonable questions that the audience might have about the research under discussion, and, assuming the speakers approve of that research, to explain why they believe the proposed actions are appropriate and well justified.

Finally, media training of all team members by communication experts is a critical component of success. Respectful communication with the public is quite different from communication with fellow scientists, and most of us, whether scientists or veterinarians, will be far more likely to succeed in front of a public audience after receiving professional guidance regarding content, vocabulary, presentation skills, and perhaps patience and anger management. Once the team is established, have a plan to rapidly mobilize to a reporter's call or an activist's charge of wrongdoing.

Respect for Your Audience

Another frequent problem in both written and spoken communication is the failure to respect some members of our public audience. As an individual, I have thought in detail about the ethics of animal research, and I have concluded that under the right circumstances (good science, appropriate concern for animal wellbeing), using animals in research can be ethical. I base this view on a typical harm/benefit utilitarian ethical approach.[1,10]

However, some people who have the same ethical approach conclude that the benefits of animal research do not outweigh the harm to the animal. Others follow a rights-based (deontological) approach and believe animals, like humans, should not be subjected to research without their permission, which is essentially impossible to acquire. The idea that animals have some basic rights beyond those codified in the law is a legitimate ethical stance that is widely defended by leading scholars who specialize in the ethics of animal use.[5,6]

I believe that I also have a right to hold my well-considered ethical principles. I expect others to honor that right, and therefore I must honor their right to hold their own ethical principles. In a democracy, decisions almost always represent compromises or policies developed after examination from multiple ethical perspectives. Advocacy for an ethical principle will be more effective when effort is made to explain and justify that position relative to other positions, rather than simply asserting that other positions are incorrect.[8]

As stated by a prominent science communication scholar, "the purpose of science communication is not agreement, but fewer and better disagreements."[7] Acknowledging the validity of each legitimate ethical perspective lets us focus on the facts that are relevant to animal research. Such facts could include consideration of the real harms and real benefits of a particular study, and potential harms and benefits that would occur if the study is not conducted. Effective communication through honest discussion of these considerations can perhaps help to achieve consensus or compromise, or at least an understanding of others' perspectives.

Determination and Courage

Significant forces counter attempts to publicly support animal-based research. Spokespersons have been attacked, sometimes physically, by activists who want to stop animal research. An organization's own administrative officers may be risk-averse and advise saying nothing rather than risk aggravating the situation. Speaking up can make animal research a bigger target, and we certainly do not want to make things worse. But as mentioned earlier, we should acknowledge an obligation to publically justify both how we use public funds

and the ethical principles that we follow, and to condemn and end activities that do not meet our standards.

Academic freedom entails the opportunity and right to openly address controversial topics. This can be done by identifying a team of individuals with relevant expertise and by having your organization's commitment to excellence in all aspects of its animal program, including research excellence, animal care excellence, and journalistic excellence. Communication should be open and honest, understandable to the audience, and able to address difficult questions.

Humility and Honesty

An institution that commits to maintaining high standards in its animal program provides its communication team with a strong defense against criticism. Furthermore, when errors in judgment or actions occur in animal programs, these failures should be acknowledged honestly and rectified, and the steps taken to prevent such situations in the future should be stated explicitly. Maintaining animal program quality is a continuous process. Scientists, veterinarians, care staff, and administrators should demand program excellence, and shortcomings should be identified and addressed promptly.

Persistence

No matter how well we communicate, both reasonable and baseless confrontations will continue to occur. Animal care programs always will experience change, ideally for the better. Persistence of communication is a necessary component of maintaining public understanding of institutional animal care and use programs.

As a spokesperson for animal research at my institution, the best personal examples I have of the benefits of persistence are my experiences with student newspaper reporters. Student reporters turn over every couple of years, and many have no scientific background. Given my role, they typically ask me for comments only when a program controversy arises. In addition to sharing prepared talking points, I often would spend an hour or more with them explaining the animal care program overall: how we are subject to federal and state regulations; how we evaluate and must approve any proposed use of animals before a study can begin; how we care for animals and respond when problems arise; and how we see ourselves as being responsible for the stewardship of all animals under our purview before, during, and after the study. I also explain how scientific breakthroughs develop like castles that are built from dozens or hundreds of individual bricks, each a published study—some are foundational, others more directly linked to the breakthrough, and the success and utility of each individual brick will vary—and how ultimate success often is not predictable. When given this background, reporters almost always provide a balanced and nuanced coverage of our animal research program. A brief and overly general institutional response will not achieve this end.

What Will Our Colleagues Think?

In 2005, I participated in a moderated debate about animal research with a local animal activist. I was tired of seeing only one side of the issue—as presented by activists—in the local news. At the time, some in the university administration suggested that I should not grant the activists' position undeserved legitimacy. However, I pointed out that local news already acknowledged the legitimacy of that perspective by giving it coverage. I wanted to correct that imbalance, and the one-sided coverage motivated me to step up.

The debate occurred before a packed audience of 250 people. Campus police were present and the atmosphere was initially tense. Remarks were restrained but pointed, and each side received its share of applause. After the debate, I received 5 emails from faculty who criticized my decision to debate, but more than 50, half from faculty and half from graduate or postdoctoral trainees, thanking me for explaining and defending in public their efforts to make the world a better place. When my bioethics colleague Robert Streiffer and I surveyed faculty about animal research issues in 2017, a large majority thought that university spokespersons were not communicating enough about animal research.[14] We also evaluated how species, research purpose, and the potential for animal discomfort influenced their views about the acceptability of animal-based research.[15,16] The people who viewed animal-based research as a way to improve human and animal health thought that this work deserved written and oral support from their organizations, public explanations of the legal and ethical checks and balances they must address, and acknowledgment of their concern for animal wellbeing. If our decisions to use animals are not openly and honestly defended, then others may question those decisions.

Finally, circling back, remember that every investigator should not be expected to speak publicly about his or her work. In my view, such defense should be provided as an organizational best practice. If you want to participate in outreach, consider the following points: 1) join or create a team that can knowledgeably and honestly address public concerns; 2) take the time necessary to understand the opposition and their ethical positions; 3) be certain that your own animal program is in good order; and 4) keep at it. In my experience, many people will support some types of animal research if they understand both the pros and the cons, but without trustworthy voices to speak for animal research, public support is unlikely to increase.

Future Directions

The approach to public communication about complex and often controversial science is a science in its own right,[7] and the topic of animal research would benefit from additional scrutiny by science communication experts. This is also the conclusion of a consensus report titled "Developing a collaborative agenda for humanities and social scientific research on laboratory animal science and welfare."[4] Designing and applying quantitative measures of communication effectiveness will improve our efforts to provide the public with the information it needs in a form it can use, thereby strengthening their ability to make informed decision about whether and how animal research should be supported and regulated in our societies.

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Conflict of Interest

The author has no conflict of interest to declare.

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