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OPED / WEB-EXCLUSIVE

## The unrecognized medical professionals of animal and human health

By Laura H. Kahn, M.D.

Recently, the nation turned its attention to the tragedy of Barbaro, the Kentucky Derby winner. The colt suffered a life threatening injury during the Preakness in Baltimore. As events proceeded, you couldn't help noticing the high level of veterinary medical care the horse received: sophisticated orthopedic surgery, a special recovery room pool and raft to prevent re-injury, and a monorail to transport him to his stall. Currently, doctors are reportedly cautiously optimistic while Barbaro is recuperating in the acclaimed George D. Wiedener Hospital for large animals at the University of Pennsylvania School of Veterinary Medicine, New Bolton Center.

Veterinary medical care has reached a level of sophistication rivaling the best care for humans. But, most Americans do not realize the critical link between veterinary medicine and human health. Veterinarians who work in public health and biomedical research play a tremendous role in animal and human health.

Pet owners are familiar with veterinarians' work. According to the American Pet Products Manufacturers Association's 2005/2006 National Pet Owners Survey, 63 percent of all U.S. households, approximately 69 million homes, own at least one pet. In 2006, it is estimated that \$38.4 billion will be spent on pets. Veterinary costs are expected at \$9.4 billion.

Because of demands for pet care, most veterinarians, not surprisingly, opt to practice in companion animal [pet] medicine. This is important work. However, we need an expansion of veterinarians in public health and biomedical research because approximately 60 percent of all the infectious agents that afflict humans are zoonoses (zoonotic diseases).

Zoonoses are the diseases of animals that are transmissible to humans. These include: HIV/AIDS, West Nile virus, Lyme disease, and recently, avian influenza (H5N1) with its potential for becoming a pandemic. Regardless of whether the avian influenza virus mutates or not, it could threaten our poultry food supply.

Moreover, most of the agents of bioterrorism are zoonoses including anthrax, plague, and tularemia, among others. Public health veterinarians in local, state and federal health departments investigate diseases, like rabies, that occur in animals and humans.

Agricultural public health veterinarians inspect livestock (e.g., cattle, swine, sheep, and chickens) and their meat products to help ensure safe human food. They are also involved in monitoring zoo animals and wildlife zoonoses outbreaks like West Nile virus and hantavirus for early detection and control in animals and birds.

Veterinarians in biomedical research study how zoonotic agents cross species barriers and much more. There is a lot we do not understand. For example, we do not know why carnivores (like dogs) are relatively resistant to anthrax exposure via the respiratory tract while humans are easily infected. We do not know why bats are the host species for a number of deadly diseases like rabies, the Nipah virus and SARS. This is only the tip of the iceberg

There is a crucial need to provide funds to expand the capacity in veterinary medical schools (there are 28 U.S. veterinary medical schools) and increase the number of veterinarians in public health and biomedical research. If appropriate federal legislation were enacted to expand inclusion of veterinarians in biomedical/comparative medicine research, we would see significant scientific advancements for improving human and animal health.

We need veterinarians to provide the care to animals we live with and love. But we need more veterinarians to perform other vital endeavors for human and animal health. We need more to serve in local, state and federal health departments; more United States Department of Agriculture veterinarians to inspect livestock exports and particularly imports to help prevent the spread of foreign animal diseases and bioterrorist attacks; and more to inspect the meat and poultry we eat. America critically needs more veterinarians to go into biomedical research which would increase our understanding of why and how diseases spread from species to species. Only then could we begin to develop truly effective zoonotic disease management so that all species, humans and animals, can lead healthier lives.

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