

akin to life imprisonment. This veterinarian brought to the human medical community the methods successfully used to control T.B. in cattle and, in addition, led the nation in research which resulted in the successful treatment of this disease.

Otto Stader, D.V.M., a practicing veterinarian specializing in pets, developed a revolutionary method of reducing fractures in animals. Many Americans, particularly former World War II servicemen, owe their arms, legs, jaws and other bones to the Stader splint, which in its time was an important contribution to fracture repair.

The use of oral polio vaccine was backed by nearly 15 years of experience with the successful use of oral vaccines in animals.

These are only a few of hundreds of examples of ways the health and welfare of people have benefited by veterinary research.

ANIMAL DISEASE MODELS OF DISEASES OF PEOPLE

It is becoming apparent that for nearly every disease of people there is a similar or identical disease in some species of animal. The animal may be a dog, cat, mouse, horse, rabbit, turkey, chicken, sheep, cow, deer, primate or even a fish. Many of these animal disease models are far better suited for studies on the nature of a disease and means to prevent or treat it than are sick people. Hence, research on these diseases contributes directly to the health of people by increasing our understanding of diseases and disease processes in man.

Animal disease models of diseases of people are becoming increasingly important to medical research. Chronic and degenerative diseases such as cancer, stroke, heart disease and emphysema have become the chief killers and disablers of the American people. Unfortunately, there is no adequate way to reproduce many of these diseases in animals for study. On the other hand, many of them occur under natural conditions in lower animals, hence veterinarians have a unique opportunity to provide medical science with models of these diseases for research. A veterinarian's training and experience with the biology and diseases of these animals make him especially qualified to conduct research on the principles of disease and disease processes with these models.

EXAMPLES OF USEFUL ANIMAL DISEASE MODELS FROM THE U. C. SCHOOL OF VETERINARY MEDICINE

Veterinarians from the Western United States refer livestock, zoo, wild and fur-bearing animals, laboratory animals and pets with unusual diseases to our School's Veterinary Medical Teaching Hospital for intensive study. Many of these diseases are models of diseases of people, with valuable research potential. Hence, a veterinary school serves as an effective screening mechanism to discover and characterize models of disease in all kinds of animals that might be valuable research tools.

Members of the faculty of our School have discovered or made significant contributions to the understanding of over 40 animal disease models of important diseases of people. I would like to briefly describe three of them.

Emphysema.—Emphysema is a severe, progressively disabling disease of people. The prevalence rate is high in the United States and is increasing rapidly. In a recent year one of every 14 citizens receiving total disability payments from social security had emphysema. A similar disease also occurs in horses. A team of researchers composed of D.V.M.'s, M.D.'s and other health scientists initiated studies on emphysema in the horse in our School 6 years ago. This team has succeeded in reproducing emphysema in the horse; thus, for the first time, medical science has been provided with an experimental system in which to study cause, prevention and treatment of emphysema. The group, headed by Dr. Walter Tyler of the School of Veterinary Medicine, now is determining the role of air pollutants and other agents as possible causative factors of emphysema. Their results will be more important to human than to animal health.

This important progress was made possible only because a veterinary and human medical research team together attacked an important human health problem.

Leukemia.—Leukemia is one of man's most feared diseases. How would any of us react to the knowledge that one of our loved ones had this highly fatal disease? How many people know that nearly everything known about the cause, spread and possible means of prevention of leukemia has been learned from studies on leukemia in animals. The most promising research on leukemia in the world,