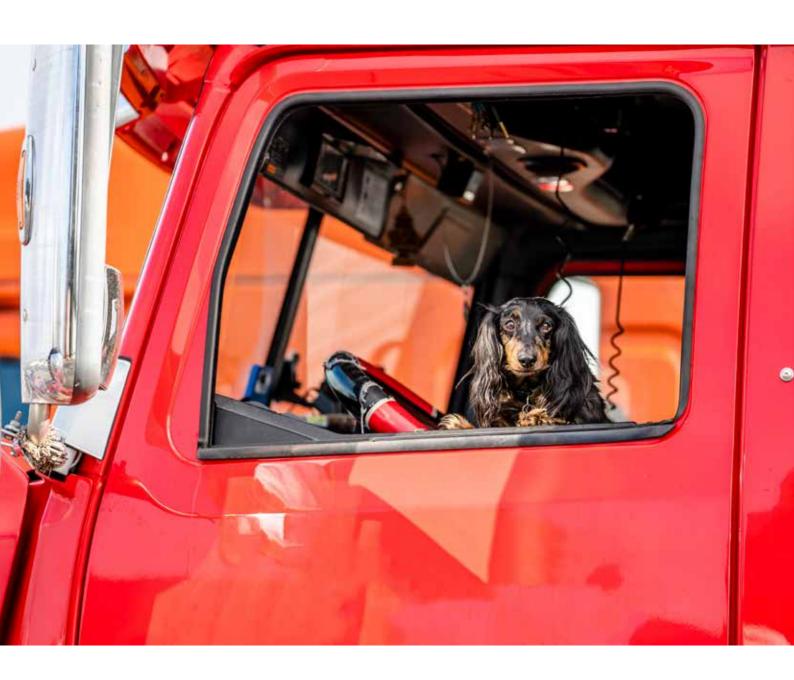
## Newsletter

Summer 2023





## Pet Dogs to the Rescue! Furry Friends Can Help Human Health

Dogs share our homes and environments. They grow up with us and grow old with us. And as they age, dogs tend to get many of the same health problems that we do—conditions like obesity, heart problems, cancer, and mental decline. Most of the genes found in dogs are also found in humans.

Because we share so much, it's not surprising that health-related discoveries in people can lead to better medical care for dogs. Likewise, studies of dog biology can lead to better understanding and treatments for people.

That's why NIH supports large-scale projects that aim to learn how aging, genes, and other factors affect the health and biology of dogs. Scientists partner with dog owners who share detailed information about their pets. The researchers analyze the massive amount of data they've gathered. Then they share their data and findings with other scientists to enable even more discoveries.

"Working with the general public has been one of our most productive and fruitful collaborations," says NIH's Dr. Elaine Ostrander, who led the launch of NIH's Dog Genome Project more than 20 years ago. The project aims to learn how small changes in genes can lead to the many behaviors, body shapes, and diseases seen in different types of dogs.

Her team has collected DNA samples from tens of thousands of dogs. They've identified dog genes that helped to shed light on many human disorders. A recent study found genetic factors that raise the risk for an aggressive blood cancer that's common in a certain dog breed. The findings might lead to improved treatments for both dogs and people with the disease.

Ostrander's studies often focus on purebred dogs. Since the dogs' parents and ancestry are well-known, it's easier to tease out the activities and functions of specific genes.

Another large study—called the Dog Aging Project(link is external)—seeks to enroll all types of dogs. These include mixed breed and purebred pets of every age.

"The more dogs we have, the better," says project co-director Dr. Daniel Promislow of the University of Washington. "More dogs will give us more data and more power to ask more questions."

The Dog Aging Project aims to follow pet dogs over 10 years or more. It will track how genes, diet, exercise, and the environment affect health and aging. "If we can understand what affects health in dogs, that will be good for the dogs and good for the owners who love their dogs," Promislow says.

One recent study found that active older dogs are less likely to have dementia than inactive dogs. Another found that dogs living in environments with less opportunities to socialize with people and other animals often had worse health outcomes. "These are interesting relationships, but it's important to note that we don't yet know what is causing what," Promislow says.

Studying dogs over time could help to pinpoint potential causes. This may lead to a better understanding of why activity and social relationships can also affect human health.

"The dog research community as a whole is really committed to collaboration. And we openly share our data," Ostrander adds. In the long run, this type of cooperative approach will help to improve both dog and human health.

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## **Enrolling Dogs in Research**

NIH supports several research projects that study pet dogs, including:

- **The Dog Genome Project.** Ongoing studies involve many types of pet dogs, with a preference for purebred dogs.
- The Dog Aging Project. This study will follow tens of thousands of pet dogs over years.
- NIH's Comparative Oncology Program. If a dog has been diagnosed with cancer, consider enrolling them in a clinical trial to test potential cancer treatments.

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