esthesia were first clinically (Benesch) developed by veterinarians in the treatment of animals. Today's widespread use of oral polio vaccines follows a 15 year period during which oral polio vaccine proved effective in animals. Hundreds of similar examples of the contributions of veterinary medicine to medical science could be listed. Current studies in comparative cardiology, cancer, connective tissue diseases, metabolism, hematology, muscle disorders and infectious diseases undoubtedly will yield similar results.

Veterinary medicine occupies a particularly advantageous position among the sciences in its opportunity to make contributions to medical science. Nearly every member of the veterinary medical profession, whether he is engaged in private practice, regulatory veterinary medicine, or in research, constantly encounters disease conditions in animals an understanding of which may contribute to medical science and the welfare of mankind. The profession has an obligation to exploit opportunities to study animal diseases to the extent of its resources.

Many of the most prevalent and serious human diseases have counterparts in animals. Vital experimental procedures which rule out the use of man may be undertaken jointly by physicians and veterinarians on animals serving as experimental models.

In this context, several animal diseases are receiving increased attention. Leukemias and Hodgkins type tumors occur frequently in domestic animals; they are similar in most respects to their human counterparts. Other forms of cancer common in animals, particularly dogs, provide excellent opportunities for investigating these diseases with a view on man.

There are respiratory diseases in animals which at present are largely unexplored, and which present distinct similarities to several important human diseases. Pulmonary emphysema of horses and cattle, and certain viral pneumonias of cattle, sheep, and dogs may be cited as examples.

Degenerative nervous disorders similar to multiple sclerosis in man are represented in several animal species.

There are several collagen or immunogenic diseases, particularly in dogs, horses, mink and mice, which provide counterparts to such human ailments as rheumatoid arthritis, collegen associated kidney disease, lupus, and certain forms of anemia. Some of the animal diseases known to be caused by viruses may provide answers to certain human problems. Cardiovascular diseases, particularly of older dogs, are common examples of other experimental models.

Many more examples may be cited. The broad training offered in veterinary medicine, encompassing several animal species, provides an ideal background for the pursuit of such studies. Full utilization of the unique capabilities of veterinarians may well shorten the search for answers to many enigmatic human diseases.

Many medical schools and hospitals engage veterinarians as full time faculty members in teaching and research. This permits emphasis on comparative studies to medical students and researchers and promotes collaborative efforts. A program of this nature is under way at the Johns Hopkins School of Medicine. Five veterinarians on the medical faculty are actively engaged in collaborative research in comparative medicine. More positions are open in other institutions but cannot be filled because of the dearth of trained veterinarians.

5. LABORATORY ANIMAL MEDICINE

The expanding establishment of laboratory animal colonies in medical and dental schools, large hospitals, drug companies, feed manufacturing firms and other institutions has created an urgent need for veterinarians trained in laboratory animal medicine, which is closely allied to comparative medicine. Healthy, genetically defined laboratory animals are essential to medical research. What was generally acceptable 20 years ago as a laboratory mouse or rat would have little value today. As research becomes more sophisticated the demand for pedigreed rodents, either with known microbial flora or completely germ free, is rising.

Laboratory animals are now used extensively in medical research. Studies on these animals have led to improvements in the health of both human beings and animals. An understanding of naturally occurring diseases of laboratory animals is necessary for the interpretation of results of experimentation. The National Institutes of Health now have a section whose veterinarians devote their efforts to the study of such diseases. There has been a continuing improvement of the health care and humane standards for the use of experimental animals.