

Cover story

USDA

"Horses are an important animal in Nicaragua for transportation and work. Here, I am vaccinating a foal for rabies and tetanus and am assisted by Staff Sgt. Chad Rix, U.S. Army."

Bringing comfort

Dr. Hughes lends her veterinary skills on humanitarian mission to Central America

By Dr. Robin Hughes



I'm Dr. Robin Hughes, DVM class of 1987. I have done private practice, zoo practice, wildlife and zoo curatorship, flight training, and now, shelter medicine. I currently live in Bradenton, Fla., but have practiced in New Jersey, California, Michigan and Virginia. What inspired me to pursue public health was my interest in zoonotic diseases and the high percentage of human diseases that originate in animals.

This field experience came about from connections I made with our state public health veterinarians, Dr. Lisa Conti and Dr. Carina Blackmore. They put me in touch with a local retired veterinarian, Dr. Bruce Kaplan, who is involved in the One Health Initiative.

Another group, the Global Alliance for Rabies Control, was contacted by the Navy, which was looking for a participant for Operation Continuing Promise. The Alliance's representative, Dr. Debbie Briggs, contacted Bruce, and he thought of me. I chronicled my trip by posting periodic entries at the Alliance's Web site, which you can read below.

Date: May 16, 2009

Location: Antigua - approaching the USNS Comfort

Operation Continuing Promise is an international, joint military and civilian effort. On board the ship are members of the Navy, Army, Marines, Air Force, Coast Guard, US Public Health Service, Reservists and Merchant Marines. Additionally, military personnel are

present from the Netherlands, Nicaragua and Canada.

The non-governmental contingent consists of six charitable organizations including Project Hope, Operation Smile, the Rotarians and the Church of the Latter Day Saints.

The medical capabilities of the ship comprise most procedures except open heart surgery, joint replacement and transplant surgery. Most patients are seen in an outpatient setting on land, but surgical patients are screened and then brought aboard ship for their procedures. The ship has the capability for 1,000 hospital beds.

Date: May 26, 2009

Location: Colon, Panama

This morning, we visited the Ministry of Agriculture to determine what their needs are for our mission. Their main concerns are bot flies, screw worm and rabies.

The ministry, in conjunction with the USDA, carries out the screw worm eradication program, whereby adult male flies are irradiated and released, thereby insuring their sterility. In this particular area of Panama, the screw worm is present, and

we are checking the cattle, goats and other livestock for this parasite when we process them for vaccines and deworming.

We are vaccinating all the livestock and small animals for rabies, which is present in this area. Vampire bats are an important vector here. The ministry practices nighttime capture of bats and testing for rabies.

Date: June 1, 2009

Location: Panama City, Panama

Today we took a break from our rabies prevention efforts in the local livestock and domestic animal populations and visited the screw worm eradication facility in Panama City. This is a joint effort between the USDA and the Panamanian Ministry of Agriculture. The plant rears screw worms, irradiates the pupae and releases

PHOTOS COURTESY OF DR. ROBIN HUGHES



In El Salvador, Dr. Hughes enjoys socializing with a native parrot.



Dr. Hughes (center) prepares for being airlifted from the ship to Nicaragua in a Navy helicopter.

the flies in mass from airplanes. Recently, there has been a screw worm outbreak in this area, but it appears to be fairly localized.

Screw worms once caused significant losses in the U.S. cattle industry, because the maggots invade living tissue, burrowing deeply, causing infection and gangrene. Any animal with a skin wound is a target. Humans can even be affected. Screw worms in the U.S. have been extirpated since the 1960s, and the line of extinction has been rolled back to Panama. Thus, the USDA maintains a presence here to safeguard the U.S. and all countries north of this line from recolonization by this fly.

Research is being done on various aspects of rearing the flies, separating the sexes prior to irradiation to target males only, and understanding differences in fly strains from other locales. COPEG, as the organization is called, is hoping soon to get a chance to eradicate screw worms in Cuba.

Date: June 10, 2009

Location: Tumaco, Colombia

We are staying ashore in Tumaco. The thrust of the mission here is vaccination of the small and large animals. We are handing out a lot of the rabies brochures as well, and the people seem grateful for the information. Dr. Cynthia Hoobler, a public health veterinarian from Texas has joined us, and we are happy to have her perspective on things.

Date: June 15, 2009

Location: Tumaco, Colombia

We are preparing to finish our mission in Colombia tomorrow. The Colombian people have been very grateful to have their large and small animals vaccinated and dewormed. We also have cared for some sick animals, and done a few necessary surgeries, one of which was to remove a screw worm infested mass from a dog.

