Education & Training, Health

Study Examines Health, Dog Populations in First Nations Communities

Jeanelle Mandes | June 11, 2014

In 2008, Emily Jenkins became involved in a case where a child from a First Nations community in Saskatchewan developed a tapeworm in her brain. Through a joint animal-human health investigation, Jenkins discovered about one in 10 dogs were carrying the parasite and more surprisingly, about one in 10 people could have been exposed to it.

As a result of her involvement, Jenkins, an Associate Professor in the Department of Veterinary Microbiology at the University of Saskatchewan, undertook a research project in 2011 examining the needs of First Nations communities for delivering veterinary services and managing dog populations. The project was partially funded by the Indigenous Peoples' Health Research Centre (IPHRC), a jointly owned centre between the U of Regina, U of Saskatchewan and the First Nations University of Canada.

"This really brought home the need to deliver veterinary services like deworming in (First Nations) communities without regular access to affordable veterinary services," said Jenkins, who targeted a few nearby First Nations communities in Treaty 4 territory where the tapeworm (Echinococcus) might be present. She also works with communities elsewhere in Saskatchewan where children have been injured or killed by roaming dogs to address the importance of targeting the issue of overpopulation of dogs on reserves. She gathered a few veterinarians and community partners in Keeseekoose and Cote First Nations to help kick off the research project.

David Kakakaway, a councilor for Keeseekoose First Nation, was one of the community members who helped Jenkins with the project.

Kakakaway supported Jenkins, as well as two PhD graduate students and three veterinary technology students, offering them accommodations in his home when they needed to work in the community. He also got his community members to participate in the research project along with the surrounding communities.

"I went around (having) access to the members. I got them all involved in at the skating arena to participate. It was treaty day so we had a table to treat the dogs," said Kakakaway.

There were about 60 pet owners who participated in the veterinary clinics, as well as other community members who volunteered to get tested for parasite exposure.

"Sometimes the dogs were reluctant about going to a veterinarian. Our community partners went around and helped (those) who didn’ t have transportation," said Jenkins. The team put the dogs in kennels and brought them to the clinic for vaccination and deworming.

A puppy sitting in a garbage can waiting to be tested for parasites at the dog research project. Emily Jenkins

"We were right in the village on one of the reserves. People came on foot, especially kids who would bring in their puppies and cats. Some people drove from a long way. We were surprised to get people outside the village area," said Jenkins.

After the clinics were finished, the data were examined and Jenkins and her team were surprised at the results.

Close to 100 dogs and cats received free basic vaccinations and deworming. In dogs, 41 per cent of 51 fecal samples were positive for at least one intestinal parasite, 3 per cent of 77 dogs were positive for Lyme disease and 21 per cent of 78 for Toxoplasma gondii," stated Jenkins in her final report.

Toxoplasmosis, which can cause problems in pregnant women and people with weaker immune systems, is transmitted by cats and through consumption of under-cooked meat. Although dogs do not transmit the parasite, these results serve as an important reminder that transmission of the parasite is occurring in the area.

Besides the dog clinic, some community members also took part in the human health clinic that was offered.

"At the human health clinic, 113 community members participated in this project by donating blood and filling out a questionnaire. Blood samples were tested for exposure to four different parasites," Jenkins wrote.

The research team made sure that communities had full knowledge of their findings. Everyone tested was sent their final results in a letter. In the letters, Jenkins strongly recommended that the participants and parents of children with positive tests arrange for follow up testing with First Nations Inuit Health Branch.

The gathered data was summarized in a report given to the Director of the Saulteaux Healing and Wellness Centre, along with a community presentation to band council and health personnel.

"At this meeting, we also shared educational materials about preventing parasite transmission and optimizing the scientific and public health benefits of this kind of research in communities," said Jenkins.

Kakakaway said the community members were initially opposed to the idea of having strangers testing their dogs but it turns out the testing helped the communities realize the importance of maintaining the health and populations of the dogs on reserves.

"They were aware of the dog deworming, the dog sicknesses. (Jenkins) sent us pamphlets stating what the dogs had. That made them aware of what their dogs had," said Kakakaway.

After Jenkins and Kelly Phipps, director of Canine Action project, gave a community presentation and discussion, the elders and community leaders decided not to pursue community-sponsored regular veterinary service clinics.


DR.
EMILY

Researcher Emily Jenkins testing a kitten for parasites at the dog research project. Emily Jenkins

"I think budget was a factor. To run one of these clinics, veterinary medications and materials cost around $15,000," Jenkins said.

Building on the work from this research, Jenkins hopes to expand her study to include different First Nations communities who are interested in improving the health and populations of dogs on reserves.

If you would like to learn more about this study or IPHRC, you can contact IPHRC's Associate Director Cassandra Wajuntah by calling (306) 337-2510 or by email.