We have been handing out Spanish-language rabies information to all pet owners, and the people seem genuinely interested and happy to receive this information. In some cases, they have even come to us asking for it. Overall, I believe we reached quite a few needy individuals, and spread the word about rabies prevention.



"Although we mostly did vaccinations and dewormings, we also operated on a few sick animals. This dog's puppies had died in utero a week or more before, and she was becoming toxic. This surgery saved her life. I am assisting Maj. Ron Powell, U.S. Army, by showing him the modified Miller's knot."

Date: June 17, 2009

Location: Tumaco, Colombia

Tumaco is an area of Colombia where many factors favor the transmission of rabies to humans. One factor is large numbers of stray (and unaltered) dogs that come in contact with children. Most of these dogs are not vaccinated for rabies; of the approximate 100 dogs we saw, only two had a current rabies vaccine. Children carry the local dogs by grabbing the front legs or both the front and back legs, and haul them bodily to the desired location. This positions the dog's head at the level of the child's face, making it easy for a bite to occur.

Additionally, the country of Colombia is in a state of "civil war" due to well-organized and well-funded narcoterrorism. This constant unrest causes disruption in the villages, so that local people leave their homes and animals while seeking safety.

Without adequate stray dog control and vaccination, rabies will remain a problem for the population in rural Colombia.

Date: June 26, 2009

Location: El Salvador

The mission in El Salvador is much the same as in previous countries: that is, vaccinating and deworming cattle. We also vaccinate other animals as the people bring them to us. One observation of interest in this country, as compared to the other countries we've visited, is the fact that domestic animals run loose and species mix

indiscriminately. We see horses untethered by the side of the road, cattle walking down the highway, pigs on the beach, packs of dogs roaming free, and, of course, chickens and turkeys everywhere. Surprisingly, though, I have seen very few stray or free roaming cats here.

Date: July 5, 2009

Location: Nicaragua

We are getting a lot of good receptivity with the rabies pamphlets, and I see people reading them at every place we go. The animals here are very thin and have poor hair coats. The horses are small in body size, and the same goes for the dogs and cats. Sometimes I think I am dealing with a kitten or puppy, and in reality it is an adult.

The cattle seem to be in a bit better condition, although some of them are thin as well. Many farmers don't have adequate pasture for their cattle to graze, so they take them to graze by the side of the roads and other common areas. I haven't seen much quality grass here; instead, the cattle are eating broad-leaved plants and weeds. Some farmers believe that a red cloth wrapped around the cow's neck will help prevent vampire bats from biting.

The pigs, on the other hand, seem fairly well fleshed.

The Surgeon General of the United States made a brief visit to the ship to learn about Operation Continuing Promise and visited us at our work site.

Date: July 13, 2009

Location: Nicaragua

We are finishing our mission in Nicaragua and are in the process of returning to the boat. The Nicaraguan Ministries of Agriculture and Health seem very proactive in rabies control in this country. They vaccinate all dogs yearly, so there was not a great need for us to vaccinate the dogs here. Cats are uncommonly kept as pets, because Nicaraguans "don't like cats." Hence, they do not receive vaccination by the government. The entire time we were there, we saw probably five cats.

According to one of the instructors at the veterinary college in Leon, government officials are in the process of eliminating the vampire bat, which is one of the principal rabies vectors in Nicaragua. Rabies from vampires is now only found in one area in the north of the country. The last known human case of rabies occurred in 1996.

While I was ashore, one of the Nicaraguan health officials came onto the ship to give our crew a lecture on rabies, which was very informative and comprehensive.

Horses are an important animal in this country, and we saw horses being ridden for transportation, pulling carts and helping herd cattle. We vaccinated and dewormed a large number of horses. Unfortunately, many horses are turned loose to graze the highway shoulders, and get hit by cars.

Back at home

Operation Continuing Promise achieved its goal of spreading the United States' goodwill to Central and South American countries. The veterinary team cared for thousands of animals in eight different countries. The main impact of this mission for me was observing the level of the human-animal bond, which is still present despite poverty. However, in the U.S. the human animal bond achieves its highest form because not only do we have a strong regard for the life of our animals but we also have the economic means to properly care for them. This I love about my country. 🇺🇸

PHOTOS COURTESY OF DR. ROBIN HUGHES



Dr. Hughes speaks through an interpreter to a woman with a sick puppy in Tumaco, Colombia.